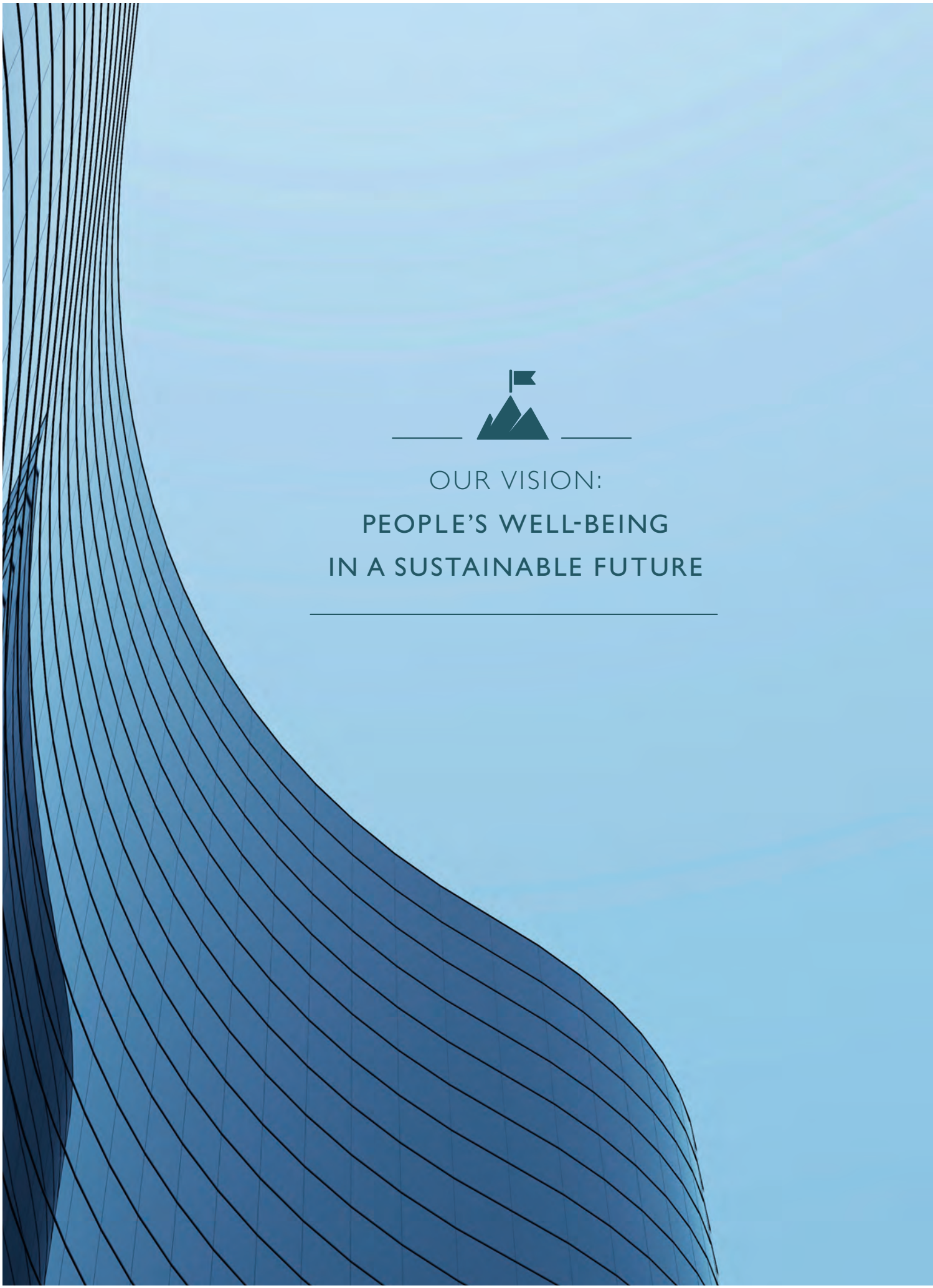
CATALOGUE 2021

PRODUCTS AND SYSTEMS FOR BUILDING AUTOMATION

REGIN
THE CHALLENGER



OUR VISION:

PEOPLE'S WELL-BEING IN A SUSTAINABLE FUTURE

SOLUTIONS THAT **EMPOWER CUSTOMERS**

AT REGIN, WE DELIVER green and smart automation technology for climate control in buildings. Our solutions empower system integrators, manufacturers and facility owners, giving them efficient technology that saves energy in buildings and engineering hours in installation and maintenance.

For people's well-being in a sustainable future

Proper ventilation, optimum airflow, quality of air and reduced energy consumption have become some of the most vital functions for the well-being of people. An intelligent building energy management system is a highly profitable investment that goes far beyond purely financial returns, as it contributes to health, well-being and productivity – as well as reduces carbon dioxide emissions. It is all captured in our vision: People's well-being in a sustainable future.

Ever since Regin was founded in 1947 and launched its first product, a humidistat, our very goal has been to develop solutions that save energy, create comfort and enable business efficiency for our customers. Today, we are more than 300 employees and offer complete solutions for building energy management, heating, ventilation and room control. We have a strong local presence through our offices in Europe and Asia.

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READY STEADY GO

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SMART FEATURES MAKE VENTILATION EASY WITH **CORRIGO 5.0**

WE ARE PROUD TO PRESENT one of the most user-friendly and versatile controllers on the market. New powerful Corrigo 5.0 is a configurable controller for ventilation, that can be used stand-alone or integrated into a SCADA-system. Corrigo 5.0 has a lot of functionality, easily accessible via the integrated HTML5 web interface or Application tool.

When choosing Corrigo, it is possible to create a complete energy-saving solution for control of ventilation applications in a building. You find all important functionalities within ventilation, temperature- and humidity control and air quality. Everything to create a comfortable indoor climate. Corrigo can easily be connected to Application tool, a PC-based software with preset templates where you can make all configuration quick and easy.

The controller is prepared for communication with up to 20 external devices and configured for fast and seamless integration with EC fans, frequency converters and damper actuators. It has several communication ports and a possibility to connect different types of expansion units. Just select and connect! Corrigo supports communication via Modbus, BACnet and EXOline.

As the cornerstone in Regin's Ventilation concept, Corrigo can be completed with a range of displays, pressure transmitters, damper actuators and wireless sensors in order to create the perfect ventilation solution for every specific building.

Corrigo 5.0 has two main models with different supply voltage, Corrigo Ardo with 24 V and Corrigo Vido with 230 V. Corrigo Ardo exists in several versions with a various number of I/O:s.

READY... STEADY... GO!

INSTALL — CONFIGURE — MONITOR & OPTIMIZE — UPGRADE & EXPAND

WE THINK

BIGGER

WITH NEW PRESIGO

PRESIGO PDTX…-C, our range of new designed differential pressure transmitters with communication via Modbus, is based on a sensor technology with among the highest accuracy and long-term stability value on the market. Installation and setup are easy, and it can optionally be deployed as an expansion unit, optimizing the use of cables.

With four additional I/O:s, two universal inputs and two universal outputs, Presigo PDTX…-C offer major expansion possibilities!

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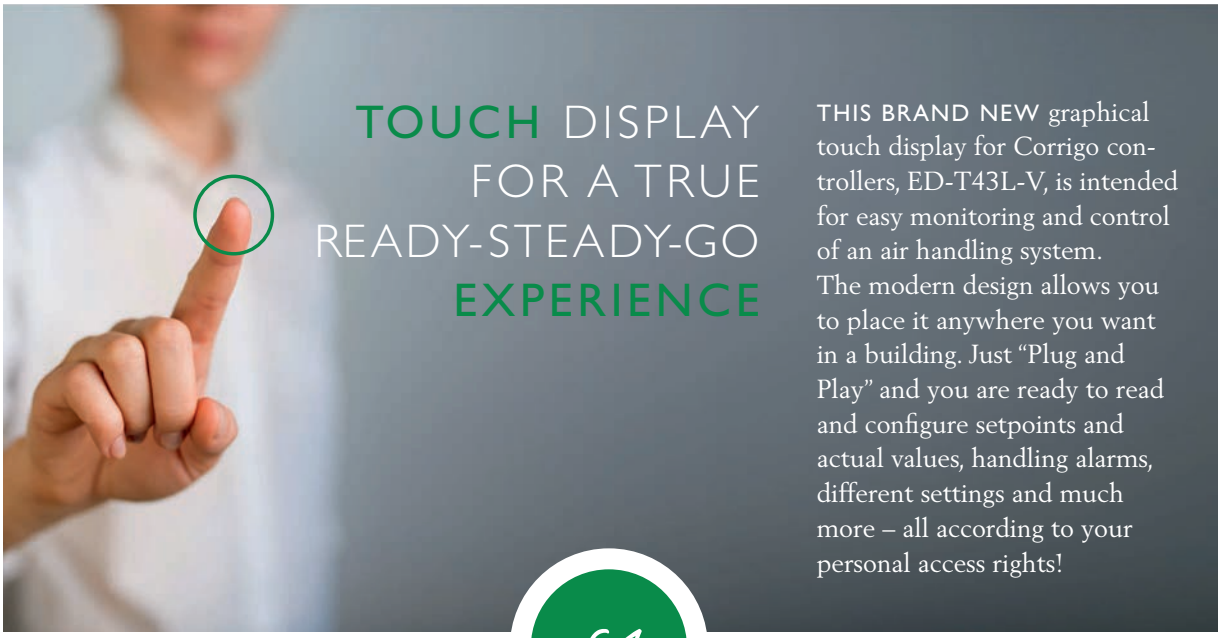

TOUCH DISPLAY FOR A TRUE READY-STEADY-GO EXPERIENCE

THIS BRAND NEW graphical touch display for Corrigo controllers, ED-T43L-V, is intended for easy monitoring and control of an air handling system. The modern design allows you to place it anywhere you want in a building. Just "Plug and Play" and you are ready to read and configure setpoints and actual values, handling alarms, different settings and much more – all according to your personal access rights!

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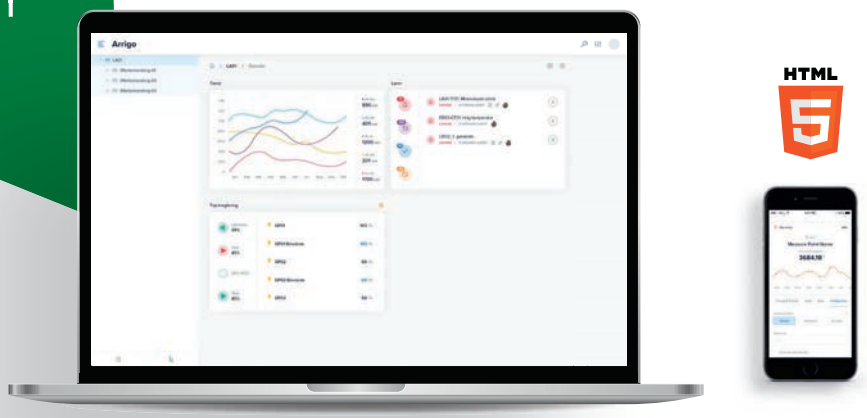

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ARRIGO BRINGS YOU TO A FUTURE LEVEL OF INTELLIGENT WORKING

AT REGIN, WE WORK CLOSELY with our partners and develop products and solutions based on their needs now and in the future. This time, we are introducing a completely new working methodology that saves time and increases efficiency for the operator of building management systems. Arrigo offers a flexible solution that works with any platform or device.

User experience is one of the cornerstones in Arrigo. Through leading edge functionality with dashboards and widgets, Arrigo provides easy access to information and a fast and inspiring development environment. It makes your work a pure pleasure!

Simple navigation and tailor-made views empower you to work effectively and reach your goals. In many cases traditional dynamic pages are redundant when using widgets, which also significantly reduces engineering time.

Connectivity is at the heart of Arrigo. The open standards make it easy to interchange data with Arrigo through Javascript, different API's and data sources.

Arrigo BMS replaces EXOscada but is of course something totally new. However, the modern standard is easily integrated into your existing systems and fully backward compatible.

This is only the beginning of the development of a new generation of programs that will take on a whole new approach to building automation and supervisory systems.

We make sure you stay updated!

ALL YOU NEED IS **APPLICATION TOOL**

WORKING WITH VENTILATION-, heating- or room control? Now you can handle all your configurations with one modern and user-friendly tool – Application tool! This goes for all the current generation of controllers. Download from www.regincontrols.com.

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ED-RUD IS THE **NEW BLACK!**

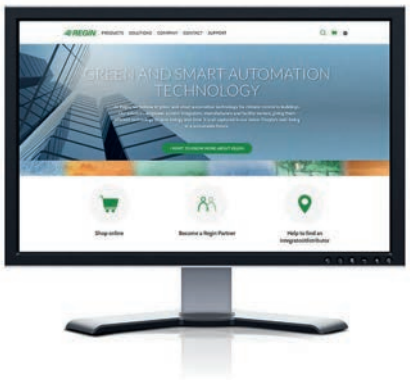
OUR POPULAR "PLUG AND PLAY" room unit with temperature sensor is now available in black color. ED-RUD is perfectly combined with the controllers Regio Ardo and Regio Eedo but can also be used freely via Modbus.

63

PRECISE VALUES FOR OPTIMIZATION WITH OUR NEW RANGE OF **DUCT TRANSMITTERS**

THE NEW MODELS of duct transmitters, DTTH and DTTHC, give a precise measurement of temperature and humidity. DTTHC also enables CO_2-measurement, all-inclusive in other words! The provided values can be used to optimize energy use and improve air quality in all types of buildings. The new design makes installation super simple!

112, 117



STAY UPDATED!

Subscribe to our newsletter at www.regincontrols.com

SYSTEM INTEGRATORS

SOLUTIONS THAT SAVE HOURS IN ENGINEERING TIME

OUR SOLUTIONS are designed to be efficient and save hours in programming, installation, commissioning and maintenance. When solutions are flexible and easy to program, you have everything you need to provide an exceptional user experience to building owners.

Whether you are looking for a full-scale automated building energy management system to control your facility stock (BEMS) or if you want to integrate solutions into your existing system; we provide you with the right tools to deliver successful projects. In addition, you become a member of our beneficial partner program and have access to trainings and local project support – always on standby for you.

It's all about putting you in control, while saving time and energy. To us, it's about empowering our customers.

OEM-CUSTOMERS

GUIDANCE AND TECHNOLOGY THAT EXCEED EXPECTATIONS

CUSTOM ENGINEERING FOR OEMs is at the heart of our business. Ever since Regin started in 1947, we have supported and guided customers who needed tailor-made solutions based on our wide standard product assortment. Our goal is to design, build and deliver customized quality solutions that exceed manufacturers' expectations.

OEM expertise; a key success factor

We know that the challenges of OEMs go far beyond traditional metrics of costs, scope and schedule. The combination of in-depth expertise and creativity are important to ensure that the product truly meets all stakeholder's requirements in combination with efficient design, manufacturing and life-time management.

As a Regin OEM customer, you can rely on an experienced team of technical experts for support and guidance throughout the entire project. After thousands of OEM-projects, we have developed a highly unique knowledge base that will benefit any OEM-customer who chooses to do business with us.

Efficient product development

In all development projects, time is money. A streamlined development process, with focus on design for manufacturing, effects a product's overall costs and successful production. At Regin, we work with unique, flexible development platforms that enable time and cost-efficient customizations, new developments and efficient manufacturing. We bring your ideas into reality.

FACILITY OWNERS

SOLUTIONS FOR HIGH PERFORMING BUILDINGS

BUILDING OWNERS need to secure their buildings' high performance while staying within budgets. Efficient data collection, usage and management, as well as making work easy for your team are key factors for cutting down on costs and unplanned interruptions.

Our unique solution empowers your organization

At Regin, we help building owners and facility managers to stay on top of things. We provide a unique, scalable solution based on the Arrigo platform that maximizes your organizational performance by the intelligent usage of data from your buildings. By collecting all incoming data from various systems in one place, you quickly get the insights needed to know where and how to improve your buildings' ROI now and over time.

BMS, FMS, EMS and more – all in one platform

Arrigo comprises building management, energy management and facility management – and can easily integrate with any other system of your choice. On one single platform, every role in your organization that works with your building can view data from their individual perspectives. Yet, they all use the same source to analyse, present, control and take actions to maximize comfort, building performance and energy savings.

Controllers and components that save time

Knowing that any control system is only as strong as its weakest link, we also provide freely programmable and configurable quality controllers and components with smart features for easy and quick installation and maintenance. Thanks to our focus on usability, we save hours for integrators and help them equip buildings with reliable and complete solutions that you can develop, expand and rely on for many years to come.

A GLOBAL NETWORK OF SPECIALISTS AT YOUR SERVICE

THANKS TO OUR EXTENSIVE NETWORK of global Regin solution specialists, we can connect you to the right partner or team ensuring the proper design, installation, programming, integration and management support for your specific needs. Getting the right team together creates vast possibilities for win-win business. Regin brings brilliant companies together. It's all about putting you in control, while saving time and energy. To us, it's about empowering you, our customers.

OUR PATH AHEAD

WE BELIEVE that the need for saving energy in buildings will be ever-increasing. Moreover, the advantages of a productive indoor environment are more and more apparent and customer requirements are increasing. At the same time buildings are becoming more and more intelligent and interconnected. The possibilities of using the power of data provided by buildings and their environments are endless. Key is to make use of this data while making things easy for the users of these systems. Regin is determined to be the enabler.

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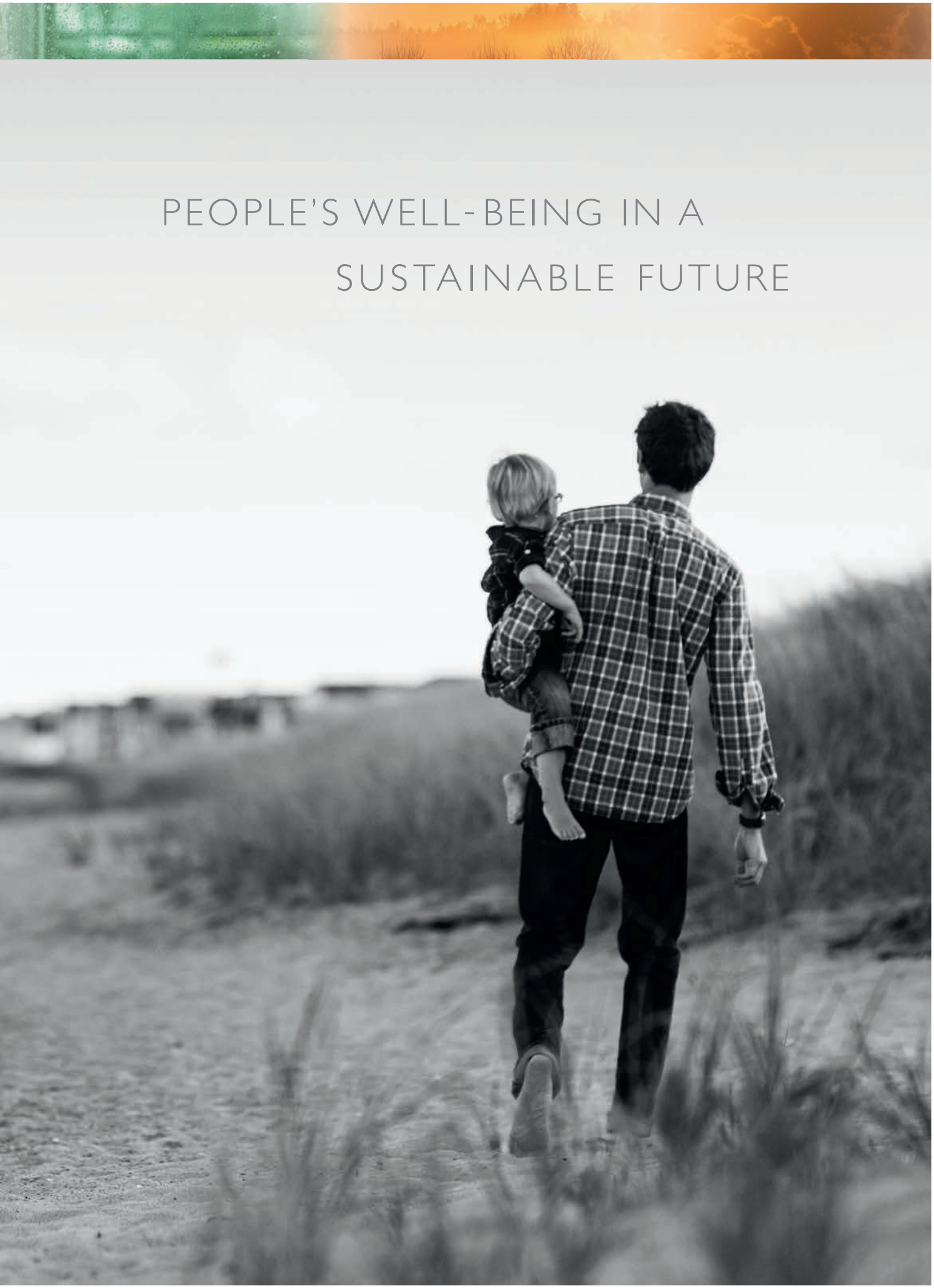
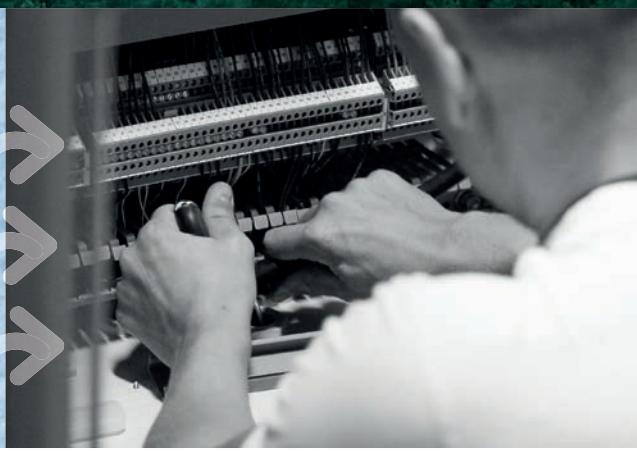
PEOPLE'S WELL-BEING IN A SUSTAINABLE FUTURE

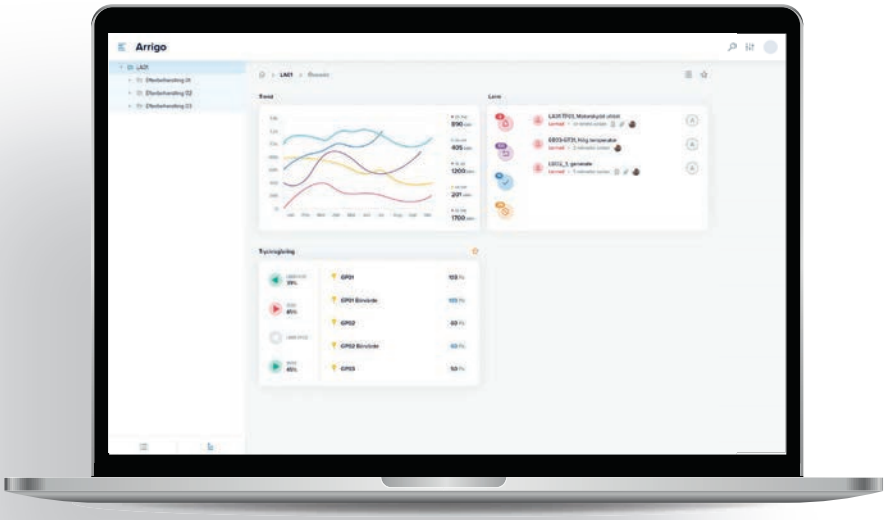


SOFTWARE & SERVICES



ARRIGO – A POWERFUL PLATFORM FOR ANY **FUTURE CHALLENGES.**

THE ARRIGO PLATFORM OFFERS a whole suite of features and services for efficient building automation. You can already benefit from Arrigo's EMS (Energy Management System) as a separate cloud service, and there is much more to come. Simply put, Arrigo will continue to be the best place to gather all your data and use it to improve efficiency and profitabilty in your line of business. One single platform for BMS, EMS and FMS and always focusing on functions and intelligent automation – that's Arrigo.

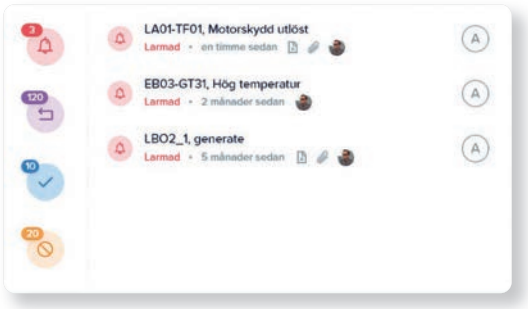


DASHBOARD

RESPONSIVE DESIGN

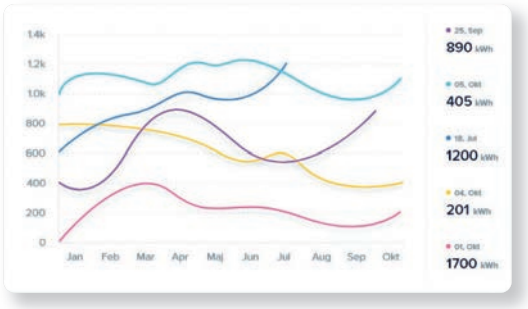
Discover the smartest functions in new Arrigo!

- ✓ **Adapt your Dashboard** – make widgets favourites, and save personalized views for various situations.
- ✓ **Filter** on geography, areas, residential areas, properties and choose your desired level of data presentation.
- ✓ **Get quick access** to logs, trends and historical data.
- ✓ **Be in full control o**f every datapoint no matter the application.
- ✓ **Smart alarm-lists** shows alarms for specific properties or collected lists for whole divisions in priority order.
- ✓ **View and compare** your energy usage to the previous week, month or year – or by building type.



ALARMS

SETPOINTS



HISTORY

DYNAMIC WIDGETS

SOFTWARE FOR COMPLETE CONTROL

Arrigo BMS (Building Management System)

Arrigo BMS is a control system installed in buildings that controls and monitors the building's mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems and security systems.

- ✓ Dashboard – Completely new function concept focused to minimize work, sources of error and to be device independent
- ✓ User experience – Arrigo provides a framework of functionality and is built with information flow as the focus
- ✓ Integration with EXOscada – Your future is secured with Arrigo if you have EXOscada today
- ✓ Connectivity – Arrigo highlights the possibilities with connections to different data sources, APIs for other programs and powerful programming via Javascript

EXO DATA SOURCE WITH ARRIGO BMS

Article	Description	Note
EXODS-100	EXO Data source 100 I/Os	
EXODS-500	EXO Data source 500 I/Os	
EXODS-B-1YR	EXO Data source 2019 Base	
EXODS-BC	EXO Data source BACnet OPC server (software key)	
EXODS-BSD-1YR	EXO Data source 2019 Base soft dongle	
EXODS-NIMBUS-1YR	EXO Data source Nimbus alarm server	
EXODS-OPC-1YR	EXO Data source OPC connection	
EXODS-ULIO	EXO Data source Unlimited I/Os	

EXO data source upgrade agreement

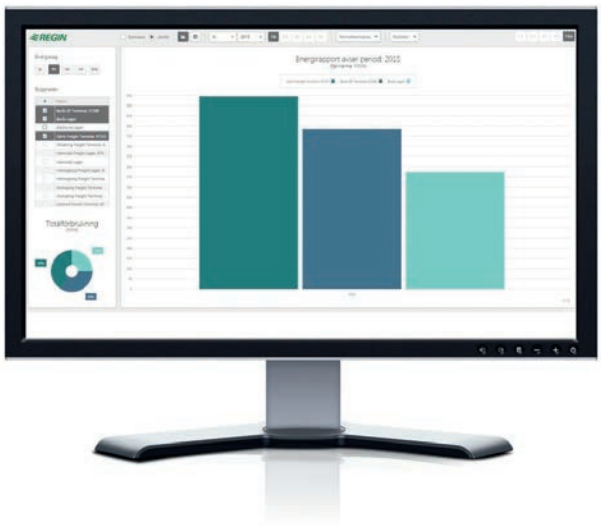
Provides secure and continuous access to the latest version of Regin's software at a fixed annual rate. Once a year, we will also launch new functions which you can make use of directly. ARRIGO EMS 10 is included in all upgrade agreements.

Article	Description	Note
EXODS-B-UPGEXT	EXODS Base Upgrade Agreement	
EXODS-BSD-UPGEXT	EXODS Base Soft Dongle Upgrade Agreement	
EXODS-100-UPGEXT	EXODS 100 I/O Upgrade Agreement	
EXODS-500-UPGEXT	EXODS 500 I/O Upgrade Agreement	
EXODS-UL-UPGEXT	EXODS Unlimited Upgrade Agreement	
EXODS-OPC-UPGEXT	EXODS OPC Connection Upgrade Agreement	
EXODS-NIMBUS-UPGEXT	EXODS Nimbus Alarm Server Upgrade Agreement	

Arrigo EMS (Energy Management System)

Monitoring the energy consumption of your buildings gives you a direct insight into the overall health of your property portfolio. But regardless of the quality of collected energy data, all data still needs to be processed and presented in a readily understandable, straightforward way. Arrigo EMS provides you with a very intuitive report tool to analyse your data, letting you visualise all statistics clearly.

- ✓ Simple and clear energy/analysis reports
- ✓ Versatile connection to energy meters
- ✓ Quality assurance of energy values
- ✓ Climate correction of heating and cooling
- ✓ Automatic updates of climate data from Sweden's SMHI meteorological institute. Energy index and degree days.
- ✓ Possibility to create building unique climate data
- ✓ Easy distribution of reports via e-mail
- ✓ Exports to external billing systems
- ✓ Exports to other energy monitoring systems



ARRIGO EMS

Article	Description	Note
ARRIGO EMS 10	Logged energy meters, pack of 10 meters	
ARRIGO EMS 200	Logged energy meters, pack of 200 meters	
ARRIGO EMS SETUP	Start and setup	

CLOUD SERVICES

CLOUDigo

READY STEADY GO

CLOUDigo – The easiest way to control your installations

For the user who wants complete control of the buildings' indoor climate at all times, CLOUDigo is the tool of choice. Our web-based platform can always be reached both by you and your colleagues regardless of your physical location.

Complete control – anywhere and at any time

Follow your installations in real time with just a few simple clicks. Navigate between the settings and values in connected controllers. CLOUDigo offers excellent overview of all your controllers. All settings made in CLOUDigo take full effect in the controllers instantly. This makes CLOUDigo the natural choice for individuals working with multiple installations or installations distributed over a wide geographical area.

Short facts about CLOUDigo

- ✓ Gain control of the indoor climate of your buildings – anywhere and at any time.
- ✓ You get the ability to analyse data and act instantly. Quickly, easily and effectively.
- ✓ CLOUDigo handles historical data for complete control and overview.
- ✓ Work using any screen while still retaining full functionality.
- ✓ Getting started is easy. The installation of connected controllers is extremely easy and developed in accordance with our "Ready-Steady-Go" concept.
- ✓ Work using a platform that permits you to grow. You handle your installations – CLOUDigo handles the rest.

Article	Description	Note
CLO-LIC	Cloud service for controller access	

2

SYSTEM HARDWARE

OPEN & FLEXIBLE SYSTEM SOLUTIONS

PROCESSOR UNITS

EC-PU4

EXOclever processor unit with 4 communication ports

The central processor unit in the EXOclever series. Equipped with three serial ports and one TCP/IP port.

Technical data	
Supply voltage	24 V AC 50…60 Hz or 24 V DC
Tolerance	18…26 V AC / 22…30 V DC
Power consumption	10 VA / 5 W
Dimensions (WxHxD)	140 x 136 x 40 mm
Mounting	DIN-rail
Protection class	IP20
Operating system	EXOreal C
Battery backup	RAM, RTC, atleast 5 years
Ambient temperature	0…55 °C
Ambient humidity	Max. 95 % RH
Storage temperature	-20…+70 °C
Storage humidity	Max. 95 % RH
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP
RS485	EXOline, Modbus
M-Bus	Via external X1176 unit

Article	Description	Note
EC-PU4	Processor unit, 4 communication ports	

XCA...-4

EXOcompact[Ardo] freely programmable controllers

Small and compact controller with different types of communication, with or without built-in display. An EXOcompact[Ardo] can be used either as a stand-alone unit or as part of a larger system.

User-friendly tools are available for flexible handling and easy access via the web server.

Technical data	
Supply voltage	24 V ~ (21…27 V ~ 50…60 Hz) / 20…36 V DC (not units with a CI input)
Power consumption	4 VA
Protection class	IP20
Ambient humidity	Max. 95 % RH
Ambient temperature	0…50 °C
Storage temperature	-20…+70 °C
Operating system	EXOreal
Battery backup	Memory and real-time clock, at least 5 years
Mounting	DIN-rail or cabinet
Number of modules	8.5
Dimensions, external (WxHxD)	149 x 121 x 58 /149 x 136 x 58 (XCA20…) mm
I/O data	
Analogue input a (AIa)	PT1000, 0…10 V, 0(4)...20 mA (requires external 10 or 500 Ω shunt), 0...200 mV, DIN Ni1000, LGNi1000, 12 bits A/D
Digital input a (DIa)	24 V DC, floating contact, powered from +C (24 V DC)
Digital input b (DIb)	Sourcing input type, GND is ref (only available for XCA20…)
Universal input a (UIa)	AIa or DIa (see specifications above)
Condensation input a (CIa)	Input dedicated for Regin's condensation detector KG-A/1
Analogue output a (AOa)	0…10 V DC, max. 5 mA, short-circuit protected
Digital output b (DOb)	Mosfet output 24 V AC, max. 2 A, total max. 8 A
+C output	24 V DC, 0.15 A, short circuit-protected (not available for XCA20…)
Material	
Material, housing	Polycarbonate, PC

Article	Ethernet ports	RS485 ports	M-Bus ports	Display	AI	DI	UI	CI	AO	DO	Inputs/ Outputs	Note
XCA152W-4	1	1	-	-	4	4	-	-	3	4	15	
XCA152DW-4	1	1	-	X	4	4	-	-	3	4	15	
XCA203W-4	1	2	-	-	4	4	-	2	4	6	20	
XCA282W-4	1	1	-	-	4	8	4	-	5	7	28	
XCA282DW-4	1	1	-	X	4	8	4	-	5	7	28	
XCA283W-4	1	2	-	-	4	8	4	-	5	7	28	
XCA283DW-4	1	2	-	X	4	8	4	-	5	7	28	
XCA283DWM-4	1	1	1	X	4	8	4	-	5	7	28	

ACCESSORIES

Article	Description	Note
BATTERY-4289	Replacement battery	
FMCE	Front mounting kit, room for one controller	
PLTCE	Set of angled plug-in terminal blocks	
E-CABLE2-USB	Cable for USB connection	
CONVERTERTCP	Adapter	
FMK2	Front mounting kit, 12 modules	
TP-AE	Terminal protection kit for Ardo and Eedo controllers	
ED-T7	External touch screen display	
E3-DSP	External display	
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	
EDSP-SPLIT	Cable splitter for connecting two display units to one controller	

XCE...-4

EXOcompact^{Eedo} freely programmable controllers

EXOcompact^{Eedo} is a 230 V AC freely programmable controller. The controller provides built-in communication via EXOline, Modbus or BACnet for integration into EXOscada or other SCADA systems. It can be used either as a stand-alone unit or as part of a larger system. The controller is well suited to act as a room controller and connects seamlessly to the room units in Regin's ED-RU-… series.

Technical data	
Supply voltage	230 V ~ (207…253 V ~ 50/60 Hz)
Power consumption	11 VA without load, no display
Protection class	IP20
Ambient humidity	Max. 95 % RH
Ambient temperature	0…50 °C
Storage temperature	-20…+70 °C
Operating system	EXOrealC
Battery backup	Memory and real-time clock, at least 5 years
Mounting	DIN-rail or cabinet
Number of modules	8.5
Display	External (accessory)
Dimensions, external (WxHxD)	149 x 121 x 58 mm
Weight (incl. packaging)	0.37 kg
I/O data	
Analogue input b (AIb)	0…10 V DC
Analogue input c (AIc)	PT1000
Digital input b (DIb)	Sourcing input type, GND is reference
Condensation input a (CIa)	Input dedicated for Regin's condensation detector KG-A/1
Analogue output a (AOa)	0…10 V DC, max. 5 mA, short-circuit protected
Digital output_c (DOc)	Relay output 230 V AC, max. 3 A
Digital output_d (DOd)	Triac output 230 V AC, max. 300 mA
Digital outputs, total max. current (fuse)	6.3 A (6.3 AT 5 x 20 mm)
Power output a (POa)	24 V DC, max. 50 mA
Material	
Material, housing	Polycarbonate, PC

Article	Ethernet ports	RS485 ports	Display	AI	DI	CI	AO	DO	Inputs/ Outputs	Note
XCE163W-1	1	2	-	3	3	1	4	5	16	

ACCESSORIES

Article	Description	Note
BATTERY-4289	Replacement battery	
E-CABLE2-USB	Cable for USB connection	
CONVERTERTCP	Adapter	
FMK2	Front mounting kit, 12 modules	
TP-AE	Terminal protection kit for Ardo and Eedo controllers	
ED-T7	External touch screen display	
E3-DSP	External display	
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	
EDSP-SPLIT	Cable splitter for connecting two display units to one controller	

EXOcompact^{Vido} freely programmable controllers

EXOcompact^{Vido} is a 230 V AC freely programmable controller especially suitable for heating applications. It provides built-in communication via EXOline, Modbus or BACnet for integration into EXOscada or other larger systems. It can be used either as a stand-alone unit or as part of a larger system.

Technical data	
Supply voltage	230 V ~ (217…253 V ~)
Dimensions (WxHxD)	147 x 98 x 76 mm
Mounting	DIN-rail, cabinet or wall, or over a device box
Protection class	IP20 , IP40 when mounted in cabinet door
Display	Internal or external (accessory)
Operating system	EXOrealC
Battery backup	Memory and real-time clock, at least 5 years
Ambient temperature	0…50 °C
Ambient humidity	Max. 95 % RH, non-condensing
Storage temperature	-20…+70 °C
Communication ports	
Supported protocols	Modbus slave / Modbus master / EXOline master / EXOline slave / EFX master
Supported protocols	Modbus slave / Modbus master / EXOline master / EXOline slave / EFX master
M-Bus	1
Inputs	
Analogue inputs (AI)	PT1000 (-50…+150 °C), Ni1000 DIN (-40…105 °C), Ni1000 L&G (-40…120 °C), Resistance (800…1600 Ohm)
Digital inputs (DI)	Sourcing input type, GND is ref
Outputs	
Analogue outputs (AO)	0…10 V DC (12 bit D/A short-circuit protected)
Digital outputs (DO)	Relay, 230 V AC, 1 A inductive load, max. 7 A total
Universal analogue I/O (UA)	AI or AO

Article	Ethernet ports	RS485 ports	M-Bus ports	Display	AI	DI	UA	DO	Inputs/ Outputs	Note
XCV193DWM-2	1	1	1	X	8	2	2	7	19	
XCV193WM-2	1	1	1	-	8	2	2	7	19	

I/O MODULES

Overview

Regin's expansion units and I/O modules offer the possibility to expand the EXOclever and EXOcompact.

Integration of the expansion units and I/O modules into an EXO system is intended for advanced system integrators only, as it demands a deep knowledge of the EXO system. Up to 32 expansion units and I/O modules can be connected but the limit is set by the system integrator and the application.

Article	AI	DI	UI	AO	DO	UO	UA	LED	Switches	Total number of I/O:s	Communi-cation	Note
IO-EC16UId-X	-	-	16	-	-	-	-	-	-	16	EFX	
IO-EC16UOb-X	-	-	-	-	-	16	-	-	-	16	EFX	
IO-A15MIXW-3-BEM	4	4	-	3	4	-	-	-	-	15	BACnet, EXOline, Modbus	
IO-A28MIXW-3-BEM	4	8	4	5	7	-	-	-	-	28	BACnet, EXOline, Modbus	
IO-V19MIXW-1-BEM	4	2	4	-	7	-	2	-	-	19	EXOline, CAN bus	
IO-RU-7	1	2 DI or CI	1	-	-	3	-	-	-	7	EXOline, CAN bus	
IO-RU-10	1	2 DI or CI	1	-	4	2	-	-	-	10	EXOline, CAN bus	
IO-16AI	16	-	-	-	-	-	-	-	-	16	EXOline, CAN bus	
IO-16DI	-	16	-	-	-	-	-	X	-	16	EXOline, CAN bus	
IO-16DO-M	-	-	-	-	16	-	-	X	X	16	EXOline, CAN bus	
IO-8DO8AI-M	8	-	-	-	8	-	-	X	X	16	EXOline, CAN bus	
IO-8DO8AO-M	-	-	-	8	8	-	-	X	X	16	EXOline, CAN bus	
IO-4X4-M	4	4	-	4	4	-	-	X	X	16	EXOline, CAN bus	

Additional I/O units

Additional I/O unit for EXOcompact and EXOclever with 16 supplementary I/Os per Add:io. Possibility to expand an EXOclever controller with unlimited I/Os and an EXOcompact with up to 50 I/Os. The Add:io units fit smoothly together, requiring minimal space.

Technical data	
Supply voltage	24 V AC/DC (18…26 V AC / 22…30 V DC)
Power consumption, nominal	IO-…16UOb: 7.8 VA / 3.5 W IO-…16UIc and …16UId: 4.5 VA / 1.8 W
Protection class	IP20
Ambient humidity	Max. 95 % RH
Ambient temperature	0…55 °C
Ambient temperature, electronics	0…55 °C
Storage temperature	-20…+70 °C
Mounting	DIN-rail
Number of modules	8
Inputs/outputs (I/Os)	16 per Add:io
Display	No
Indication type	LED for communication info
Dimensions, external (WxHxD)	140 x 136 x 46 mm
Weight (incl. packaging)	0.30 kg

Seriell port, specifikationer	
Port type	RS485
Default protocol	EFX
Supported protocols	EFX slave
Port isolation	Yes
Communication speed	115200 bps
Cable connection	Push-in connectors

Article	Universal input d (UId)	Universal output b (UOb)	Note
IO-EC16UId-X	16	-	
IO-EC16UOb-X	-	16	

Expansion units Ardo

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with all other products in the EXO range as well as other brands using standard protocols like BACnet or Modbus.

Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz or 21...36 V DC
Ambient temperature	0...50 °C
Storage temperature	-20…+70 °C
Ambient humidity	Max. 95 % RH
Protection class	IP20
Connection	Disconnectable terminal strips, 4 mm^2
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Mounting	DIN-rail or cabinet
Casing	Standard Euronorm (8.5 modules wide)
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP
RS485	EXOline, Modbus, BACnet MS/TP
Inputs	
Analogue inputs (AI)	For PT1000 sensors (accuracy ± 0.4°C) or 0...10 V DC (accuracy ± 0.15 % of full output signal). 12 bit resolution in the A/D conversion.
Digital inputs (DI)	For potential-free contacts
Universal inputs (UI)	Can be configured to function as either analogue input or digital input
Outputs	
Analogue outputs (AO)	0...10 V DC, 1 mA, short-circuit protected
Digital outputs (DO)	Mosfet outputs, 24 V AC or DC, 2 A continuous. Max. 8 A in total.

Article	Description	Note
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	

Expansion units Vido

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with all other products in the EXO range as well as other brands using standard protocols like BACnet or Modbus.

Technical Data	
Supply voltage	230 V AC
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 95 % RH, non-condensing
Protection class	IP20 (IP40 when mounted in cabinet door)
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Mounting	DIN-rail, cabinet or on wall
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP
RS485	EXOline, Modbus, BACnet MS/TP
Inputs	
Analogue inputs (AI)	For PT1000 sensors. 12 bit resolution in the A/D conversion.
Digital inputs (DI)	For potential-free contacts
Universal inputs (UI)	Can be configured to function as either analogue input or digital input
Outputs	
Universal analogue I/O (UA)	Configurable as output(0…10 V DC; 2…10 V DC; 10…0 V DC or 10…2 V DC, 8 bit D/A short-circuit protected) or input (0…10 V DC)
Digital outputs (DO)	7x relay, 230 V AC, 1 A load per relay, max 7 A total

Article	Description	Note
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	

IO-RU-7

I/O module with 7 or 10 inputs/outputs

I/O module for expansion of Regin's programmable EXOclever and EXOcompact controllers.

Technical data	
Supply voltage	24 V AC ± 15 %, 50…60 Hz
Power consumption	2.5 VA
Ambient temperature	0…50 °C
Storage temperature	-20…70 °C
Ambient humidity	Max. 90 % RH
Protection class	IP20
Communication	EXOline RS485
Communication speed	9600 bps
Built-in temperature sensor	NTC type, measuring range 0...50°C
Accuracy	±0.5°C at 15...30°C
Material, casing	Polycarbonate (PC)
Weight	110
Inputs	
Analogue inputs (AI)	PT1000, 0...50°C
Condensation input (CI)	Input for Regin's condensation detector KG-A/1
Digital inputs (DI)	Closing potential-free contact
Universal inputs (UI)	Analogue input (AI), PT1000 sensor, 0...100°C or digital input (DI)
Outputs	
Digital outputs (DO)	24 V AC, max. 0.5 A.
Universal outputs (UO)	Digital output (DO) 24 V AC, max. 2.0 A or analogue output (AO), 0...10 V DC

Article	AI	DI	UI	DO	UO	Total number of I/O:s	Note
IO-RU-7	1	2 DI or CI	1	-	3	7	
IO-RU-10	1	2 DI or CI	1	4	2	10	

IO-16AI

I/O module with 16 analogue inputs

I/O module for expansion of Regin's programmable EXOclever, EXOflex, EXOcompact and EXOdos controllers.

Technical data	
Supply voltage	24 V AC ± 15 %, 50…60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN Bus
Inputs	16 analogue, PT1000, LMx35, 0…10 kΩ, 0...10 V, 0(4)...20 mA
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0…50 °C
Dimensions (WxHxD)	148 x 123 x 59 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-16AI	Input module	

IO-16DI

I/O module with 16 digital inputs

I/O module for expansion of Regin's programmable EXOclever, EXOflex, EXOcompact and EXOdos controllers. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC ± 15 %, 50…60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN Bus
Inputs	16 digital, potential-free closing contact between +C and DI, 24 V DC, can be configured as a pulse input
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0…50 °C
Dimensions (WxHxD)	148 x 123 x 60 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-16DI	Input module	

IO-16DO-M

I/O module with 16 digital outputs

I/O module for expansion of Regin's programmable EXOclever and EXOcompact controllers. The outputs have manual switches which can be set to manual or auto position. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC ± 15 %, 50…60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN Bus
Outputs	16 digital, potential-free relay (closing), 24 / 230 V AC (not mixable), max. 1 A inductive load or 4 A resistive load
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0…50 °C
Dimensions (WxHxD)	148 x 123 x 74 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-16DO-M	Output module	

IO-8DO8AI-M

I/O module with 8 digital outputs and 8 analogue inputs

I/O module for expansion of Regin's programmable EXOclever and EXOcompact controllers. The outputs have manual switches which can be set to manual or auto position. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC ± 15 %, 50…60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN Bus
Inputs	8 analogue, PT1000, LMx35, 0…10 kΩ, 0...10 V, 0(4)...20 mA
Outputs	8 digital, potential-free relay (closing), 24 / 230 V AC (not mixable), max. 1 A inductive load or 4 A resistive load
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0…50 °C
Dimensions (WxHxD)	148 x 123 x 74 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-8DO8AI-M	Input and output module	

IO-8DO8AO-M

I/O module with 8 digital and 8 analogue outputs

I/O module for expansion of Regin's programmable EXOclever and EXOcompact controllers. The outputs have manual switches which can be set to manual or auto position. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC ± 15 %, 50…60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN Bus
Outputs	8 digital, potential-free relay (closing), 24 / 230 V AC (not mixable), max. 1 A inductive load or 4 A resistive load. 8 analogue, 0...10 V DC, 5 mA, 8 bit D/A, short-circuit proof.
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0...50 °C
Dimensions (WxHxD)	148 x 123 x 74 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-8DO8AO-M	Output module	

IO-4X4-M

I/O module with 4 digital inputs, 4 analogue inputs, 4 digital outputs and 4 analogue outputs

I/O module for expansion of Regin's programmable EXOclever and EXOcompact controllers. The outputs have manual switches which can be set to manual or auto position. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC ± 15 %, 50…60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN Bus
Inputs	4 digital, potential-free closing contact between +C and DI, 24 V DC, can be configured as a pulse input. 4 analogue, PT1000, LMx35, 0…10 kΩ, 0...10 V, 0(4)...20 mA.
Outputs	4 digital, potential-free relay (closing), 24 / 230 V AC (not mixable), max. 1 A inductive load or 4 A resistive load. 4 analogue, 0...10 V DC, 5 mA, 8 bit D/A, short-circuit proof.
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0...50 °C
Dimensions (WxHxD)	148 x 123 x 74 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-4X4-M	Input and output module	

SYSTEM ACCESSORIES

ED-T7

External 7 inch touch display for Exigo, EXOcompact and EXOclever

ED-T7 is a touch screen display and configuration unit intended for connection to a controller.

Technical data	
Power supply	24 V DC, range 9…28 V DC
Power consumption	< 6 W
Dimensions (WxHxD mm)	185.1 x 131.1 x 7.3 mm (front)
Touch panel	Glass front panel with capacitive multi-touch interface
Ambient temperature	-10…+60 °C
Ambient humidity	Max. 90 % RH (non condensing)
Protection class, front	IP65
Protection class, back	IP20

ED-T7

Article	Description	Note
ED-T7	External touch screen display	

ACCESSORIES

Article	Description	Note
X1111	Power supply unit	
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	

External display unit for EXOclever, Corrigo E...-3, EXOcompact C...-3 and Exigo

Display for operation of a EXOcompact C…-3, Corrigo E…-3, EXOclever or Exigo. E3-DSP can be connected to controllers with or without a built-in display. The external display and the built-in display can be used simultaneously.

Technical data	
Protection class	IP30
Connection cable	3 m, 10 m or user-supplied cable, max. 100 m

Article	Description	Note
E3-DSP	External display	

Cable must be ordered separately.

ACCESSORIES

Article	Description	Note
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	

3G/4G router

3G/4G router between TCP/IP connected controllers and a wireless, mobile network.

Technical data	
Communication	TCP/IP
WiFi	IEEE 802,11 b/g/n WiFi standard
Software	Open VPN, IPsec, GRE, L2TP, PPTP, Dynamic DNS and DHCP server
Power supply	9 - 30 V DC. Wall adapter included.
Operating temperature	-40 to +75 °C

Article	Description	Mobile network	Connections	SIM card	Note
M3G230	3G router	3G/GSM/GPRS/EDGE	RJ45 (1 LAN, 1 WAN), WiFi	1	
M4G950	4G router	4G (LTE) /3G/GSM/GPRS/EDGE	RJ45 (3 LAN, 1 WAN), WiFi	2	

ACCESSORIES

Article	Description	Note
MXGDIN	DIN-rail mounting kit for M3G900 and M4G950	
MODEM3G-ANT	External antenna for M3G900	
M4G-ANT	External antenna for M4G950	

E0-R

Display repeater for E3-DSP

Repeater for handling distances of up to 1200 m between Corrigo E...-3, EXOcompact, Exigo, EXOclever and the external display unit E3-DSP.

Article	Power supply	Protection class	Mounting	Note
E0R-3	24 V AC	IP20	DIN-rail	
E0R230K-3	230 V AC	IP65	Wall	

FMCE

Front mounting kit

Mounting kit for easier mounting of controllers in a control panel or cabinet door.

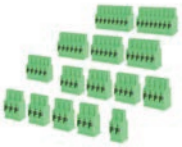
Technical data	
Protection class	IP40

Article	Description	Note
FMCE	Front mounting kit, room for one controller	

PLT-E8

PLT-E15

PLT-28



PLTCE

Plug-in terminal blocks for controllers

PLTCE is a set of angled plug-in terminal blocks for simple wiring of controllers when using the front mounting kits. The terminal blocks enable easy access to the clamping screws even after cabinet mounting.

Article	Description	Note
PLT-E8	Set of plug-in terminals for models with 8 I/O:s	
PLT-E15	Set of plug-in terminals for models with 15 I/O:s	
PLT-E28	Set of plug-in terminals for models with 28 I/O:s	
PLTCE	Set of angled plug-in terminal blocks	

X1176

Connection unit M-Bus/SIOX

External interface converter for connection of meters to processor controllers. X1176 is connected to controllers with RS232, RS485 (EXOline) and hlEXOline. Meters are connected to X1176 via SIOX or M-Bus. Powered by 24 V DC or AC. IP65-classed polycarbonate casing.

Article	Description	Note
X1176	Connection unit M-Bus/SIOX	

E-CABLE2-USB

PC-cable for EXOclever, EXOcompact, Corrigo and Exigo

Cables for connecting EXOcompact and Exigo to RS232 or USB standard.

Article	Description	Note
E-CABLE2-USB	Cable for USB connection	
E-CABLE-RS232	Cable for RS232 connection	

Battery

Article	Description	Note
BATTERY-4289	Replacement battery	
BATTERY-5702	Battery for 5540	

Cabinets for Corrigo/Exigo[Ardo]

Turn-key ready cabinets developed for Corrigo[Ardo] and Exigo[Ardo]. Can also be used for EXOcompact controllers. All inputs and outputs are pre-connected to the terminals. The CAB-STD... units are delivered with trafo, switches, relays and a wiring schematic for the cabinet.

Article	Description	Dimensions (HxW)	Protection class	Relays	Note
CAB-STD2	Cabinet intended for Corrigo/ Exigo Ardo models with 15 I/O:s	483 x 403 mm	IP65	2	
CAB-STD3	Cabinet intended for Corrigo/ Exigo Ardo models with 28 I/O:s	483 x 403 mm	IP65	3	

Corrigo/Exigo[Ardo]/EXOcompact must be ordered separately.

E-CASE-XCA283DW-4-24

EXOcompact demo kit

Complete kit for testing the EXO system. Simply plug the controller into a wall socket and connect it to a computer running the EXO software to make simulations, trigger alarms, view indications, etc.

Article	Description	Note
E-CASE-XCA283DW-4-24	Complete kit for system evaluation, containing an EXOcompact Ardo XCA283DW-4	

X1171A

EXOline to hlEXOline converter

RS485 EXOline to hlEXOline converters. Can be used for communication over long distances or unshielded signal cables.

Article	Description	Note
X1171A	EXOline to hlEXOline converter	

RM6H-24 D

Relay module

Relay module with six relays, intended for use together with Regin's Corrigo, EXOcompact and Exigo controllers. The relay module can be used for control of objects with higher voltage loads or larger current drain than the controller outputs can handle. RM6H-24/D has manual switches for manual control of each object.

Technical data	
Supply voltage	24 V AC ±15 %, 5 VA
Inputs	Six 24 V AC
Output	Six potential-free change-over contacts, 230 V AC, 10 A
Mounting	DIN-rail
Number of modules	6 (105 x 112 x 58)
Protection class	IP20

Article	Description	Note
RM6-24/D	Relay module	
RM6H-24/D	Relay module with manual switches	

EX8282

TCP/IP gateway

Communication gateway for TCP/IP communication, intended for connection of one or several controllers with serial communication to a computer network.

Technical data	
Supply voltage	24 V AC/DC (18...30 V AC/DC)
Internal serial port, type	RS232 or RS485
Ethernet port, type	10Base-T/100Base auto-negotiation
Ethernet port, cable length	Max. 100 m

Article	Description	Note
EX8282	TCP/IP Gateway	

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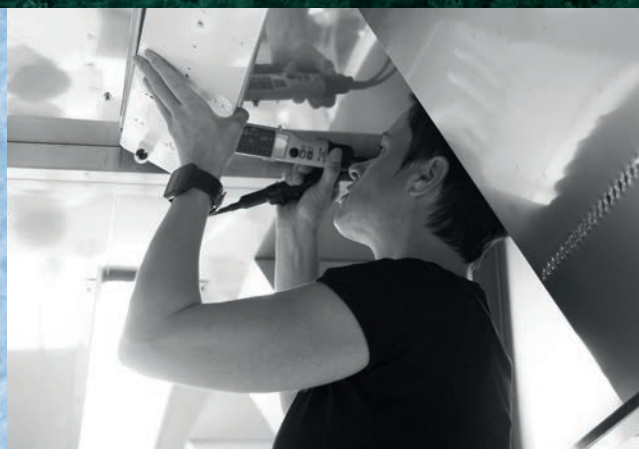
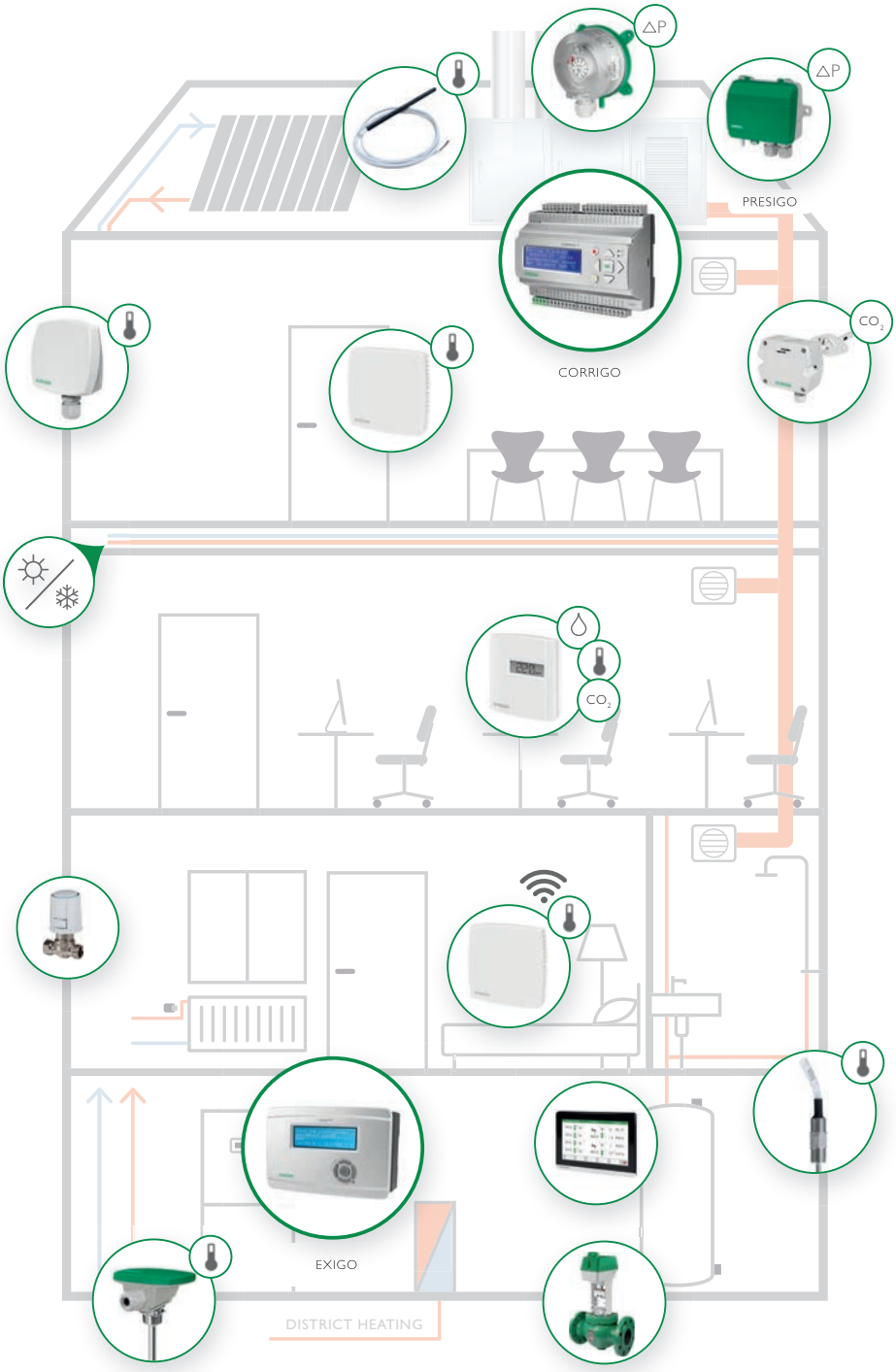
CONTROLLERS



IOT GIVES YOU FULL CONTROL OF YOUR PROPERTIES



CLOUDigo

THIS IS CLOUDigo

- ✓ Let the cloud do the work and visualise your plant for you
- ✓ Check status and change settings online
- ✓ Ready-Steady-Go installation of the controllers
- ✓ No programming necessary
- ✓ Work independently from IT support and firewalls

CONTROLLERS WITH TCP/IP

BACnet™ EXOline M-Bus Modbus GO WIRELESS READY STEADY GO

VENTILATION CONTROLLERS

Corrigo^{Ardo} – Configurable 24 V ventilation controller

Configurable 24 V ventilation controller with built-in communication via EXOline, Modbus or BACnet. Fast and easy to setup with a predefined application for ventilation and selectable I/O configuration. The controller is easily configured and monitored via a built in web interface. It can be connected to CLOUDigo for the possibility to monitor the system from any location.

Technical data	
Supply voltage	24 V AC (21…27 V AC)
Protection class	IP20
Storage temperature	-20…+70 °C
Mounting	DIN-rail
Number of modules	8.5
Display type	Backlit (LCD), 4 rows of 20 characters
Configuration	PT1000/Ni1000/Ni1000LG/0-10V
Operating system	EXOrealC
Clock	Real-time clock
Memory backup	Backup of memory and real-time clock function
Battery backup	CR2032 replaceable Lithium cell
Battery life	Min. 5 years
Dimensions, external (WxHxD)	149 x 121 x 60 mm
Serial port data	
Port type	RS485
Default protocol	EXOline
Supported protocols	Modbus / EXOline / BACnet MS/TP
Port isolation	Galvanic common mode voltage, Max. 150 V
Communication speed	9600 baud (1200…76800 baud)
Parity	Odd/Even/None
Stop bits	1 or 2
TCP/IP port data	
Port type	Ethernet
Default protocol	EXOline-TCP
Supported protocols	EXOline-TCP / Modbus-TCP / BACnet/IP
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

Article	RS485 ports	Ethernet ports	Display	AI	DI	UI	CI	AO	DO	UO	Note
VCA152W-4	1	1	-	4	4	0	0	3	4	0	
VCA152DW-4	1	1	X	4	4	0	0	3	4	0	
VCA283W-4	2	1	-	4	8	4	0	5	7	0	
VCA283DW-4	2	1	X	4	8	4	0	5	7	0	

ACCESSORIES

Article	Description	Note
E3-DSP	External display	
ED-T43L-V	External touch display	
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	
E0R-3	Repeater	
E0R230K-3	Repeater	

Corrigo^{Vido} – Configurable 230 V ventilation controller

Configurable 230 V ventilation controller with built-in communication via EXOline, Modbus or BACnet. Fast and easy to setup with a predefined application for ventilation and selectable I/O configuration. The controller is easily configured and monitored via a built in web interface. It can be connected to CLOUDigo for the possibility to monitor the system from any location.

Technical data	
Supply voltage	230 V ~ (207…253 V ~ 50/60 Hz)
Protection class	IP20 (IP40 when mounted in cabinet)
Storage temperature	-20…+70 °C
Mounting	DIN-rail, cabinet or on wall
Display type	Backlit LCD (blue), 4 rows of 20 characters
Configuration	PT1000/Ni1000/Ni1000LG/0-10V
Operating system	EXOrealC
Clock	Real-time clock
Memory backup	Backup of memory and real-time clock function
Battery backup	CR2032, replaceable Lithium cell
Battery life	Min. 5 years
Dimensions, external (WxHxD)	147 x 98 x 76 mm
Serial port data	
Port type	RS485
Default protocol	EXOline
Supported protocols	Modbus / EXOline / BACnet MS/TP
Port isolation	Galvanic common mode voltage, Max. 150 V
Communication speed	9600 baud (1200…76800 baud)
Parity	Odd/Even/None
Stop bits	1 or 2
TCP/IP port data	
Port type	Ethernet
Default protocol	EXOline-TCP
Supported protocols	EXOline-TCP / BACnet/IP
M-Bus port data	
Port type	M-Bus
Supported protocols	Standard M-Bus master
Communication speed	300 bps
Cable connection	Screw terminals max. 1.5 mm2 (AWG 16)
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

Article	RS485 ports	Ethernet ports	M-Bus ports	Display	AI	DI	UI	CI	AO	DO	UA	Note
VCV203DWM-2	1	1	1	X	4	2	4	0	1	7	2	

ACCESSORIES

Article	Description	Note
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	
ED-T43L-V	External touch display	
E3-DSP	External display	
E0R-3	Repeater	
E0R230K-3	Repeater	

HEATING CONTROLLERS

Exigo^{Ardo} – Configurable 24 V heating controller

Exigo^{Ardo} are controllers for heating and boiler control that make every step from installation to operation and maintenance easier than ever. Simply connect the controller, enter any settings as desired and start up. It can be used either stand-alone or integrated into a network. It has built-in support for many different languages and is designed for mounting on a DIN-rail or in a cabinet door.

Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz or 21...36 V DC
Ambient temperature	0…50 °C
Storage temperature	-20…+70 °C
Ambient humidity	Max. 95 % RH
Protection class	IP20
Connection	Disconnectable terminal strips, 4 mm^2
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Display	Backlit LCD, 4 rows of 20 characters
Mounting	DIN-rail or cabinet
Casing	Standard Euronorm (8.5 modules wide)
Dimensions (WxHxD)	149 x 121 x 60 mm
Inputs	
Analogue inputs (AI)	For PT1000 sensors (accuracy ± 0.4°C), Ni1000 sensors or 0...10 V DC (accuracy ± 0.15 % of full output signal). 12 bit resolution in the A/D conversion.
Digital inputs (DI)	For potential-free contacts
Universal inputs (UI)	AI or DI
Outputs	
Analogue outputs (AO)	0...10 V DC, 1 mA, short-circuit protected
Digital outputs (DO)	Mosfet outputs, 24 V AC or DC, 2 A continuous. Max. 8 A in total.
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP, CLOUDigo
RS485	EXOline, Modbus, BACnet MS/TP
M-Bus	M-Bus communication

MODELS

Article	Display	AI	DI	UI	AO	DO	RS485 ports	TCP/IP ports	M-Bus ports	Power consumption	Note
HCA151DW-3	X	4	4	-	3	4	-	1	-	9 VA	
HCA152DW-3	X	4	4	-	3	4	1	1	-	9 VA	
HCA281DW-3	X	4	8	4	5	7	-	1	-	9 VA	
HCA282DW-3	X	4	8	4	5	7	1	1	-	9 VA	
HCA283DW-3	X	4	8	4	5	7	2	1	-	9 VA	
HCA283DWM-3	X	4	8	4	5	7	1	1	1	9 VA	

ACCESSORIES

Article	Description	Note
E3-DSP	External display	
ED-T7	External touch screen display	
E0R-3	Repeater	
E0R230K-3	Repeater	
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	

Exigo^{Vido} – Configurable 230 V ventilation controller

Exigo^{Vido} are controllers for heating and boiler control that make every step from installation to operation and maintenance easier than ever. Simply connect the controller, enter any settings as desired and start up. It can be used either stand-alone or integrated into a network. It has built-in support for many different languages and is designed for mounting on a DIN-rail, in a cabinet door or directly on a wall.

Technical Data	
Supply voltage	230 V AC
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 95 % RH, non-condensing
Protection class	IP20 (IP40 when mounted in cabinet door)
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Display	Backlit LCD, 4 rows of 20 characters
Mounting	DIN-rail, cabinet or on wall
Inputs	
Analogue inputs (AI)	PT1000 (-50…+150°C), Ni1000, 0…10 V
Digital inputs (DI)	Potential-free closure
Universal inputs (UI)	AI or DI
Outputs	
Universal analogue I/O (UA)	Configurable 0…10 V DC; 2…10 V DC; 10…0 V DC or 10…2 V DC output (12 bit short-circuit protected) or 0…10 V DC input
Digital outputs (DO)	7x relay, 230 V AC, 1 A inductive load per relay
Communication ports	
TCP/IP	EXOline TCP, Modbus TCP, BACnet/IP, CLOUDigo
RS485	EXOline, Modbus, BACnet MS/TP
M-Bus ports	M-Bus communication

MODELS

Article	Display	AI	DI	UI	UA	DO	PWM	RS485 ports	TCP/IP ports	M-Bus ports	Power consumption	Note
HCV190D-1	X	4	2	4	2	7	-	-	-	-	7.5 VA	
HCV191DW-1	X	4	2	4	2	7	-	-	1	-	9.5 VA	
HCV192DW-1	X	4	2	4	2	7	-	1	1	-	10 VA	
HCV193DWM-1	X	4	2	4	2	7	-	1	1	1	10.5 VA	
HCV203DWM-1	X	4	2	4	2	7	1	1	1	1	11 VA	

ACCESSORIES

Article	Description	Note
E3-DSP	External display	
ED-T7	External touch screen display	
E0R-3	Repeater	
E0R230K-3	Repeater	
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	

VARIOUS CONTROLLERS

READY STEADY GO

Optigo – Controllers for simple applications

A series of compact, economic and versatile stand-alone controllers without communication. They are pre-configured and intended for smaller applications. The controllers are very easy to install, commission and control.

Technical data	
Power consumption	4 VA
Ambient temperature	0...50 °C
Storage temperature	-40…+50 °C
Ambient humidity	Max. 90 % RH
Mounting	DIN-rail
Number of modules	7
Protection class	IP20
Display	Backlit LCD, numeric/graphic, language-independent symbols
Dimensions (WxHxD)	123 x 123 x 60 mm
Clock	Week-based 24-hour clock (models with 10 I/Os only)
Inputs	
Analogue inputs (AI)	PT1000
Digital inputs (DI)	Closing potential-free contact
Universal inputs (UI)	0...10 V DC or digital
Setpoint input (SPI)	For an external PT1000 setpoint device, e.g. TG-R4/PT1000 or TBI-PT1000
Outputs	
Analogue outputs (AO)	0...10 V DC, short-circuit protected
Digital outputs (DO)	OP10 and OP10-230 only. Triac 24 V AC, 0.5 A (3-point control or alarm output) and one change-over relay 230 V AC, 5 A (fan start).

INPUTS/OUTPUTS (I/OS)

Article	AI	DI	UI	AO	DO	Total number of I/O:s	Note
OP5U	1	1	1	2	-	5	
OP10	2	2	1	2	3	10	
OP10-230	2	2	1	2	3	10	

Article	Supply voltage	Number of I/Os	Note
OP5U	24 V AC ±15 %	5	
OP10	24 V AC ±15 %	10	
OP10-230	230 V AC	10	

Controller for duct mounting

Compact controller for mounting in ventilation ducts. The controller has a built-in sensor and setpoint control. An external setpoint potentiometer can be connected if required. Can be used to control either heating or cooling. P- or PI-control optional.

The controller has an input for change-over between heating and cooling. The change-over function can be activated by means of an external closing contact or a sensor mounted on the supply-water side of the heating/cooling unit.

Technical data	
Supply voltage	24 V AC, 2 VA
Output	One, 0...10 V DC
Setpoint	0...30 °C
P-band	0.5...50 K
I-time	2 min/20 min, selectable
Change-over	Input for closing contact or sensor (0...30°C)
Mounting	Duct
Protection class	IP65

Article	Description	Note
AL24A1K	Duct controller, one 0...10 V DC output	

ACCESSORIES FOR CORRIGO AND EXIGO

Expansion units Ardo

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with all other products in the EXO range as well as other brands using standard protocols like BACnet or Modbus.

Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz or 21...36 V DC
Ambient temperature	0...50 °C
Storage temperature	-20…+70 °C
Ambient humidity	Max. 95 % RH
Protection class	IP20
Connection	Disconnectable terminal strips, 4 mm^2
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Mounting	DIN-rail or cabinet
Casing	Standard Euronorm (8.5 modules wide)
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP
RS485	EXOline, Modbus, BACnet MS/TP
Inputs	
Analogue inputs (AI)	For PT1000 sensors (accuracy ± 0.4°C) or 0...10 V DC (accuracy ± 0.15 % of full output signal). 12 bit resolution in the A/D conversion.
Digital inputs (DI)	For potential-free contacts
Universal inputs (UI)	Can be configured to function as either analogue input or digital input
Outputs	
Analogue outputs (AO)	0...10 V DC, 1 mA, short-circuit protected
Digital outputs (DO)	Mosfet outputs, 24 V AC or DC, 2 A continuous. Max. 8 A in total.

Article	Description	Note
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	

Expansion units Vido

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with all other products in the EXO range as well as other brands using standard protocols like BACnet or Modbus.

Technical Data	
Supply voltage	230 V AC
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 95 % RH, non-condensing
Protection class	IP20 (IP40 when mounted in cabinet door)
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Mounting	DIN-rail, cabinet or on wall
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP
RS485	EXOline, Modbus, BACnet MS/TP
Inputs	
Analogue inputs (AI)	For PT1000 sensors. 12 bit resolution in the A/D conversion.
Digital inputs (DI)	For potential-free contacts
Universal inputs (UI)	Can be configured to function as either analogue input or digital input
Outputs	
Universal analogue I/O (UA)	Configurable as output(0…10 V DC; 2…10 V DC; 10…0 V DC or 10…2 V DC, 8 bit D/A short-circuit protected) or input (0…10 V DC)
Digital outputs (DO)	7x relay, 230 V AC, 1 A load per relay, max 7 A total

Article	Description	Note
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	

ED-T7

External 7 inch touch display for Exigo, EXOcompact and EXOclever

ED-T7 is a touch screen display and configuration unit intended for connection to a controller.

Technical data	
Power supply	24 V DC, range 9…28 V DC
Power consumption	< 6 W
Dimensions (WxHxD mm)	185.1 x 131.1 x 7.3 mm (front)
Touch panel	Glass front panel with capacitive multi-touch interface
Ambient temperature	-10…+60 °C
Ambient humidity	Max. 90 % RH (non condensing)
Protection class, front	IP65
Protection class, back	IP20

ED-T7

Article	Description	Note
ED-T7	External touch screen display	

ACCESSORIES

Article	Description	Note
X1111	Power supply unit	
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	

ED-T43L-V

External touch display for Corrigo controllers

Graphic touch displays for Corrigo controllers, intended for supervision and control of an air handling system.

Technical data	
Supply voltage	24 V DC (22…26 V DC)
Protection class	IP20
Power consumption	1.2 VA
Storage temperature	-20…+70 °C
Dimensions, external (WxHxD)	144 x 96 x 14 mm
Ambient temperature	0...45 °C
Ambient humidity	5...95 % rH
Touch panel	4,3” TFT-display
Display type	Resistive touch
Communication data	
Communication ports	1
Port type	RS485
Default protocol	Modbus
Supported protocols	Modbus
Communication speed	19200
Parity	None
Stop bits	1

Article	Description	Price
ED-T43L-V	External touch display for Corrigo controllers	

ACCESSORIES

Article	Description	Price
X1111	Power supply unit	
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	
ED-T43L-WM	Wall mounting kit for ED-T43L-V	
ED-T43L-FM	Flush mounting kit for ED-T43L-V	

E3-DSP

External display units for Corrigo and Exigo

Article	Cable length	Protection class	Compatible with	Description	Note
E3-DSP	Max. 100 m	IP30	Corrigo E...-3, EXOcompact C...-3, Exigo, EXOdos, EXOclever	External display	

ACCESSORIES

Article	Description	Note
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	

E0-R

Display repeater for E3-DSP

Repeater for handling distances of up to 1200 m between Corrigo E...-3, EXOcompact, Exigo, EXOclever and the external display unit E3-DSP.

Article	Power supply	Protection class	Mounting	Note
E0R-3	24 V AC	IP20	DIN-rail	
E0R230K-3	230 V AC	IP65	Wall	

External room units

The ED-RU units can be connected to several different products and could, for example, be used to control an air handling unit running a ventilation application.

They can be used to change fan speed, set temperature, extended running, etc. at a distance of up to 300 m. Their stylish design is suitable for all environments.

Technical data	
Supply voltage	18...30 V AC, 50/60 Hz
Power consumption	25 mA
Protection class	IP20
Ambient humidity	Max. 90 % RH
Storage temperature	-20…+70 °C
Mounting	Wall mounting
Dimensions (WxHxD)	95 x 95 x 28 mm
Communication	EXOline

Article	Occupancy button	3-step fan control	Setpoint knob	Multifunction button	Hidden setpoint	Built-in CO_2 sensor	Display	Note
ED-RU	-	-	X	-	-	-	-	
ED-RU-O	X	-	X	-	-	-	-	
ED-RU-F	-	X	X	-	-	-	-	
ED-RU-FO	X	X	X	-	-	-	-	
ED-RU-DO	X	-	-	-	-	-	X	
ED-RU-DFO	X	X	-	-	-	-	X	
ED-RU-DOS	X	-	-	X	-	-	X	
ED-RU-DOCS	X	-	-	-	-	X	X	
ED-RU-H	-	-	-	-	X	-	-	

The ED-RU range can also be used together with EXOcompact, Corrigo and Regio[Ardo] and Regio[Eedo].

ED-RU

ED-RU-O

ED-RU-F

ED-RU-FO

ED-RU-DO, ED-RU-DOCS

ED-RU-DFO

ED-RU-DOS

ED-RU-H

ED-RUD

ED-RUD-BLACK

Flush-mounted room unit intended for use as a display for more advanced controllers

Slim flush-mounted room unit with backlit touch screen. Intended either for Plug'n Play with Regin's room controllers Regio^{Eedo}, Regio^{Ardo} or together with any Modbus master controller.

Technical data	
Supply voltage	24 V AC/DC (22…26 V AC/DC)
Power consumption	60 mA
Protection class	IP30
Ambient temperature	0…50 °C
Ambient humidity	10…90 % RH (non-condensing)
Storage temperature	-20…+70 °C
Cable connection	Terminal block, push-in. Max. 1.5 mm2 (AWG 16)
Mounting	Room
Display	Built-in
Display type	LED-backlit LCD
Dimensions, external (WxHxD)	95 x 95 x 23 mm
Serial ports	
Serial ports	1
Port type	RS485
Supported protocols	Modbus RTU slave
Communication speed	9600 bps (4800…38400 bps)
Parity	None (None, Even, Odd)
Stop bits	1 (1 or 2)
Material	
Material, housing	Polycarbonat (PC)
Material, base	Polycarbonat (PC)
Material, fire resistance	UL 94 V-0
Colour, housing	Signal white RAL 9003
Colour, base	Signal white RAL 9003

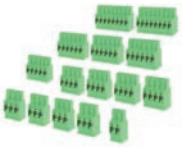
Article	Description	Note
ED-RUD	Flush-mounted room unit intended for use as a display for more advanced controllers	
ED-RUD-BLACK	Flush-mounted room unit intended for use as a display for more advanced controllers, black colour	

ACCESSORIES

Article	Description	Note
E-CABLE2-USB	Cable for USB connection	
CONVERTERTCP	Adapter	
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	

Models with display are also available in black. Please contact Regin for more information.

E-CABLE2-USB



PLTCE

Connection cables and plug-in terminals

Article	Description	Note
E-CABLE2-USB	Cable for USB connection	
PLT-E8	Set of plug-in terminals for models with 8 I/O:s	
PLT-E15	Set of plug-in terminals for models with 15 I/O:s	
PLT-E28	Set of plug-in terminals for models with 28 I/O:s	
PLTCE	Set of angled plug-in terminal blocks	

3G/4G router

3G/4G router between TCP/IP connected controllers and a wireless, mobile network.

Technical data	
Communication	TCP/IP
WiFi	IEEE 802,11 b/g/n WiFi standard
Software	Open VPN, IPsec, GRE, L2TP, PPTP, Dynamic DNS and DHCP server
Power supply	9 - 30 V DC. Wall adapter included.
Operating temperature	-40 to +75 °C

Article	Description	Mobile network	Connections	SIM card	Note
M3G230	3G router	3G/GSM/GPRS/EDGE	RJ45 (1 LAN, 1 WAN), WiFi	1	
M4G950	4G router	4G (LTE) /3G/GSM/GPRS/EDGE	RJ45 (3 LAN, 1 WAN), WiFi	2	

ACCESSORIES

Article	Description	Note
MXGDIN	DIN-rail mounting kit for M3G900 and M4G950	
MODEM3G-ANT	External antenna for M3G900	
M4G-ANT	External antenna for M4G950	

Cabinets for Corrigo/Exigo^{Ardo}

Turn-key ready cabinets developed for Corrigo^{Ardo} and Exigo^{Ardo}. Can also be used for EXO-compact controllers. All inputs and outputs are pre-connected to the terminals. The CAB-STD... units are delivered with transformer, switches, relays and a wiring schematic for the cabinet.

Article	Description	Dimensions (HxW)	Protection class	Relays	Note
CAB-STD2	Cabinet intended for Corrigo/Exigo Ardo models with 15 I/O:s	483 x 403 mm	IP65	2	
CAB-STD3	Cabinet intended for Corrigo/Exigo Ardo models with 28 I/O:s	483 x 403 mm	IP65	3	

Corrigo/Exigo^{Ardo}/EXOcompact must be ordered separately.

E-CASE-VCA283DW-4

Corrigo demo case

Complete case with everything you need to test Corrigo. Simply plug the controller into the wall socket using the included transformer in order to make simulations, trigger alarms, view indications, etc.

Technical data	
Supply voltage	24 V AC
Dimensions	28 x 38 x 9 cm (HxLxW)

Article	Description	Note
E-CASE-VCA283DW-4	Demo case, contains a Corrigo VCA283DW-4 unit. Transformer included.	

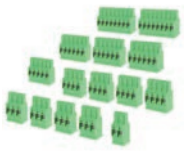
FMCE

Front mounting kit

Mounting kit for easier mounting of controllers in a control panel or cabinet door.

Technical data	
Protection class	IP40

Article	Description	Note
FMCE	Front mounting kit, room for one controller	
FMCO	Front mounting kit, room for one Optigo unit	



PLTCE

Plug-in terminal blocks for controllers

PLTCE is a set of angled plug-in terminal blocks for simple wiring of controllers when using the front mounting kits. The terminal blocks enable easy access to the clamping screws even after cabinet mounting.

Article	Description	Note
PLTCE	Set of angled plug-in terminal blocks	

Battery

Article	Description	Note
BATTERY-4289	Replacement battery	

RM6H-24 D

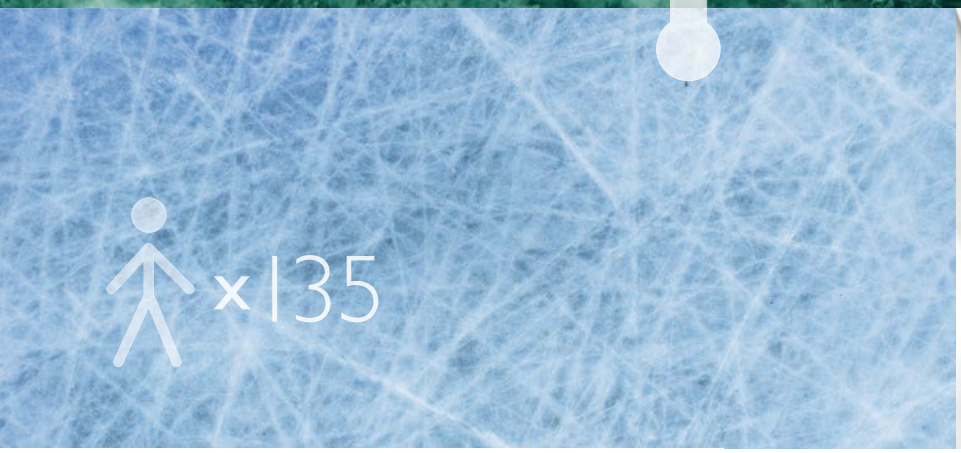
Relay module

Relay module with six relays, intended for use together with Regin's Corrigo, EXOcompact and Exigo controllers. The relay module can be used for control of objects with higher voltage loads or larger current drain than the controller outputs can handle. RM6H-24/D has manual switches for manual control of each object.

Technical data	
Supply voltage	24 V AC ±15 %, 5 VA
Inputs	Six 24 V AC
Output	Six potential-free change-over contacts, 230 V AC, 10 A
Mounting	DIN-rail
Number of modules	6 (105 x 112 x 58)
Protection class	IP20

Article	Description	Note
RM6-24/D	Relay module	
RM6H-24/D	Relay module with manual switches	


800 ppm
4
ROOM
CONTROLLERS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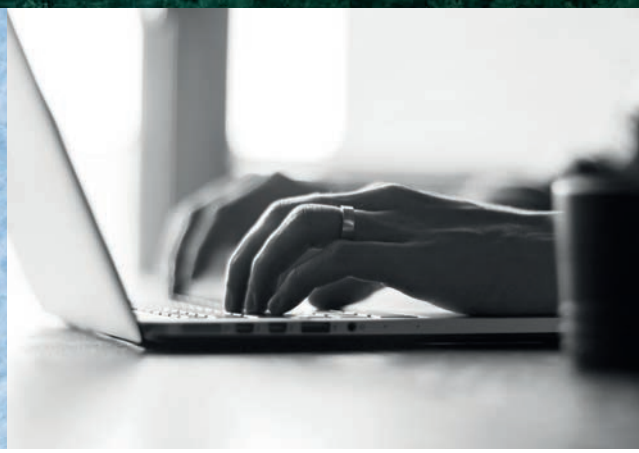


FLEXIBLE ROOM SOLUTIONS

NEWS!

Regio^{Eedo}
230 VAC

Specialized for fan coil applications

Room units

NEWS!

Regio^{Ardo}
24 AC/DC

Efficient solution for two zones

Room controllers

NEWS!

RCC

CO_2

NEWS!

RCFD

RCF

AL...

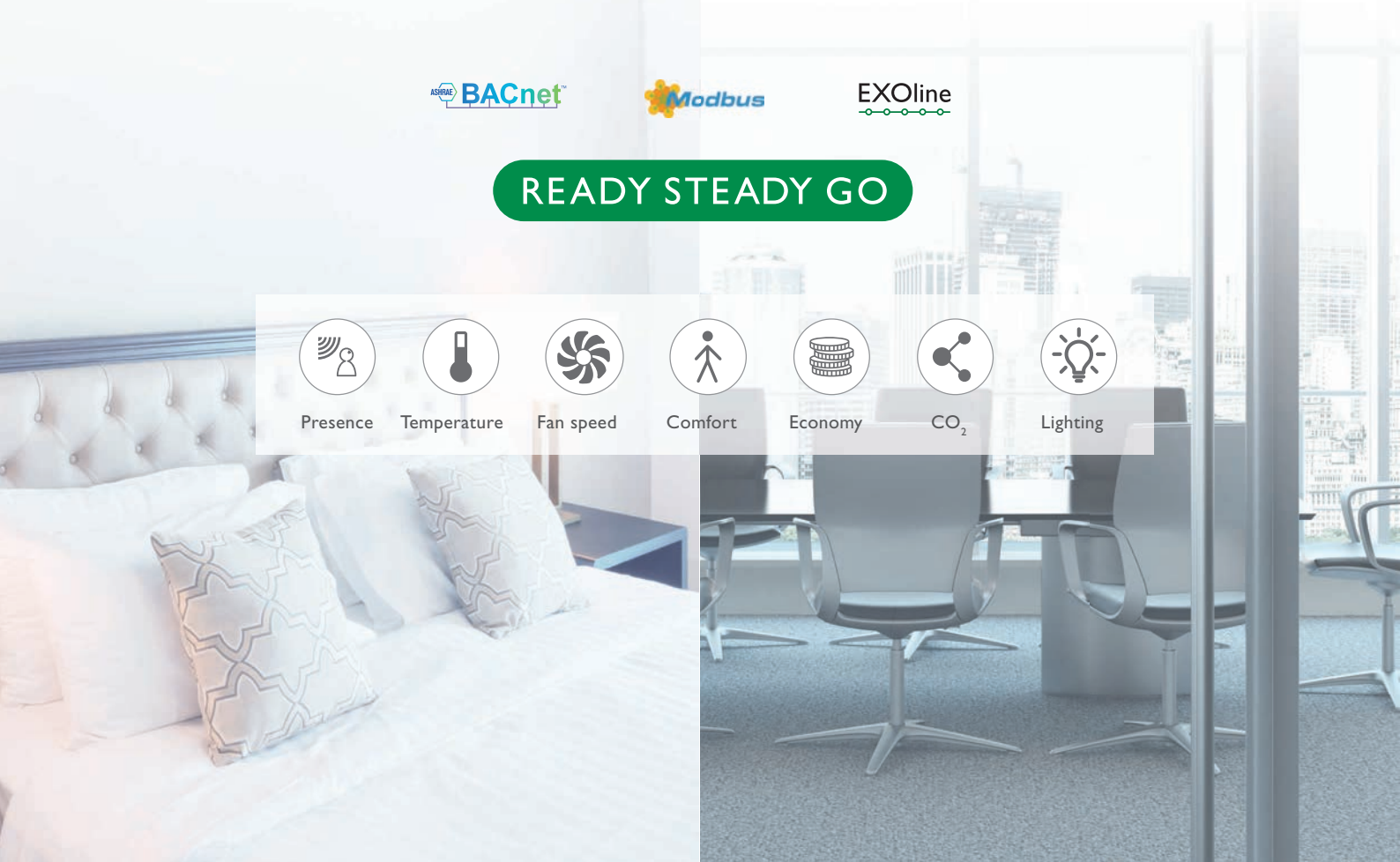
CO_2

RC
MULTIPLE COLOR CHOICES

CO_2

BACnet™ Modbus EXOline

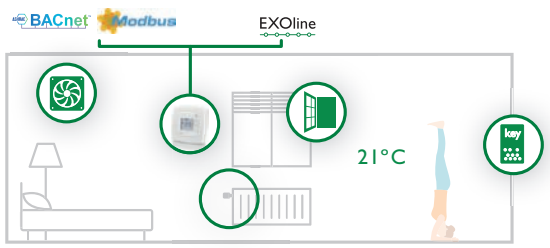
READY STEADY GO



Presence Temperature Fan speed Comfort Economy CO_2 Lighting

COMPLETE CONTROL OF ANY ROOM – FROM BORÅS TO HONGKONG

HOTEL ROOM, MADRID
06.04



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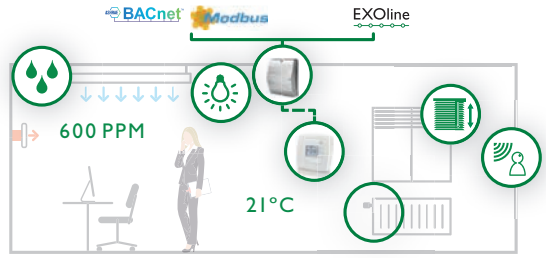

HOSPITAL, BERLIN
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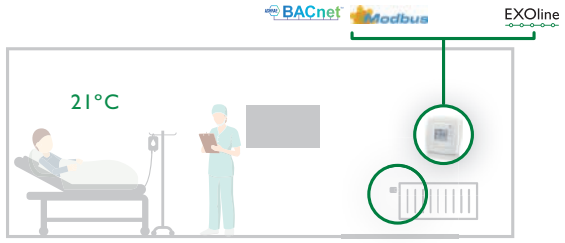

CLASSROOM, BORÅS
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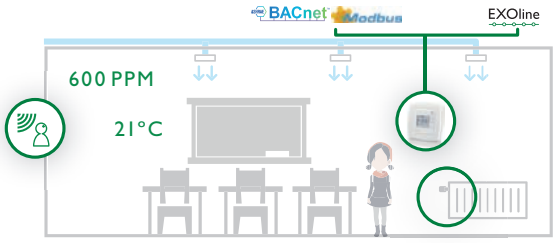

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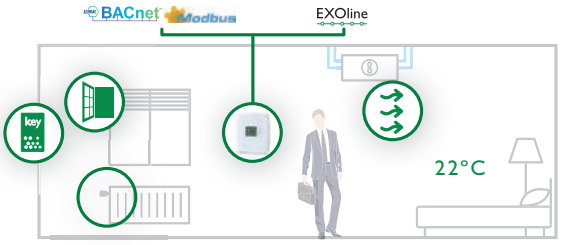

HOTEL ROOM, HELSINKI
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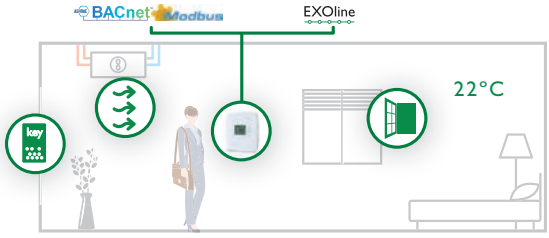

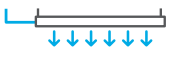

CHILLED BEAMS

VAV

FAN-COIL

RADIATOR

CONTROL UNITS

RegioArdo

RegioArdo is a configurable 24 V zone controller. One controller is able to control two different zones.

It is quick and easy to commission. The I/O configuration and application setup for a VAV controlled room are predefined and the room units ED-RU are easily connected.

The controller is compatible with other Regin products and can easily be integrated into larger systems.

The controller can be used in systems with communication, e.g. EXOline, Modbus or BACnet (over RS485 or TCP/IP). It is installed in a ceiling void, on a junction box plate or on a DIN-rail.

Application tool©

The room controllers can be configured to suit your needs with Regin's software Application tool©, downloadable from www.regincontrols.com.

Technical data	
Supply voltage	24 V AC ±15%, 50…60 Hz
Power consumption	4 VA without load, no display
Battery backup	Memory and real-time clock, at least 5 years
Ambient temperature	0…50 °C
Storage temperature	-20…+70 °C
Ambient humidity	Max. 95 % RH (non-condensing)
Protection class	IP20
Mounting	Wall, on a junction box plate or DIN-rail in cabinet
Number of modules	8.5
Communication	RS485 (EXOline or Modbus with automatic detection/change-over) and TCP (EXOline-TCP, BACnet/IP)
Inputs	
Analogue inputs (AI)	PT1000, 0…10 V DC, 12-bit A/D
Digital inputs (DI)	Sourcing input type, GND is reference
Condensation input (CI)	To be used with Regin's TG-A/1
Outputs	
Analogue outputs (AO)	0...10 V DC, 5 mA, 12-bit D/A, short-circuit proof
Digital outputs (DO)	Mosfet 24 V AC/DC, 2 A. Totally max. 8 A.
Communication ports	
RS485	EXOline, Modbus, BACnet
TCP/IP	EXOline, Modbus, BACnet/IP

Article	AI	DI	AO	DO	CI	RS485 ports	Ethernet	Note
RC-A203W-4-TP	4	4	4	6	2	2	1	

Regio^{Eedo}

Regio^{Eedo} is a configurable 230 V zone controller for e.g. fan coils.

It is prepared for quick connection of the ED-RU room units. The controller is compatible with other Regin products and can easily be integrated into larger systems.

The controller can be used in systems with communication, e.g. EXOline, Modbus or BACnet (over RS485 or TCP/IP). It is installed in a ceiling void, on a junction box plate or on a DIN-rail.

Application tool©

The room controllers can be configured to suit your needs with Regin's software Application tool©, downloadable from www.regincontrols.com.

Technical data	
Supply voltage	230 V AC ±10 %, 50...60 Hz
Power consumption	11 V A
Ambient humidity	Max. 95 % RH (non-condensing)
Storage temperature	-20...+70 °C
Mounting	Wall, on a junction box plate or DIN-rail in cabinet
Protection class	IP20
Inputs	
Analogue inputs (AI)	PT1000 or 0...10 V DC
Condensation input (CI)	Input for Regin's condensation detector KG-A/1
Digital inputs (DI)	Potential-free contact
Outputs	
Analogue outputs (AO)	0...10 V DC
Digital outputs (DO)	Triac outputs: 230 V AC, 300 mA / Relay outputs: 230 V AC, 3 A

Article	AI	DI	DO, 230 V AC triac	DO, 230 V AC relay	AO	CI	RS485 ports	Ethernet	Note
RC-E163W-1-TP	3	3	2	3	4	1	2	1	

ROOM UNITS

External room units

The ED-RU units can be connected to several different products and could, for example, be used to control an air handling unit running a ventilation application.

They can be used to change fan speed, set temperature, extended running, etc. at a distance of up to 300 m. Their stylish design is suitable for all environments.

Technical data	
Supply voltage	18...30 V AC, 50/60 Hz
Power consumption	25 mA
Protection class	IP20
Ambient humidity	Max. 90 % RH
Storage temperature	-20…+70 °C
Mounting	Wall mounting
Dimensions (WxHxD)	95 x 95 x 28 mm
Communication	EXOline

Article	Occupancy button	3-step fan control	Setpoint knob	Multifunction button	Hidden setpoint	Built-in CO_2sensor	Display	Note
ED-RU	-	-	X	-	-	-	-	
ED-RU-O	X	-	X	-	-	-	-	
ED-RU-F	-	X	X	-	-	-	-	
ED-RU-FO	X	X	X	-	-	-	-	
ED-RU-DO	X	-	-	-	-	-	X	
ED-RU-DFO	X	X	-	-	-	-	X	
ED-RU-DOS	X	-	-	X	-	-	X	
ED-RU-DOCS	X	-	-	-	-	X	X	
ED-RU-H	-	-	-	-	X	-	-	

The ED-RU range can also be used together with EXO-products, Corrigo and Exigo.

Models with display are also available in black. Please contact Regin for more information.

ED-RU

ED-RU-O

ED-RU-F

ED-RU-FO

ED-RU-DO, ED-RU-DOCS

ED-RU-DFO

ED-RU-DOS

ED-RU-H

ED-RUD

ED-RUD-BLACK

Flush-mounted room unit intended for use as a display for more advanced controllers

Slim flush-mounted room unit with backlit touch screen. Intended either for Plug'n Play with Regin's room controllers Regio^{Eedo}, Regio^{Ardo} or together with any Modbus master controller.

Technical data	
Supply voltage	24 V AC/DC (22…26 V AC/DC)
Power consumption	60 mA
Protection class	IP30
Ambient temperature	0…50 °C
Ambient humidity	10…90 % RH (non-condensing)
Storage temperature	-20…+70 °C
Cable connection	Terminal block, push-in. Max. 1.5 mm2 (AWG 16)
Mounting	Room
Display	Built-in
Display type	LED-backlit LCD
Dimensions, external (WxHxD)	95 x 95 x 23 mm
Serial ports	
Serial ports	1
Port type	RS485
Supported protocols	Modbus RTU slave
Communication speed	9600 bps (4800…38400 bps)
Parity	None (None, Even, Odd)
Stop bits	1 (1 or 2)
Material	
Material, housing	Polycarbonat (PC)
Material, base	Polycarbonat (PC)
Material, fire resistance	UL 94 V-0
Colour, housing	Signal white RAL 9003
Colour, base	Signal white RAL 9003

Article	Description	Note
ED-RUD	Flush-mounted room unit intended for use as a display for more advanced controllers	
ED-RUD-BLACK	Flush-mounted room unit intended for use as a display for more advanced controllers, black colour	

Article	Description	Note
E-CABLE2-USB	Cable for USB connection	
CONVERTERTCP	Adapter	
EDSP-K3	3 m cable for connecting an external display	
EDSP-K10	10 m cable for connecting an external display	

ROOM CONTROLLERS

Regio Midi room controllers

Regio Midi are controllers with a built-in temperature sensor and an RS485 communication port. Some models are available with CO_2 sensors. Controllers in different rooms and zones can be connected to a bus line enabling communication with a central SCADA system via RS485 (EXOline, BACnet or Modbus).

RC-CD* and RC-C3D* are BTL listed.

RC-C3, RC-CT

Application tool©

The room controllers can be configured to suit your needs with Regin's software Application tool©, downloadable from www.regincontrols.com.

RC-C3H, RC-CTH, RCC-C3HCS

Product overview, Regio Midi

RC-C is the basic model in the range. The other models have various functions, indicated by the letters in the product name:

C = Communication, D = Display, F = Fan control button, H = Hidden setpoint,
O = Occupancy button, T = 3-point output, C (at the end) = CO_2 input,
3 = Three universal outputs, S = Single beam CO_2 sensor

RC-C3O, RC-CTO

RC-C3DOC, RC-CDTO, RCC-C3DOCS

RC-CF

RC-CFO

Technical data	
Supply voltage	24 V AC (18...30 V AC)
Power consumption	< 3 VA
Ambient temperature	0...50 °C °C
Storage temperature	-20…+70 °C
Ambient humidity	Max. 90 % RH (non-condensing)
Communication	RS485 (EXOline or Modbus with automatic detection/change-over, or BACnet). Note: BACnet communication is only an option for models with display.
Modbus	8 bits, 1 or 2 stop bits. Odd, even (FS) or no parity.
Communication speed	9600, 19200, 38400 bps (EXOline, Modbus and BACnet) or 76800 bps (BACnet only)
Built-in temperature sensor	0...50°C NTC linearised 15 kΩ
Accuracy	±0.5°C at 15...30°C
Measuring range, temperature	0…50 °C
Built-in CO_2sensor	0…5000 ppm
Mounting	Room
Dimensions (WxHxD)	RC-...: 95 x 95 x 28 mm, RCC-...: 95 x 95 x 38 mm
Protection class	IP20
Inputs	
Analogue inputs (AI)	PT1000, 0...50°C, 0...10 V
Condensation input (CI)	Digital input for condensation detector
Digital inputs (DI)	Closing potential-free contact
Universal inputs (UI)	Analogue input (AI), PT1000 sensor, 0...100°C or digital input (DI)
Outputs	
Digital outputs (DO)	24 V AC, max. 0.5 A
Universal outputs (UO)	Digital output (DO) 24 V AC, max. 2.0 A or analogue output (AO), 0...10 V DC, max. 5 mA
+C power output for DI only	24 V DC, max. 10 mA, short circuit-protected

RC-C3DOC-BLACK

RC-CDFO,
RC-C3DFOC

INPUTS/OUTPUTS (I/O:S)

Article	AI	DI	UI	UO	DO	Total number of I/O:s	Note
RC-C3	1	2	1	3	-	7	
RC-C3H	1	2	1	3	-	7	
RC-C3O	1	2	1	3	-	7	
RC-C3DOC	2	2	-	3	-	7	
RC-C3DOC-BLACK	2	2	-	3	-	7	
RC-CF	1	2	1	2	4	10	
RC-CFO	1	2	1	2	4	10	
RC-CDFO	1	2	1	2	4	10	
RC-C3DFOC	2	2	-	3	-	7	
RC-CT	1	2	1	-	5	9	
RC-CTH	1	2	1	-	5	9	
RC-CTO	1	2	1	-	5	9	
RC-CDTO	1	2	1	-	5	9	
RCC-C3DOCS	2	2	-	3	-	7	
RCC-C3HCS	2	2	-	3	-	7	

MODEL OVERVIEW

Article	Occupancy button / Forced ventilation	3-step fan control	EC fan con-trol	Set-point knob	Hidden set-point	Out-put	Dis-play	Built-in CO_2-sensor	Connection for CO_2sensor	Note
RC-C3	-	-	X	X	-	0...10 V DC or on/off	-	-	-	
RC-C3H	-	-	X	-	X	0...10 V DC or on/off	-	-	-	
RC-C3O	X	-	X	X	-	0...10 V DC or on/off	-	-	-	
RC-C3DOC	X	-	X	-	-	0...10 V DC or on/off	X	-	X	
RC-C3DOC-BLACK	X	-	X	-	-	0...10 V DC or on/off	X	-	X	
RC-CF	-	X	-	X	-	0...10 V DC or on/off	-	-	-	
RC-CFO	X	X	-	X	-	0...10 V DC or on/off	-	-	-	
RC-CDFO	X	X	-	-	-	0...10 V DC or on/off	X	-	-	
RC-C3DFOC	X	-	X	-	-	0...10 V DC or on/off	X	-	X	
RC-CT	-	-	-	X	-	3-point	-	-	-	
RC-CTH	-	-	-	-	X	3-point	-	-	-	
RC-CTO	X	-	-	X	-	3-point	-	-	-	
RC-CDTO	X	-	-	-	-	3-point	X	-	-	
RCC-C3DOCS	X	-	X	-	-	0…10 V DC or on/off	X	X	X	
RCC-C3HCS	-	-	X	-	-	0…10 V DC or on/off	-	X	X	

RC-CT, RC-CTH and RC-CTO are available on request.

Models with display are also available in black. Please contact Regin for more information.

RC-H

RC, RC-T

RC-O, RC-TO

RC-DO, RC-DTO

RC-F

RC-FO

RC-DFO

Regio Mini room controllers

Stand-alone controllers for control of heating and cooling in a single zone or room.

The Regio Mini controllers can be configured for a specific application via the display or dip-switches (in most cases, though, the default settings can be applied). The controllers have a built-in temperature sensor. Alternatively, an external temperature sensor can be connected.

RC is the basic model in the range. The other models have various functions, indicated by the letters in the product name:

D = Display, F = Fan control (3-speed), H = Hidden setpoint, O = Occupancy button, T = 3-point output

Technical data	
Supply voltage	18...30 V AC, 50...60 Hz
Power consumption	2.5 VA
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Built-in temperature sensor	0...50°C NTC linearised 15 kΩ
Accuracy	±0.5°C at 15...30°C
Mounting	Room
Dimensions (WxHxD)	95 x 95 x 28 mm
Protection class	IP20
Inputs	
Analogue inputs (AI)	PT1000, 0...50°C
Condensation input (CI)	Input for Regin's condensation detector KG-A/1
Digital inputs (DI)	Closing potential-free contact
Universal inputs (UI)	Analogue input (AI), PT1000 sensor, 0...100°C or digital input (DI)
Outputs	
Digital outputs (DO)	24 V AC, max. 0.5 A.
Universal outputs (UO)	Digital output (DO) 24 V AC, max. 2.0 A or analogue output (AO), 0...10 V DC, max. 5 mA
+C power output for DI only	24 V DC, max. 10 mA, short circuit-protected

INPUTS/OUTPUTS (I/O:S)

Article	AI	DI	UI	DO	UO	Total number of I/O:s	Note
RC	1	2	1	1	2	7	
RC-O	1	2	1	1	2	7	
RC-H	1	2	1	1	2	7	
RC-DO	1	2	1	1	2	7	
RC-F	1	2	1	4	2	10	
RC-FO	1	2	1	4	2	10	
RC-DFO	1	2	1	4	2	10	
RC-T	1	2	1	5	-	9	
RC-TO	1	2	1	5	-	9	
RC-DTO	1	2	1	5	-	9	

RC-TO is available on request

MODEL OVERVIEW

Article	Occupancy button / Forced ventilation	3-step fan control	Setpoint knob	Hidden setpoint	Output	Display	Note
RC	-	-	X	-	0...10 V DC or on/off	-	
RC-O	X	-	X	-	0...10 V DC or on/off	-	
RC-H	-	-	-	X	0...10 V DC or on/off	-	
RC-DO	X	-	-	-	0...10 V DC or on/off	X	
RC-F	-	X	X	-	0...10 V DC or on/off	-	
RC-FO	X	X	X	-	0...10 V DC or on/off	-	
RC-DFO	X	X	-	-	0...10 V DC or on/off	X	
RC-T	-	-	X	-	3-point	-	
RC-TO	X	-	X	-	3-point	-	
RC-DTO	X	-	-	-	3-point	X	

Fan-coil thermostat with touch display and communication, 230 V AC on/off outputs

Slim electronic fan-coil thermostat for room temperature control. Automatic or manual change-over between heating and cooling. The thermostat has a function for 3-speed fan control (for fan-coil), a built-in temperature sensor, backlit touch display, and an input for a hotel key card or an occupancy detector.

Technical data	
Supply voltage	230 V ~ (207…253 V ~ 50/60 Hz)
Power consumption	< 3 VA
Protection class	IP30
Ambient humidity	10…90 % RH (non-condensing)
Ambient temperature	0…50 °C
Measuring range, temperature	0…50 °C
Sensor element, temperature	NTC
Accuracy, temperature	±0.5 K
Output signal, temperature	NTC
Display	Built-in
Display type	LED-backlit LCD
Setpoint adjustment	5…35 °C
Mounting	Room (flush-mounted with screw distance cc 60 mm)
Installation	Fan-coils, 2- or 4-pipe
Dimensions, external (WxHxD)	95 x 95 x 50.5 mm

MODELS

Article	DI	DO	AI	Note
RCFD-230C	1	5	1	

RCF...

Fan-coil thermostat with on/off outputs

Electronic fan-coil thermostats for room temperature control. Automatic or manual change-over between heating and cooling. The thermostats have a function for 3-speed fan control (for fan-coil), a built-in temperature sensor, backlit display, and an input for a window contact or an occupancy detector.

RCF-230CD*, RFC-230CAD*, RCF-230CTD* and RCF-230CTD-EC* are BTL listed.

Technical data	
Supply voltage	230 V AC ±10 %, 50/60 Hz
Power consumption	< 3 VA
Setpoint	5...35 °C
Hysteresis	±0.5 K (adjustable)
Digital outputs (DO)	Three relay outputs for fan control, 230 V AC, 3 A / Two triac outputs for valve actuators, 230 V AC, 300 mA
Analogue inputs (AI)	One PT1000
Digital inputs (DI)	One closing potential-free contact
Universal inputs (UI)	One PT1000 or closing potential-free contact
Mounting	Room
Protection class	IP20

Article	Description	Installations	Change-over function	Communication	Note
RCF-230D	Fan-coil thermostat	2- or 4-pipe	Automatic	-	
RCF-230CD	Fan-coil thermostat with communication via RS485 (Modbus, BACnet or EXOline)	2- or 4-pipe	Automatic	RS485: Modbus, EXOline (using automatic detection/ switching) or BACnet	

RCF...

Fan-coil controller for thermal or 3-point actuators

Electronic fan-coil controllers for room temperature control with PI controller. Automatic or manual change-over between heating and cooling. The controllers have a function for 3-speed fan control (for fan-coil), a built-in temperature sensor, backlit display, and an input for a window contact or an occupancy detector. RCF-230TD and RCF-230CTD also have a function for control of an electric heater.

RCF-230CD*, RFC-230CAD* and RCF-230CTD* are BTL listed.

Technical data	
Supply voltage	230 V AC ±10 %, 50/60 Hz
Power consumption	< 3 VA
Setpoint	5...35 °C
P-band	10°C
Hysteresis	±0.5 K
I-time	300 s
Digital outputs (DO)	Three relay outputs for fan control, 230 V AC, 3 A / Two triac outputs for valve actuators, 230 V AC, 300 mA
Analogue inputs (AI)	One PT1000
Digital inputs (DI)	One closing potential-free contact
Universal inputs (UI)	One PT1000 or closing potential-free contact
Mounting	Room
Protection class	IP20

Article	Description	Installations	Change-over function	Communication	Note
RCF-230TD	Fan-coil controller	2- or 4-pipe	Automatic	-	
RCF-230CTD	Fan-coil controller with communication via RS485 (Modbus, BACnet or EXOline)	2- or 4-pipe	Automatic	Modbus, BACnet & EXOline	

EC fan controller for thermal or 3-point actuators

Electronic fan-coil controller for control of EC fans. With PI controller. Automatic or manual change-over between heating and cooling. The controller has a function for EC fan control, a built-in temperature sensor, backlit display, and an input for a window contact or an occupancy detector. It also has a function for control of an electric heater.

RCF-230CD*, RFC-230CAD*, RCF-230CTD* and RCF230CTD-EC* are BTL listed.

Technical data	
Supply voltage	230 V AC ±10 %, 50/60 Hz
Power consumption	< 3 VA
Setpoint	5...35 °C
Hysteresis	±0.5 K
P-band	10°C
I-time	300 s
Analogue outputs (AO)	One for EC fan control, 0...10 V DC, max. 1 mA
Digital outputs (DO)	Two triac outputs for valve actuators, 230 V AC, 300 mA
Analogue inputs (AI)	One PT1000
Digital inputs (DI)	One closing potential-free contact
Universal inputs (UI)	One PT1000 or closing potential-free contact
Mounting	Room
Protection class	IP20

Article	Description	Installations	Change-over function	Communication	Note
RCF-230CTD-EC	Fan-coil controller for EC fans with communication via RS485 (Modbus, BACnet or EXOline)	2- or 4-pipe	Automatic	Modbus, BACnet & EXOline	

Fan-coil controller with 0...10 V control signal

Electronic fan-coil thermostats for room temperature control. With PI controller. The controllers have automatic change-over between heating and cooling and can be used for 2- or 4-pipe systems. They have a function for control of a 3-speed fan (for fan-coil), a built-in temperature sensor, backlit display, and an input for a window contact or an occupancy detector.

RCF-230CD*, RFC-230CAD*, RCF-230CTD* and RCF230CTD-EC* are BTL listed.

Technical data	
Supply voltage	230 V AC ±10 %, 50/60 Hz
Power consumption	< 3 VA
Outputs	Relays for fan control, 230 V AC, 3 A fan-coil. Actuator, 0...10 V DC, max. 1 mA.
Setpoint	5...35 °C
Hysteresis	±0.5 K
P-band	10°C
I-time	300 s
Analogue outputs (AO)	Two for valve actuators, 0...10 V DC, max. 1 mA
Digital outputs (DO)	Three relay outputs for fan control, 230 V AC, 3 A
Analogue inputs (AI)	One PT1000
Digital inputs (DI)	One closing potential-free contact
Universal inputs (UI)	One PT1000 or closing potential-free contact
Mounting	Room
Protection class	IP20

Article	Description	Installations	Change-over function	Note
RCF-230AD	Fan-coil controller	2- or 4-pipe	Automatic	
RCF-230CAD	Fan-coil controller with communication via RS485 (Modbus, BACnet or EXOline)	2- or 4-pipe	Automatic	

RCF model overview

Article	Communication	Installations	Change-over function	EC fan control	Output	AI	DI	UI	AO	DO	Note
RCF-230D	-	2- or 4-pipe	Automatic	-	On/Off	1	1	1	-	5	
RCF-230CD	RS485: Modbus, EXOline (using automatic detection/ switching) or BACnet	2- or 4-pipe	Automatic	-	On/Off	1	1	1	-	5	
RCF-230TD	-	2- or 4-pipe	Automatic	-	3 position or thermal actuator	1	1	1	-	5	
RCF-230CTD	Modbus, BACnet & EXOline	2- or 4-pipe	Automatic	-	3 position or thermal actuator	1	1	1	-	5	
RCF-230CTD-EC	Modbus, BACnet & EXOline	2- or 4-pipe	Automatic	X	On/Off or thermal actuator	1	1	1	1	2	
RCF-230AD	-	2- or 4-pipe	Automatic	-	0…10 V	1	1	1	2	3	
RCF-230CAD	Modbus, BACnet & EXOline	2- or 4-pipe	Automatic	-	0…10 V	1	1	1	1	3	

Room temperature controller for 0...10 V DC or 3-point actuators

This room controller is primarily intended for control of heating or cooling in zone control systems. It has an input for a presence detector (occupancy control). The controller also has an input for change-over, which makes it possible for the control function to switch between heating and cooling.

Technical data	
Supply voltage	24 V AC, ±15 % 50...60 Hz, 2 VA
Output	0...10 V DC, 1 mA or 3-point, 24 V AC, 1 A
Inputs	Two digital and one NTC sensor
Setpoint	0...40 °C
P-band	0.5...50 K
Protection class	IP20

Article	Description	Note
AL24A1T	Room temperature controller	

Room controller, temperature

Temperature controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85…230 V AC, 50/60 Hz
Working range, temperature	5…30 °C
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30

Article	Description	Note
AL230A	Temperature controller	

Room controller, temperature and CO_2

Temperature and CO_2 controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85…230 V AC, 50/60 Hz
Temperature range	5…30 °C
Working range, CO_2	0…2000 ppm
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30

Article	Description	Note
ALC230A	Temperature and CO_2 controller	

Room controller, humidity

Humidity controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85…230 V AC, 50/60 Hz
Working range, humidity	0…100 % RH
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30

Article	Description	Note
ALH230A	Humidity controller	

Universal room controller

Universal controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85…230 V AC, 50/60 Hz
Working range	0…100 %
Outputs	1 analogue output 0...10 V (RL > 10 K)
Inputs	1 analogue input 0...10 V
Mounting	Room
Protection class	IP30

Article	Description	Note
ALU230A	Universal controller	

AQUA24TF

Controller with active frost protection for 3-point actuator

Controller intended for control of valve actuators in water-heated systems. It has a built-in room sensor and can be used for control of supply air temperature or room temperature, with or without cascade control. The controller has built-in active frost protection with two alarm relays and automatic heat maintaining function during shutdown.

Technical data	
Supply voltage	24 V AC ±10 %, 50/60 Hz
Power consumption	Max. 5 VA
Control signal (output)	3-point floating control, 24 V AC output (heating)
Sensor inputs	Three 0...30°C (the sensor determines the range (NTC sensor))
Setpoint	0...30 °C
Minimum limit	0...30°C (not active for single sensor control)
Cascade factor (CF)	1…15 (must be set to 1 for single sensor control)
Frost alarm setpoint	5 °C
Shutdown mode setpoint	25°C (setpoint on frost protection sensor)
Fan relay	Breaking contact for fan contactor interlock if a frost protection alarm occurs. 230 V AC, 2 A.
Alarm relay	Change-over contact for alarm indication if a frost protection alarm occurs. 24 V AC, 2 A.
Mounting	Wall
Protection class	IP20

Article	Description	Note
AQUA24TF	Room controller for HVAC system, with active frost protection	

ACCESSORIES ROOM

Cable splitter

Cable splitter for connection of two ED-RU units to one Regio[Ardo].

Article	Description	Note
EDSP-SPLIT	Cable splitter for connecting two display units to one controller	

Cable for connection of E3-DSP/ED9200, ED-T7 and ED-RU

Article	Cable length	Note
EDSP-K3	3 m	
EDSP-K10	10 m	

Relay unit for Regio RC-...F... controllers in fan-coil applications

Technical data	
Outputs	Three closing relays, 230 V AC, 4 A
Inputs	Three inputs, 24 V AC, from an RC-...F... unit
Mounting	DIN-rail
Protection class	IP00

Article	Description	Note
RB3	Relay unit for RC-...F... controllers	

Power interface for Regio RC-...F... controllers in fan-coil applications

Article	Description	Note
X1178	Power interface for RC-...F... controllers	

Service adapter

Article	Description	Note
RC-TEST	Service adapter for all Regio room units	

Condensation detector

Article	Description	Note
KG-A/1	Condensation detector for Regio controllers, 1 m cable length	

RC-CONN:10

RCC-CONN:10

Connector plates

Article	Description	Note
RC-CONN:10	A set of 10 connector plates for RC units	
RCC-CONN:10	A set of 10 connector plates for RCC units	

Black are avalible on request. Please contact Regin for more information.

E-CABLE2-USB

PC-cable for EXOclever, EXOflex, EXOcompact, Corrigo, Exigo and EXOdos

Cables for connecting EXOflex, EXOcompact, Exigo to RS232 or USB standard.

Article	Description	Note
E-CABLE2-USB	Cable for USB connection	

Serial adapter for RS485 to TCP for Modbus

ConverterTCP is a serial adapter that converts Modbus RS485 to TCP/IP. It can be connected to Regin's Corrigo, EXOcompact, EXOdos and EXOflex controllers, etc. The adapter can be used for individual units or an entire network.

Article	Description	Note
CONVERTERTCP	Adapter	

5

TERMOSTATS

ELECTROMECHANICAL THERMOSTATS

Room thermostat

1-stage room thermostat. Models with on/off switch or summer/winter switch.

Technical data	
Contact	NO/NC 250 V AC 16 (2,5) A
Temperature range	5...30 °C
Ambient temperature	Max. 50 °C
Ambient humidity	10…90 % RH (non-condensing)
Storage temperature	0…50 °C
Mounting	Room
Casing	ABS, fireproof according UL94 V-0 color (Euro White)
Dimensions	80 x 80 x 44 mm
Weight	128 g
Protection class	IP20

Article	On/off button	Summer/winter switch	Hysteresis	Note
R31	-	-	1K	
R33	X	-	1K	
R34	-	X	1K	

ACCESSORIES

Article	Description	Note
SB4095/B	Back side for wall box mounting	

Electromechanical room thermostat for fan-coils

The thermostat has a switch for heating/cooling, as well as a switch for fan speed control.

Technical data	
Output	10 (3) A, 250 V AC
Setpoint	10…30 °C
Hysteresis	0.6 K
Mounting	Room
Protection class	IP20

Article	Function	Description	Note
RRT025A	Heating or cooling switch	Room thermostat	

Frost protection thermostat

High quality frost protection thermostats for use in cooling, heating and ventilation systems.

Technical data	
Contacts	SPDT microswitch
Switch capacity	15 (8) A, 24…250 V AC
Accuracy	± 1K
Ambient temperature	Max. 55 °C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Base in ABS, cover in transparent Polycarbonate (PC)
Dimensions	140 x 62 x 65 mm (cable gland included)
Weight	340 g
Protection class	IP65

Article	Temperature range	Hysteresis	Reset	Max. bulb temperature	Capillary length	Note
FT18	-10…+10 °C or +14…+50 °F	2 K	Automatic	+150 °C	1.8 m	
FT30	-10…+10 °C or +14…+50 °F	2 K	Automatic	+150 °C	3 m	
FT60	-10…+10 °C or +14…+50 °F	2 K	Automatic	+150 °C	6 m	
FT18R	-10…+10 °C or +14…+50 °F	Manual minimal reset	Manual	+150 °C	1.8 m	
FT30R	-10…+10 °C or +14…+50 °F	Manual minimal reset	Manual	+150 °C	3 m	
FT60R	-10…+10 °C or +14…+50 °F	Manual minimal reset	Manual	+150 °C	6 m	

ACCESSORIES

Article	Description	Note
DR-01	Brass pocket 120mm, Ø external 11 mm, Ø internal 10 mm, connection R 1/2”	
DR-02	Stainless steel pocket AISI 304, 120 mm, Ø external 12 mm, Ø internal 10 mm, connection R 1/2”	
DR-05	Set of mounting brackets for capillary fixing (supplied with product)	

Immersion thermostat, IP65

High quality immersion thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb
Contacts	Microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35…+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Bayblend® base, ABS cover
Weight	440 g
Protection class	IP65

Article	Temperature range	Max. bulb temperature	Note
MTIB60	0…60 °C	75 °C	
MTIB120	50…120 °C	140 °C	
MTIB90	20…90 °C	100 °C	

ACCESSORIES

Article	Description	Note
DR-16/14	Brass immersion well, 120 mm. Suitable for MTIB60, MTIB90 and MTIB120.	
DR-17/14	Stainless steel EN 1.4301 immersion well, 120 mm. Suitable for MTIB60, MTIB90 and MTIB120.	

Boiler thermostat with manual reset

High-quality electromechanical thermostats for use in cooling, heating, ventilation and boiler systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	16 (6) A, 24…250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Bayblend® base, ABS cover
Weight	560
Dimensions	108 x 70 x 72 mm
Protection class	IP54

Article	Temperature range	Hysteresis	Note
MTIBL90H	0…90 °C	4±1 K	

ACCESSORIES

Article	Description	Note
DR-30/14	Brass pocket 120 mm, ø external 8 mm, ø internal 7 mm, connection R 1/2”	
DR-31/14	Stainless steel pocket AISI 304, 120 mm, ø external 9 mm, ø internal 7 mm, connection R 1/2”	
DR-40/14	Brass pocket 108 mm, Ø external 16 mm, Ø internal 15 mm, connection R 1/2”	
DR-41/14	Stainless steel AISI 304 pocket, 120 mm, Ø external 16 mm, Ø internal 15 mm, connection R 1/2”	

Capillary thermostat, IP65

High quality thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb
Bulb	Ø 9.5 (Ø 8 for range 50...120°C)
Length, capillary tube	1.5 m
Contacts	Microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Bayblend® base, ABS cover
Weight	400 g
Protection class	IP65

Article	Temperature range	Steps	Hysteresis	Step diff.	Max. bulb temperature	Hidden setpoint	Note
MTIC30S	-30…+30 °C	1	2…20 K	-	60 °C	-	
MTIC30SH	-30…+30 °C	1	2…20 K	-	60 °C	X	
MTIC30-2	-30…+30 °C	2	1 K	2…5 K	60 °C	-	
MTIC30	-30…+30 °C	1	1 K	-	60 °C	-	
MTIC30R	-30…+30 °C	1	Minimum manual reset	-	60 °C	-	
MTIC90S	20…90 °C	1	2...20 K	-	100 °C	-	
MTIC90SH	20…90 °C	1	2...20 K	-	100 °C	X	
MTIC90	20…90 °C	1	1 K	-	100 °C	-	
MTIC90R	20…90 °C	1	Maximum manual reset	-	100 °C	-	
MTIC120S	50…120 °C	1	2…20 K	-	150 °C	-	

ACCESSORIES

Article	Description	Note
DR-01	Brass pocket 120mm, Ø external 11 mm, Ø internal 10 mm, connection R 1/2”	
DR-02	Stainless steel pocket AISI 304, 120 mm, Ø external 12 mm, Ø internal 10 mm, connection R 1/2”	
DR-16	Brass pocket 120mm, Ø external 10 mm, Ø internal 8,5 mm, connection R 1/2”	
DR-17	Stainless steel pocket AISI 304, 120 mm, Ø external 10mm, Ø internal 8,5 mm, connection R 1/2”	

Duct thermostat, IP65

High quality thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb with 200 mm protection spring and mounting bracket
Contacts	Microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Insertion length	200 / Ø 21 mm
Casing	Bayblend® base, ABS cover
Weight	690
Protection class	IP65

Article	Temperature range	Steps	Hysteresis	Step diff.	Max. bulb temperature	Hidden setpoint	Note
MTID30H	-30...+30 °C	1	1 K	-	60 °C	X	
MTID60S	0...60 °C	1	2...20 K	-	75 °C	-	
MTID60-2	0...60 °C	2	1 K	2...5 K	75 °C	-	
MTID60	0...60 °C	1	1 K	-	75 °C	-	
MTID120HR	50...120 °C	1	Manual maximum reset	-	140 °C	X	

ACCESSORIES

Article	Description	Note
DR-25	Spiral protection bracket for capillary	

Wall thermostat, IP65

High quality thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb
Contacts	Microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+60 °C °C
Ambient humidity	10...90 % RH (non-condensing)
Max. bulb temperature	65 °C
Casing	Bayblend® base, ABS cover
Weight	450 g
Dimensions	108 x 70 x 72 mm
Protection class	IP65

Article	Temperature range	Steps	Hysteresis	Step diff.	Hidden setpoint	Note
MTIR30S	-30...+30 °C	1	2...15 K	-	-	
MTIR30SH	-30...+30 °C	1	2...15 K	-	X	
MTIR30	-30...+30 °C	1	1 K	-	-	
MTIR30-2	-30...+30 °C	2	1 K	2...5 K	-	
MTIR60S	0...60 °C	1	2...15 K	-	-	
MTIR60	0...60 °C	1	1 K	-	-	
MTIR60SH	0...60 °C	1	2…15 K	-	X	
MTIR60-2	0...60 °C	2	1 K	2...5 K	-	

Clamp-on thermostat, IP65

Thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb for contact
Contacts	Microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Hysteresis	2…20 K
Casing	Bayblend® base, ABS cover
Weight	410 g
Protection class	IP65 class I

Article	Temperature range	Max. bulb temperature	Hidden setpoint	Note
MTIS60S	0...60 °C	75 °C	-	
MTIS60SH	0...60 °C	75 °C	X	
MTIS90S	20...90 °C	95 °C	-	
MTIS90SH	20...90 °C	95 °C	X	

ELECTRONIC THERMOSTATS

Electronic room thermostat, 1-stage

Electronic thermostats intended for heating or cooling with built-in sensor and input for an external sensor.

Technical data	
Supply voltage	230 V AC ±15 %, 1 VA
Outputs	16 A, 230 V AC, change-over relay
Sensor inputs	NTC sensor
Mounting	Wall
Protection class	IP30

Article	Temperature range	Hysteresis	Note
TM1-P	0…30 °C	1 K	
TM1-50	20...50 °C	1...10 K	

Thermostat, 1-stage, DIN-rail mounting

Electronic thermostat for heating or cooling. Adjustable night setback via an external clock. Multiple thermostats can be connected to the same sensor.

Technical data	
Outputs	One, 16 A, 250 V AC, closing relay
Setpoint	0...30 °C
Hysteresis	0...10 K
Night setback	0...10
Sensor inputs	One Regin NTC sensor
Mounting	DIN-rail
Number of modules	3
Protection class	IP20
Dimensions (WxHxD)	53 x 85 x 74 mm

Article	Supply voltage	Note
TM1N/D	230 V AC ±10 %, 3 VA	
TM1N-24/D	24 V AC ±10 %, 3 VA	

Thermostat, 2-stage, DIN-rail mounting

Thermostat with two relay outputs and individually settable steps for heating or cooling function. Sequential or binary function.

Technical data	
Supply voltage	24 V AC, 2 VA
Outputs	Two, 10 A, 250 V AC, closing relays
Setpoint	0...30 °C
Hysteresis	0.5...5 K
Step differential	0...5 K
Sensor inputs	One Regin NTC sensor
Mounting	DIN-rail
Number of modules	3
Protection class	IP20
Dimensions (WxHxD)	53 x 85 x 74 mm

Article	Description	Note
TM2-24/D	Electronic 2-stage thermostat	

Scale for other temperature ranges

Alternative setpoint scale for the TM1 and TM2 thermostats, when using sensors with other temperature ranges.

Article	Description	Temperature range	Note
SKALA-1228	Scale for TM1N/D, TM1N-24/D and TM2-24/D	20...50 °C	

6

ELECTRIC HEATING CONTROLLERS

1- OR 2-PHASE CONTROLLERS

Pulser – controller with PI-control, 230...400 V AC, wall mounting

Wall mounted electric heating controller intended for control of radiators or electric heating coils. It is a complete controller with built-in sensor and setpoint adjustment. It pulses the whole load on/off and utilises time-proportional triac control. Both automatic control function adaptation, P- or PI-control and supply voltage adaptation, 230 V / 400 V.

Technical data	
Supply voltage	230...400 (210 - 415 V ~ 50/60 Hz 16 A)
Pulse period	60 s
Mounting	Wall
Power dissipation	20 W of heat at full load
Protection class	IP20
P-band	20 K (rapid temperature changes), 1.5 K (slow temperature changes)
I-time	6 min (rapid temperature changes)
Ambient temperature	0...30 °C
Ambient humidity	Max. 90 % RH, non-condensing
Storage temperature	-40...+50 °C
Dimensions	95 x 153 x 41 mm
Cable connection	Cage clamp
Inputs/outputs (I/Os)	
Output load	Resistive load, max 16 A, min 1 A
Sensor inputs	External main sensor and external sensor for temperature limitation
Sensor element	NTC Regin standard
Setpoint range	0...30 °C (the external sensor determines the temperature range)
Setpoint alternatives	Either internal setpoint potentiometer or external setting device
Night setback	0...10 K
Indication	Red LED that is lit when power is pulsed to the heater

Article	Description	Mounting	Note
PULSER-M	Electric heating controller with min./max. limitation	Wall	
PULSER-ADD	Add-on unit		

Pulser – electric heating controller for external input signal 0-10 V, 230 V AC or 400 V AC, wall mounting

Electric heating controller for controlling electric heating batteries, electric panels etc. It operates on an input signal from an external controller.

Technical data	
Supply voltage	...230X...: 230 V ~ (207...253 V ~ 50/60 Hz 16 A) ...400X...: 400 V ~ (360...440 V ~ 50/60 Hz 16 A)
Ambient temperature	0…30 °C , non-condensing
Pulse period	6/60/120 s , adjustable
Dimensions, external (WxHxD)	93 x 153 x 40 mm
Mounting	Wall
Protection class	IP20
Input signal	0...10 V
Output load	Resistive load, max 16 A, min 1 A

Article	Description	Supply voltage	Note
PULSER230X010	Electric heating controller for external 0...10 V DC control signal	230 V AC	
PULSER400X010	Electric heating controller for external 0...10 V DC control signal	400 V AC	

Pulser – electric heating controller with PI-control, 230...400 V AC, DIN-rail mounting

Electric heating controllers intended for control of radiators or electric heating coils. They can be mounted on a DIN-rail in a cabinet. The electric heating controllers pulse the whole load on/off and utilise time-proportional triac control. Automatic control function adaptation, P- or PI-control.

Technical data	
Supply voltage	230...400 V (210 - 415 V ~ 50/60 Hz 16 A)
Pulse period	60 s
Mounting	DIN-rail
Power dissipation	20 W of heat at full load
Protection class	IP20
P-band	20 K (rapid temperature changes), 2 K (slow temperature changes)
I-time	6 min (rapid temperature changes)
Ambient temperature	0…40 °C
Ambient humidity	Max. 90 % RH, non-condensing
Storage temperature	-40...+50 °C
Dimensions (WxHxD)	115 x 88 x 59 mm
Number of modules	6.6
Inputs/outputs (I/O)	
Output load	Resistive load, max 16 A, min 1 A
Sensor inputs	One input for main sensor
Sensor element	NTC Regin standard
Setpoint range	0...30 °C (the external sensor determines the temperature range)
Setpoint alternatives	Either internal setpoint potentiometer or external setting device.
Night setback	5 K
Indication	Red LED that is lit when power is pulsed to the heater.

Article	Description	Note
PULSER/D	Electric heating controller	

Pulser – Electric heating controller for external signal 0-10 V, 230/400 V AC, DIN-rail mounting

Electric heating controllers intended for control of radiators or electric heating coils. They can be mounted on a DIN-rail in a cabinet. The electric heating controllers utilise time-proportional triac control and operate on an external 0…10 V input signal.

Technical data	
Supply voltage	230 V ~ (207...253 V ~ 50/60 Hz 16 A) or 400 V ~ (360...440 V ~ 50/60 Hz), automatic adaption to supplied voltage
Pulse period	6/60/120 s, adjustable
Mounting	DIN-rail
Power dissipation	20 W of heat at full load
Protection class	IP20
Ambient temperature	0...40 °C °C
Ambient humidity	Max. 90 % RH, non-condensing
Storage temperature	-40...+50 °C
Dimensions (WxHxD)	115 x 88 x 59 mm
Number of modules	6.6
Inputs/outputs (I/O)	
Input signal	0...10 V DC
Output load	Resistive load, max 16 A, min 1 A

Article	Description	Note
PULSER-X/D	Electric heating controller for external 0...10 V DC control signal	

3-PHASE CONTROLLERS

TTC – electric heating controller for wall mounting, 3-phase, 210...415 V

The controller can be used with internal or external setpoint. Automatic control function adaptation, P- or PI-control. The controller can also be set to be controlled by an external 0...10 V DC signal.

Technical data	
Supply voltage	3-phase, 210...255 / 380...415 V AC, automatic adaptation
Setpoint	0…30 °C (the sensor determines the range)
Max. load	Max. 25 A, min. 3 A/phase
Sensor inputs	Two, main and min./max. limiting sensors (NTC sensor)
Control signal	0...10 V DC (external signal)
Mounting	Wall
Protection class	IP30
P-band	Supply air temperature control: 20 K, fixed Room temperature control: 1.5 K, fixed
I-time (supply air temperature control)	6 min, fixed
Pulse period	6...120 s

Article	Description	Note
TTC2000	Electric heating controller	

To control extra loads, the slave board TT-S1 can easily be mounted into the unit.

Electric heating controller for DIN-rail mounting, 3-phase, 210…415 V, 40A

For control of electric heating coils or radiators. The controllers pulse the whole load on/off and utilise time-proportional triac control. Automatic control function adaptation, P- or PI-control. The controllers can also be set to be controlled by an external 0...10 V DC signal.

Technical data	
Ambient temperature	0...40 °C
Protection class	IP20
P-band	Supply air temperature control: 20 K, fixed Room temperature control: 1.5 K, fixed
I-time	6 min, fixed
Output	25 A, 3 x 400 V AC, 17 kW (3 x 230 V, 10 kW)
Inputs	
Setpoint	0...30 °C (the sensor determines the range)
Sensor inputs	Two, main and max./min. limiting sensors (NTC sensor).
Control signal	0...10 V DC

Article	Load	Supply voltage	Pulse period	Dimensions (HxWxD)	Note
TTC25	25 A	3-phase, 210...255 / 380...415 V AC, automatic adaptation	6…60 s	200 x 195 x 95	
TTC40F	40 A	3-phase, 210...255 / 380...415 V AC, automatic adaptation	6…60 s	220 x 195 x 95	
TTC80F	80 A	3-phase, 400 V AC ±10%	6…120 s	220 x 195 x 105	

ACCESSORIES

TT-S1

Slave board for electric heating controllers

TT-S1 is intended for use together with the electric heating controller TTC2000, in order to control extra loads.

Article	Description	Note
TT-S1	Slave board for control of extra loads (+17 kW)	

Step controller, 4- or 6-stage

Controller intended for control of electric heating coils, four or six relays. It can be used with any controller with a 0...10 V DC or 10...2 V DC output signal. The step controller also have an analogue output (0…10 V) for control of an electric heating controller to give proportional heating between steps.

Technical data	
Supply voltage	24 V AC, 6 VA
Output	4 alt. 6 relays (closing), binary or sequential control
Input signal	0...10 V DC
Output signal	0…10 V DC
Mounting	DIN-rail
Number of modules	6
Protection class	IP20

Article	Description	Note
TT-S4/D	Step controller with 4 relays	
TT-S6/D	Step controller with 6 relays	

TRY-RATT-2271

TRY-RATT-1588

Knobs for Pulser

Alternative setpoint knobs, when using sensors with other temperature ranges.

KNOBS FOR PULSER

Article	Temperature range	Note
TRY-RATT-2271	0...30 °C	
TRY-RATT-1588	20...50 °C	

7

SENSORS, SWITCHES & TRANSMITTERS

TEMPERATURE

Clamp-on sensor with cable

For surface temperature measurement. Including clamp (Ø max 40 mm).

Technical data	
Time constant	13 s
Material	Nickel-plated copper
Cable length	1.5 m
Protection class	IP65

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-A1/PT100	PT100	100 Ω (0°C)	-30...+150 °C	-	
TG-A1/PT1000	PT1000	1000 Ω (0°C)	-30...+150 °C	-	
TG-A1/NTC1.8	NTC 1.8	1800 Ω (25°C)	-30...+120 °C	TAC	
TG-A1/NTC2.2	NTC 2.2	2252 Ω (25°C)	-30...+150 °C	Johnson Controls	
TG-A1/NTC10-01	NTC 10	10 kΩ (25°C)	-30...+150 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-A1/NTC10-02	NTC 10	10 kΩ (25°C)	-30...+110 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-A1/NTC10-03	NTC 10	10 kΩ (25°C)	-30...+150 °C	Andover - Delta Controls - Siebe - York	
TG-A1/NTC20	NTC 20	20 kΩ (25°C)	-30...+150 °C	Honeywell	
TG-A1/NI1000-01	Ni1000	1000 Ω (0°C)	-30...+150 °C	Siemens - Landis & Staefa	
TG-A1/NI1000-02	Ni1000	1000 Ω (0°C)	-30...+150 °C	Sauter	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	

Clamp-on sensor, NTC Regin

Clamp-on sensor for surface temperature measurement. Supplied with 1.5 m cable.

Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	13 s
Material	Nickel-plated copper
Cable length	1.5 m
Protection class	IP65

Article	Description	Measuring range, temperature	Note
TG-A130	Clamp-on sensor, including clamp (Ø 40 mm max.)	0...30 °C	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	

This sensor cannot be used together with the Pulser series.

Clamp-on sensor with housing

Clamp-on sensor for surface temperature measurement.

Technical data	
Protection class	IP65
Time constant	3 s
Measuring range, temperature	-20…+120 °C
Cable gland	M16
Dimensions, external (WxHxD)	104 x 78 x 51 mm
Accessories, included	Two metal straps and heat-conductive paste (art.nr: PASTA-20).
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-AH3/PT100	PT100	100 Ω (0°C)	-	
TG-AH3/PT1000	PT1000	1000 Ω (0°C)	-	
TG-AH3/NTC1.8	NTC 1.8	1800 Ω (25°C)	TAC	
TG-AH3/NTC2.2	NTC 2.2	2252 Ω (25°C)	Johnson Controls	
TG-AH3/NTC10-01	NTC 10	10 kΩ (25°C)	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-AH3/NTC10-02	NTC 10	10 kΩ (25°C)	Carel - Evco - Eliwell - AB Industrietechnik	
TG-AH3/NTC10-03	NTC 10	10 kΩ (25°C)	Andover - Delta Controls - Siebe - York	
TG-AH3/NTC20	NTC 20	20 kΩ (25°C)	Honeywell	
TG-AH3/NI1000-01	Ni1000	1000 Ω (0°C)	Siemens - Landis & Staefa	
TG-AH3/NI1000-02	Ni1000	1000 Ω (0°C)	Sauter	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	

TG-B6/PT100

Bulb sensor

Universal sensor.

Technical data	
Material	Stainless steel
Cable length	1.5 m
Diameter	6 mm

TG-B6/PT1000

Article	Sensor element	Nominal resistance	Temperature range	Diameter	Protection class	Equivalent	Note
TG-B6/PT100	PT100	100 Ω/0°C	-30...+100 °C	6 mm	IP65	-	
TG-B6/PT1000	PT1000	1000 Ω/0°C	-50...+110 °C	6 mm	IP67	-	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	

Cable temperature sensor, NTC

Technical data	
Sensor element	NTC, 15...10 kΩ
Diameter	6 mm
Material, tube	Nickel plated brass
Material, cable	Silicone
Cable length	1.5 m
Protection class	IP65

Article	Temperature range	Note
TG-B130	0...30 °C	
TG-B150	20...50 °C	
TG-B160	0...60 °C	
TG-B190	60...90 °C	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	

This sensor cannot be used together with the Pulser series.

Bulb sensor, 4 mm diameter

Universal sensor

Technical data	
Material, bulb	Stainless steel AISI 304
Material, cable	Thermoplastic rubber
Bulb length	40 mm
Cable length	1.5 m
Diameter	4 mm
Protection class	IP67

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-B4/PT1000	PT1000	1000 Ω/0°C	-50…+110 °C	-	
TG-B4/NTC1.8	NTC 1.8	1800 Ω/25°C	-50…+110 °C	TAC	
TG-B4/NTC2.2	NTC 2.2	2252 Ω/25°C	-50…+110 °C	Johnson Controls	
TG-B4/NTC10-01	NTC 10-01	10 kΩ/25°C	-50…+110 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-B4/NTC10-02	NTC 10-02	10 kΩ/25°C	-50…+110 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-B4/NTC10-03	NTC 10-03	10 kΩ/25°C	-50…+110 °C	Andover - Delta Controls - Siebe - York	
TG-B4/NTC20	NTC 20	20 kΩ/25°C	-50…+110 °C	Honeywell	
TG-B4/NI1000-01	Ni1000	1000 Ω/0°C	-50…+110 °C	Siemens - Landis & Staefa	
TG-B4/NI1000-02	Ni1000	1000 Ω/0°C	-50…+110 °C	Sauter	

Floor sensor

Sensor for measuring floor temperature.

Technical data	
Material, bulb	Thermoplastic rubber
Material, cable	Thermoplastic rubber exterior with polypropene interior
Cable length	1.5 m
Protection class	IP68
Diameter, sensor	4.7 mm
Length, sensor	19 mm

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-G2/PT1000	PT1000	1000 Ω/0°C	-50…+110 °C	-	

Floor sensor, NTC Regin

Technical data	
Sensor element	NTC, 15...10 kΩ
Diameter	7 mm
Cable length	2.5 m
Protection class	IP65

Article	Description	Temperature range	Note
TG-G130	Floor sensor	0...30 °C	

Duct sensor with housing

Duct sensor for air temperature measurement in ventilation ducts.

Technical data	
Protection class	IP65
Time constant	16 s
Measuring range, temperature	-30...+70 °C
Cable gland	M16
Diameter, probe	8 mm
Dimensions, external (WxHxD)	78 x 263 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304

MODELS

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-KH3/PT100	PT100	100 Ω (0°C)	60...205 mm	-	
TG-KH3/PT1000	PT1000	1000 Ω (0°C)	60...205 mm	-	
TG-KH3/PT1000-430	PT1000	1000 Ω (0°C)	60…405 mm	-	
TG-KH3/NTC1.8	NTC 1.8	1800 Ω (25°C)	60...205 mm	TAC	
TG-KH3/NTC2.2	NTC 2.2	2252 Ω (25°C)	60…205 mm	Johnson Controls	
TG-KH3/NTC10-01	NTC 10	10 kΩ (25°C)	60...205 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-KH3/NTC10-02	NTC 10	10 kΩ (25°C)	60...205 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-KH3/NTC10-03	NTC 10	10 kΩ (25°C)	60...205 mm	Andover - Delta Controls - Siebe - York	
TG-KH3/NTC20	NTC 20	20 kΩ (25°C)	60...205 mm	Honeywell	
TG-KH3/NI1000-01	Ni1000	1000 Ω (0°C)	60...205 mm	Siemens - Landis & Staefa	
TG-KH3/NI1000-02	Ni1000	1000 Ω (0°C)	60...205 mm	Sauter	

Duct sensor, NTC Regin

For air temperature measurement in ventilation ducts. Adjustable insertion length.

Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	38 s
Diameter	9 mm
Insertion length	15...130 mm
Cable length	1.5 m
Protection class	IP20

Article	Description	Temperature range	Note
TG-K300	Duct sensor	-30...+30 °C	
TG-K310	Duct sensor	-20...+10 °C	
TG-K330	Duct sensor	0…30 °C	
TG-K350	Duct sensor	20…50 °C	
TG-K360	Duct sensor	0…60 °C	
TG-K340	Duct sensor for Floorigo/AL24A1T	0…40 °C	

Duct sensor with cable

Duct sensor for air temperature measurement in ventilation ducts. Adjustable insertion length.

Technical data	
Temperature range	-30…+70 °C
Time constant	50 s including dead time
Insertion length	15…145 mm adjustable
Diameter	9 mm
Protection class	IP20

Article	Sensor element	Nominal resistance	Cable length	Temperature range	Equivalent	Note
TG-K3/PT100	PT100	100 Ω (0°C)	1.5 m	-30...+70 °C	-	
TG-K3/PT1000	PT1000	1000 Ω (0°C)	1.5 m	-30...+70 °C	-	
TG-K3/PT1000/3,0	PT1000 (DIN class B)	1000 Ω/0°C	3 m	-30...+70 °C	-	
TG-K3/NTC1.8	NTC 1.8	1800 Ω (25°C)	1.5 m	-30...+70 °C	TAC	
TG-K3/NTC2.2	NTC 2.2	2252 Ω (25°C)	1.5 m	-30...+70 °C	Johnson Controls	
TG-K3/NTC10-01	NTC 10	10 kΩ (25°C)	1.5 m	-30...+70 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-K3/NTC10-02	NTC 10	10 kΩ (25°C)	1.5 m	-30...+70 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-K3/NTC10-03	NTC 10	10 kΩ´(25°C)	1.5 m	-30...+70 °C	Andover - Delta Controls - Siebe - York	
TG-K3/NTC20	NTC 20	20 kΩ (25°C)	1.5 m	-30...+70 °C	Honeywell	
TG-K3/NI1000-01	Ni1000	1000 Ω (0°C)	1.5 m	-30...+70 °C	Siemens - Landis & Staefa	
TG-K3/NI1000-02	Ni1000	1000 Ω (0°C)	1.5 m	-30...+70 °C	Sauter	

Duct sensor with housing for average temperature measurement

Sensor with a 4-point average temperature measurement for duct mounting.

Technical data	
Protection class	IP65
Time constant	63 s at 2 m/s and 43 s at 5 m/s
Cable gland	M16
Diameter	8 mm
Dimensions, external (WxHxD)	78 x 132 x 104 mm
Insertion length	75 mm
Sensor cable length	3 m
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304

MODELS

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-MH3/PT1000	PT1000 (DIN class B)	1000 Ω (0°C)	-	

Immersion sensor with fixed cable

Immersion sensor for water temperature measurement with threaded connection R1/4".

Technical data	
Temperature range	-30…+70 °C
Time constant	4 s (liquid: 2 m/s)
Cable length	1.5 m
Connection	R1/4"
Diameter	4 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Protection class	IP65

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D1/PT100	PT100	100 Ω (0°C)	135 mm	-	
TG-D1/PT1000	PT1000	1000 Ω (0°C)	135 mm	-	
TG-D1/NTC1.8	NTC 1.8	1800 Ω (25°C)	135 mm	TAC	
TG-D1/NTC2.2	NTC 2.2	2252 Ω (25°C)	135 mm	Johnson Controls	
TG-D1/NTC10-01	NTC 10	10 kΩ (25°C)	135 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-D1/NTC10-02	NTC 10	10 kΩ (25°C)	135 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-D1/NTC10-03	NTC 10	10 kΩ (25°C)	135 mm	Andover - Delta Controls - Siebe - York	
TG-D1/NTC20	NTC 20	20 kΩ (25°C)	135 mm	Honeywell	
TG-D1/NI1000-01	Ni1000	1000 Ω (0°C)	135 mm	Siemens - Landis & Staefa	
TG-D1/NI1000-02	Ni1000	1000 Ω (0°C)	135 mm	Sauter	

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D2/PT100	PT100	100 Ω (0°C)	220 mm	-	
TG-D2/PT1000	PT1000	1000 Ω (0°C)	220 mm	-	

DF

ACCESSORIES

Article	Description	Note
DF	Mounting flange for 135 mm long sensors for mounting in ventilation ducts	
ADAPTER	Adapter 1/4" to 1/2". For mounting immersion sensors in 1/2".	
ACC:10	Adjustable clamp connector	

Immersion sensor with cable, adjustable insertion length

Immersion sensor for water temperature measurement.

Technical data	
Temperature range	-30…+70 °C
Time constant	4 s
Cable length	1.5 m
Connection	R1/4”
Diameter	4 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Protection class	IP65

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D3/PT100	PT100	100 Ω (0°C)	300 mm	-	
TG-D3/PT1000	PT1000	1000 Ω (0°C)	300 mm	-	
TG-D3/NTC10-01	NTC 10	10 kΩ (25°C)	300 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-D3/NTC10-02	NTC 10	10 kΩ (25°C)	300 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-D3/NTC10-03	NTC 10	10 kΩ (25°C)	300 mm	Andover - Delta Controls - Siebe - York	
TG-D3/NTC20	NTC 20	20 kΩ (25°C)	300 mm	Honeywell	
TG-D3/NI1000-01	Ni1000	1000 Ω (0°C)	300 mm	Siemens - Landis & Staefa	
TG-D3/NI1000-02	Ni1000	1000 Ω (0°C)	300 mm	Sauter	

Immersion sensor, NTC Regin

For water temperature measurement.

Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	4 s
Diameter	R1/4” 6 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Cable length	1.5 m
Protection class	IP65

Article	Sensor element	Nominal resistance	Temperature range	Insertion length	Note
TG-D130	NTC	15...10 kΩ	0...30 °C	135 mm	
TG-D150	NTC	15...10 kΩ	20...50 °C	135 mm	
TG-D170	NTC	15...10 kΩ	40...70 °C	135 mm	

ACCESSORIES

Article	Description	Note
DF	Mounting flange for 135 mm long sensors for mounting in ventilation ducts	

This sensor cannot be used together with the Pulser series.

Immersion sensor with housing, without well, R1/4"

Immersion sensor for temperature measurement of heating or cooling batteries in ventilation units. Probe in stainless steel without a well.

Technical data	
Protection class	IP65
Time constant	4 s
Insertion length	90 mm
Measuring range, temperature	-20…+120 °C
Cable gland	M16
Connection, without well	R1/4"
Diameter, probe	5 mm
Pressure rating	PN16
Dimensions, external (WxHxD)	78 x 158 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-DH3/PT100	PT100	100 Ω (0°C)	-	
TG-DH3/PT1000	PT1000	1000 Ω (0°C)	-	
TG-DH3/NTC1.8	NTC 1.8	1800 Ω (25°C)	TAC	
TG-DH3/NTC2.2	NTC 2.2	2252 Ω (25°C)	Johnson Controls	
TG-DH3/NTC10-01	NTC 10	10 kΩ (25°C)	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-DH3/NTC10-02	NTC 10	10 kΩ (25°C)	Carel - Evco - Eliwell - AB Industrietechnik	
TG-DH3/NTC10-03	NTC 10	10 kΩ (25°C)	Andover - Delta Controls - Siebe - York	
TG-DH3/NTC20	NTC 20	20 kΩ (25°C)	Honeywell	
TG-DH3/NI1000-01	Ni1000	1000 Ω (0°C)	Siemens - Landis & Staefa	
TG-DH3/NI1000-02	Ni1000	1000 Ω (0°C)	Sauter	

Immersion sensor with housing and well

Immersion sensor for temperature measurement in heating- or cooling applications. Supplied with a stainless steel well. Available in different lengths.

Technical data	
Protection class	IP65
Time constant	18 s
Measuring range, temperature	-20…+120 °C
Cable gland	M16
Connection, well	R1/2"
Diameter, well	8 mm
Pressure rating	PN25
Dimensions, external (WxHxD)	78 x 156 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304
Material, well	Stainless steel, SUS304

MODELS

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-DHW3/PT100	PT100	100 Ω (0°C)	90 mm	-	
TG-DHW3/PT1000-50	PT1000	1000 Ω (0°C)	50 mm	-	
TG-DHW3/PT1000	PT1000	1000 Ω (0°C)	90 mm	-	
TG-DHW3/PT1000-120	PT1000	1000 Ω (0°C)	120 mm	-	
TG-DHW3/PT1000-170	PT1000	1000 Ω (0°C)	170 mm	-	
TG-DHW3/PT1000-310	PT1000	1000 Ω (0°C)	310 mm	-	
TG-DHW3/NTC1.8	NTC 1.8	1800 Ω (25°C)	90 mm	TAC	
TG-DHW3/NTC2.2	NTC 2.2	2252 Ω (25°C)	90 mm	Johnson Controls	
TG-DHW3/NTC10-01	NTC 10	10 kΩ (25°C)	90 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-DHW3/NTC10-02	NTC 10	10 kΩ (25°C)	90 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-DHW3/NTC10-03	NTC 10	10 kΩ (25°C)	90 mm	Andover - Delta Controls - Siebe - York	
TG-DHW3/NTC20	NTC 20	20 kΩ (25°C)	90 mm	Honeywell	
TG-DHW3/NI1000-01	Ni1000	1000 Ω (0°C)	90 mm	Siemens - Landis & Staefa	
TG-DHW3/NI1000-02	Ni1000	1000 Ω (0°C)	90 mm	Sauter	

ACCESSORIES

Article	Insertion length	Material	Description	Note
DR-50WA	50 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
DR-90WA	90 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
DR-120WA	120 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
DR-170WA	170 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
DR-310WA	310 mm	Acid-proof stainless steel, SUS316	Well for probe for TG-DHW3 and TG-DHWA3. Is available upon request, please contact Regin for more information.	
TG-DHW3-CLIP	N/A	Stainless steel, SUS304	Optional mounting clip, for locking a TG-DHW3 in a TG-DHW well.	

Insertion length 310 mm is available upon request, please contact Regin for more information.

Immersion sensor with housing and well in acid-proof stainless steel.

Immersion sensor for temperature measurement in heating or cooling applications. Supplied with an acid-proof stainless steel well.

Technical data	
Protection class	IP65
Time constant	18 s
Cable gland	M16
Connection, well	R1/2”
Diameter, well	8 mm
Pressure rating	PN25
Dimensions, external (WxHxD)	78 x 156 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304
Material, well	Acid-proof stainless steel, SUS316

MODELS

Article	Sensor element	Nominal resistance	Measuring range, temperature	Equivalent	Note
TG-DHWA3/PT1000	PT1000	1000 Ω (0°C)	-20…+120 °C	-	

ACCESSORIES

Article	Insertion length	Material	Description	Note
DR-90WA	90 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
TG-DHW3-CLIP	N/A	Stainless steel, SUS304	Optional mounting clip, for locking a TG-DHW3 in a TG-DHW well.	

Immersion sensor with housing, without well, R1/2”

Immersion sensor for temperature measurement in district heating systems. Probe in stainless steel without a well. Available in different lengths.

Technical data	
Protection class	IP65
Time constant	2 s
Cable gland	M16
Connection, without well	R1/2”
Diameter, probe	4 mm
Pressure rating	PN16
Dimensions, external (WxHxD)	78 x 187 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-DH312/PT1000	PT1000	1000 Ω (0°C)	120 mm	-	
TG-DH312/PT1000-50	PT1000	1000 Ω (0°C)	50 mm	-	
TG-DH312/PT1000-90	PT1000	1000 Ω (0°C)	90 mm	-	
TG-DH312/PT1000-170	PT1000	1000 Ω (0°C)	170 mm	-	

Room sensor

For room temperature measurement.

Technical data	
Temperature range	0…50 °C
Protection class	IP30

Article	Sensor element	Nominal resistance	Protection class	Temperature range	Equivalent	Note
TG-R5/PT100	PT100	100 Ω (0°C)	IP30	0...50 °C	-	
TG-R5/PT1000	PT1000	1000 Ω (0°C)	IP30	0...50 °C	-	
TG-R5/NTC1.8	NTC 1.8	1800 Ω (25°C)	IP30	0...50 °C	TAC	
TG-R5/NTC2.2	NTC 2.2	2252 Ω (25°C)	IP30	0...50 °C	Johnson Controls	
TG-R5/NTC10-01	NTC 10	10 kΩ (25°C)	IP30	0...50 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-R5/NTC10-02	NTC 10	10 kΩ (25°C)	IP30	0...50 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-R5/NTC10-03	NTC 10	10 kΩ (25°C)	IP30	0...50 °C	Andover - Delta Controls - Siebe - York	
TG-R5/NTC20	NTC 20	20 kΩ (25°C)	IP30	0...50 °C	Honeywell	
TG-R5/NI1000-01	Ni1000	1000 Ω (0°C)	IP30	0...50 °C	Siemens - Landis & Staefa	
TG-R5/NI1000-02	Ni1000	1000 Ω (0°C)	IP30	0...50 °C	Sauter	

Room sensor, NTC Regin

For room temperature measurement.

Technical data	
Sensor element	NTC, 15...10 kΩ
Protection class	IP30

Article	Sensor element	Nominal resistance	Protection class	Temperature range	Note
TG-R530	NTC 15	15 kΩ (0°C)	IP30	0...30 °C	
TG-R550	NTC 15	15 kΩ (20°C)	IP30	20...50 °C	
TG-R540	NTC 15	15 kΩ (0°C)	IP30	0...40 °C	

Room sensor with setpoint adjustment

For room temperature measurement. Can also be used solely for setpoint adjustment.

Technical data	
Protection class	IP30

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-R4/PT1000	PT1000	1000 Ω (0°C)	0…50 °C	-	
TG-R4/PT1000-RB	PT1000	1000 Ω/0°C	0...30 °C	-	

Room sensor, NTC Regin, with setpoint adjustment

Room sensor for room temperature measurement. Can also be used for setpoint adjustment only.

Technical data	
Sensor element	NTC, 15...10 kΩ
Temperature range	0…30 °C
Protection class	IP30

Article	Description	Note
TG-R430	Room sensor	

Outdoor temperature sensor with housing

Outdoor sensor for air temperature measurement.

Technical data	
Protection class	IP65
Measuring range, temperature	-50…+70 °C
Cable gland	M16
Dimensions, external (WxHxD)	78 x 51 x 104 mm
Weight (incl. packaging)	0.09 kg
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

MODELS

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-UH3/PT100	PT100	100 Ω (0°C)	-	
TG-UH3/PT1000	PT1000	1000 Ω (0°C)	-	
TG-UH3/NTC1.8	NTC 1.8	1800 Ω (25°C)	TAC	
TG-UH3/NTC2.2	NTC 2.2	2252 Ω (25°C)	Johnson Controls	
TG-UH3/NTC10-01	NTC 10	10 kΩ (25°C)	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-UH3/NTC10-02	NTC 10	10 kΩ (25°C)	Carel - Evco - Eliwell - AB Industrietechnik	
TG-UH3/NTC10-03	NTC 10	10 kΩ (25°C)	Andover - Delta Controls - Siebe - York	
TG-UH3/NTC20	NTC 20	20 kΩ (25°C)	Honeywell	
TG-UH3/NI1000-01	Ni1000	1000 Ω (0°C)	Siemens - Landis & Staefa	
TG-UH3/NI1000-02	Ni1000	1000 Ω (0°C)	Siemens - Landis & Staefa	

Outdoor sensor, NTC Regin

Outdoor sensor for outdoor temperature measurement or for temperature measurement in rooms where higher protection class is needed.

Technical data	
Sensor element	NTC, 15...10 kΩ
Protection class	IP54

Article	Temperature range	Note
TG-R600	-30...+30 °C	
TG-R630	0...30 °C	

Setpoint device for PT1000

Setpoint device which gives resistance corresponding to the standard PT1000 table.

Technical data	
Temperature range	5...30 °C
Mounting	Panel mounting
Protection class	IP20

Article	Description	Temperature range	Measuring range	Note
TBI-PT1000	Setpoint device	°C		

Setpoint device for panel mounting

Setpoint device intended for NTC sensors only.

Technical data	
Protection class	IP20

Article	Temperature range	Measuring range	Note
TBI-10	-20...+10 °C	-	
TBI-30	0...30 °C	-	
TBI-100	- °C	0…100 %	

TRT5-420

Temperature transmitter for room mounting, 0…10 V, IP30

Technical data	
Output signal	Analogue, 0...10 V
Supply voltage	24 V AC ±10 % / 15...35 V DC
Power consumption	< 1 W
Transformer power	≥ 2 VA
Temperature range	0…50 °C
Accuracy	±0.4°C at 20°C
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Output signal	Display	Note
TRT5	0…10 V DC	-	
TRT5-D	0…10 V DC	X	

TRT5-420

TRT5D-420

Temperature transmitter for room mounting, 4…20 mA

Technical data	
Output signal	4…20 mA (2-wire)
Supply voltage	Max. 28 V DC, Min. 11+(0.02xRL) V DC
Power consumption	0.6 W
DC power	Min. 1 W
Temperature range	0…50 °C
Accuracy, temperature	±0.5°C at 20°C
Mounting	Room
Dimensions (WxHxD mm)	100 x 85 x 30.5
Protection class	IP30

Article	Output signal	Display	Note
TRT5-420	4...20mA (2 wires)	-	
TRT5D-420	4...20mA	X	

TRT5-420

Temperature transmitter for Modbus communication, room mounting, IP30

Technical data	
Output signal	Modbus
Supply voltage	24 V AC ±10 % / 15...35 V DC
Power consumption	< 1 W
Transformer power	≥ 2 VA
Temperature range	0…50 °C
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Output signal	Display	Note
TRTC5	Modbus	-	
TRTC5-D	Modbus	X	

Temperature transmitter for wall mounting

Technical data	
Temperature range	0…50 °C
Accuracy	±0.7°C
Mounting	Wall
Protection class	IP65

Article	Supply voltage	Output signal	Note
TRT50	24 V AC or 15...35 V DC , 1 VA	0...10 V DC	
TRT50-420	20...35 V DC	4...20 mA	

Temperature transmitter for immersion mounting

Technical data	
Mounting	Immersion mounting
Protection class	IP65
Sensor element	NTC 10K
Immersion length	120 mm
Pipe fitting	R ½"

Article	Supply voltage	Temperature range	Output signal	Accuracy	Note
TLT100	18…24 V AC or 18…35 V DC	0…100 °C	0…10 V	± 2°C	
TLT100-420	11…30 V DC	0…100 °C	4…20 mA	± 2°C	
TLT50	18…24 V AC or 18…35 V DC	-30…+50 °C	0…10 V	± 1.5°C	
TLT50-420	11…30 V DC	-30…+50 °C	4…20 mA	± 1.5°C	

Sensor characteristics, NTC Regin

Temperature range	-30...30°C	-20...10°C	0...30°C	0...40°C	0...60°C	20...50°C	40...70°C	60...90°C
Temp. °C	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
150								
140								
130								
120								
110								
100								
90								10000
80								11667
70							10000	13333
65							10833	14167
60					10000		11667	15000
55					10417		12500	
50					10833	10000	13333	
45					11250	10833	14167	
40				10000	11667	11667	15000	
35				10625	12083	12500		
30	10000		10000	11250	12500	13333		
29	10083		10167	11375	12583	13500		
28	10167		10333	11500	12667	13667		
27	10250		10500	11625	12750	13833		
26	10333		10667	11750	12833	14000		
25	10417		10833	11875	12917	14167		
24	10500		11000	12000	13000	14333		
23	10583		11167	12125	13083	14500		
22	10667		11333	12250	13167	14667		
21	10750		11500	12375	13250	14833		
20	10833		11667	12500	13333	15000		
19	10917		11833	12625	13417			
18	11000		12000	12750	13500			
17	11083		12167	12875	13583			
16	11167		12333	13000	13667			
15	11250		12500	13125	13750			
14	11333		12667	13250	13833			
13	11417		12833	13375	13917			
12	11500		13000	13500	14000			
11	11583		13167	13625	14083			
10	11667	10000	13333	13750	14167			
9	11750	10167	13500	13875	14250			
8	11833	10333	13667	14000	14333			
7	11917	10500	13833	14125	14417			
6	12000	10667	14000	14250	14500			
5	12083	10833	14167	14375	14583			
4	12167	11000	14333	14500	14667			
3	12250	11167	14500	14625	14750			
2	12333	11333	14667	14750	14833			
1	12417	11500	14833	14875	14917			
0	12500	11667	15000	15000	15000			
-5	12917	12500						
-10	13333	13333						
-15	13750	14167						
-20	14167	15000						
-25	14583							
-30	15000							
-35								
-40								

Sensor characteristics, other elements (PT100(0)/Ni1000…/NTC…)

Sensor element	PT100	PT1000	NTC1,8	NTC2,2	NTC10-01	NTC10-02	NTC10-03	NTC20	NI1000-01	NI1000-02
Equivalent			Tac	Johnson Controls	Aquatrol Johnson Controls Satchwell Trend Cylon Honeywell Distech	Carel Evco Eliwell Industrie-technik	Andover Delta Controls Siebe York	Honeywell	Siemens Landis & Staefa	Sauter
Temp. °C	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
150	157.3	1573			186					
140	153.6	1536			235				1737	1909
130	149.8	1498			301				1675	1833
120	146.1	1461			390				1615	1760
110	142.3	1423	138	115	511	758	624	818	1557	1688
100	138.5	1385	177	153	679	973	817	1114	1500	1618
90	134.7	1347	230	206	916	1266	1084	1541	1444	1549
80	130.9	1309	303	283	1255	1668	1457	2166	1390	1483
70	127.1	1271	404	395	1752	2228	1990	3098	1337	1417
65	125.2	1252	469	469	2083	2588	2338	3732	1311	1385
60	123.2	1232	547	560	2488	3020	2760	4518	1285	1353
55	121.3	1213	640	672	2986	3536	3270	5494	1260	1322
50	119.4	1194	753	811	3602	4160	3893	6718	1235	1291
45	117.5	1175	888	984	4368	4911	4655	8260	1210	1260
40	115.5	1155	1052	1199	5324	5827	5594	10212	1186	1230
35	113.6	1136	1252	1471	6532	6940	6754	12698	1162	1200
30	111.7	1117	1498	1814	8055	8313	8196	15886	1138	1171
29	111.3	1113	1553	1893	8406	8622	8525	16627	1132	1165
28	111.0	1110	1611	1977	8779	8944	8869	17407	1128	1159
27	110.5	1105	1671	2064	9165	9281	9229	18227	1123	1153
26	110.1	1101	1734	2156	9574	9632	9606	19090	1119	1147
25	109.7	1097	1800	2252	10000	10000	10000	20000	1114	1141
24	109.3	1093	1868	2353	10448	10380	10413	20958	1109	1136
23	109.0	1090	1940	2460	10924	10780	10845	21968	1105	1130
22	108.6	1086	2015	2572	11421	11200	11298	23033	1100	1124
21	108.2	1082	2092	2689	11940	11630	11773	24156	1095	1118
20	107.8	1078	2174	2813	12491	12090	12270	25340	1091	1112
19	107.4	1074	2258	2944	13073	12560	12791	26491	1086	1107
18	107.0	1070	2347	3081	13681	13060	13337	27912	1081	1101
17	106.6	1066	2440	3226	14325	13580	13910	29307	1077	1095
16	106.2	1062	2537	3378	15000	14120	14510	30782	1072	1089
15	105.9	1059	2638	3538	15710	14690	15140	32340	1068	1084
14	105.5	1055	2744	3707	16461	15280	15801	33982	1063	1078
13	105.1	1051	2854	3886	17256	15900	16494	35716	1058	1072
12	104.7	1047	2972	4074	18091	16560	17222	37550	1054	1067
11	104.3	1043	3093	4272	18970	17240	17987	39489	1049	1061
10	103.9	1039	3222	4482	19902	17960	18790	41540	1045	1056
9	103.5	1035	3354	4703	20884	18700	19633	43715	1040	1050
8	103.1	1031	3493	4936	21918	19480	20519	46018	1036	1044
7	102.7	1027	3639	5183	23015	20300	21451	48457	1031	1039
6	102.3	1023	3791	5443	24170	21150	22430	51041	1027	1033
5	101.9	1019	3951	5718	25391	22050	23460	53780	1022	1028
4	101.6	1016	4120	6009	26683	23000	24545	56678	1018	1022
3	101.2	1012	4296	6317	28051	23990	25687	59751	1013	1016
2	100.8	1008	4481	6643	29498	25030	26890	63011	1009	1011
1	100.4	1004	4677	6988	31030	26130	28156	66469	1004	1005
0	100.0	1000	4882	7353	32650	27280	29490	70140	1000	1000
-5	98.0	980	6059	9532	42327	33900	37310	92220	978	973
-10	96.1	961	7580	12460	55329	42470	47540	122260	956	946
-15	94.1	941	9519	16430	72957	53410	61020	163480	935	919
-20	92.2	922	12061	21863	97083	67770	78910	220600	914	893
-25	90.2	902	15359	29371	130422	86430	102900	300400	893	867
-30	88.2	882	19747	39855	176976	111300	135200	413400	872	842
-35	86.3	863							851	816
-40	84.3	843							831	791

HUMIDITY

Transmitter for measuring carbon dioxide concentration, temperature and humidity in air.

0…10 V duct transmitter, temperature and humidity

Technical data	
Supply voltage	24 V ~ (20…28 V ~ 50…60 Hz, 2 VA) / 15…35 V DC
Protection class	IP65 (housing)
Ambient humidity	10…90 % RH, non-condensing
Storage temperature	-25…+60 °C
Insertion length	20…200 mm
Measuring range, humidity	0…100 % RH
Accuracy, humidity	±2 % RH
Measuring range, temperature	-20…+60 °C
Accuracy, temperature	±0.2 °C
Measuring range, gas in air	0…2000 ppm
Accuracy, gas in air	±(30 ppm + 3 % MV)
Material	Polycarbonate (PC)

Article	Sensor element protection, humidity	Analogue output a (AOa)	Total number of I/O:s	Response time, humidity	Response time, temperature	Note
DTTH	Membrane filter	2	2	8 s	2 s	

Room humidistat

Electromechanical humidistat with a synthetic element. The setpoint knob can be locked.

Technical data	
Output	One, 230 V AC, 5 A, change-over
Setpoint	35…95 % RH
Hysteresis	7 % RH
Mounting	Room
Protection class	IP30

Article	Description	Note
HR-S	Room humidistat, 1-step	

Room humidistat, 1- or 2-step

Electromechanichal room humidistat for controlling humidification and/or dehumidification in HVAC systems. The setpoint knob can be locked. Can be used to control a humidifier or a dehumidifier or for on/off controlling of a fan. Can also be used to give an alarm when the humidity exceeds or falls below a pre-set level.

Technical data	
Setpoint	10…95 % RH
Hysteresis	4 % RH
Mounting	Room
Protection class	IP21

MODELS

Article	Description	Output	Step differential	Note
HR1	Room humidistat, 1-step	5 A, 250 V AC	-	
HR1-DH	Room humidistat, 1-step, for dehumidification only	10 A, 250 V AC	-	
HR2	Room humidistat, 2-step	5 A, 250 V AC	0….30 % RH	

Duct/wall humidistat, 1- or 2-step

Electromechanical humidistat with change-over contact.

Technical data	
Output	10 A, 250 V AC, change-over
Setpoint	10…100 % RH
Hysteresis	3 % RH
Mounting	Duct or wall
Protection class	IP54

Article	Description	Output	Step differential	Note
HMH	Duct/wall humidistat	1-step	-	
HMH2	Duct/wall humidistat	2-step	0…25 % RH	

Room controller, humidity

Humidity controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85…230 V AC, 50/60 Hz
Working range, humidity	0…100 % RH
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30

Article	Description	Note
ALH230A	Humidity controller	

Humidity and temperature transmitter for room mounting, 0…10 V

Transmitter for relative humidity and temperature measurement in indoor environments. It has good long-term stability and is resistant to contamination.

Technical data	
Supply voltage	24 V AC ±10 % / 15…35 V DC
Power consumption	< 1 W
Transformer power	≥ 2 VA
Working range, temperature	0…50 °C
Accuracy, temperature	±0.3°C (PT1000), ±0.4°C (0…10 V) at 20°C
Working range, humidity	0…100 % RH
Accuracy, humidity	±3 % RH at 20°C
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

MODELS

Article	Description	Output, humidity	Output, temperature	Display	Note
HTRT10A	Humidity and temperature transmitter	0…10 V	0…10 V/PT1000	-	
HTRT10A-D	Humidity and temperature transmitter with display	0…10 V	0…10 V/PT1000	X	

Humidity and temperature transmitter for room mounting, 4…20 mA

Technical data	
Output signal	4…20 mA (2 wire)
Supply voltage	Max. 28 V DC, Min. 11+(0.02xRL) V DC
Power consumption	1.2 W
DC power	Min. 2 W
Temperature range	0…50 °C
Accuracy, temperature	±0.5°C at 20°C
Mounting	Room
Dimensions (WxHxD mm)	100 x 85 x 30.5
Protection class	IP30

Article	Display	Note
HTRT10A-420	-	
HTRT10AD-420	X	

Humidity and temperature transmitter for Modbus communication, room mounting

Technical data	
Output signal	Modbus
Supply voltage	24 V AC ±10 % / 15…35 V DC
Power consumption	< 1 W
Transformer power	≥ 2 VA
Working range, temperature	0…50 °C
Accuracy, temperature	±0.2°C at 20°C
Working range, humidity	0…100 % RH
Accuracy, humidity	±2 % RH at 20°C
Communication	Modbus RTU
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Description	Display	Note
HTRC10	RH + C°	-	
HTRC10-D	RH + °C	X	

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HTRT

Humidity/temperature transmitter

Transmitters for relative humidity and temperature measurement, resistant to contamination.

Technical data	
Supply voltage	24 V AC ±20 % or 15...35 V DC
Output	0...10 V DC or 4...20 mA and passive PT1000 signal
Working range	Humidity: 10...95 % RH. Temperature: 0...50°C.
Accuracy, humidity	±2.5 % at 20°C
Accuracy, temperature	±0.3 K at 20°C
Mounting	Wall or duct mounting
Protection class	IP65

Article	Description	Mounting	Output signal	Note
HTRT2500	Humidity and temperature transmitter	Wall	0…10 V DC + passive PT1000 signal	
HTRT2500-420	Humidity and temperature transmitter	Wall	4...20 mA + passive PT1000 signal	

ACCESSORIES

Article	Description	Note
CCERT-E	Calibration certificate, when certified calibration is demanded. Must be ordered together with a new transmitter.	

Humidity/temperature transmitter for wall mounting

Transmitter for relative humidity and temperature measurement in climate and air handling installations. HTWT10(-420) has high accuracy (±2 % RH) and excellent temperature compensation. It has very good protection against condensation and pollution, is easy to mount and has a robust sensor element.

Technical data	
Working range	Humidity: 0...100 % RH. Temperature: -20…+80°C.
Accuracy, humidity	±2 % RH (0…90 % RH), ±3 % RH (90…100 % RH)
Accuracy, temperature	±0.2 K at 20°C
Mounting	Wall
Protection class	IP65

Article	Description	Supply voltage	Output signal	Note
HTWT10	Humidity and temperature transmitter	15...29 V AC or 15...35 V DC	0…10 V DC	
HTWT10-420	Humidity and temperature transmitter	20…30 V DC	4…20 mA	

ACCESSORIES

Article	Description	Note
CCERT-E	Calibration certificate, when certified calibration is demanded. Must be ordered together with a new transmitter.	

Weather shield

Article	Description	Note
HVS	Weather shield for outdoor mounting of HTWT10(-420)	

AIR QUALITY

Transmitter for measuring carbon dioxide concentration, temperature and humidity in air.

0…10 V duct transmitter, temperature and humidity

Technical data	
Supply voltage	24 V ~ (20…28 V ~ 50…60 Hz, 2 VA) / 15…35 V DC
Protection class	IP65 (housing)
Ambient humidity	10…90 % RH, non-condensing
Storage temperature	-25…+60 °C
Insertion length	20…200 mm
Measuring range, humidity	0…100 % RH
Accuracy, humidity	±2 % RH
Measuring range, temperature	-20…+60 °C
Accuracy, temperature	±0.2 °C
Measuring range, gas in air	0…2000 ppm
Accuracy, gas in air	±(30 ppm + 3 % MV)
Material	Polycarbonate (PC)

Article	Sensor element protection, humidity	Gas in air measurement	Analogue output a (AOa)	Total number of I/O:s	Response time, CO^2	Response time, humidity	Response time, temperature	Note
DTTHC	Membrane filter on sensor	X	3	3	20 s	8 s	2 s	

CO2RT-R

CO2RT-R-D

CO_2 transmitter with relay, room mounting

The CO2RT series measures CO_2 level. Models are available with or without display.

Technical data	
Supply voltage	24 V AC ±10 % / 15...35 V DC
Working range, CO_2	0…2000 ppm
Accuracy, CO_2	< ± (50 ppm + 2 % of the measured value) (25 °C)
Relay output	Max. 1 A at 50 V AC, min. 1 mA at 5 V DC
Mounting	Room
Protection class	IP30
Calibration	Automatic

Article	Display	Note
CO2RT-R	-	
CO2RT-R-D	X	

CTHR(A)

CTHR(A)-D

CO_2, temperature and humidity transmitter, room mounting

Transmitters for wall mounting with or without display.

Technical data	
Supply voltage	24 V AC/DC (22…26 V AC / 15…35 V DC)
Working range, CO_2	0…2000 ppm
Accuracy, CO_2	< ± (50 ppm + 2 % of the measured value)
Working range, temperature	0…50 °C
Accuracy, temperature	±0.3°C
Working range, humidity	10…90 % RH (non-condensing)
Accuracy, humidity	±3 % at 20°C
Power consumption	< 2.5 W
Energy consumption	< 0.5 Wh
Transformer power	≥ 5 VA
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Accuracy, temperature	Output, CO_2	Output, humidity	Output, temperature	Display	Note
CTHR	± 0.3 °C	0…10 V DC	0…10 V DC	PT1000	-	
CTHR-D	± 0.3 °C	0…10 V DC	0…10 V DC	PT1000	X	
CTHRA	± 0.4 °C	0…10 V DC	0…10 V DC	0…10 V DC	-	
CTHRA-D	± 0.4 °C	0…10 V DC	0…10 V DC	0…10 V DC	X	

CTRTA

CTRTA-D

CO_2 and temperature transmitter, room mounting

Transmitters for wall mounting with or without display.

Technical data	
Supply voltage	24 V AC/DC (22…26 V AC / 15…35 V DC)
Working range, CO_2	0…2000 ppm
Accuracy, CO_2	< ± (50 ppm + 2 % of the measured value)
Working range, temperature	0…50 °C
Power consumption	< 2.5 W
Energy consumption	< 0.5 Wh
Transformer power	≥ 5 VA
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Accuracy, temperature	Output, temperature	Output, CO_2	Display	Note
CTRTA	± 0.4 °C (0…10 V), ± 0.3 °C (PT1000)	0…10 V DC + PT1000	0…10 V DC	-	
CTRTA-D	± 0.4 °C (0…10 V), ± 0.3 °C (PT1000)	0…10 V DC + PT1000	0...10 V DC	X	

CTRC

CTRC-D

CO_2 and temperature transmitter for Modbus communication, room mounting

Transmitters for wall mounting with or without display.

Technical data	
Output signal	Modbus
Supply voltage	24 V AC/DC (22…26 V AC / 15…35 V DC)
Working range, CO_2	0…2000 ppm
Accuracy, CO_2	< ± (50 ppm + 2 % of the measured value) (25 °C)
Working range, temperature	0…50 °C
Accuracy, temperature	± 0.2 °C at 20 °C
Communication	Modbus RTU
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Description	Display	Accuracy, temperature	Note
CTRC	CO_2+ °C	-	± 0.2 °C	
CTRC-D	CO_2+ °C	X	± 0.2 °C	

CTHRC

CTHRC-D

CO_2, temperature and humidity transmitter for Modbus communication, room mounting

Transmitters for wall mounting with or without display.

Technical data	
Output signal	Modbus
Supply voltage	24 V AC/DC (22…26 V AC / 15…35 V DC)
Working range, CO_2	0…2000 ppm
Accuracy, CO_2	< ± (50 ppm + 2 % of the measured value) (25 °C)
Working range, temperature	0…50 °C
Working range, humidity	10…90 % RH (non-condensing)
Accuracy, humidity	±3 % at 20°C
Communication	Modbus RTU
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Description	Display	Accuracy, temperature	Note
CTHRC	CO_2+ RH + °C	-	± 0.2°C	
CTHRC-D	CO_2+ RH + °C	X	± 0.2°C	

CO_2 transmitter, duct mounting

Measures the concentration of carbon dioxide in ducts.

Technical data	
Supply voltage	24 V AC ±20 %, 50...60 Hz or 15...35 V DC, 3 VA
Working range	0...2000 ppm
Accuracy	±(50 ppm + 2 % of the measured value)
Relay output	Max. 1 A at 50 V AC, min. 1 mA at 5 V DC
Mounting	Duct
Protection class	IP65
Calibration	Automatic

Article	Description	Note
CO2DT-R	CO_2transmitter with relay	

Also available with 0...5000 ppm working range on request

Carbon monoxide transmitter

This device measures the carbon monoxide concentration using an electrochemical method of measurement characterised by high selectivity even in low concentrations. It is installed for both safety and energy-saving reasons. The output signals are linear representations of the gas concentration.

The transmitter is TÜV-approved in accordance with VDI 2053.

Technical data	
Supply voltage	12...28 V DC
Measuring range	0...300 ppm
Outputs	4...20 mA, two-wire / 0...10 V DC, three-wire
Calibration	Automatic zero adjustment
Protection class	IP56
Accuracy	±3 %

Article	Description	Note
COF	CO transmitter	

Nitrogen dioxide transmitter

NO2F measures the nitrogen dioxide concentration using an electrochemical method of measurement characterised by high selectivity even in low concentrations. The output signals are linear representations of the gas concentration.

The transmitter is TÜV-approved in accordance with VDI 2053.

Technical data	
Supply voltage	12...28 V DC
Measuring range	0...20 ppm
Outputs	4...20 mA, two-wire / 0...10 V DC, three-wire
Calibration	Automatic zero adjustment
Protection class	IP56
Accuracy	±3 %

Article	Description	Note
NO2F	NO_2transmitter	

Room controller, temperature and CO_2

Temperature and CO_2 controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85…230 V AC, 50/60 Hz
Temperature range	5…30 °C
Working range, CO_2	0…2000 ppm
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30
Calibration	Automatic

Article	Description	Note
ALC230A	Temperature and CO_2controller	

PRESSURE

Differential pressure switch for air and non-corrosive gases

Differential pressure switches with excellent long-term stability.

Technical data	
Max. overload pressure	10 kPa
Relay output	Max. 1.5 A (0,4 A) 250 V AC
Ambient temperature	-20...+85 °C
Protection class	IP54
Accessories, included	Two pressure outlets (cut 60°) and 2 m plastic tube. Art. no.: ANS-1

MODELS WITH CONNECTION KIT (ANS-1)

Article	Working range	Note
DTV300X	20...300 Pa	
DTV500X	50...500 Pa	
DTV1000X	200...1000 Pa	
DTV2500X	500...2500 Pa	
DTV5000X	1000...5000 Pa	

ACCESSORIES

Article	Description	Note
ANS-1	2 m plastic tube and two pressure outlets (cut 60°)	
DBZ-14A	Set with mounting bracket and screws (S-shaped)	
DBZ-14B	Set with mounting bracket and screws (L-shaped)	

Differential pressure switch for air and non-corrosive gases

Differential pressure switches with excellent long-term stability.

Technical data	
Max. overload pressure	5 kPa
Relay output	5 A (0.8 A) 250 V AC, change-over
Ambient temperature	-20...+85 °C
Protection class	IP54
Accessories, included	Two pressure outlets (straight) and 2 m plastic tube. Art. no.: ANS-20

MODELS WITH CONNECTION KIT (ANS-20)

Article	Working range	Note
DTV200	20...300 Pa	
DTV500	50...500 Pa	
DTV1000	100...1000 Pa	
DTV2000	500...2000 Pa	
DTV5000	1000...5000 Pa	

ACCESSORIES

Article	Description	Note
ANS-20	2 m plastic tube and two pressure outlets (straight)	
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	

Presigo (PDT…) - Differential pressure transmitters with analogue outputs

Single or dual port differential pressure transmitters with one or two analogue outputs. The transmitter can be configured for 0-10 V or 4-20 mA output signal. Selectable working range.

Technical data	
Supply voltage	24 V AC/DC ±15 %
Overall accuracy pressure	≤ 1 % full scale
Power consumption	0…10 V mode : 2 VA (rms), min. trafo size 7,5 VA4…20 mA mode : 2.7 VA (rms), min. trafo size 9 VA
Operating temperature	-25…+50 °C
Protection class	IP54

MODELS WITH CONNECTION KIT (ANS-20)

Article	Working range	Number of sensors	Note
PDT12	0…1250 Pa	1	
PDT25	0…2500 Pa	1	
PDT75	0…7500 Pa	1	
PDT12S25-2	PS1: 0…1250 Pa / PS2: 0…2500 Pa	2	
PDT12S75-2	PS1: 0…1250 Pa / PS2: 0…7500 Pa	2	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	

Presigo (PDTX…-C) - Differential pressure transmitter with communication

Differential pressure transmitters, 24 V, with two universal inputs, two universal outputs and communication via Modbus.

Technical data	
Supply voltage	24 V AC/DC (21…27 V AC/DC)
Protection class	IP54
Power consumption	< 1 VA
Ambient temperature	-25…+50 °C
Mounting	Wall
Accuracy, pressure	≤ 1 % full scale
Accessories, included	Two pressure outlets (straight) and 2 m plastic tube. Art. no.: ANS-20
Pressure data	
Media	Air, non-combustible and non-aggressive gases
Response time	40 ms, depending on filtertime
Sensor element, pressure	Piezoresistive
Temperature dependency	Thermal effects: 1 (-25…+85 °C), Offset: ±0.5 % FSS, Span: ±1.0 % FSS
Accuracy, pressure	≤ 1 % full scale
Resolution	0,005 % of full scale
Warmup time	< 5 min
Annual deviation	±2 Pa (1250 Pa) ±4 Pa (2500 Pa) ±20 Pa (7500 Pa)
K-factor	5 (5…700)
Zero-point adjustment	By pressing a button, the output signal and the display adjusts to zero.
Universal inputs (UI1, UI2)	
Accuracy	± 1 % (0…10 V) ± 0.5 K (PT1000/Ni1000-01)
Digital inputs (DI)	Potential-free contacts on/off (closed=on)
Universal output (UO1, UO2)	
Analogue outputs (AO)	0…10 V
Accuracy	± 1 %
Digital outputs (DO)	Mosfet outputs, 24 V AC or DC, 2 A continuous
Power output	Max. 2A (total UO1 + UO2)
Communication data	
Supported protocols	Modbus

MODELS WITH CONNECTION KIT (ANS-20)

Article	Number of sensors	Max. overload pressure	Measuring range, pressure	Note
PDTX12-C	1	25 kPa	0…1250 Pa	
PDTX25-C	1	50 kPa	0…2500 Pa	
PDTX75-C	1	120 kPa	0…7500 Pa	
PDTX12-2-C	2	25 / 25 kPa	0…1250 Pa (sensor 1) / 0…1250 Pa (sensor 2)	
PDTX25-2-C	2	50 / 50 kPa	0…2500 Pa (sensor 1) / 0…2500 Pa (sensor 2)	
PDTX12S25-C	2	25 / 50 kPa	0…1250 Pa (sensor 1) / 0…2500 Pa (sensor 2)	
PDTX12S75-C	2	25 / 120 kPa	0…1250 Pa (sensor 1) / 0…7500 Pa (sensor 2)	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	

Differential pressure transmitter for air and non-corrosive gases

Compact differential pressure transmitter with automated zero-point adjustment and display.

Technical data	
Supply voltage	24 V AC/DC (18…30 V AC/DC)
Output signal	0…10 V / 4…20 mA
Protection class	IP54
Display	Yes
Accuracy, pressure	±1 % full scale, min. ±1 Pa
Ambient temperature	-10…+50 °C °C
Media	Air and non-corrosive gases
Accessories, included	Two pressure outlets (cut 60°) and 2 m plastic tube. Art. no.: ANS-1
Dimensions, external (WxHxD)	85 x 85 x 58 mm

MODELS WITH CONNECTION KIT (ANS-1)

Article	Measuring range, pressure	Description	Note
DTB5/5	-50…+50 Pa	Differential pressure transmitter with display and -50…+50 Pa measuring range	
DTB125	0…100 Pa / 0…250 Pa	Differential pressure transmitter with display and 0…100 Pa / 0…250 Pa measuring range	
DTB510	0…500 Pa / 0…1000 Pa	Differential pressure transmitter with display and 0…500 Pa / 0…1000 Pa measuring range	

ACCESSORIES

Article	Description	Note
DBZ-14A	Set with mounting bracket and screws (S-shaped)	
DBZ-14B	Set with mounting bracket and screws (L-shaped)	
ANS-1	2 m plastic tube and two pressure outlets (cut 60°)	

Differential pressure transmitter for air and non-corrosive gases (multi-range)

Transmitters with a high level of accuracy and stability. Quick and easy mounting.

Technical data	
Supply voltage	24 V AC (24 V DC, two-wire for 4...20 mA), 0.24 VA
Accuracy	±1% full scale
Ambient temperature	0...70 °C
Protection class	IP54

MODELS WITH CONNECTION KIT (ANS-20)

Article	Working range	Output signal	Description	Note
DTL150	100 / 300 / 500 Pa	0...10 V DC	Differential pressure transmitter	
DTL150-420	100 / 300 / 500 Pa	4...20 mA	Differential pressure transmitter	
DTL310	300 / 500 / 1000 Pa	0...10 V DC	Differential pressure transmitter	
DTL310-420	300 / 500 / 1000 Pa	4...20 mA	Differential pressure transmitter	
DTL516	500 / 1000 / 1600 Pa	0...10 V DC	Differential pressure transmitter	
DTL516-420	500 / 1000 / 1600 Pa	4...20 mA	Differential pressure transmitter	
DTL1650	1600 / 2500 / 5000 Pa	0...10 V DC	Differential pressure transmitter	
DTL1650-420	1600 / 2500 / 5000 Pa	4...20 mA	Differential pressure transmitter	
DTL...-D/-420-D	See type	See type	Transmitter (all types above) in display version (LCD). Note: Non-stock item.	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	
CCERT-H	Calibration certificate for the DTL series, when certified calibration is demanded.	

Differential pressure transmitter for air

Transmitter for differential pressure measurement of air and non-corrosive gases in air handling units, etc. A common application area is pressure control in ventilation systems.

Technical data	
Supply voltage	21…27 V AC or 18…33 V DC. (4…20 mA only 18…33 V DC)
Measuring range	-30…+30 Pa / -50…+50 Pa / -100…+100 Pa selected via DIP-switches
Protection class	IP54
Accuracy, linearity	< ±1.0 % full scale
Accuracy, hysteresis	< ±1.0 % full scale
Ambient temperature	0…70 °C
Accessories, included	Two pressure outlets (straight) and 2 m plastic tube. Art. no.: ANS-20

MODELS WITH CONNECTION KIT (ANS-20)

Article	Display	Output signal	Note
DTL10/10	-	0…10 V DC	
DTL10/10-D	X	0…10 V DC (settable to 4…20 mA via DIP-switch)	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	

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Differential pressure transmitter with display

Differential pressure transmitter for use in air and non-corosive gases. For control of dampers, frequency converters, VAV systems etc.

Technical data	
Supply voltage	24 V AC/DC (21…27 V AC/DC)
Output signal, pressure	0…10 V DC / 4…20 mA
Measuring range, pressure	0…100 / 0…300 / 0…500 / 0…999 Pa
Accuracy, pressure	±1 % full scale at 20 °C
Electronic damping	0…20 s
Display	Yes
Protection class	IP54

MODELS WITH CONNECTION KIT (MTU) AND 2M PLASTIC TUBE

Article	Description	Note
DMD	Differential pressure transmitter	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	

Differential pressure transmitter with built-in controller and display

Differential pressure transmitter for use in air and non-corosive gases. For control of dampers, frequency converters, VAV systems etc.

Technical data	
Supply voltage	24 V AC/DC (21...27 V AC/DC 50-60 Hz)
Output signal, pressure	0…10 V DC / 4…20 mA
Output signal, controller	0...10 V DC
Measuring range, pressure	0...100 / 0...300 / 0...500 / 0...999 Pa
Accuracy, pressure	±1 % full scale at 20 °C
P-band	0...300 %
I-time	0…999 s
D-factor	0...999
Electronic damping	0...20 s
Display type	LED, three digits
Mounting	Wall
Protection class	IP54

MODELS WITH CONNECTION KIT (MTU) AND 2M PLASTIC TUBE

Article	Description	Note
DMD-C	Differential pressure transmitter	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	

Differential pressure transmitter for liquids and gases

Differential pressure transmitter for measurement of liquids (also glycol-mixed) and gases (not ammonia). The measuring element is made of ceramic material.

Technical data	
Supply voltage	24 V AC / 18...33 V DC (output signal 0...10 V DC), 0.1 VA 11...33 V DC, two-wire (output signal 4...20 mA), 0.5 VA
Ambient temperature	-15...+80 °C
Connection	Screw fitting for Ø 6 mm pipe included
Protection class	IP65

Article	Working range	Output signal	Max. overload pressure (one side)	Accuracy	Note
DTK10	0...10 kPa	0...10 V DC	60 kPa	±1.3 % fs	
DTK10-420	0...10 kPa	4...20 mA	60 kPa	±1.3 % fs	
DTK20	0...20 kPa	0...10 V DC	120 kPa	±1.3 % fs	
DTK20-420	0...20 kPa	4...20 mA	120 kPa	±1.3 % fs	
DTK40	0...40 kPa	0...10 V DC	200 kPa	±1.3 % fs	
DTK40-420	0...40 kPa	4...20 mA	200 kPa	±1.3 % fs	
DTK100	0...100 kPa	0...10 V DC	500 kPa	±1.3 % fs	
DTK100-420	0...100 kPa	4...20 mA	500 kPa	±1.3 % fs	
DTK250	0...250 kPa	0...10 V DC	1200 kPa	±1.3 % fs	
DTK250-420	0...250 kPa	4...20 mA	1200 kPa	±1.3 % fs	
DTK400	0...400 kPa	0...10 V DC	1200 kPa	±0.8 % fs	
DTK400-420	0...400 kPa	4...20 mA	1200 kPa	±0.8 % fs	
DTK600	0...600 kPa	0...10 V DC	1200 kPa	±0.5 % fs	
DTK600-420	0...600 kPa	4...20 mA	1200 kPa	±0.5 % fs	
DTK1000	0...1000 kPa	0...10 V DC	2000 kPa	±0.5 % fs	
DTK1000-420	0...1000 kPa	4...20 mA	2000 kPa	±0.5 % fs	
DTK1600	0...1600 kPa	0...10 V DC	3200 kPa	±0.5 % fs	
DTK1600-420	0...1600 kPa	4...20 mA	3200 kPa	±0.5 % fs	

ACCESSORIES

Article	Description	Note
DTK-NIPPEL	Nipple (R=1/8" 27NPT) for connection of Ø 6 mm copper pipe	
DTK-R	Copper pipe, Ø 6 mm, length 30 cm. Accessory to DTK.	

Pressure transmitter for liquids and gases

Pressure transmitter for measurement of liquids and gases.

Technical data	
Output signal	0...10 V DC (three-wire) or 4...20 mA (two-wire)
Pressure connection	G 1/4" (outside thread)
Dynamic response time	< 2 ms, 1 ms typically
Tolerable overload	≤ 4 bar 3.0 x full scale, > 4 bar 2.5 x full scale
Media temperature	-15…+125 °C
Ambient temperature	-30…+85 °C
Storage temperature	-50…+100 °C
Accuracy, characteristic line	±0.3 % full scale *
Accuracy, resolution	0.1 % full scale *
Accuracy, thermal characteristic	Max. ±0.2 % full scale / 10 K *
Accuracy, long-term stability according to IEC EN 60770-1	Max. ±0.25 % full scale *
Sealing	FPM
Weight	90 g
Cable length	1.5 m
Protection class	IP67

* Test conditions: 25°C, 45 % RH, 24 V DC supply voltage

MODELS

Article	Working range	Output signal	Supply voltage	Power consumption	Note
TTKN1	0...100 kPa (1 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN1-420	0...100 kPa (1 bar)	4...20 mA	7…33 V DC	< 23 mA	
TTKN2.5	0...250 kPa (2.5 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN2.5-420	0...250 kPa (2.5 bar)	4...20 mA	7…33 V DC	< 23 mA	
TTKN6	0...600 kPa (6 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN6-420	0...600 kPa (6 bar)	4...20 mA	7…33 V DC	< 23 mA	
TTKN10	0...1000 kPa (10 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN10-420	0...1000 kPa (10 bar)	4...20 mA	7…33 V DC	< 23 mA	
TTKN16	0...1600 kPa (16 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN16-420	0...1600 kPa (16 bar)	4...20 mA	7…33 V DC	< 23 mA	
TTKN25	0...2500 kPa (25 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN25-420	0...2500 kPa (25 bar)	4...20 mA	7…33 V DC	< 23 mA	
TTKN40	0...4000 kPa (40 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN40-420	0...4000 kPa (40 bar)	4...20 mA	7…33 V DC	< 23 mA	

ACCESSORIES

Article	Description	Note
105074	Mounting spacer which lowers the temperature at higher media temperatures than the sensor can handle.	
ADAPTER	Adapter 1/4" to 1/2". For mounting immersion sensors in 1/2".	

ANS-1

ANS-3

ANS-20

Pressure outlets

Article	Description	Note
ANS-1	2 m plastic tube and two pressure outlets (cut 60°)	
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	

PRESSURE OUTLET SELECTION

Article	ANS-1	ANS-3	ANS-20	Note
DTV...X	X	X	-	
DTV...	-	X	X	
PDT...	-	X	X	
PDTX...-C	-	X	X	
DTL...	-	X	X	
DTL10/10...	-	X	X	
DMD...	-	X	X	
DTB...	X	X	-	

FLOW

Air velocity transmitter

The transmitter is intended for air velocity measurement in HVAC systems, ventilation ducts or similar applications.

Technical data	
Supply voltage	24 V AC / DC ±20 %
Working range	0...10 m/s, 0...15 m/s, 0...20 m/s
Output signal	0...10 V (max. 1 mA), 4...20 mA
Time constant	1.5 s at 10 m/s
Accuracy	±(0.2 m/s + 3 % of the value) at 0.2...10 m/s ±(0.2 m/s + 3 % of the value) at 0.2...15 m/s ±(0.2 m/s + 4 % of the value) at 0.2...20 m/s
Damping	0.7 or 4 s
Ambient temperature	-10...+50 °C
Insertion length	50…200 mm - adjustable
Mounting	Duct
Dimensions	90 x 85 x 255 mm
Protection class	IP65

Article	Description	Note
AVDT25N	Air velocity transmitter	

Air flow switch

Air or non-aggressive gas flow control. Alarm signal for flow shortage. Well-suited for air ducts, air conditioning and air handling systems.

Technical data	
Contacts	Dust-tight microswitch with SPDT contacts (NC/NO)
Switch capacity	15 (8) A, 24…250 V AC
Ambient temperature	-40…+85 °C
Ambient humidity	10…90 % RH (non-condensing)
Media temperature	-10…+85 °C
Paddles	Stainless steel AISI 301
Material, casing cover	Transparent PC
Material, casing base	ABS
Dimensions	265.5 x 140 x 102 mm
Protection class	IP65

Article	Cut out	Cut in	Max. air temperature	Note
AFS1	min. 1.0 m/s - max. 8.0 m/s	min. 2.5 m/s - max. 9.2 m/s	85 °C	

FLS304...

FLS305...

FLS306X, FLS307X, FLS308X

Liquid flow switch

Electromechanical flow switches, suited for pipes of industrial plants: heating and air conditioning, refrigeration systems and heat pumps. Available in brass (suitable for normal media), and stainless steel AISI 316L (compatible with certain aggressive media).

Technical data	
Contacts	Microswitch with switching contacts SPDT
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-40…+85 °C
Ambient humidity	10...90 % RH (non-condensing)
Media temperature	-40…+120 °C
Paddles	Stainless steel AISI 316L
Material, casing cover	Transparent Polycarbonate (PC)
Dimensions	140 x 62 x 65 mm
Protection class	IP65

Article	For pipes (diameter)	Flow	Max. pressure	Media	"T" pipe fitting	Note
FLS304X	1...8"	0.6…90.8 m³/h	1100 kPa (11 bar)	Normal (body in brass)	-	
FLS304XT	1...8"	0.6…90.8 m³/h	1100 kPa (11 bar)	Normal (body in brass)	-	
FLS304XRE	1...8"	0.2…55.3 m³/h	1100 kPa (11 bar)	Normal (body in brass)	-	
FLS305XT	1...8"	0.6…90.8 m³/h	3000 kPa (30 bar)	Corrosive (AISI 316L compatibility)	-	
FLS305XRE	1...8"	0.2…55.3 m³/h	3000 kPa (30 bar)	Corrosive (AISI 316L compatibility)	-	
FLS306X	1/2"	0.174…0.846 m³/h	1100 kPa (11 bar)	Normal (body in brass)	X	
FLS307X	3/4"	0.138…0.768 m³/h	1100 kPa (11 bar)	Normal (body in brass)	X	
FLS308X	1"	0.2…1.0 m³/h	1100 kPa (11 bar)	Normal (body in brass)	X	

ACCESSORIES

Article	Description	Note
FLZ-09	Paddles for liquid flow switch in stainless steel AISI 316L. (Only for FLS304... and FLS350... Not for FLS306X, FLS307X or FLS308X.)	

The FLS304XT and FLS305XT models are TÜV approved.

LUX TRANSMITTER

LTWT10N...

Lux transmitter

In- or outdoor lux transmitter with a passive PT1000 temperature sensor as well as DIP switches for scaling the measuring range.

Technical data	
Supply voltage	24 V AC/DC (12…34 V AC/DC)
Power consumption	<2 W
Load impedance	Min. 10 kΩ
Protection class	IP54
Ambient humidity	0…98 % RH (non-condensing)
Ambient temperature	-30…+70 °C
Cable connection	Screw terminals max. 1.5 mm2
Mounting	Wall
Output signal, lux	0...10 V , corresponding to the selected measuring range
Sensor element, lux	MEMS
Measuring range, lux	0...1000 / 0...10000 / 0...50000 / 0...100000 lux
Accuracy, lux	±10 %
Sensor element, temperature	PT1000
Measuring range, temperature	-30…+70 °C
Accuracy, temperature	±0.3 K
Dimensions, external (WxHxD)	69 x 75 x 44 mm
Weight (incl. packaging)	0.17 kg

MODELS

Article	Description	Note
LTWT10N/PT1000	Lux transmitter	

ACCESSORIES

DBZ-135R

Well

Well for immersion sensors.

Technical data	
Connection	R1/2”
Pressure rating	PN25
Material, well	Acid-proof stainless steel, SUS316

DBZ-90WA

Article	Insertion length	Note
DR-90R	90 mm	
DR-135R	135 mm	
DR-50WA	50 mm	
DR-90WA	90 mm	
DR-120WA	120 mm	
DR-170WA	170 mm	
DR-310WA	310 mm	

ACCESSORIES

Article	Description	Note
ADAPTER	Adapter 1/4” to 1/2”. For mounting immersion sensors in 1/2”.	

PASTA-20

Heat-conductive paste

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	

Clip

Article	Description	Note
TG-DHW3-CLIP	Optional mounting clip, for locking a TG-DHW3 in a TG-DHW well.	

Spare parts for humidstats

Article	Description	Length	Note
HH1606	Hair element for HR1/HR2	107 mm	
HH1608	Hair element for HMH/HPH	182 mm	

HA010101

HA010102

HA010103

HA010105

Filters for humidity transmitters

Article	Description	Note
HA010101	Dust filter made of Gore-Tex, standard on the humidity transmitters	
HA010102	Sintered brass filter, protection in demanding environments	
HA010103	Sintered stainless steel filter, protection in demanding environments	
HA010105	Teflon filter	
HA010106	Metal filter	

DBZ-09

Paddles

Paddles for liquid flow switch in stainless steel.

Article	Description	Note
FLZ-09	Paddles for liquid flow switch in stainless steel AISI 316L. (Only for FLS304... and FLS350... Not for FLS306X, FLS307X or FLS308X.)	

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DETECTORS

+21°C

SMOKE

SDD-...

TDS

VR600

Smoke detector for duct mounting, ionisation

Single-tube detector including 600 mm venturi tube.

Technical data	
Supply voltage	9...33 V DC (via ABV control unit). 24 V AC ±15 % for RAC(M) models.
Power consumption, incl. end resistor (not RAC(M))	Normal operation: 10 mA at 24 V DC. Alarm condition: 50 mA at 24 V DC. Service alarm condition: 20 mA at 24 V DC.
Mounting	Duct
Protection class	IP54

Article	Description	Note
SDD-S65	Ionisation detector with service alarm including 600 mm venturi tube.	
SDD-S65-RAC	Ionisation detector with AC power supply and relay output only with service alarm, including 600 mm venturi tube.	

ACCESSORIES

Article	Description	Note
TDS	Mounting spacer for insulated pipe ducts	
VR600	Venturi tube, 540 mm length (standard supply together with the detector)	
VR2000	Venturi tube, 1940 mm length	

SDD-...

TDS

VR600

Smoke detector for duct mounting, optical

Single-tube detector, including 600 mm Venturi tube.

Technical data	
Supply voltage	9...33 V DC (via ABV control unit). 24 V AC ±15 % for RAC(M) models.
Power consumption, incl. end resistor (not RAC(M))	Normal operation: 10 mA at 24 V DC. Alarm condition: 50 mA at 24 V DC. Service alarm condition: 20 mA at 24 V DC.
Mounting	Duct
Protection class	IP54

Article	Description	Note
SDD-OE65	Optical detector with service alarm (max 20 sensors, to be connected to CABV control unit) including 600 mm Venturi tube.	
SDD-OE65-RAC	Optical detector with AC power supply and relay output only, with service alarm, including 600 mm Venturi tube.	

ACCESSORIES

Article	Description	Note
TDS	Mounting spacer for insulated pipe ducts	
VR600	Venturi tube, 540 mm length (standard supply together with the detector)	
VR2000	Venturi tube, 1940 mm length	

S65

S-BP

Smoke detector for ceiling mounting

Smoke detector for all kinds of areas. Constructed to meet the high demands of a modern fire installation. To be used with CABV control unit.

Technical data	
Supply voltage	9...33 V DC (via ABV control unit)
Current consumption	10 mA (50 mA if an alarm occurs)
Mounting	Ceiling
Protection class	IP43

MODELS

Article	Description	Detection principle	Note
S65-OE	Optical detector with service alarm	Optical. Photoelectric, reflecting type	
S65	Ionisation detector with service alarm	Ionisation, two chamber	

ACCESSORIES

Article	Description	Note
S-BP	Base for detectors	
S-BPR-S65	Base for S65 detectors with built-in change-over relay (24 V AC)	

Control units for smoke detectors

Control unit for smoke detectors. Provides power supply and alarm handling for smoke detectors, with or without service alarm. Two relay contacts for alarm handling.

Technical data	
Current consumption	30 mA (70 mA if an alarm occurs)
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Supply voltage	Alarm outputs	Service alarm	Note
ABV24-S-300/D	24 V AC/DC	One change-over contact (smoke), one closing contact (smoke), one closing contact (service)	X	
ABV-S-300/D	230 V AC	One change-over contact (smoke), one closing contact (smoke), one closing contact (service)	X	

Smoke spray

Spray for control of smoke detectors. Suitable for control of ionisation or optical smoke detectors.

Article	Description	Note
SS-260	Smoke spray, 260 ml	

MOTION

IR24-P

IR24-PC

Motion detector

Detector providing a signal when someone enters the room. The detector has a pulse-detecting function that minimizes the risk of false alarms. Settable on/off delays and change-over relay.

Technical data	
Supply voltage	24 AC/DC
Alarm relay	200 mA, 24 V AC/DC, potential-free, change-over relay
Current consumption	5 mA
Temperature range	-20…+50 °C
Ambient humidity	Max. 95 % RH
Protection class	IP20

Article	Mounting	Detection area	Note
IR24-P	Wall	15 m, 110° angle	
IR24-PC	Ceiling	Height x 2.5 = coverage diameter, 25° angle	

9 WIRELESS PRODUCTS

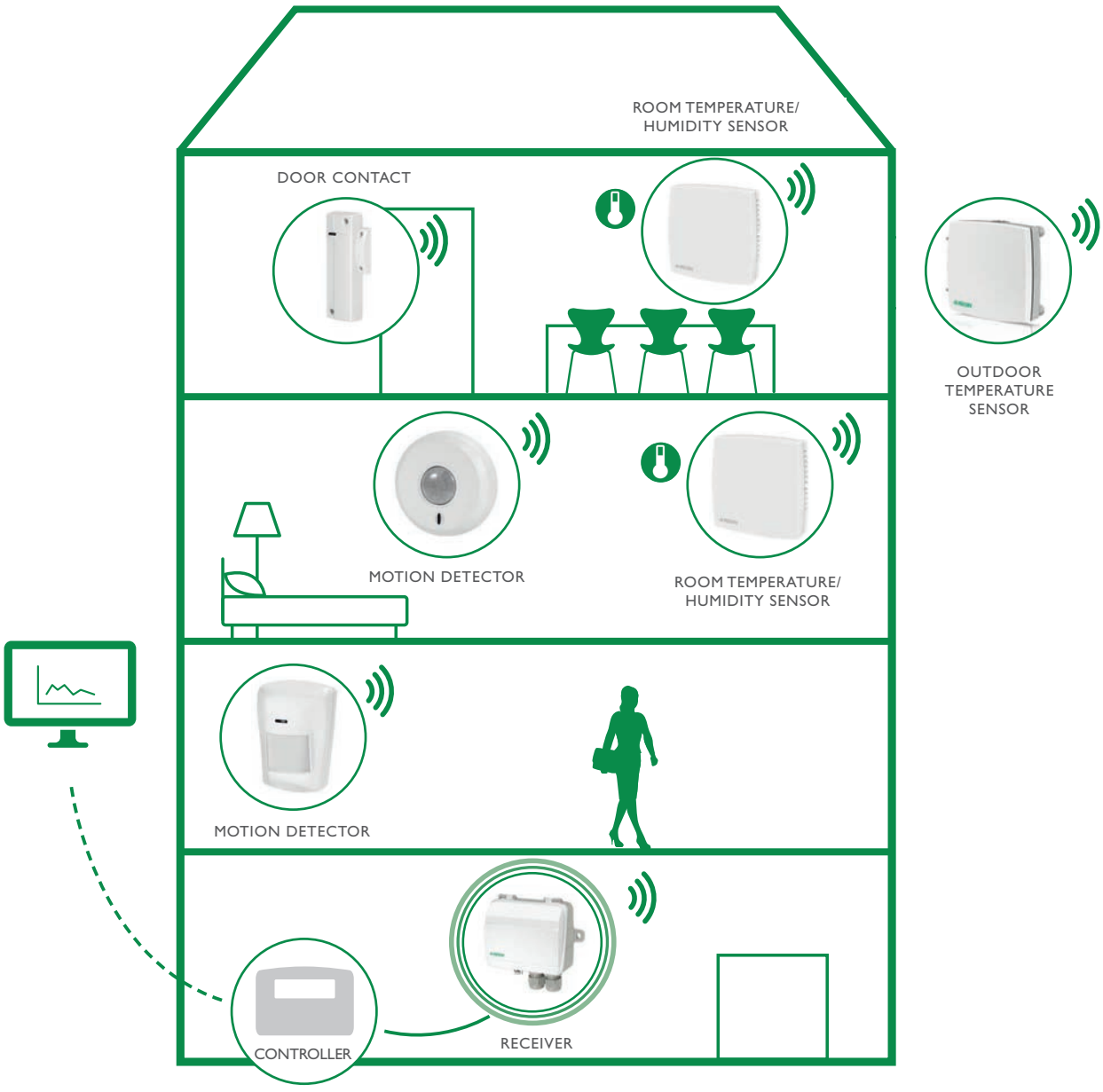
GO WIRELESS

WITH RELIABILITY IN FOCUS

- ✓ Install products on surfaces where you couldn't before, e.g. in heritage listed buildings with restrictions.
- ✓ The simple solution for flexible, module based offices – easy to move or add as needed. Easy to move when refurnishing.

SHORT FACTS

- ✓ Extensive communication range and high reliability
- ✓ Wireless = low installation costs + great timesaver
- ✓ Easy to integrate with Modbus based systems



GO WIRELESS READY STEADY GO Modbus

RECEIVER

RCW-M32

Wireless receiver with Modbus communication

Modbus receiver that can pair with up to 32 digital or analogue sensors.

Technical data	
Supply voltage	24 V AC/DC (21…27 V AC/DC)
Frequency	868 MHz
Protection class	IP54
Ambient temperature	-10…+50 °C
Ambient humidity	Max. 85 % RH, non-condensing
Dimensions, external (WxHxD)	120 x 112 x 40 mm
Communication	
Type	RS485
Built-in protocol	Modbus
Communication speed	1200 / 2400 / 9600 (default) / 19200 / 38400 / 57600 bps
Parity	None (default) / even / odd
Stop bit	1 stop bit (default) / 2 stop bits
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

ACCESSORIES

Article	Description	Note
RPW	Wireless repeater	
TG-R6W	Wireless outdoor temperature sensor	
TG-R6EW	Wireless outdoor temperature sensor equipped with a terminal for connecting an external PT1000 sensor	
EPRW	Wireless electric pulse reader	
HTRT5W	Wireless room temperature and humidity sensor	
IRCW	Wireless ceiling mounted IR motion detector	
IRW	Wireless motion detector	
DCW	Wireless digital input / door contact	

SENSORS

HTRT5W

Wireless room temperature and humidity sensor

High quality room temperature and humidity sensor within the Regin Go Wireless concept.

Technical data	
Power supply	AA 1.5 V L91 battery x 2
Battery life	10 years
Frequency	868 MHz
Protection class	IP30
Measuring range, temperature	-10…+50 °C
Measuring range, humidity	0…100 % RH
Accuracy, temperature	±0.2 K
Accuracy, humidity	±2 %
Dimensions, external (WxHxD)	86 x 86 x 30 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Colour, housing	RAL9010
Colour, base	RAL9010

Article	Description	Note
HTRT5W	Wireless room temperature and humidity sensor	

RECEIVER

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

TG-R6EW

Wireless outdoor temperature sensor with input for external PT1000 sensor

TG-R6EW is a high quality outdoor temperature sensor within the Regin Go Wireless concept. The sensor is possible to use either with an external PT1000 sensor or an internal sensor.

Technical data	
Power supply	CR123A 3V lithium battery x 2
Battery life	5 years
Frequency	868 MHz
Protection class	IP54
Measuring range, temperature	-40…+50 °C
Measuring range, temperature (PT1000)	-50...+75 °C
Dimensions, external (WxHxD)	90 x 85 x 35 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

Article	Description	Note
TG-R6EW	Wireless outdoor temperature sensor equipped with a terminal for connecting an external PT1000 sensor	
TG-R6W	Wireless outdoor temperature sensor	

RECEIVER

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

OTHER

RPW

Repeater for wireless receiver

Wireless repeater used within the Regin Go Wireless concept. The repeater makes the system more flexible by increasing the maximum possible distance between the receiver and the paired sensor or detector.

Technical data	
Supply voltage	230 V ~ (100…240 V ~ 50/60 Hz)
Power consumption	0.5 A
Battery backup	yes
Frequency	868 MHz
Protection class	IP30
Mounting	Any flat surface
Dimensions, external (WxHxD)	185 x 130 x 30 mm
Material	
Material, housing	Polycarbonate (PC)
Colour, housing	RAL9010

Article	Description	Note
RPW	Wireless repeater	

RECEIVER

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

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EPRW

Wireless optical pulse reader

Counts electrical pulses from an electricity meter.

Technical data	
Supply voltage	Battery AA 1.5V L91 Lithium x 2
Battery life	6 years (calculated on activation every 5 minutes)
Frequency	868 MHz
Ambient temperature	-10…+50 °C
Ambient humidity	up to 85 % RH non-condensing
Protection class	IP30
Dimensions, external (WxHxD)	86 x 86 x 30 mm
Dimensions (WxHxD)	19 x 27 x 17 mm
Cable length	1 m

Article	Description	Note
EPRW	Wireless electric pulse reader	

RECEIVER

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

IRCW

Wireless ceiling mounted motion detector

Detector providing a signal when someone enters the room. 360° detection area with a diameter of 8 meters.

Technical data	
Power supply	CR123A 3V lithium battery x 1 (CR123A)
Battery life	6 years
Frequency	868 MHz
Range, frequency	Over 300 meters in unobstructed space
Ambient temperature	-10…+45 °C
Ambient humidity	Max. 85 % RH (non-condensing)
Protection class	IP20
Dimensions	Ø 106 mm x 30,3 mm
Mounting position	2.7 ...4 m above the floor
Range, detection	Ø 6…8 m

Article	Description	Note
IRCW	Wireless ceiling mounted IR motion detector	

RECEIVER

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

IRW

Wireless motion detector

IRW is a high quality IR motion detector in the Regin Go Wireless-concept. The detector maintains a stable and highly sensitive level of detection regardless of changes in the environment. It has a communication range of up to 300 meters in open space.

Technical data	
Power supply	CR123A 3V lithium battery, 1500 mAh x 1
Battery life	6 years
Range, detection	12 m over 110° angle (2 m mounting height)
Range, communication	Up to 300 m (open space)
Frequency	868 MHz
Ambient temperature	-10…+50 °C
Ambient humidity	Max. 85 % RH (non-condensing)
Protection class	IP20
Dimensions, external (WxHxD)	64 x 94 x 42 mm

Article	Description	Note
IRW	Wireless motion detector	

RECEIVER

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

DCW

Wireless digital input/door contact

Digital input/door contact detecting opening of door or window.

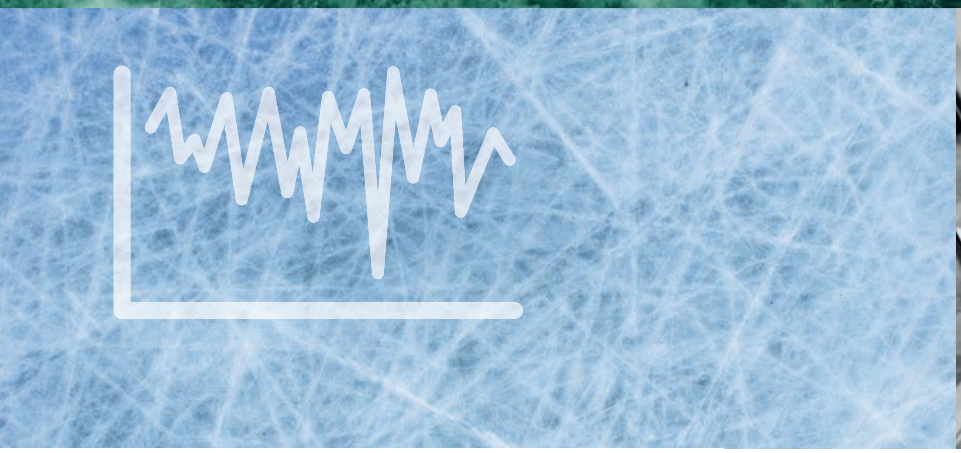
Technical data	
Power supply	CR2 3V lithium battery
Battery life	7 years
Frequency	868 MHz
Ambient temperature	-10…+50 °C
Ambient humidity	Max. 85 % RH (non-condensing)
Protection class	IP30
Dimensions, external (WxHxD)	42 x 105 x 20 mm

Article	Description	Note
DCW	Wireless digital input / door contact	

RECEIVER

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

10 ENERGY METERS



ULTRASONIC ENERGY METERS

SSU

Ultrasonic energy meters

Externally threaded, compact energy meters with built-in ultrasonic flow meter, intended for heating or cooling.

We offer many different options, see the product sheet for more information.

Technical data, calculator	
Power supply	Exchangeable 3 V lithium battery, estimated lifetime 10 years. 24 V and 230 V power packs available as accessory.
Temperature difference range	3…100 K Heating, -3…-50 K Cooling
Protection class	IP65
Technical data, flow meter	
Connection	Threaded according to ISO 228/1
Pressure rating	PN16
Media	Water
Mounting position	Horizontal or vertical
Technical data, temperature sensor	
Cable length	1.5 m (the other temperature sensor is integrated into the flow meter)
Sensor element	PT1000, DIN IEC 60751
Diameter, sensor	5 mm

Article	Description	Note
SSU	Energy meter with ultrasonic flow meter. See ordering code selection table for more information on each model.	

ORDERING CODE SELECTION TABLE

Options	SSU					
Flow (thread on meter body) (DN) (length of flow meter)	0.6 m³/h (G3/4") (DN15) (110 mm)	15-0.6[2]				
	1.5 m³/h (G3/4")(DN15) (110 mm)	15-1.5				
	2.5 m³/h (G1") (DN20) (130 mm)	20-2.5				
	3.5 m³/h (G1") (DN20) (130 mm)	20-3.5				
	3.5 m³/h (G1 1/4") (DN25) (150 mm)	25-3.5				
	6.0 m³/h (G1 1/4") (DN25) (150 mm)	25-6.0				
	10.0 m3/h (G2") (DN40) (200 mm)	40-10				
Type of measurement and installation point	Heating installation of flow meter in return pipe (MID approval)		-	HR		
	Cooling[1], installation of flow meter in return pipe		-	CR		
Communication interface	M-Bus				-	M
	M-Bus with 3 pulse inputs				-	MPI
	Pulse output for energy				-	PO

If any further requirements or options are needed, or for pricing questions, please contact Regin.

[1] TÜV approval.

[2] 0.6 is only available for heating, not for cooling.

VSR

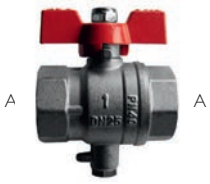
THREADED FITTING WITH COUPLING RING AND GASKET *

Article	Meter DN	Connection A	Connection B	Compatible with	Note
VSR-1/2	15	G¾	R½	q_p0.6/1.5 m³/h	
VSR-3/4	20	G1	R¾	q_p2.5/3.5 m³/h	
VSR-1	25	G1¼	R1	q_p3.5/6.0 m³/h	
VSR-1 1/2	40	G2	R1½	q_p10 m³/h	

KH

BALL VALVE WITH COUPLING RING AND GASKET *

Article	Meter DN	Connection A	Connection B	Compatible with	Note
KH-3/4	15	Rp¾	G¾	q_p0.6/1.5 m³/h	
KH-1	20	Rp1	G1	q_p2.5/3.5 m³/h	
KH-1 1/4	25	Rp1¼	G1¼	q_p3.5/6.0 m³/h	
KH-2	40	Rp2	G2	q_p10 m³/h	



KH-S

BALL VALVE WITH INSTALLATION POINT FOR A TEMPERATURE SENSOR (SOCKET M10X1)

Article	Meter DN	Connection A	Compatible with	Note
KH-S-3/4	15	G¾	q_p0.6/1.5 m³/h	
KH-S-1	20	G1	q_p2.5/3.5 m³/h	
KH-S-1 1/4	25	G1¼	q_p3.5/6.0 m³/h	
KH-S-2	40	G2	q_p10 m³/h	

VAD

SUPPLY FLOW ADAPTER WITH GASKET, FOR DIRECT MOUNTING OF A TEMPERATURE SENSOR IN A T-PIECE

Article	Connection	Note
VAD-1/2	G½, M10x1	
VAD-3/8	G3/8, M10x1	

PS

THREADED ADAPTER TO REPLACE A FLOW METER TEMPORARILY OR PERMANENTLY

Article	Meter DN	Compatible with	Installation length	Note
PS-110-3/4	15	q_p0.6/1.5 m³/h	110 mm	
PS-130-1	20	q_p2.5 m³/h	130 mm	
PS-150-1 1/4	25	qp 3.5/6 m³/h	150 mm	
PS-200-2	40	qp 10 m³/h	200 mm	

OPTO-CABLE-USB

OPTICAL INTERFACE AND READ-OUT SOFTWARE

Article	Description	Note
OPTO-CABLE-USB	Optocoupler with USB interface	
OPTO-TOOL	Software device monitor	

POWERPACK-EM

24 V AND 230 V POWER PACK

Article	Description	Note
POWERPACK-EM	230 V power pack	
POWERPACK-EM-24	24 V AC power pack	

BATTERY-EM

SPARE PARTS

Article	Description	Note
BATTERY-EM	Battery for SSU and SSCU	

* Either the brass threaded fittings or the ball valves are to be used on each side of the flow meter. 2 pcs are required for each meter.

10

Ultrasonic energy meters

Flanged ultrasonic energy meters, intended for heating or cooling.
We offer many different options, see the product sheet for more information.

Technical data, calculator	
Power supply	3 V lithium battery, min. 10 years. 24 V and 230 V power packs are available as accessories.
Temperature range	0…150 °C Heating, 0…50 °C Cooling
Protection class	IP54
Technical data, temperature sensor	
Cable length	3 m
Sensor element	PT500; separately approved type as per EN60751, unshielded
Diameter, sensor	6 mm
Technical data, flow meter	
Connection	Flanged according to EN 1092-3
Pressure rating	PN25
Media	Water
Mounting position	Horizontal or vertical

Article	Description	Note
SSCU	Ultrasonic energy meter. See ordering code selection table for more information on each model.	

ORDERING CODE SELECTION TABLE

Options	SSCU					
Flow select m³/h (DN) (Length in mm) (Flange)	3.5 m³/h (DN25) (260 mm) (PN25 flange with 4 bolt holes)	25-3.5				
	6.0 m³/h (DN25) (260 mm) (PN25 flange with 4 bolt holes)	25-6.0				
	10 m³/h (DN40) (300 mm) (PN25 flange with 4 bolt holes)	40-10				
	15 m³/h (DN50) (270 mm) (PN25 flange with 4 bolt holes)	50-15				
	25 m³/h (DN65) (300 mm) (PN25 flange with 8 bolt holes)	65-25				
	40 m³/h (DN80) (300 mm) (PN25 flange with 8 bolt holes)	80-40				
	60 m³/h (DN100) (360 mm) (PN25 flange with 8 bolt holes)	100-60				
Type of measurement and installation point	Heating installation of flow meter in return pipe (MID approval)		-	HR		
	Cooling[1], installation of flow meter in return pipe		-	CR		
Communication interface	M-Bus				-	M
	M-Bus with 3 pulse inputs				-	MPI
	Pulse output for energy				-	PO

If any further requirements or options are needed, or for pricing questions, please contact Regin.

[1] TÜV approval.

TH-85

TEMPERATURE SENSOR POCKET FOR INSTALLATION OF UNIVERSAL TEMPERATURE SENSOR WITH 6 MM SHEATH DIAMETER

Article	Connection	Compatible with	Installation length	Note
TH-85-1/2	G½	q_p3.5…10 m³/h	85 mm	
TH-120-1/2	G½	q_p15…100 m³/h	120 mm	

OPTO-CABLE-USB

OPTICAL INTERFACE AND READ-OUT SOFTWARE

Article	Note
OPTO-CABLE-USB	
OPTO-TOOL	

POWERPACK-EM

24 V AND 230 V POWER PACK

Article	Description	Note
POWERPACK-EM	230 V power pack	
POWERPACK-EM-24	24 V AC power pack	

BATTERY-EM

SPARE PARTS

Article	Description	Note
BATTERY-EM	Battery for SSU and SSCU	

VALVES

VALVES APPLICATION

	VALVE	TYPE	NOMINAL DIAMETER	KVS	STROKE	PN	CONNECTION	DZR* Requirement	District heating	Heating/Cooling/Ventilation	Chilled beams, ceilings etc.	Fan-coil	Radiator	Steam
	CTV	2-way	DN10–20	0,12–1,9	3,5 mm	10	External thread				✓			
	FVR	2-way	DN10–20	0,01–1,1	1,7 mm		Internal/External				✓		✓	
	ZFCM	2- & 3-way	DN15–32	3,2–10	20°	16	Internal threads					✓		
	VTTV	2-way	DN15–20	0,25–6	2,5 mm	16	External threads				✓	✓		
	VTTR	3-way									✓	✓		
	VTTB	3-way with bypass									✓	✓		
	ZTV	2-way	DN15–25	0,25–7	5,5 mm	16	External threads			✓	✓	✓		
	ZTR	3-way								✓	✓	✓		
	ZMD	2- & 3-way	DN15–40	0,25–25			External thread (internally threaded unions included)			✓	✓	✓		
	ETVS	2-way	DN15–50	0.25–40	20 mm	16	External thread (internally threaded unions included)	✓	✓	✓				
	ETRS1	3-way						✓		✓				
	MTVS	2-way		0,63–39			Internal threads	✓		✓				
	MTRS	3-way						✓		✓				
	BF	2- & 3-way		0,63–40						✓				
	BTV	2-way		0,6–39						✓				
	BV	2- & 3-way		0,60–63	90°	40				✓				
	PCTVS	2-way PICV Pressure independent control valve	DN15	150–900l/h	2,7 mm	25	Internal threads			✓	✓	✓		
	PCTVS		DN20				External threads			✓	✓	✓		
	PCMTV		DN15–25	150–1500l/h			Internal threads			✓	✓	✓		
			DN20–32	2200–3000l/h	6 mm		External thread (internally threaded unions included)			✓	✓	✓		
			DN32–50	6000–18000l/h	90°	40				✓	✓	✓		
			DN50–250	25700–277000l/h	Multi-turns		Flanged			✓				
	GF3	2- & 3-way (DIN-standard)	DN25–200	6,3–550	20–40 mm	16	Flanged			✓				
	NTVS3	2-way (DIN-standard)	DN15–150	0,4–310	20–40 mm				✓	✓				✓[2]
	BW2	2-way	DN40–200	110–3120	90°					✓				

After selecting valve with this quick guide, please check the catalogue section for the valve in question and product sheet to make sure you have chosen correctly according to differential pressure etc.

[1] Can be used as 2-way valve as well with the attached blind cover
[2] Use the -M version, i.e. NTVS50-39M for instance, contact Regin for prices.
[3] Face-to-face measurement in DIN

* DZR = Dezincification Resistant

DISTRICT HEATING

0%

ETVS: 2-way control valves, DN15-50, kvs 0.25-40, 20 mm stroke, DZR

2-way valves designed for control of cold, hot or glycol-mixed water, for use in DZR requirement systems or district heating within the temperature range -5°C...+150°C. They are pressure balanced (from DN20-50, not DN15) and can therefore handle high differential pressure with low force. The valves are intended to be used together with Regin's RVAN5 actuators. We also offer adapters for actuators of other brands. (DZR = Dezincification Resistant.)

Technical data	
Application	Heating, cooling, ventilation, district heating and district cooling system and systems requiring DZR-materials
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1; supplied with threaded connections
Flow characteristics	Equal percentage
Max. leakage	0.0 % of the Kvs value (PTFE gasket, carbon-filled 25 %, no leakage)
Media temperature	-5…+150 °C
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Max. diff. pressure	1600 kPa
Material	
Body	Gunmetal CC491K (RG5)
Seat	Stainless steel 1.4301
Plug	Stainless steel 1.4305
Stem	Stainless steel 1.4305
Seat packing	PTFE with 25 % carbon
Packing box	Dezincification resistant brass CW 602N, self-adjusting teflon
O-rings	Viton
Material, connections	
Nut	Malleable cast iron, galvanized
Nipple	Dezincification resistant brass CW 602N
Fitting seal	Novatec Premium 2, Nitrile bonded aramid fibre with graphite

MODELS

Article	Nominal diameter	Kvs	Actuator	Note
ETVS15-0,25	DN15	0.25 m³/h	RVAN5	
ETVS15-0,4	DN15	0.4 m³/h	RVAN5	
ETVS15-0,63	DN15	0.63 m³/h	RVAN5	
ETVS15-1,0	DN15	1,0 m³/h	RVAN5	
ETVS15-1,25	DN15	1.25 m³/h	RVAN5	
ETVS15-1,6	DN15	1.6 m³/h	RVAN5	
ETVS15-2,5	DN15	2.5 m³/h	RVAN5	
ETVS15-4,0	DN15	4 m³/h	RVAN5	
ETVS20-5,0	DN20	5 m³/h	RVAN5	
ETVS20-6,3	DN20	6.3 m³/h	RVAN5	
ETVS25-8,0	DN25	8 m³/h	RVAN5	
ETVS25-10	DN25	10 m³/h	RVAN5	
ETVS32-12,5	DN32	12.5 m³/h	RVAN5	
ETVS32-16	DN32	16 m³/h	RVAN5	
ETVS40-20	DN40	20 m³/h	RVAN5	
ETVS40-25	DN40	25 m³/h	RVAN5	
ETVS50-31,5	DN50	31.5 m³/h	RVAN5	
ETVS50-40	DN50	40 m³/h	RVAN5	

S0603080300

ACCESSORIES

Article	Description	Note
S0603080300	Spare parts kit, packing box for ETRS, MTVS and MTRS valves (until 2019-12) also ETVS and NTVS.	

NTVS: 2-way control valves, DN15-150, kvs 0.4-310, DIN-standard

Pressure balanced 2-way valve intended for control of hot, cold or glycol-mixed water or district heating. Intended for use with the RVAN... actuators.

Technical data	
Application	Heating systems, cooling systems, district heating systems, district cooling systems, ventilation systems
Pressure rating	PN16
Connection	Flanges according to EN 1092-2
Flow characteristics	Equal percentage
Max. leakage	0.0 % of the kvs value (PTFE gasket, carbon-filled 25 %, no leakage) / 0.05 % of kvs for NTVS…-…M models with metal packing
Media temperature	-5…+185 °C
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Max. diff. pressure	1600 kPa
Material	
Body	Nodular cast iron (GJS) EN-JS1050
Seat	Stainless steel 1.4301 or gunmetal CC491K (RG5)
Plug	Stainless steel 1.4305 (DN15…DN100) or gunmetal CC491K (RG5) (DN125…DN150)
Stem	Stainless steel 1.4305
Lining	Stainless steel 1.4301
Seat packing, soft seal	PTFE with 25 % carbon
Seat packing, metal seal	Stainless steel 1.4057
Packing box	Dezincification resistant brass CW 602N, self-adjusting teflon
O-rings	Viton

MODELS

Article	Nominal diameter	Kvs	Stroke	Actuator	Note
NTVS15-0,4	DN15	0.4 m³/h	20 mm	RVAN5	
NTVS15-1,0	DN15	1.0 m³/h	20 mm	RVAN5	
NTVS15-1,6	DN15	1.6 m³/h	20 mm	RVAN5	
NTVS15-2,7	DN15	2.7 m³/h	20 mm	RVAN5	
NTVS20-0,8	DN20	0.8 m³/h	20 mm	RVAN5	
NTVS20-1,6	DN20	1.6 m³/h	20 mm	RVAN5	
NTVS20-2,7	DN20	2.7 m³/h	20 mm	RVAN5	
NTVS20-3,9	DN20	3.9 m³/h	20 mm	RVAN5	
NTVS20-6,3	DN20	6.3 m³/h	20 mm	RVAN5	
NTVS25-1,6	DN25	1.6 m³/h	20 mm	RVAN5	
NTVS25-2,5	DN25	2.5 m³/h	20 mm	RVAN5	
NTVS25-4,0	DN25	4 m³/h	20 mm	RVAN5	
NTVS25-6,3	DN25	6.3 m³/h	20 mm	RVAN5	
NTVS25-10	DN25	10 m³/h	20 mm	RVAN5	
NTVS32-4,0	DN32	4 m³/h	20 mm	RVAN5	
NTVS32-6,3	DN32	6.3 m³/h	20 mm	RVAN5	
NTVS32-10	DN32	10 m³/h	20 mm	RVAN5	
NTVS32-16	DN32	16 m³/h	20 mm	RVAN5	
NTVS40-6,3	DN40	6.3 m³/h	20 mm	RVAN5	
NTVS40-10	DN40	10 m³/h	20 mm	RVAN5	
NTVS40-16	DN40	16 m³/h	20 mm	RVAN5	
NTVS40-27	DN40	27 m³/h	20 mm	RVAN5	
NTVS50-6,3	DN50	6.3 m³/h	20 mm	RVAN5	
NTVS50-10	DN50	10 m³/h	20 mm	RVAN5	
NTVS50-16	DN50	16 m³/h	20 mm	RVAN5	
NTVS50-27	DN50	27 m³/h	20 mm	RVAN5	
NTVS50-39	DN50	39 m³/h	20 mm	RVAN5	
NTVS65-16	DN65	16 m³/h	20 mm	RVAN10	
NTVS65-27	DN65	27 m³/h	20 mm	RVAN10	
NTVS65-39	DN65	39 m³/h	20 mm	RVAN10	
NTVS65-63	DN65	63 m³/h	20 mm	RVAN10	
NTVS80-100	DN80	100 m³/h	20 mm	RVAN10	
NTVS100-160	DN100	160 m³/h	38 mm	RVAN18	
NTVS125-215	DN125	215 m³/h	40 mm	RVAN25	
NTVS150-310	DN150	310 m³/h	40 mm	RVAN25	

ACCESSORIES

S0603080300

Article	Description	Note
S0603080300	Spare parts kit, packing box for ETRS, MTVS and MTRS valves (until 2019-12) and for ETVS and NTVS valves.	

For steam applications or at pressure drops of 7 bar or higher, we recommend using a metal packing (stainless steel). Use the extra letter M at the end of the reference type when ordering a valve with metal packing, for example NTVS50-27M instead of the usual NTVS50-27. For valves with metal packing, the maximum leakage is 0.05 % of kvs.

The NTVS valves meet the requirements of DIN-standard DIN 3202/F1 and ISO 5752 table 1.

HEATING / COOLING / VENTILATION

ZTV, ZTR: 2- and 3-way control valves DN15-25, kvs 0.25-7.0, 5.5 mm stroke

Valves used for control of hot and cold water in climate, heating and ventilation systems. They can also control glycol-mixed water in for example liquid connected recovery systems. Intended to be used together with the RVAZ4 actuators.

ZTV

ZTR

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure rating	PN16
Connection, actuator	M30 x 1.5
Connection	BSP externally threaded according to ISO 228/1
Flow characteristics	Equal percentage
Max. leakage	0 % of the kvs value
Media temperature	1…110 °C (the valve has a max. temperature of 140°C, the RVAZ4 actuators have a max. temperature of 110°C)
Media	Hot water, cold water, glycol-mixed water (max. 30 % glycol)
Rangeability	50:1
Stroke	5.5 mm
Material	
Body	Brass CW614N
Seat	Brass CW614N
Plug	Brass CW614N
Stem	Stainless steel 1.4305
Seat packing	EPDM
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZTV15-0,25	DN15	0.25 m³/h	G1/2”	350 kPa	RVAZ4	
ZTV15-0,4	DN15	0.4 m³/h	G1/2”	350 kPa	RVAZ4	
ZTV15-0,6	DN15	0.6 m³/h	G1/2”	350 kPa	RVAZ4	
ZTV15-1,0	DN15	1.0 m³/h	G1/2”	350 kPa	RVAZ4	
ZTV15-1,6	DN15	1.6 m³/h	G1/2”	350 kPa	RVAZ4	
ZTV20-2,0	DN20	2.0 m³/h	G3/4”	250 kPa	RVAZ4	
ZTV20-2,5	DN20	2.5 m³/h	G3/4”	250 kPa	RVAZ4	
ZTV20-4,0	DN20	4.0 m³/h	G3/4”	150 kPa	RVAZ4	
ZTV20-6,0	DN20	6.0 m³/h	G3/4”	150 kPa	RVAZ4	
ZTV25-7,0	DN25	7.0 m³/h	G1”	70 kPa	RVAZ4	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZTR15-0,25	DN15	0.25 m³/h	G1/2”	350 kPa	RVAZ4	
ZTR15-0,4	DN15	0.4 m³/h	G1/2”	350 kPa	RVAZ4	
ZTR15-0,6	DN15	0.6 m³/h	G1/2”	350 kPa	RVAZ4	
ZTR15-1,0	DN15	1.0 m³/h	G1/2”	350 kPa	RVAZ4	
ZTR15-1,6	DN15	1.6 m³/h	G1/2”	350 kPa	RVAZ4	
ZTR20-2,0	DN20	2.0 m³/h	G3/4”	250 kPa	RVAZ4	
ZTR20-2,5	DN20	2.5 m³/h	G3/4”	250 kPa	RVAZ4	
ZTR20-4,0	DN20	4.0 m³/h	G3/4”	100 kPa	RVAZ4	
ZTR20-6,0	DN20	6.0 m³/h	G3/4”	100 kPa	RVAZ4	
ZTR25-7,0	DN25	7.0 m³/h	G1”	70 kPa	RVAZ4	

0%

ZMD: 2- and 3-way control valves DN15-40, kvs 0.25-25, 5.5 mm stroke

Externally threaded control valves intended for use in heating and cooling systems together with the RVAZ4… series of electromechanical actuators. A hand wheel for manual operation is delivered with the valve.

ZMD2

ZMD3

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1
Flow characteristics	Linear
Max. leakage	0.0 % of kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	2…110 °C
Rangeability	50:1
Stroke	5.5 mm
Material	
Body, seat, plug	Brass CW614N
Stem	Stainless steel 1.4305
Seat packing, O-rings	EPDM
Nut	Malleable cast iron, galvanized
Nipple	Dezincification resistant brass CW 602N (DN15-DN20), Malleable cast iron (DN25-DN40)
Fitting seal	Novatec Premium 2, Nitrile bonded aramid fibre with graphite
Cover lid	Dezincification resistant brass CW 602N

2-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
ZMD215-0.25	DN15	0.25 m³/h	400 kPa	RVAZ4	
ZMD215-0.4	DN15	0.4 m³/h	400 kPa	RVAZ4	
ZMD215-0.6	DN15	0.6 m³/h	400 kPa	RVAZ4	
ZMD215-1.0	DN15	1.0 m³/h	400 kPa	RVAZ4	
ZMD215-1.6	DN15	1.6 m³/h	400 kPa	RVAZ4	
ZMD215-2.5	DN15	2.5 m³/h	400 kPa	RVAZ4	
ZMD215-4.0	DN15	4.0 m³/h	400 kPa	RVAZ4	
ZMD220-6.3	DN20	6.3 m³/h	350 kPa	RVAZ4	
ZMD225-10	DN25	10 m³/h	200 kPa	RVAZ4	
ZMD232-16	DN32	16 m³/h	130 kPa	RVAZ4	
ZMD240-25	DN40	25 m³/h	60 kPa	RVAZ4	

3-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
ZMD315-0.25	DN15	0.25 m³/h	400 kPa	RVAZ4	
ZMD315-0.4	DN15	0.4 m³/h	400 kPa	RVAZ4	
ZMD315-0.6	DN15	0.6 m³/h	400 kPa	RVAZ4	
ZMD315-1.0	DN15	1.0 m³/h	400 kPa	RVAZ4	
ZMD315-1.6	DN15	1.6 m³/h	400 kPa	RVAZ4	
ZMD315-2.5	DN15	2.5 m³/h	400 kPa	RVAZ4	
ZMD315-4.0	DN15	4.0 m³/h	400 kPa	RVAZ4	
ZMD320-6.3	DN20	6.3 m³/h	350 kPa	RVAZ4	
ZMD325-10	DN25	10 m³/h	200 kPa	RVAZ4	
ZMD332-16	DN32	16 m³/h	130 kPa	RVAZ4	
ZMD340-25	DN40	25 m³/h	60 kPa	RVAZ4	

2951352501

ACCESSORIES

Article	Description	Note
2951352501	Hand wheel	

ETVS: 2-way control valves, DN15-50, kvs 0.25-40, 20 mm stroke, DZR

2-way valves designed for control of cold, hot or glycol-mixed water, for use in DZR requirement systems or district heating within the temperature range -5°C...+150°C. They are pressure balanced (from DN20-50, not DN15) and can therefore handle high differential pressure with low force. The valves are intended to be used together with Regin's RVAN5 actuators. We also offer adapters for actuators of other brands. (DZR = Dezincification Resistant.)

Technical data	
Application	Heating, cooling, ventilation, district heating and district cooling system and systems requiring DZR-materials
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1; supplied with threaded connections
Flow characteristics	Equal percentage
Max. leakage	0.0 % of the Kvs value (PTFE gasket, carbon-filled 25 %, no leakage)
Media temperature	-5…+150 °C
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Max. diff. pressure	1600 kPa
Material	
Body	Gunmetal CC491K (RG5)
Seat	Stainless steel 1.4301
Plug	Stainless steel 1.4305
Stem	Stainless steel 1.4305
Seat packing	PTFE with 25 % carbon
Packing box	Dezincification resistant brass CW 602N, self-adjusting teflon
O-rings	Viton
Nut	Malleable cast iron, galvanized
Nipple	Dezincification resistant brass CW 602N
Fitting seal	Novatec Premium 2, Nitrile bonded aramid fibre with graphite

MODELS

Article	Nominal diameter	Kvs	Actuator	Note
ETVS15-0,25	DN15	0.25 m³/h	RVAN5	
ETVS15-0,4	DN15	0.4 m³/h	RVAN5	
ETVS15-0,63	DN15	0.63 m³/h	RVAN5	
ETVS15-1,0	DN15	1,0 m³/h	RVAN5	
ETVS15-1,25	DN15	1.25 m³/h	RVAN5	
ETVS15-1,6	DN15	1.6 m³/h	RVAN5	
ETVS15-2,5	DN15	2.5 m³/h	RVAN5	
ETVS15-4,0	DN15	4 m³/h	RVAN5	
ETVS20-5,0	DN20	5 m³/h	RVAN5	
ETVS20-6,3	DN20	6.3 m³/h	RVAN5	
ETVS25-8,0	DN25	8 m³/h	RVAN5	
ETVS25-10	DN25	10 m³/h	RVAN5	
ETVS32-12,5	DN32	12.5 m³/h	RVAN5	
ETVS32-16	DN32	16 m³/h	RVAN5	
ETVS40-20	DN40	20 m³/h	RVAN5	
ETVS40-25	DN40	25 m³/h	RVAN5	
ETVS50-31,5	DN50	31.5 m³/h	RVAN5	
ETVS50-40	DN50	40 m³/h	RVAN5	

S0603080300

ACCESSORIES

Article	Description	Note
S0603080300	Spare parts kit, packing box for ETRS, MTVS and MTRS valves (until 2019-12) and for ETVS and NTVS valves.	

ETRS2...

ETRS3...

ETRS: 3-way control valves DN15-50, kvs 0.63-40, 20 mm stroke, DZR

Valves intended for control of cold, hot and glycol-mixed water in heating, ventilation and when DZR material is a requirement. The valves are intended to be used together with Regin's RVAN5 actuators. RVAN10 actuators can also be used if larger actuating force is required. The valve is supplied with a cover lid for converting the 3-way valve into a 2-way valve. (DZR = Dezincification Resistant.)

Technical data	
Application	Heating, cooling, ventilation systems and systems requiring DZR-materials
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1; supplied with threaded connections
Flow characteristics	Equal percentage
Max. leakage	0.1 % of the kvs value
Media temperature	-5…+150 °C
Media	Hot, cold or glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Material	
Body	Gunmetal CC491K (RG5)
Seat	Gunmetal CC491K (RG5)
Plug	Gunmetal CC491K (RG5)
Stem	Stainless steel 1.4305
Packing box	Dezincification resistant brass CW 602N
O-rings	Viton

Material, connections	
Nut	Malleable cast iron, galvanized
Nipple	Dezincification resistant brass CW 602N
Fitting seal	Novatec Premium 2, Nitrile bonded aramid fibre with graphite
Cover lid	Dezincification resistant brass CW 602N

MODELS

Article	Nominal diameter	Kvs	ΔPs (RVAN5)	ΔPmax (RVAN5)	ΔPs (RVAN10)	ΔPmax (RVAN10)	Note
ETRS15-0,63	DN15	0.63 m³/h	1600 kPa	700 kPa	1600 kPa	700 kPa	
ETRS15-1,0	DN15	1 m³/h	1600 kPa	700 kPa	1600 kPa	700 kPa	
ETRS15-1,25	DN15	1.25 m³/h	1600 kPa	700 kPa	1600 kPa	700 kPa	
ETRS15-1,6	DN15	1.6 m³/h	1600 kPa	700 kPa	1600 kPa	700 kPa	
ETRS15-2,5	DN15	2.5 m³/h	1600 kPa	700 kPa	1600 kPa	700 kPa	
ETRS15-4,0	DN15	4 m³/h	1600 kPa	700 kPa	1600 kPa	700 kPa	
ETRS20-4,0	DN20	4 m³/h	1000 kPa	600 kPa	1600 kPa	600 kPa	
ETRS20-5,0	DN20	5 m³/h	1000 kPa	600 kPa	1600 kPa	600 kPa	
ETRS20-6,3	DN20	6.3 m³/h	1000 kPa	600 kPa	1600 kPa	600 kPa	
ETRS25-6,3	DN25	6,3 m³/h	600 kPa	500 kPa	1400 kPa	500 kPa	
ETRS25-8,0	DN25	8 m³/h	600 kPa	500 kPa	1400 kPa	500 kPa	
ETRS25-10	DN25	10 m³/h	600 kPa	500 kPa	1400 kPa	500 kPa	
ETRS32-10	DN32	10 m³/h	400 kPa	400 kPa	800 kPa	450 kPa	
ETRS32-12,5	DN32	12.5 m³/h	400 kPa	400 kPa	800 kPa	450 kPa	
ETRS32-16	DN32	16 m³/h	400 kPa	400 kPa	800 kPa	450 kPa	
ETRS40-16	DN40	16 m³/h	300 kPa	300 kPa	600 kPa	400 kPa	
ETRS40-20	DN40	20 m³/h	300 kPa	300 kPa	600 kPa	400 kPa	
ETRS40-25	DN40	25 m³/h	300 kPa	300 kPa	600 kPa	400 kPa	
ETRS50-25	DN50	25 m³/h	200 kPa	200 kPa	400 kPa	300 kPa	
ETRS50-31,5	DN50	31.5 m³/h	200 kPa	200 kPa	400 kPa	300 kPa	
ETRS50-40	DN50	40 m³/h	200 kPa	200 kPa	400 kPa	300 kPa	

ACCESSORIES

S0603080300

S2921357901

Article	Description	Note
S0603080300	Spare parts kit, packing box for ETRS, MTVS and MTRS valves (until 2019-12) and for ETVS and NTVS valves.	
S2921357901	Spare parts kit, packing box (from 2020-01)	

ΔPs constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔPmax constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).

MTVS

MTRS

MTVS, MTRS: 2- and 3-way control valves, DN15-50, kvs 0.63-39, 20 mm stroke, DZR

Valves designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. They also function very well where DZR-material is a requirement. The valves are intended for use together with Regin's RVAN5 actuators. RVAN10 actuators can also be used if larger actuating force is required. (DZR = Dezincification Resistant.)

Technical data	
Application	Heating, cooling, ventilation systems and systems requiring DZR-materials
Pressure rating	PN16
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	Equal percentage
Max. leakage	0.1 % of Kvs
Media temperature	-5…+150 °C
Media	Hot, cold, or glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Material	
Body	Gunmetal CC491K (RG5)
Seat	Gunmetal CC491K (RG5)
Plug	Gunmetal CC491K (RG5)
Stem	Stainless steel 1.4305
Packing box	Dezincification resistant brass CW 602N
O-rings	Viton

2-WAY VALVES

Article	Nominal diameter	Kvs	Connec-tion	ΔPs (RVAN5)	ΔPmax (RVAN5)	ΔPs (RVAN10)	ΔPmax (RVAN10)	Note
MTVS15-0,63	DN15	0.63 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTVS15-1,0	DN15	1.0 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTVS15-1,6	DN15	1.6 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTVS15-2,1	DN15	2.1 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTVS15-2,7	DN15	2.7 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTVS20-4,2	DN20	4.2 m³/h	G¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
MTVS20-5,6	DN20	5.6 m³/h	G¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
MTVS25-10	DN25	10 m³/h	G1"	600 kPa	500 kPa	1400 kPa	500 kPa	
MTVS32-16	DN32	16 m³/h	G1¼"	400 kPa	400 kPa	800 kPa	450 kPa	
MTVS40-27	DN40	27 m³/h	G1½"	300 kPa	300 kPa	600 kPa	400 kPa	
MTVS50-39	DN50	39 m³/h	G2"	200 kPa	200 kPa	400 kPa	300 kPa	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	ΔPs (RVAN5)	ΔPmax (RVAN5)	ΔPs (RVAN10)	ΔPmax (RVAN10)	Note
MTRS15-0,63	DN15	0.63 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTRS15-1,0	DN15	1.0 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTRS15-1,6	DN15	1.6 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTRS15-2,1	DN15	2.1 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTRS15-2,7	DN15	2.7 m³/h	G½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
MTRS20-4,2	DN20	4.2 m³/h	G¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
MTRS20-5,6	DN20	5.6 m³/h	G¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
MTRS25-10	DN25	10 m³/h	G1"	600 kPa	500 kPa	1400 kPa	500 kPa	
MTRS32-16	DN32	16 m³/h	G1¼"	400 kPa	400 kPa	800 kPa	450 kPa	
MTRS40-27	DN40	27 m³/h	G1½"	300 kPa	300 kPa	600 kPa	400 kPa	
MTRS50-39	DN50	39 m³/h	G2"	200 kPa	200 kPa	400 kPa	300 kPa	

S0603080300

S2921357901

ACCESSORIES

Article	Description	Note
S0603080300	Spare parts kit, packing box for ETRS, MTVS and MTRS valves (until 2019-12) and for ETVS and NTVS valves.	
S2921357901	Spare parts kit, packing box (from 2020-01)	

ΔPs constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔPmax constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).

BF: 2- and 3-way control valves, DN15-50, kvs 0.63-40, 20 mm stroke

Valves designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. The valves are intended for use together with Regin's RVAN5…/RVAN10… actuators.

Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN16
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	A - AB = equal percentage, B - AB = linear
Max. leakage	0.1 % of Kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	-5…+140 °C
Rangeability	100:1
Stroke	20 mm
Material	
Body, seat, plug	Brass CW614N
Stem	Stainless steel 1.4305
Packing box	Brass CW614N
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs	Connection	ΔPs (RVAN5)	ΔPmax (RVAN5)	ΔPs (RVAN10)	ΔPmax (RVAN10)	Note
BF215-0.63	DN15	0.63 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF215-1.0	DN15	1.0 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF215-1.6	DN15	1.6 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF215-2.1	DN15	2.1 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF215-2.7	DN15	2.7 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF220-4.2	DN20	4.2 m³/h	G ¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
BF220-5.6	DN20	5.6 m³/h	G ¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
BF225-10	DN25	10 m³/h	G 1"	600 kPa	500 kPa	1400 kPa	500 kPa	
BF232-16	DN32	16 m³/h	G 1¼"	400 kPa	400 kPa	800 kPa	450 kPa	
BF240-25	DN40	25 m³/h	G 1½"	300 kPa	300 kPa	600 kPa	400 kPa	
BF250-40	DN50	40 m³/h	G 2"	200 kPa	200 kPa	400 kPa	300 kPa	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	ΔPs (RVAN5)	ΔPmax (RVAN5)	ΔPs (RVAN10)	ΔPmax (RVAN10)	Note
BF315-0.63	DN15	0.63 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF315-1.0	DN15	1.0 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF315-1.6	DN15	1.6 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF315-2.1	DN15	2.1 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF315-2.7	DN15	2.7 m³/h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF320-4.2	DN20	4.2 m³/h	G ¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
BF320-5.6	DN20	5.6 m³/h	G ¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
BF325-10	DN25	10 m³/h	G 1"	600 kPa	500 kPa	1400 kPa	500 kPa	
BF332-16	DN32	16 m³/h	G 1¼"	400 kPa	400 kPa	800 kPa	450 kPa	
BF340-25	DN40	25 m³/h	G 1½"	300 kPa	300 kPa	600 kPa	400 kPa	
BF350-40	DN50	40 m³/h	G 2"	200 kPa	200 kPa	400 kPa	300 kPa	

S2921354201

ACCESSORIES

Article	Description	Note
S2921354201	Spare parts kit, packing box, for BTV (from 2019-01), GF (DN25-40), BF	

ΔPs constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔPmax constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).

BTV: 2-way control valves, DN15-50, kvs 0.6-39, 20 mm stroke

The valves are designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. They are pressure balanced (from DN20-50, not DN15) and can therefore handle high differential pressure with low force. The valves are intended to be used together with Regin's RVAN5 actuators. They should not be used in domestic water systems.

Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN16
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	Equal percentage
Max. leakage	0 % of the Kvs value (PTFE gasket, carbon-filled 25 %, no leakage)
Max. diff. pressure	1600 kPa (16 bar)
Media temperature	-5…+140 °C
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Material	
Body	Brass CW614N
Seat	Brass CW614N
Plug	Stainless steel 1.4301
Stem	Stainless steel 1.4305
Seat packing	PTFE with 25 % carbon
O-rings	EPDM

MODELS

Article	Nominal diameter	Connection	Kvs	Actuator	Note
BTV15-0,6	DN15	G½"	0.6 m³/h	RVAN5	
BTV15-1,0	DN15	G½"	1.0 m³/h	RVAN5	
BTV15-1,6	DN15	G½"	1.6 m³/h	RVAN5	
BTV15-2,5	DN15	G½"	2.5 m³/h	RVAN5	
BTV15-4,0	DN15	G½"	4.0 m³/h	RVAN5	
BTV20-1,6	DN20	G¾"	1.6 m³/h	RVAN5	
BTV20-2,7	DN20	G¾"	2.7 m³/h	RVAN5	
BTV20-3,9	DN20	G¾"	3.9 m³/h	RVAN5	
BTV20-6,3	DN20	G¾"	6.3 m³/h	RVAN5	
BTV25-6,3	DN25	G1"	6.3 m³/h	RVAN5	
BTV25-10	DN25	G1"	10 m³/h	RVAN5	
BTV32-10	DN32	G1¼"	10 m³/h	RVAN5	
BTV32-16	DN32	G1¼"	16 m³/h	RVAN5	
BTV40-10	DN40	G1½"	10 m³/h	RVAN5	
BTV40-16	DN40	G1½"	16 m³/h	RVAN5	
BTV40-27	DN40	G1½"	27 m³/h	RVAN5	
BTV50-27	DN50	G2"	27 m³/h	RVAN5	
BTV50-39	DN50	G2"	39 m³/h	RVAN5	

S02420001

S6321457301

S2921354201

ACCESSORIES

Article	Description	Note
S02420001	Spare parts kit, O-ring kit for BTV valves from DN15 to DN25 (until 2018-12)	
S6321457301	Spare parts kit, packing box, for BTV valves from DN32 to DN50 (until 2018-12) and FRS valves.	
S2921354201	Spare parts kit, packing box, for BTV (from 2019-01), GF (DN25-40), BF	

NTVS: 2-way control valves, DN15-150, kvs 0.4-310, DIN-standard

Pressure balanced 2-way valve intended for control of hot, cold or glycol-mixed water or district heating. Intended for use with the RVAN... actuators.

Technical data	
Application	Heating systems, cooling systems, district heating systems, district cooling systems, ventilation systems
Pressure rating	PN16
Connection	Flanges according to EN 1092-2
Flow characteristics	Equal percentage
Max. leakage	0.0 % of the kvs value (PTFE gasket, carbon-filled 25 %, no leakage) / 0.05 % of kvs for NTVS…-…M models with metal packing
Media temperature	-5…+185 °C
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Max. diff. pressure	1600 kPa
Material	
Body	Nodular cast iron (GJS) EN-JS1050
Seat	Stainless steel 1.4301 or gunmetal CC491K (RG5)
Plug	Stainless steel 1.4305 (DN15…DN100) or gunmetal CC491K (RG5) (DN125…DN150)
Stem	Stainless steel 1.4305
Lining	Stainless steel 1.4301
Seat packing, soft seal	PTFE with 25 % carbon
Seat packing, metal seal	Stainless steel 1.4057
Packing box	Dezincification resistant brass CW 602N, self-adjusting teflon
O-rings	Viton

MODELS

Article	Nominal diameter	Kvs	Stroke	Actuator	Note
NTVS15-0,4	DN15	0.4 m³/h	20 mm	RVAN5	
NTVS15-1,0	DN15	1.0 m³/h	20 mm	RVAN5	
NTVS15-1,6	DN15	1.6 m³/h	20 mm	RVAN5	
NTVS15-2,7	DN15	2.7 m³/h	20 mm	RVAN5	
NTVS20-0,8	DN20	0.8 m³/h	20 mm	RVAN5	
NTVS20-1,6	DN20	1.6 m³/h	20 mm	RVAN5	
NTVS20-2,7	DN20	2.7 m³/h	20 mm	RVAN5	
NTVS20-3,9	DN20	3.9 m³/h	20 mm	RVAN5	
NTVS20-6,3	DN20	6.3 m³/h	20 mm	RVAN5	
NTVS25-1,6	DN25	1.6 m³/h	20 mm	RVAN5	
NTVS25-2,5	DN25	2.5 m³/h	20 mm	RVAN5	
NTVS25-4,0	DN25	4 m³/h	20 mm	RVAN5	
NTVS25-6,3	DN25	6.3 m³/h	20 mm	RVAN5	
NTVS25-10	DN25	10 m³/h	20 mm	RVAN5	
NTVS32-4,0	DN32	4 m³/h	20 mm	RVAN5	
NTVS32-6,3	DN32	6.3 m³/h	20 mm	RVAN5	
NTVS32-10	DN32	10 m³/h	20 mm	RVAN5	
NTVS32-16	DN32	16 m³/h	20 mm	RVAN5	
NTVS40-6,3	DN40	6.3 m³/h	20 mm	RVAN5	
NTVS40-10	DN40	10 m³/h	20 mm	RVAN5	
NTVS40-16	DN40	16 m³/h	20 mm	RVAN5	
NTVS40-27	DN40	27 m³/h	20 mm	RVAN5	
NTVS50-6,3	DN50	6.3 m³/h	20 mm	RVAN5	
NTVS50-10	DN50	10 m³/h	20 mm	RVAN5	
NTVS50-16	DN50	16 m³/h	20 mm	RVAN5	
NTVS50-27	DN50	27 m³/h	20 mm	RVAN5	
NTVS50-39	DN50	39 m³/h	20 mm	RVAN5	
NTVS65-16	DN65	16 m³/h	20 mm	RVAN10	
NTVS65-27	DN65	27 m³/h	20 mm	RVAN10	
NTVS65-39	DN65	39 m³/h	20 mm	RVAN10	
NTVS65-63	DN65	63 m³/h	20 mm	RVAN10	
NTVS80-100	DN80	100 m³/h	20 mm	RVAN10	
NTVS100-160	DN100	160 m³/h	38 mm	RVAN18	
NTVS125-215	DN125	215 m³/h	40 mm	RVAN25	
NTVS150-310	DN150	310 m³/h	40 mm	RVAN25	

ACCESSORIES

Article	Description	Note
S0603080300	Spare parts kit, packing box for ETRS, MTVS and MTRS valves (until 2019-12) and for ETVS and NTVS valves.	

For steam applications or at pressure drops of 7 bar or higher, we recommend using a metal packing (stainless steel). Use the extra letter M at the end of the reference type when ordering a valve with metal packing, for example NTVS50-27M instead of the usual NTVS50-27. For valves with metal packing, the maximum leakage is 0.05 % of kvs.

The NTVS valves meet the requirements of DIN-standard DIN 3202/F1 and ISO 5752 table 1.

GF: 2- and 3-way control valves, DN25-200, kvs 6.3-550, DIN-standard

Control valves for use in heating, cooling and ventilation systems. They are intended to be used together with Regin's RVAN actuators. The valves have DIN-standard lengths.

Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN16
Connection	Flanged according to EN 1092-2
Flow characteristics	A - AB = equal percentage, B - AB = linear
Max. leakage	0 % of Kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	-5…+120 °C
Rangeability	100:1 (DN50…200), > 50:1 (DN25…40)
Max. diff. pressure	If a smaller actuator than the suggested one is used, the max. differential pressure may be different. More information is available in the product sheet.
Material	
Body	Cast iron Grade 250
Plug	Gunmetal 1400 LG2 (DN50…200), Brass CW614N (DN25…40)
Seat	Gunmetal 1400 LG2 (DN50…200), Cast iron Grade 250 (DN25…40)
Stem	Stainless steel 1.4305
Packing box	Brass CW614N
Bonnet	Brass CW614N
O-rings	EPDM
Packing	Aramid reinforced rubber

2-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
GF225-6.3	DN25	6.3 m³/h	400 kPa	RVAN5, RVAN10	
GF225-10	DN25	10 m³/h	400 kPa	RVAN5, RVAN10	
GF232-10	DN32	10 m³/h	350 kPa	RVAN5, RVAN10	
GF232-16	DN32	16 m³/h	350 kPa	RVAN5, RVAN10	
GF240-16	DN40	16 m³/h	300 kPa	RVAN5, RVAN10	
GF240-25	DN40	25 m³/h	300 kPa	RVAN5, RVAN10	
GF250-31.5	DN50	31.5 m³/h	450 kPa	RVAN18	
GF250-40	DN50	40 m³/h	450 kPa	RVAN18	
GF265-50	DN65	50 m³/h	350 kPa	RVAN18	
GF265-63	DN65	63 m³/h	350 kPa	RVAN18	
GF280-80	DN80	80 m³/h	300 kPa	RVAN18	
GF280-100	DN80	100 m³/h	300 kPa	RVAN18	
GF2100-125	DN100	125 m³/h	200 kPa	RVAN18	
GF2100-160	DN100	160 m³/h	200 kPa	RVAN18	
GF2125-215	DN125	215 m³/h	120 kPa	RVAN25	
GF2150-310	DN150	310 m³/h	100 kPa	RVAN25	
GF2200-550	DN200	550 m³/h	200 kPa	RVAN25	

3-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
GF325-6.3	DN25	6.3 m³/h	400 kPa	RVAN5, RVAN10	
GF325-10	DN25	10 m³/h	400 kPa	RVAN5, RVAN10	
GF332-10	DN32	10 m³/h	350 kPa	RVAN5, RVAN10	
GF332-16	DN32	16 m³/h	350 kPa	RVAN5, RVAN10	
GF340-16	DN40	16 m³/h	300 kPa	RVAN5, RVAN10	
GF340-25	DN40	25 m³/h	300 kPa	RVAN5, RVAN10	
GF350-31.5	DN50	31.5 m³/h	450 kPa	RVAN18	
GF350-40	DN50	40 m³/h	450 kPa	RVAN18	
GF365-50	DN65	50 m³/h	350 kPa	RVAN18	
GF365-63	DN65	63 m³/h	350 kPa	RVAN18	
GF380-80	DN80	80 m³/h	300 kPa	RVAN18	
GF380-100	DN80	100 m³/h	300 kPa	RVAN18	
GF3100-125	DN100	125 m³/h	200 kPa	RVAN18	
GF3100-160	DN100	160 m³/h	200 kPa	RVAN18	
GF3125-215	DN125	215 m³/h	120 kPa	RVAN25	
GF3150-310	DN150	310 m³/h	100 kPa	RVAN25	
GF3200-550	DN200	550 m³/h	70 kPa	RVAN25	

ACCESSORIES

02133005

S2921354201

S2921351201

Article	Description	Note
02133005	Washer for actuator, 3 mm thick with ø14 mm hole. For RVAN5 and RVAN10 for DN50-65-valves.	
S2921354201	Spare parts kit, packing box, for BTV (from 2019-01), GF (DN25-40), BF	
S2921351201	Spare parts kit, packing box DN50-200	

BV: 2- and 3-way ball valves, DN15-50, kvs 0.6-63

Ball valves designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. These ball valves can be used as either characterized control ball valves when a flow plate is installed in port A (default mode), or as on/off ball valves when the flow plate is removed. When the flow plate is removed the Kvs between port A and AB is increased. The valves are intended for use with Regin's RVAB4/RVAB5 actuators.

Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN40
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	A - AB = equal percentage (Flow plate installed), B - AB = linear, On/Off (No flow plate)
Max. leakage	0.0 % of the kvs value
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	-5…+140 °C
Rangeability	100:1
Material	
Body	Brass CW617N
Ball	Chromed brass CW614N
Seat	PTFE
Stem	Stainless steel 1.4305
Flow plate	POM
Circlips	Stainless steel 1.4310
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs with flow plate installed in port A	Kvs (On/off, A-AB)	Actuator	ΔPs	ΔPmax	Note
BV215	DN15	0.6/1.0/1.6/2.5/4.0 m³/h	6.3 m³/h	RVAB4	2500 kPa	350 kPa	
BV220	DN20	6.3 m³/h	10 m³/h	RVAB4	2500 kPa	350 kPa	
BV225	DN25	10 m³/h	16 m³/h	RVAB4	2500 kPa	350 kPa	
BV232	DN32	16 m³/h	25 m³/h	RVAB5	1600 kPa	350 kPa	
BV240	DN40	25 m³/h	40 m³/h	RVAB5	1600 kPa	350 kPa	
BV250	DN50	40 m³/h	63 m³/h	RVAB5	1600 kPa	350 kPa	

3-WAY VALVES

Article	Nominal diameter	Kvs with flow plate installed in port A	Kvs (On/off, A-AB)	Kvs (On/off, B-AB)	Actuator	ΔPs	ΔPmax	Note
BV315	DN15	0.6/1.0/1.6/2.5/4.0 m³/h	6.3 m³/h	4 m³/h	RVAB4	2500 kPa	350 kPa	
BV320	DN20	6.3 m³/h	10 m³/h	6.3 m³/h	RVAB4	2500 kPa	350 kPa	
BV325	DN25	10 m³/h	16 m³/h	10 m³/h	RVAB4	2500 kPa	350 kPa	
BV332	DN32	16 m³/h	25 m³/h	16 m³/h	RVAB5	1600 kPa	350 kPa	
BV340	DN40	25 m³/h	40 m³/h	25 m³/h	RVAB5	1600 kPa	350 kPa	
BV350	DN50	40 m³/h	63 m³/h	40 m³/h	RVAB5	1600 kPa	350 kPa	

ACCESSORIES

Article	Description	Note
BV-HL1	Hand lever for manual operation of ball valves	

ΔPs constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔPmax constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).

0%

BW: 2-way wafer type butterfly valves, DN40-200, kvs 110-3120

Butterfly valves for use in heating, cooling and ventilation systems. They are intended to be used together with Regin's actuators.

Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN16
Connection	Flanged according to EN 1092-2 / ISO 7005-2
Actuator mounting flange	ISO 5211
Flow characteristics	On/off (modulating possible between 10° and 70° opening)
Max. leakage	0 % of Kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	-20…+120 °C
Max. flow speed	4 m/s
Material	
Body	Nodular iron EN-GJS-450-10
Disc	Nodular iron EN-GJS-450-10 (Nylon coated)
Seat	EPDM
Stem	Stainless steel 1.4401
O-rings	EPDM

MODELS

Article	Nominal diameter	Kvs	ΔPs (SR…) [kPa]	ΔPs (GR…) [kPa]	ΔPs (OM2…) [kPa]	ΔPs (OM3…) [kPa]	ΔPs (OM4…) [kPa]	Note
BW240	DN40	110 m³/h	1000[1]	1600[2]	N/A	N/A	N/A	
BW250	DN50	190 m³/h	600[1]	1600[2]	N/A	N/A	N/A	
BW265	DN65	315 m³/h	300[1]	1600[2]	N/A	N/A	N/A	
BW280	DN80	425 m³/h	150[1]	1400[2]	1600[3]	N/A	N/A	
BW2100	DN100	720 m³/h	N/A	600[2]	1600[3]	N/A	N/A	
BW2125	DN125	1240 m³/h	N/A	N/A	1400[4]	1600[4]	N/A	
BW2150	DN150	1860 m³/h	N/A	N/A	200[4]	1600[4]	N/A	
BW2200	DN200	3120 m³/h	N/A	N/A	N/A	N/A	1600[5]	

ACCESSORIES

HL1

Article	Description	Note
HL1	Hand lever for manual operation of BW2 valves DN40…DN100.	
HL2	Hand lever for manual operation of BW2 valves DN125…DN150.	
HL3	Hand lever for manual operation of BW2 valves DN200.	

ΔPs constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

[1] With adapters VAR-SR + ZSV-11

[2] With adapters ZGI-002 + ZGV-16

[3] With adapter VAR-OM2

[4] With adapter VAR-OM3

[5] With adapter VAR-OM4

PCTVS, PCMTV: Pressure independent control valves, DN15-32, 2.7/6 mm stroke

The valve is a combined differential pressure regulator, flow limiter and equal percentage control valve with full stroke and authority. The pressure independent control valves are suitable for constant or variable temperature systems and can be used as constant flow limiters in constant volume systems (with no actuators), or as pressure independent control valves in variable volume systems (with actuators).

Technical data	
Application	Heating/cooling systems, fan coil units, radiant cooling and ventilation
Pressure class	25 bar
Flow characteristics	Equal percentage
Max. diff. pressure	600 kPa
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Max. leakage	0.01 % of maximum flow, Class IV IEC 60534-4
Media temperature	-10…+120 °C
Material	
Body	Brass CW602N (CZ121)
Plug parabol	Brass CW614N (CZ132)
Stem	Stainless steel
O-rings	EPDM
Pressure controller	EPDM, stainless steel and high resistance polymer

MODELS WITHOUT MEASURING PORT CONNECTORS

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Range-ability	Stroke	Connec-tion	Actuator	Note
PCTVS15-F150	DN15	150 l/h	20 kPa	50 ~ 100 : 1	2.7 mm	G½”	RTAM100, RVAPC	
PCTVS15-F600	DN15	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G½”	RTAM100, RVAPC	
PCTVS15-F900	DN15	900 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G½”	RTAM100, RVAPC	
PCTVS20-F600	DN20	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G¾”	RTAM100, RVAPC	
PCTVS20-F900	DN20	900 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G¾”	RTAM100, RVAPC	

MODELS WITH MEASURING PORTS, 2.7 MM STROKE

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Range-ability	Stroke	Connec-tion	Actuator	Note
PCMTV15-F150	DN15	150 l/h	20 kPa	50 ~ 100 : 1	2.7 mm	G1/2”	RTAM100, RVAPC	
PCMTV15-F600	DN15	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G1/2”	RTAM100, RVAPC	
PCMTV15-F780	DN15	780 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G1/2”	RTAM100, RVAPC	
PCMTV20-F1000	DN20	1000 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G3/4”	RTAM100, RVAPC	
PCMTV20-F1500	DN20	1500 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G3/4”	RTAM100, RVAPC	
PCMTV25-F1500	DN25	1500 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G1”	RTAM100, RVAPC	

MODELS WITH MEASURING PORTS, 6 MM STROKE

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Range-ability	Stroke	Connec-tion	Actuator	Note
PCMTV20-F2200	DN20	2200 l/h	25 kPa	100 ~ 150 : 1	6 mm	Rc ¾"	RTAM125, RVAPC	
PCMTV20-F2700	DN20	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc ¾"	RTAM125, RVAPC	
PCMTV25-F2200	DN25	2200 l/h	25 kPa	100 ~ 150 : 1	6 mm	Rc1"	RTAM125, RVAPC	
PCMTV25-F2700	DN25	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc1"	RTAM125, RVAPC	
PCMTV32-F2700	DN32	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc1¼"	RTAM125, RVAPC	
PCMTV32-F3000	DN32	3000 l/h	35 kPa	100 ~ 150 : 1	6 mm	Rc1¼"	RTAM125, RVAPC	

ACCESSORIES

VA64

VA7010

VA748X

Article	Description	Actuator	Note
VA64	Adapter for valve with 2.7 or 6 mm stroke	RTAM	
VA7010	Adapter for valve with 2.7 mm stroke	RVAPC…	
VA748X	Adapter for valve with 6 mm stroke	RVAPC…	

Pressure independent control valve with measuring ports, DN32-50

Valves intended for systems with multiple or large fan-coil units, chilled beams or air handling units etc., in which pressure independent control valves are preferred. They can be used as constant flow limiters in constant volume systems (without an actuator) or as true PICVs (pressure independent control valves) in variable volume systems (with an actuator).

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure class	16 bar
Flow characteristics	Equal percentage
Rangeability	> 100 : 1
Max. diff. pressure	600 kPa
Stroke (°)	90 °
Media	Hot water, cold water, glycol-mixed water (max 50 % glycol)
Max. leakage	0.01 % of maximum flow, Class IV IEC 60534-4
Media temperature	-10…+120 °C
Material	
Body	Ductile iron EN-JS1030
Control ball	Brass CW614N
Pressure controller	EPDM, stainless steel 1.4305
Pre-setting disc	Brass CW617N
Stem	Stainless steel 1.4305
O-rings	EPDM

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Connection	Actuator	Note
PCMTV32-F6	DN32	6000 l/h	30 kPa	Rc 1 1/4”	RVASN08	
PCMTV40-F9	DN40	9000 l/h	35 kPa	Rc 1 1/2”	RVASN08	
PCMTV50-F12	DN50	12000 l/h	35 kPa	Rc 2”	RVASN08	
PCMTV50-F18	DN50	18000 l/h	35 kPa	Rc 2”	RVASN08	

PCMTV DN50-250

Pressure independent valve, DN50-250, with smart actuator

Valves intended for control of heating, cooling and air handling in larger-scale heating and cooling applications where pressure independent control valves are preferred, such as high-rise buildings, supermarkets, factories, etc. The valve has a built-in actuator.

Technical data	
Pressure class	PN40
Connection	Flanged according to EN 1092. Universal flanges (two or more pipe DN can fit same valve flange)
Max. diff. pressure	800 kPa
Rangeability	100 : 1
Application	Heating/cooling system, fan coil unit, radiant cooling and ventilation
Flow characteristics	Linear flow, equal percentage, linear rotation or linear signal
Media	Hot water, cold water
Stroke	Multi-turn
Max. leakage	ANSI / FCI 70-2 206 / IEC 60534-4 - Class IV
Media temperature	-20…+120 °C
Material	
Seal	EPDM
Body	Ductile iron ASTM A395 Grade 60-40-18
Plug	Stainless steel 1.4301
Seat	Stainless steel 1.4301
Stem	Stainless steel 1.4301
Packing box	Brass CW614N
Gaskets	EPDM
O-rings	EPDM
Diaphragm	HNBR
Actuator	
Supply voltage	24 V AC/DC (22...26V AC, 50/60 Hz / 28...32V DC)
Control signal	Combined 0(2)-10V, 4-20 mA, 2-point or 3-point
Ambient temperature	-10…+50 °C
Protection class	IP54

Article	Nominal diameter	Max. flow rate	Note
PCMTV50-65-80-F25	DN50/DN65/DN80	25700 l/h	
PCMTV50-65-80-F35	DN50/DN65/DN80	35600 l/h	
PCMTV80-100-F72	DN80/DN100	72700 l/h	
PCMTV125-150-F106	DN125/DN150	106000 l/h	
PCMTV200-250-F277	DN200/DN250	277000 l/h	

FAN-COIL, CHILLED BEAMS, RADIATOR

CTV: 2-way zone valve, DN10-20, adjustable kvs

The valve range is intended to be used together with the RTA(O)M100 thermal actuators for temperature control in heating and cooling systems, such as radiators, convectors, chilled ceilings etc.

Technical data	
Application	Heating systems, cooling systems, radiators
Pressure rating	PN10
Connection, actuator	M28 x 1.5
Max. leakage	0.0 % of the kvs value
Media temperature	2…90 °C
Stroke	3.5 mm
Max. diff. pressure	150 kPa
Material	
Body	Chromed brass CW614N
Seat	Brass CW614N
Stem	Stainless steel 1.4305
O-rings	EPDM
Bonnet	Brass CW614N
Seat packing	NBR

MODELS

Article	Nominal diameter	Connection, external thread	Kvs (adjustable)	Actuator	Note
CTV10	DN10	G1/2"	0.12…1.14 m³/h	RTA(O)M100	
CTV15-1,9	DN15	G3/4"	0.17…1.9 m³/h	RTA(O)M100	
CTV20	DN20	G1"	0.15…1.55 m³/h	RTA(O)M100	

VA54

ACCESSORIES

Article	Description	Note
VA54	Adapter, M28 x 1.5	

0%

FVR: 2-way radiator/zone valve, DN10-20, adjustable kvs

The zone valve is intended for zone control systems together with the thermal actuators in the RTA(O)M100 series. The valve can control water flow to cooling as well as heating batteries, such as convectors, cooling ceilings etc.

FVR

Technical data	
Application	Heating systems, cooling systems, radiators
Pressure rating	PN10
Connection, actuator	M28 x 1.5
Max. leakage	0 % of the kvs value
Media temperature	2…90 °C
Stroke	1.7 mm
Material	
Body	Chromed brass CW614N
Seat	Brass CW614N
Stem	Stainless steel 1.4305
Packing box	EPDM
Bonnet	Brass CW614N

MODELS

Article	Nominal diameter	Connection, internal thread	Connection, external thread	Kvs (adjustable)	ΔPmax	ΔPs	Actuator	Note
FVR10	DN10	G3/8" (inlet)	M22 x 1.5 (outlet)	0.01…0.9 m³/h	30 kPa	150 kPa	RTA(O) M100	
FVR15	DN15	G1/2" (inlet)	M26 x 1.5 (outlet)	0.01…0.9 m³/h	30 kPa	150 kPa	RTA(O) M100	
FVR20	DN20	G3/4" (inlet)	M34 x 1.5 (outlet)	0.01…1.1 m³/h	30 kPa	150 kPa	RTA(O) M100	

VA54

ACCESSORIES

Article	Description	Note
VA54	Adapter, M28 x 1.5	
FN2	Pre-set tooling, basic key (FVR valves)	
FV5	Pre-set tooling, key and scale (FVR valves)	

FV5

ΔPs constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔPmax constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).

VTTV,VTTR,VTTB: 2-way, 3-way and 3-way (bypass) zone valves DN15-20, kvs 0.25-6.0

Valves for control of heating and cooling in fan-coil or chilled beams applications. The valves are intended to be used together with the thermal RTAN and RTAOM actuators. They are available as 2- and 3-way versions, as well as bypass versions. The valves have linear flow characteristics. The adapter for RTAOM…actuators is delivered with the valve.

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1
Flow characteristics	Linear
Max. leakage	0 % of the kvs value
Media temperature	2…95 °C
Media	Hot water, cold water, glycol-mixed water (max. 40 % glycol)
Stroke	2.5 mm
Adapter	Included for RTAOM…actuators. No adapter is needed for RTAN… actuators.
Material	
Body	Brass CW614N
O-rings	FKM

2-WAY VALVES

Article	Nominal diameter	Connection	Kvs, A-AB	Kvs, B-AB	Max. diff. pressure	Actuator	Note
VTTV15-0,25	DN15	G1/2”	0.25 m³/h	- m³/h	250 kPa	RTAN, RTAOM100	
VTTV15-0,4	DN15	G1/2”	0.4 m³/h	- m³/h	250 kPa	RTAN, RTAOM100	
VTTV15-0,6	DN15	G1/2”	0.6 m³/h	- m³/h	250 kPa	RTAN, RTAOM100	
VTTV15-1,0	DN15	G1/2”	1.0 m³/h	- m³/h	250 kPa	RTAN, RTAOM100	
VTTV15-1,6	DN15	G1/2”	1.6 m³/h	- m³/h	250 kPa	RTAN, RTAOM100	
VTTV20-2,5	DN20	G3/4”	2.5 m³/h	- m³/h	250 kPa	RTAN, RTAOM100	
VTTV20-4,0	DN20	G3/4”	4.0 m³/h	- m³/h	80 kPa	RTAN140, RTAOM125	
VTTV20-6,0	DN20	G3/4”	6.0 m³/h	- m³/h	80 kPa	RTAN140, RTAOM125	

3-WAY VALVES

Article	Nominal diameter	Connection	Kvs, A-AB	Kvs, B-AB	Max. diff. pressure	Actuator	Note
VTTR15-0,25	DN15	G1/2”	0.25 m^3/h	0.25 m^3/h	250 kPa	RTAN, RTAOM100	
VTTR15-0,4	DN15	G1/2”	0.4 m^3/h	0.4 m^3/h	250 kPa	RTAN, RTAOM100	
VTTR15-0,6	DN15	G1/2”	0.6 m^3/h	0.6 m^3/h	250 kPa	RTAN, RTAOM100	
VTTR15-1,0	DN15	G1/2”	1.0 m^3/h	0.8 m^3/h	250 kPa	RTAN, RTAOM100	
VTTR15-1,6	DN15	G1/2”	1.6 m^3/h	1.0 m^3/h	250 kPa	RTAN, RTAOM100	
VTTR20-2,5	DN20	G3/4”	2.5 m^3/h	1.6 m^3/h	250 kPa	RTAN, RTAOM100	
VTTR20-4,0	DN20	G3/4”	4.0 m^3/h	2.5 m^3/h	80 kPa	RTAN140, RTAOM125	
VTTR20-6,0	DN20	G3/4”	6.0 m^3/h	4.0 m^3/h	80 kPa	RTAN140, RTAOM125	

3-WAY VALVES WITH BYPASS

Article	Nominal diameter	Connection	Kvs, A-AB	Kvs, B-AB	Max. diff. pressure	Actuator	Note
VTTB15-0,25	DN15	G1/2”	0.25 m^3/h	0.25 m^3/h	250 kPa	RTAN, RTAOM100	
VTTB15-0,4	DN15	G1/2”	0.4 m^3/h	0.4 m^3/h	250 kPa	RTAN, RTAOM100	
VTTB15-0,6	DN15	G1/2”	0.6 m^3/h	0.6 m^3/h	250 kPa	RTAN, RTAOM100	
VTTB15-1,0	DN15	G1/2”	1.0 m^3/h	0.8 m^3/h	250 kPa	RTAN, RTAOM100	
VTTB15-1,6	DN15	G1/2”	1.6 m^3/h	1.0 m^3/h	250 kPa	RTAN, RTAOM100	
VTTB20-2,5	DN20	G3/4”	2.5 m^3/h	1.6 m^3/h	250 kPa	RTAN, RTAOM100	
VTTB20-4,0	DN20	G3/4”	4.0 m^3/h	2.5 m^3/h	80 kPa	RTAN140, RTAOM125	
VTTB20-6,0	DN20	G3/4”	6.0 m^3/h	4.0 m^3/h	80 kPa	RTAN140, RTAOM125	

0%

ZTV, ZTR: 2- and 3-way control valves DN15-25, kvs 0.25-7.0, 5.5 mm stroke

Valves used for control of hot and cold water in climate, heating and ventilation systems. They can also control glycol-mixed water in for example liquid connected recovery systems. Intended to be used together with the RVAZ4 actuators.

ZTV

ZTR

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure rating	PN16
Connection, actuator	M30 x 1.5
Connection	BSP externally threaded according to ISO 228/1
Flow characteristics	Equal percentage
Max. leakage	0 % of the kvs value
Media temperature	1…110 °C (the valve has a max. temperature of 140°C, the RVAZ4 actuators have a max. temperature of 110°C)
Media	Hot water, cold water, glycol-mixed water (max. 30 % glycol)
Rangeability	50:1
Stroke	5.5 mm
Material	
Body, seat, plug	Brass CW614N
Stem	Stainless steel 1.4305
Seat packing, O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZTV15-0,25	DN15	0.25 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTV15-0,4	DN15	0.4 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTV15-0,6	DN15	0.6 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTV15-1,0	DN15	1.0 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTV15-1,6	DN15	1.6 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTV20-2,0	DN20	2.0 m^3/h	G3/4”	250 kPa	RVAZ4	
ZTV20-2,5	DN20	2.5 m^3/h	G3/4”	250 kPa	RVAZ4	
ZTV20-4,0	DN20	4.0 m^3/h	G3/4”	150 kPa	RVAZ4	
ZTV20-6,0	DN20	6.0 m^3/h	G3/4”	150 kPa	RVAZ4	
ZTV25-7,0	DN25	7.0 m^3/h	G1”	70 kPa	RVAZ4	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZTR15-0,25	DN15	0.25 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTR15-0,4	DN15	0.4 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTR15-0,6	DN15	0.6 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTR15-1,0	DN15	1.0 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTR15-1,6	DN15	1.6 m^3/h	G1/2”	350 kPa	RVAZ4	
ZTR20-2,0	DN20	2.0 m^3/h	G3/4”	250 kPa	RVAZ4	
ZTR20-2,5	DN20	2.5 m^3/h	G3/4”	250 kPa	RVAZ4	
ZTR20-4,0	DN20	4.0 m^3/h	G3/4”	100 kPa	RVAZ4	
ZTR20-6,0	DN20	6.0 m^3/h	G3/4”	100 kPa	RVAZ4	
ZTR25-7,0	DN25	7.0 m^3/h	G1”	70 kPa	RVAZ4	

ZMD: 2- and 3-way control valves DN15-40, kvs 0.25-25, 5.5 mm stroke

Externally threaded control valves intended for use in heating and cooling systems together with the RVAZ4… series of electromechanical actuators. A hand wheel for manual operation is delivered with the valve.

ZMD2

ZMD3

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1
Flow characteristics	Linear
Max. leakage	0.0 % of kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	2…110 °C
Rangeability	50:1
Stroke	5.5 mm
Material	
Body, seat, plug	Brass CW614N
Stem	Stainless steel 1.4305
Seat packing, O-rings	EPDM
Nut	Malleable cast iron, galvanized
Nipple	Dezincification resistant brass CW 602N (DN15-DN20), Malleable cast iron (DN25-DN40)
Fitting seal	Novatec Premium 2, Nitrile bonded aramid fibre with graphite
Cover lid	Dezincification resistant brass CW 602N

2-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
ZMD215-0.25	DN15	0.25 m³/h	400 kPa	RVAZ4	
ZMD215-0.4	DN15	0.4 m³/h	400 kPa	RVAZ4	
ZMD215-0.6	DN15	0.6 m³/h	400 kPa	RVAZ4	
ZMD215-1.0	DN15	1.0 m³/h	400 kPa	RVAZ4	
ZMD215-1.6	DN15	1.6 m³/h	400 kPa	RVAZ4	
ZMD215-2.5	DN15	2.5 m³/h	400 kPa	RVAZ4	
ZMD215-4.0	DN15	4.0 m³/h	400 kPa	RVAZ4	
ZMD220-6.3	DN20	6.3 m³/h	350 kPa	RVAZ4	
ZMD225-10	DN25	10 m³/h	200 kPa	RVAZ4	
ZMD232-16	DN32	16 m³/h	130 kPa	RVAZ4	
ZMD240-25	DN40	25 m³/h	60 kPa	RVAZ4	

3-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
ZMD315-0.25	DN15	0.25 m³/h	400 kPa	RVAZ4	
ZMD315-0.4	DN15	0.4 m³/h	400 kPa	RVAZ4	
ZMD315-0.6	DN15	0.6 m³/h	400 kPa	RVAZ4	
ZMD315-1.0	DN15	1.0 m³/h	400 kPa	RVAZ4	
ZMD315-1.6	DN15	1.6 m³/h	400 kPa	RVAZ4	
ZMD315-2.5	DN15	2.5 m³/h	400 kPa	RVAZ4	
ZMD315-4.0	DN15	4.0 m³/h	400 kPa	RVAZ4	
ZMD320-6.3	DN20	6.3 m³/h	350 kPa	RVAZ4	
ZMD325-10	DN25	10 m³/h	200 kPa	RVAZ4	
ZMD332-16	DN32	16 m³/h	130 kPa	RVAZ4	
ZMD340-25	DN40	25 m³/h	60 kPa	RVAZ4	

2951352501

ACCESSORIES

Article	Description	Note
2951352501	Hand wheel	

0%

ZFCM: 2- and 3-way on/off valves, DN15-32, kvs 3.2-10

Valves intended for on/off control of hot or cold water in heating or cooling systems. The valves can only be used together with Regin's RVAFC actuators. The valves are available as both 2- and 3-way models.

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	2…94 °C
Pressure rating	PN16 (240 psi)
Connection	Internal thread BSP according to ISO 228/1
Material	
Body	Brass CW614N
Ball	EPDM
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZFCM-215X	DN15	3.2 m³/h	G1/2"	200 kPa	RVAFC-2302	
ZFCM-220X	DN20	4.6 m³/h	G3/4"	150 kPa	RVAFC-2302	
ZFCM-225X	DN25	5.7 m³/h	G1"	100 kPa	RVAFC-2302	
ZFCM-232X	DN32	10 m³/h	G1 1/4"	80 kPa	RVAFC-2302	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZFCM-315X	DN15	3.2 m³/h	G1/2"	150 kPa	RVAFC-2303	
ZFCM-320X	DN20	4.6 m³/h	G3/4"	100 kPa	RVAFC-2303	
ZFCM-325X	DN25	5.7 m³/h	G1"	100 kPa	RVAFC-2303	
ZFCM-332X	DN32	8.4 m³/h	G1 1/4"	80 kPa	RVAFC-2303	

SUITABLE VALVE ACTUATORS

Article	Note
RVAFC-2302	
RVAFC-2303	

PCTVS, PCMTV: Pressure independent control valves, DN15-32, 2.7/6 mm stroke

The valve is a combined differential pressure regulator, flow limiter and equal percentage control valve with full stroke and authority. The pressure independent control valves are suitable for constant or variable temperature systems and can be used as constant flow limiters in constant volume systems (with no actuators), or as pressure independent control valves in variable volume systems (with actuators).

Technical data	
Application	Heating/cooling systems, fan coil units, radiant cooling and ventilation
Pressure class	25 bar
Flow characteristics	Equal percentage
Max. diff. pressure	600 kPa
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Max. leakage	0.01 % of maximum flow, Class IV IEC 60534-4
Media temperature	-10…+120 °C
Material	
Body	Brass CW602N (CZ121)
Plug parabol	Brass CW614N (CZ132)
Stem	Stainless steel
O-rings	EPDM
Pressure controller	EPDM, stainless steel and high resistance polymer

MODELS WITHOUT MEASURING PORT CONNECTORS

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Range-ability	Stroke	Connection	Actuator	Note
PCTVS15-F150	DN15	150 l/h	20 kPa	50 ~ 100 : 1	2.7 mm	G½"	RTAM100, RVAPC	
PCTVS15-F600	DN15	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G½"	RTAM100, RVAPC	
PCTVS15-F900	DN15	900 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G½"	RTAM100, RVAPC	
PCTVS20-F600	DN20	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G¾"	RTAM100, RVAPC	
PCTVS20-F900	DN20	900 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G¾"	RTAM100, RVAPC	

MODELS WITH MEASURING PORTS, 2.7 MM STROKE

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Range-ability	Stroke	Connec-tion	Actuator	Note
PCMTV15-F150	DN15	150 l/h	20 kPa	50 ~ 100 : 1	2.7 mm	G1/2”	RTAM100, RVAPC	
PCMTV15-F600	DN15	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G1/2”	RTAM100, RVAPC	
PCMTV15-F780	DN15	780 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G1/2”	RTAM100, RVAPC	
PCMTV20-F1000	DN20	1000 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G3/4”	RTAM100, RVAPC	
PCMTV20-F1500	DN20	1500 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G3/4”	RTAM100, RVAPC	
PCMTV25-F1500	DN25	1500 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G1”	RTAM100, RVAPC	

MODELS WITH MEASURING PORTS, 6 MM STROKE

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Range-ability	Stroke	Connec-tion	Actuator	Note
PCMTV20-F2200	DN20	2200 l/h	25 kPa	100 ~ 150 : 1	6 mm	Rc ¾”	RTAM125, RVAPC	
PCMTV20-F2700	DN20	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc ¾”	RTAM125, RVAPC	
PCMTV25-F2200	DN25	2200 l/h	25 kPa	100 ~ 150 : 1	6 mm	Rc1”	RTAM125, RVAPC	
PCMTV25-F2700	DN25	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc1”	RTAM125, RVAPC	
PCMTV32-F2700	DN32	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc1¼”	RTAM125, RVAPC	
PCMTV32-F3000	DN32	3000 l/h	35 kPa	100 ~ 150 : 1	6 mm	Rc1¼”	RTAM125, RVAPC	

ACCESSORIES

Article	Description	Actuator	Note
VA64	Adapter for valve with 2.7 or 6 mm stroke (to be ordered separately)	RTAM	
VA7010	Adapter for valve with 2.7 mm stroke	RVAPC…	
VA748X	Adapter for valve with 6 mm stroke	RVAPC…	

VA64

VA7010

VA748X

PCMTV: Pressure independent control valve with measuring ports, DN32-50

Valves intended for systems with multiple or large fan-coil units, chilled beams or air handling units etc., in which pressure independent control valves are preferred. They can be used as constant flow limiters in constant volume systems (without an actuator) or as true PICVs (pressure independent control valves) in variable volume systems (with an actuator).

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure class	16 bar
Flow characteristics	Equal percentage
Rangeability	> 100 : 1
Max. diff. pressure	600 kPa
Stroke (°)	90 °
Media	Hot water, cold water, glycol-mixed water (max 50 % glycol)
Max. leakage	0.01 % of maximum flow, Class IV IEC 60534-4
Media temperature	-10…+120 °C
Material	
Body	Ductile iron EN-JS1030
Control ball	Brass CW614N
Pressure controller	EPDM, stainless steel 1.4305
Pre-setting disc	Brass CW617N
Stem	Stainless steel 1.4305
O-rings	EPDM

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Connection	Actuator	Note
PCMTV32-F6	DN32	6000 l/h	30 kPa	Rc 1 1/4”	RVASN08	
PCMTV40-F9	DN40	9000 l/h	35 kPa	Rc 1 1/2”	RVASN08	
PCMTV50-F12	DN50	12000 l/h	35 kPa	Rc 2”	RVASN08	
PCMTV50-F18	DN50	18000 l/h	35 kPa	Rc 2”	RVASN08	

PCMTV DN50-250

Pressure independent valve, DN50-250, with smart actuator

Valves intended for control of heating, cooling and air handling in larger-scale heating and cooling applications where pressure independent control valves are preferred, such as high-rise buildings, supermarkets, factories, etc. The valve has a built-in actuator.

Technical data	
Pressure class	PN40
Max. diff. pressure	800 kPa
Rangeability	100 : 1
Application	Heating/cooling system, fan coil unit, radiant cooling and ventilation
Flow characteristics	Linear flow, equal percentage, linear rotation or linear signal
Media	Hot water, cold water
Stroke	Multi-turn
Max. leakage	ANSI / FCI 70-2 206 / IEC 60534-4 - Class IV
Media temperature	-20…+120 °C

Material	
Seal	EPDM
Body	Ductile iron ASTM A395 Grade 60-40-18
Plug	Stainless steel 1.4301
Seat	Stainless steel 1.4301
Stem	Stainless steel 1.4301
Packing box	Brass CW614N
Gaskets	EPDM
O-rings	EPDM
Diaphragm	HNBR
Actuator	
Supply voltage	24 V AC/DC (22...26V AC, 50/60 Hz / 28...32V DC)
Control signal	Combined 0(2)-10V, 4-20 mA, 2-point or 3-point
Ambient temperature	-10…+50 °C
Protection class	IP54

Article	Nominal diameter	Max. flow rate	Note
PCMTV50-65-80-F25	DN50/DN65/DN80	25700 l/h	
PCMTV50-65-80-F35	DN50/DN65/DN80	35600 l/h	
PCMTV80-100-F72	DN80/DN100	72700 l/h	
PCMTV125-150-F106	DN125/DN150	106000 l/h	
PCMTV200-250-F277	DN200/DN250	277000 l/h	

ACCESSORIES

Valve connections, outlet (FVR and VHR)

Tail and nut, for valve outlet (external metric thread on the valve).

Article	Connection	Valve	Note
4161201	3/8" (M22 x 1.5)	FVR10	
4161202	1/2" (M26 x 1.5)	FVR15	
4161203	3/4" (M34 x 1.5)	FVR20	

Valve connections, outlet (FVR), copper tubing

Nut and olive, for valve outlet (external metric thread on the valve).

Article	Connection	Valve	Note
4161841	3/8" (M22 x 1.5), K12	FVR10	
4160801	1/2" (M26 x 1.5), K15	FVR15	

Valve connection, inlet (FVR), copper tubing

Nut and olive, for valve inlet (internal pipe thread on the valve).

Article	Connection	Valve	Note
4161402	3/8', K10	FVR10	
4161403	3/8', K12	FVR10	
4161101	1/2", K10	FVR15	
4161102	1/2", K12	FVR15	
4161103	1/2", K15	FVR15	

Valve connections for copper tubing

Nut and olive for CTV, ZTV, ZTR, VTTV, VTTR and VTTB.

Article	Connection	Valve	Note
1885136	1/2", K12	CTV10, ZTV15, ZTR15, VTTV15, VTTR15, VTTB	
1886274	3/4", K15	CTV15, ZTV20 (kvs 2.0-2.5), ZTR (kvs 2.0-2.5), VTTV20 (kvs 2.5), VTTR20 (kvs 2.5), VTTB20 (kvs 2.5)	
1884709	3/4", K18	CTV15, ZTV20, ZTR20, VTTV20, VTTR20, VTTB20, PCTVS20	
1886282	1", K22	CTV20, ZTV25, ZTR25	

Steel pipe connection for VTTV/VTTR/VTTB and ZTV/ZTR valves

Article	Connection	Valve	Note
OVC-Z15	½" (DN15)	VTTV/VTTR/VTTB, ZTV/ZTR (DN15)	
OVC-Z20	¾" (DN20)	VTTV/VTTR/VTTB, ZTV/ZTR, PCTVS (DN20)	
OVC-Z25	1" (DN25)	ZTV/ZTR (DN25)	

Valve stem heater

Valve stem heater to be used in systems with media temperatures below 0 °C to prevent freezing and blockage from ice formation. Can be used with all valves when RVAN-actuator is used.

Technical data	
Supply voltage	24 V AC (22…26 V AC, 50/60 Hz)
Power consumption	50 W
Media temperature	-10…0 °C
Ambient temperature	5…40 °C
Protection class	IP54
Cable length	60 cm

MODELS

Article	Description	Note
STEMHEATER	Valve stem heater	

ADAPTER KIT FOR ADAPTING ACTUATORS OF OTHER BRANDS TO REGIN'S VALVES

Adapter kits for adapting actuators from other suppliers to Regin's series of valves. Adapter and stem extension are included in the kit.

Article	Actuator supplier	Actuator model	Compatible valves and dimensions	Note
OVA-B6	Belimo	EV...	GTVS (DN50-150), GTRS (DN50-150), 2SBS (DN80-100), NTVS (DN80-150)	
OVA-B7	Belimo	NV...-TPC	MTRS/MTVS/ETRS (until 2019-12), ETVS, FRS, FRSD, MRT, 2SAS (DN15), 2SBS (DN20-80), NTVS (DN15-80), GTRS (DN32-40), GTVS (DN32-40)	
OVA-T1	TAC Forta	M400/M800/M1500	MTRS/MTVS/ETRS (until 2019-12), ETVS, FRS, FRSD, MRT, 2SAS (DN15), 2SBS (DN20-80), NTVS (DN15-80), GTRS (DN32-50), GTVS (DN32-50), CVFS	
OVA-T2	TAC Forta	M400/M800/M1500	Old OAB 3/8" UNF thread on the stem: MTV, MTR, 2SA (DN15), 2SB (DN20-80), GTV (DN25-50), GTR (DN25-50), CFV	
OVA-S1	Siemens	All with 10 mm stem connection	MTRS/MTVS/ETRS (until 2019-12), ETVS, FRS, FRSD, MRT, 2SAS, 2SBS, NTVS, GTRS, GTVS	
OVA-AVM	Sauter	AVM234	2SBS (DN50-100), NTVS (DN50-150), GTVS (DN50-150), GTRS (50-150)	
S2951452201	TAC/ Schneider	M400/M800/M1500	BTV (until 2018-12), BTR (DN15…DN50, 20 mm stroke)	
VAR-AVM	Sauter	AVM324SF132	GF2 (DN50…DN200), GF3 (DN50…DN200)	
VAR-B1	Belimo	NV…-TPC	GF2/GF3 (DN25…DN40), BF2/BF3 (DN15…DN50), BTV (from 2019-01), MTRS/MTVS/ETRS (from 2020-01)	
VAR-B2	Belimo	NV…-TPC	GF2 (DN50…DN65), GF3 (DN50…DN65)	
VAR-B3	Belimo	RV24A-SZ, EV…-TPC	RV24A-SZ : GF2/3 DN125…DN200, EV…-TPC : GF2/3 DN50…DN200	
VAR-S1	Siemens	All with 10 mm stem connection	GF2/GF3 (DN25…DN40), BF2/BF3 (DN15…DN50), BTV (from 2019-01), MTRS/MTVS/ETRS (from 2020-01)	
VAR-S2	Siemens	All with 10 mm stem connection	GF2 (DN50…DN200), GF3 (DN50…DN200)	
VAR-T1	TAC/ Schneider	M400/M800/M1500	GF2/GF3 (DN25…DN40), BF2/BF3 (DN15…DN50), BTV (from 2019-01), MTRS/MTVS/ETRS (from 2020-01)	
VAR-T2	TAC/ Schneider	M400/M800/M1500	GF2 (DN50…DN200), GF3 (DN50…DN200)	

OVA-B6

OVA-B7

OVA-T1

OVA-T2

OVA-S1

OVA-AVM

S2951452201

VAR-AVM

VAR-B1

VAR-B2

VAR-B3

VAR-S1

VAR-S2

VAR-T1

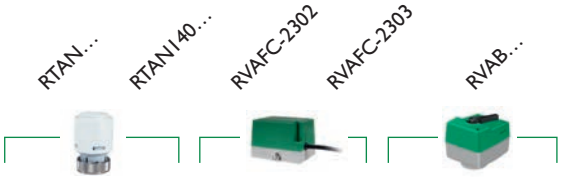
VAR-T2

11

12

VALVE ACTUATORS

✓ Recommended choise	◆ Other possible alternative



VALVE	TYPE	NOMINAL DIAMETER	KVS	STROKE	100 N	140 N			4 NM	5 NM
ZONE VALVES										
CTV	2-way	DN10–20	0,12–1,9	3,5 mm						
FVR	2-way	DN10–20	0,01–1,1	1,7 mm						
ZFCM-2	2-way	DN15–32	3,2–10	20°			✓			
ZFCM-3	3-way	DN15–32	3,2–8,4	20°				✓		
EXTERNALLY THREADED VALVES										
VTTV / VTTR / VTTB	2-way / 3-way / 3-way with bypass	DN15–20	0,25–2,5	2,5 mm	✓					
		DN20	4,0–6,0			✓				
ZTV	2-way	DN15–25		5,5 mm						
ZTR	3-way	DN15–25		5,5 mm						
ZMD	2- & 3-way	DN15–40		5,5 mm						
ETVS	2-way	DN15–50		20 mm						
ETRS	3-way	DN15–50		20 mm						
INTERNALLY THREADED VALVES										
MTVS	2-way	DN15–50		20 mm						
MTRS	3-way	DN15–50		20 mm						
BF	2- & 3-way	DN15–50		20 mm						
BTV	2-way	DN15–50		20 mm						
BV	2-way & 3-way	DN15–25		90°					✓	
	2-way & 3-way	DN32–50		90°						✓
PRESSURE INDEPENDENT CONTROL VALVES										
PCTVS	2-way	DN15–20		2,7 mm						
PCMTV	2-way	DN15–25		2,7 mm						
		DN20–32		6 mm						
		DN32–50		90°						
		DN65–150		Multiple turns	Actuator included					
FLANGED VALVES										
GF2/GF3	2- & 3-way (DIN-standard)	DN25–40		20 mm						
		DN50–65		20 mm						
		DN80–100		40 mm						
		DN125–200		40 mm						
NTVS	2-way (DIN-standard)	DN15–50		20 mm						
		DN65–80		20 mm						
		DN100		38 mm						
		DN125–150		40 mm						
BW2	2-way	DN40–80		90°						
		DN40–100		90°						
		DN80–200		90°						








RTAM100...	RTAM125...	RTAOM...	RTAOM125...	RVAZ4...	RVAPC...	RVAN5...	RVAN10...	RVAN18...	RVAN25...	RVASN08...	SR...	GR...	OM...
100 N	125 N	100 N	125 N	400 N	120 N	500 N	1000 N	1800 N	2500 N	8 NM	20 NM	40 NM	90, 150, 400 NM
✓		◆											
✓		◆											
◆		✓			✓								
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12

DISTRICT HEATING

Valve actuator, 24 V supply voltage and 0(2)...10 V DC control

Valve actuator with automatic stroke adjustment for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the lid. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.

Technical data	
Supply voltage	24 V AC/DC
Control signal	0...10 V DC or 2...10 V DC (or 4…20 mA with a 500 Ω resistor connected)
Ambient temperature	0…50 °C
Storage temperature	-40...80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-24A	5.1 W / 13.9 VA	500 N	10…30 mm	1.5 s/mm	
RVAN10-24A	6.2 W / 17.4 VA	1000 N	10…30 mm	1.5 s/mm	
RVAN18-24A	8.6 W / 22.4 VA	1800 N	10…52 mm	3 s/mm	
RVAN25-24A	8.6 W / 22.4 VA	2500 N	10…52 mm	3 s/mm	

Valve actuator, 24 V supply voltage and 3-point control

Valve actuator for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the lid. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.

Technical data	
Supply voltage	24 V AC
Control signal	3-point
Stroke time	3 s/mm
Ambient temperature	0...50 °C
Storage temperature	-40...80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-24	7.8 W / 8.0 VA	500 N	10…30 mm	3 s/mm	
RVAN10-24	6.2 W / 6.7 VA	1000 N	10…30 mm	3 s/mm	
RVAN18-24	10.9 W / 11.7 VA	1800 N	10…52 mm	3 s/mm	
RVAN25-24	10.9 W / 11.7 VA	2500 N	10…52 mm	3 s/mm	

Valve actuator, 230 V supply voltage and 3-point control

Valve actuator for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the lid. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.

Technical data	
Supply voltage	230 V AC ±15 %, 50 Hz
Control signal	3-point
Stroke time	3 s/mm
Ambient temperature	0...50 °C
Storage temperature	-40...+80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-230	15.3 W / 16.5 VA	500 N	10…30 mm	3 s/mm	
RVAN10-230	15.3 W / 16.5 VA	1000 N	10…30 mm	3 s/mm	
RVAN18-230	15.3 W / 16.5 VA	1800 N	10…52 mm	3 s/mm	
RVAN25-230	15.3 W / 16.5 VA	2500 N	10…52 mm	3 s/mm	

HEATING / COOLING / VENTILATION

RVAZ4

OVA-L1

Valve actuator for 0...10 V or 3-position control

The RVAZ4 series of valve actuators are easy to mount and have a clear position indication which shows the position of the actuator. The actuator has manual manoeuvring.

The RVAZ4 models are intended for use together with Regin's valve ranges ZTV/ZTR and ZMD. The RVAZ4L1 models can be used for different brands of valves in combination with the OVA-L1 adapter.

Technical data	
Force	400 N
Stroke	5.5 mm
Ambient temperature	0…50 °C
Storage temperature	-10…+80 °C
Media temperature	1…110 °C
Ambient humidity	Max. 95 % RH
Protection class	IP44
Connection	M30 x 1.5

ACTUATORS FOR REGIN'S VALVE RANGES ZTV/ZTR AND ZMD

Article	Supply voltage	Power consumption	Control signal	Stroke time	Note
RVAZ4-24	24 V AC ±15 %	0.6 W / 0.6 VA	3-point	150 s	
RVAZ4-24A	24 V AC ±15 %, 24 V DC ±15 %	6 W / 6 VA	0…10 V DC	30 s	
RVAZ4-230	230 V AC ±15 %, 50/60 Hz	6 W / 6 VA	3-point	150 s	

ACTUATORS FOR VALVES OF DIFFERENT BRANDS IN COMBINATION WITH THE OVA-L1 ADAPTER

Article	Supply voltage	Power consumption	Control signal	Stroke time	Note
RVAZ4L1-24	24 V AC ±15 %	0.6 W / 0.6 VA	3-position	150 s	
RVAZ4L1-24A	24 V AC ±15 %, 24 V DC ±15 %	6 W / 6 VA	0…10 V DC	30 s	
RVAZ4L1-230	230 V AC ±15 %, 50/60 Hz	6 W / 6 VA	3-position	150 s	

Valve actuator, 24 V supply voltage and 0(2)...10 V DC control

Valve actuator with automatic stroke adjustment for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the lid. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.

Technical data	
Supply voltage	24 V AC/DC
Control signal	0...10 V DC or 2...10 V DC (or 4…20 mA with a 500 Ω resistor connected)
Ambient temperature	0…50 °C
Storage temperature	-40...80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-24A	5.1 W / 13.9 VA	500 N	10…30 mm	1.5 s/mm	
RVAN10-24A	6.2 W / 17.4 VA	1000 N	10…30 mm	1.5 s/mm	
RVAN18-24A	8.6 W / 22.4 VA	1800 N	10…52 mm	3 s/mm	
RVAN25-24A	8.6 W / 22.4 VA	2500 N	10…52 mm	3 s/mm	

Valve actuator, 24 V supply voltage and 3-point control

Valve actuator for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the lid. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.

Technical data	
Supply voltage	24 V AC
Control signal	3-point
Stroke time	3 s/mm
Ambient temperature	0...50 °C
Storage temperature	-40...80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-24	7.8 W / 8.0 VA	500 N	10…30 mm	3 s/mm	
RVAN10-24	6.2 W / 6.7 VA	1000 N	10…30 mm	3 s/mm	
RVAN18-24	10.9 W / 11.7 VA	1800 N	10…52 mm	3 s/mm	
RVAN25-24	10.9 W / 11.7 VA	2500 N	10…52 mm	3 s/mm	

Valve actuator, 230 V supply voltage and 3-point control

Valve actuator for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the lid. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.

Technical data	
Supply voltage	230 V AC ±15 %, 50 Hz
Control signal	3-point
Stroke time	3 s/mm
Ambient temperature	0...50 °C
Storage temperature	-40...+80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-230	15.3 W / 16.5 VA	500 N	10…30 mm	3 s/mm	
RVAN10-230	15.3 W / 16.5 VA	1000 N	10…30 mm	3 s/mm	
RVAN18-230	15.3 W / 16.5 VA	1800 N	10…52 mm	3 s/mm	
RVAN25-230	15.3 W / 16.5 VA	2500 N	10…52 mm	3 s/mm	

Ball valve actuator for BV2/BV3 valves

Ball valve actuator with bi-directional motor mainly used in central air-conditioning systems, heating systems, water treatment, and production industry to control the flow of cold/hot media.

Technical data	
Ambient temperature	-5…+50 °C
Storage temperature	-30…+70 °C
Ambient humidity	Max. 90 % RH (non-condensing)
Protection class	IP54
Working angle	90°
Connection, actuator	Square 9 mm hole with M5 screw

MODELS

Article	Supply voltage	Power consumption	Control signal	Torque	Running time, actuator	Note
RVAB4-24	24 V AC	3 VA	Floating or On/off (3-wire)	≥ 4 Nm	45 s / 90°	
RVAB4-24A	24 V AC	4 VA	0(2)…10 V DC or 0(4)…20 mA	≥ 4 Nm	45 s / 90°	
RVAB4-230	230 V ~	5 VA	Floating or On/off (3-wire)	≥ 4 Nm	45 s / 90°	
RVAB5-24	24 V AC	3 VA	Floating or On/off (3-wire)	≥ 5 Nm	50 s / 90°	
RVAB5-24A	24 V AC	4 VA	0(2)…10 V DC or 0(4)…20 mA	≥ 5 Nm	50 s / 90°	
RVAB5-230	230 V ~	5 VA	Floating or On/off (3-wire)	≥ 5 Nm	50 s / 90°	

RTAM

Thermal actuator

Thermal actuators with position indication for control of valves in heating or cooling systems. The actuator can be used to control radiator circuits, solar heating systems, heating or cooling coils, floor heating, etc.

Technical data	
Ambient temperature	0…60 °C
Protection class	IP54
Cable length	2 m

Article	Supply voltage	Control signal	Power consumption	Stroke time	Force	Stroke	Note
RTAM100-24	24 V AC/DC	On/off, NC	1 W. Max. inrush current < 300 mA during max. 2 min.	3.5 min	100 N	4 mm	
RTAOM100-24	24 V AC/DC	On/off, NO	1 W. Max. inrush current < 300 mA during max. 2 min.	3.5 min	100 N	4 mm	
RTAM100-24A	24 V AC	0...10 V DC, NC	1 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	100 N	4 mm	
RTAOM100-24A	24 V AC	0...10 V DC, NO	1 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	100 N	4 mm	
RTAM100-230	230 V AC	On/off, NC	1 W. Max. inrush current < 550 mA during max. 100 ms.	3.5 min	100 N	4 mm	
RTAOM100-230	230 V AC	On/off, NO	1 W. Max. inrush current < 550 mA during max. 100 ms.	3.5 min	100 N	4 mm	
RTAM125-24	24 V AC/DC	On/off, NC	1.2 W. Max. inrush current < 300 mA during max. 2 min.	4.5 min	125 N	6.5 mm	
RTAOM125-24	24 V AC/DC	On/off, NO	1.2 W. Max. inrush current < 300 mA during max. 2 min.	4.5 min	125 N	6.5 mm	
RTAM125-24A	24 V AC	0...10 V DC, NC	1.2 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	125 N	6.5 mm	
RTAM125-230	230 V AC	On/off, NC	1.2 W. Max. inrush current < 550 mA during max. 100 ms.	4.5 min	125 N	6.5 mm	
RTAOM125-230	230 V AC	On/off, NO	1.2 W. Max. inrush current < 550 mA during max. 100 ms.	4.5 min	125 N	6.5 mm	

RTA-CASE

ACCESSORIES

Article	Description	Note
RTA-CASE	Adapter case containing an assortment of adapters for testing on site	

RVAPC

VA7010

VA748X

Electromechanical actuators for the PCTV, PCTVM and PCTVS valves

Technical data	
Max. media temperature	95 °C
Ambient temperature	0…50 °C
Protection class	IP43
Force	120 N +30% -20%
Stroke time	8 s/mm

MODELS

Article	Control signal	Stroke	Supply voltage	Power consumption	Note
RVAPC-24	3-point	6 mm (max.)	24 V AC	1.5 W / 2.5 VA	
RVAPC-230	3-point	6 mm (max.)	230 V AC	2.2 W / 6.5 VA	
RVAPC-24A	0…10 V	6 / 3.2 mm	24 V AC	1.5 W / 2.5 VA	

ACCESSORIES

Article	Description	Actuator	Note
VA7010	Adapter for VFP valves (actuator connection from M28 to M30)	RVAPC…	
VA748X	Adapter for VFP valves (actuator connection from M28 to M30)	RVAPC…	

Rotating valve actuator, 24 V AC/DC or 230 V AC

Valve actuators intended for control of Regin's pressure independent PCMTV32-50 range of valves. Compact design for simple installation and maintenance. Clear position indication and DIP-switches for setting of rotational direction.

Technical data	
Max. stroke (rotation)	0…90 °
Stroke time	30 s /90º
Torque	8 Nm
Angle limitation	5…85° (in increments of 5°)
Ambient temperature	-20...+50 °C
Media temperature	Max. 120 °C
Storage temperature	-40…+70 °C
Ambient humidity	5…95 % RH
Protection class	IP54

Article	Supply voltage	Power consumption	Control signal	Note
RVASN08-24	24 V AC, 50/60 Hz alt. 24 V DC ±20 %	3.9 W (0.4 W/6.5 VA in standby mode)	On/Off (2-position) and 3-position	
RVASN08-24A	24 V AC, 50/60 Hz alt. 24 V DC ±20 %	4.8 W (1.2 W/6.5 VA in standby mode)	0...10 V DC	
RVASN08-230	230 V AC, 50/60 Hz	4.8 W (1.2 W/6.5 VA in standby mode)	On/Off (2-position) and 3-position	

SR24A

Quarter turn valve actuators for butterfly valves, 20 Nm

20 Nm quarter turn valve actuators for control of Regin's BW2 valves (DN40…DN80).

Technical data	
Torque	20 Nm
Running time	90 s / 90°
Storage temperature	-40…+80 °C
Ambient temperature	0…50 °C
Ambient humidity	< 95 % RH (non-condensing)
Protection class	IP54
Flanges	F03/F04/F05
Weight	0.9 kg

MODELS

Article	Supply voltage	Power consumption	Control signal	Sound power level	Connection cable	Isolation class	Note
SR24A-R	24 V AC, 50/60 Hz	2.5 W	2-point / 3-point	max. 45 dB (A)	1 m, 3x0.75 mm²	III	
SR24A-MF-R	24 V AC, 50/60 Hz	4 W	0…10 V	max. 35 dB (A)	1 m, 4x0.75 mm²	III	
SR230A-R	230 V AC, 50/60 Hz	3 W	2-point / 3-point	max. 45 dB (A)	1 m, 3x0.75 mm²	II	

ACCESSORIES

Article	Description	Note
VAR-SR	Adapter F05/F07, for SR-actuator	
ZSV-11	Adapter 11x11x57 mm, for SR-actuator	

For more information about possible valve/actuator combinations and corresponding close-off pressures please see the BW2 product sheet.

GR-230A

Quarter turn valve actuators for butterfly valves, 40 Nm

40 Nm quarter turn valve actuators for control of Regin's BW2 valves (DN40…DN100).

Technical data	
Torque	40 Nm
Running time	150 s / 90°
Sound power level	max. 45 dB (A)
Storage temperature	-40…+80 °C
Ambient humidity	< 95 % RH (non-condensing)
Protection class	IP54
Isolation class	III
Flanges	F07

MODELS

Article	Supply voltage	Power consumption	Control signal	Ambient temperature	Connection cable	Note
GR24A-R	24 V AC, 50/60 Hz	2.5 W	2-point / 3-point	-30…+50 °C	1 m, 3x0.75 mm²	
GR24A-MF-R	24 V AC, 50/60 Hz	4 W	0…10 V	0…50 °C	1 m, 4x0.75 mm²	
GR230A-R	230 V AC, 50/60 Hz	3 W	2-point / 3-point	-30…+50 °C	1 m, 3x0.75 mm²	

ACCESSORIES

Article	Description	Note
ZGI-002	Adapter 11x11x20 mm, for GR-actuator	
ZGV-16	Adapter 16x16x40 mm, for GR-actuator	

For more information about possible valve/actuator combinations and corresponding close-off pressures please see the BW2 product sheet.

OM2

Quarter turn valve actuators for butterfly valves, 90…400 Nm

90…400 Nm quarter turn valve actuators for control of Regin's BW2 valves (DN80-200).

Technical data	
Manual override	Hand-wheel
Ambient temperature	-30…65 °C
Ambient humidity	30…95 %RH
Protection class	IP67
Motor insulation class	F
Working angle	0…90°
Duty cycle	30%

MODELS

Article	Supply voltage	Power consumption	Control signal	Max torque	Flanges	Note
OM2-24	24 V AC, 50/60 Hz	70 W / 80 VA	on/off (open/close) / 3-point	90 Nm	F07	
OM2-24A	24 V AC/DC, 50/60 Hz	70 W / 80 VA	0…10 V	90 Nm	F07	
OM2-230	230 V AC, 50/60 Hz	180 W	on/off (open/close) / 3-point	90 Nm	F07	
OM3-24	24 V AC, 50/60 Hz	70 W / 80 VA	on/off (open/close) / 3-point	150 Nm	F07	
OM3-24A	24 V AC/DC, 50/60 Hz	70 W / 80 VA	0…10 V	150 Nm	F07	
OM3-230	230 V AC, 50/60 Hz	180 W	on/off (open/close) / 3-point	150 Nm	F07	
OM4-24	24 V AC, 50/60 Hz	200 W / 120 VA	on/off (open/close) / 3-point	400 Nm	F10	
OM4-24A	24 V AC/DC, 50/60 Hz	200 W / 120 VA	0…10 V	400 Nm	F10	
OM4-230	230 V AC, 50/60 Hz	300 W	on/off (open/close) / 3-point	400 Nm	F10	

ACCESSORIES

Article	Description	Note
VAR-OM2	Adapter 22 mm / 11 mm, for OM2-actuator	
VAR-OM3	Adapter 22 mm / 14 mm, for OM3-actuator	
VAR-OM4	Adapter 36 mm / 17 mm, for OM4-actuator	

For more information about possible valve/actuator combinations and corresponding close-off pressures please see the BW2 product sheet.

FAN-COIL, CHILLED BEAMS, RADIATOR

RTAM

Thermal actuator

Thermal actuators with position indication for control of valves in heating or cooling systems. The actuator can be used to control radiator circuits, solar heating systems, heating or cooling coils, floor heating, etc.

Technical data	
Ambient temperature	0…60 °C
Protection class	IP54
Cable length	2 m

Article	Supply voltage	Control signal	Power consumption	Stroke time	Force	Stroke	Note
RTAM100-24	24 V AC/DC	On/off, NC	1 W. Max. inrush current < 300 mA during max. 2 min.	3.5 min	100 N	4 mm	
RTAOM100-24	24 V AC/DC	On/off, NO	1 W. Max. inrush current < 300 mA during max. 2 min.	3.5 min	100 N	4 mm	
RTAM100-24A	24 V AC	0...10 V DC, NC	1 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	100 N	4 mm	
RTAOM100-24A	24 V AC	0...10 V DC, NO	1 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	100 N	4 mm	
RTAM100-230	230 V AC	On/off, NC	1 W. Max. inrush current < 550 mA during max. 100 ms.	3.5 min	100 N	4 mm	
RTAOM100-230	230 V AC	On/off, NO	1 W. Max. inrush current < 550 mA during max. 100 ms.	3.5 min	100 N	4 mm	
RTAM125-24	24 V AC/DC	On/off, NC	1.2 W. Max. inrush current < 300 mA during max. 2 min.	4.5 min	125 N	6.5 mm	
RTAOM125-24	24 V AC/DC	On/off, NO	1.2 W. Max. inrush current < 300 mA during max. 2 min.	4.5 min	125 N	6.5 mm	
RTAM125-24A	24 V AC	0...10 V DC, NC	1.2 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	125 N	6.5 mm	
RTAM125-230	230 V AC	On/off, NC	1.2 W. Max. inrush current < 550 mA during max. 100 ms.	4.5 min	125 N	6.5 mm	
RTAOM125-230	230 V AC	On/off, NO	1.2 W. Max. inrush current < 550 mA during max. 100 ms.	4.5 min	125 N	6.5 mm	

RTA-CASE

ACCESSORIES

Article	Description	Note
RTA-CASE	Adapter case containing an assortment of adapters for testing on site	

Thermal actuators 100/140 N, 2.5 mm stroke

Thermal actuator with position indicator for control of valves in heating or cooling systems. The actuator can be used to control radiator circuits, solar heating systems, heating or cooling coils, floor heating etc. To be combined with the VTTV/VTTR/VTTB range of valves.

Technical data	
Stroke	2.5 mm
Ambient temperature	0…50 °C
Connection	M30 x 1.5 metal ring
Dimensions	Ø 40 x 61 mm
Protection class	IP40 (IP44 when vertically mounted)

MODELS

Article	Supply voltage	Control signal	Force	Power consumption	Stroke time	Note
RTAN-24	24 V AC ± 10 %, 50/60 Hz	On/Off	100 N	3.0 VA	4.5 min	
RTAN-230	230 V AC ± 10 %, 50/60 Hz	On/Off	100 N	3.0 VA	3.5 min	
RTAN-24A	24 V AC ± 10 %, 50/60 Hz	0...10 V DC	100 N	3.5 VA	4.5 min	
RTAN140-24	24 V AC ± 10 %, 50/60 Hz	On/Off	140 N	3.0 VA	4.5 min	
RTAN140-230	230 V AC ± 10 %, 50/60 Hz	On/Off	140 N	3.0 VA	3.5 min	
RTAN140-24A	24 V AC ± 10 %, 50/60 Hz	0...10 V DC	140 N	3.5 VA	3.5 min	

RVAFC-2302

RVAFC-2303

Actuators for internally threaded 2- and 3-way valves

Actuator intended for on/off control of hot or cold water in heating or cooling systems. The actuator has a synchronous motor and spring return mechanism. It is intended for use together with Regin's ZFCM valves.

Technical data	
Supply voltage	230 V AC, 50…60 Hz
Control signal	On/off
Power consumption	6 VA
Opening time	Approx. 15 s
Closing time, spring	4…5 s
Ambient temperature	0…60 °C
Storage temperature	-20…+65 °C
Material	ABS
Dimensions	91 x 68 x 65 mm
Protection class	IP44

MODELS

Article	Description	Valve	Note
RVAFC-2302	Actuator for ZFCM-2 valves	ZFCM-2...	
RVAFC-2303	Actuator for ZFCM-3 valves	ZFCM-3...	

RVAZ4

OVA-L1

Valve actuator for 0...10 V or 3-position control

The RVAZ4 series of valve actuators are easy to mount and have a clear position indication which shows the position of the actuator. The actuator has manual manoeuvring.

The RVAZ4 models are intended for use together with Regin's valve ranges ZTV/ZTR and ZMD. The RVAZ4L1 models can be used for different brands of valves in combination with the OVA-L1 adapter.

Technical data	
Force	400 N
Stroke	5.5 mm
Ambient temperature	0…50 °C
Storage temperature	-10…+80 °C
Media temperature	1…110 °C
Ambient humidity	Max. 95 % RH
Protection class	IP44
Connection	M30 x 1.5

ACTUATORS FOR REGIN'S VALVE RANGES ZTV/ZTR AND ZMD

Article	Supply voltage	Power consumption	Control signal	Stroke time	Note
RVAZ4-24	24 V AC ±15 %	0.6 W / 0.6 VA	3-point	150 s	
RVAZ4-24A	24 V AC ±15 %, 24 V DC ±15 %	6 W / 6 VA	0…10 V DC	30 s	
RVAZ4-230	230 V AC ±15 %, 50/60 Hz	6 W / 6 VA	3-point	150 s	

ACTUATORS FOR VALVES OF DIFFERENT BRANDS IN COMBINATION WITH THE OVA-L1 ADAPTER

Article	Supply voltage	Power consumption	Control signal	Stroke time	Note
RVAZ4L1-24	24 V AC ±15 %	0.6 W / 0.6 VA	3-position	150 s	
RVAZ4L1-24A	24 V AC ±15 %, 24 V DC ±15 %	6 W / 6 VA	0…10 V DC	30 s	
RVAZ4L1-230	230 V AC ±15 %, 50/60 Hz	6 W / 6 VA	3-position	150 s	

RVAPC

Electromechanical actuators for the PCTV, PCTVM and PCTVS valves

Technical data	
Max. media temperature	95 °C
Ambient temperature	0…50 °C
Protection class	IP43
Force	120 N +30% -20%
Stroke time	8 s/mm

VA7010

MODELS

Article	Control signal	Stroke	Supply voltage	Power consumption	Note
RVAPC-24	3-point	6 mm (max.)	24 V AC	1.5 W / 2.5 VA	
RVAPC-230	3-point	6 mm (max.)	230 V AC	2.2 W / 6.5 VA	
RVAPC-24A	0…10 V	6 / 3.2 mm	24 V AC	1.5 W / 2.5 VA	

VA748X

ACCESSORIES

Article	Description	Actuator	Note
VA7010	Adapter for valve with 2.7 mm stroke	RVAPC…	
VA748X	Adapter for valve with 6 mm stroke	RVAPC…	

Rotating valve actuator, 24 V AC/DC or 230 V AC

Valve actuators intended for control of Regin's pressure independent PCMTV32-50 range of valves. Compact design for simple installation and maintenance. Clear position indication and DIP-switches for setting of rotational direction.

Technical data	
Max. stroke (rotation)	0…90 °
Stroke time	30 s /90º
Torque	8 Nm
Angle limitation	5…85° (in increments of 5°)
Ambient temperature	-20...+50 °C
Media temperature	Max. 120 °C
Storage temperature	-40…+70 °C
Ambient humidity	5…95 % RH
Protection class	IP54

Article	Supply voltage	Power consumption	Control signal	Note
RVASN08-24	24 V AC, 50/60 Hz alt. 24 V DC ±20 %	3.9 W (0.4 W/6.5 VA in standby mode)	On/Off (2-position) and 3-position	
RVASN08-24A	24 V AC, 50/60 Hz alt. 24 V DC ±20 %	4.8 W (1.2 W/6.5 VA in standby mode)	0...10 V DC	
RVASN08-230	230 V AC, 50/60 Hz	4.8 W (1.2 W/6.5 VA in standby mode)	On/Off (2-position) and 3-position	

ADAPTERS

RTA-CASE

Adapters for the RTA(O)M actuators

Adapters for adjusting the RTA(O)M actuators to valves of other brands.

Article	Valve supplier	Connection, valve	Colour	Closing measure A (mm)	Note
VA02	LK/Uponor	M30 x 1.5	Grey with red stem	17	
VA10	Siemens/Oventrop/IMI	M30 x 1.5	Light grey	11	
VA16H	Herz	M28 x 1.5	Grey with red stem	8.25	
VA17	MMA	M28 x 1.5	White	11.5	
VA18	Honeywell/Braukmann	M30 x 1.5	Light blue	10.5	
VA26	Giacomini	Clamping ring	Grey	4.2	
VA32	TA	M28 x 1.5	Green	7.75	
VA39	Oventrop	M30 x 1.0	White	10.5	
VA41	Danfoss AB-QM	M30 x 1.5	Dark green	9.5	
VA50	Honeywell/Braukmann/ Sauter/Broen	M30 x 1.5	Dark grey	10	
VA54	MMA, Regin (CTV, RTV, FVR)	M28 x 1.5	Dark blue	9	
VA59	Danfoss RAV/L	Clamping ring	Light grey	N/A	
VA64	Pettinaroli	M28 x 1.5	Grey	17.8	
VA66	Industrietechnik	M30 x 1.5	Grey	12.5	
VA72	Danfoss RAV	Grub screw	Light grey	N/A	
VA78	Danfoss RA	Grub screw	White	N/A	
VA80	TA/Heimeier/Honeywell/ Siemens/Sauter	M30 x 1.5	White/grey	10.5	
VA90	Valsir/Sauter/IMI	M30 x 1.5	Red	11.5	

Article	Description	Note
RTA-CASE	Adapter case containing an assortment of adapters for testing on site	

Quick guide to choose adapter after taking measurements of valve

Measure the valve in closed position (NC)* (A in image on next page). Subtract 0.5 mm for safety margin and compensation for tolerance. Compare the result with column “Closing measure A (mm)” in the above table and see which adapter to use.

As an example: If you measure 10.5 mm on the valve in close position and valve stroke is within actuator stroke limitation, you choose an adapter with closing measurements of 10 mm. In this example it would be VA50, if the valve is M30 x 1.5. See example on next page.

Make sure the same measurements in open position is within the actuator stroke range. For instance, the 100N actuator with 4 mm stroke would in the above example have an upper limit of 10 (closing measurement) + 4 (actuator max stroke) = 14 mm. If the valve has a larger stroke, the stroke of the valve is reduced by the actuator. This can lead to a reduced max flow. If reduction of flow is unacceptable, use Regin’s 125N actuator with 6,5mm stroke instead.

If you can’t find a suitable adapter in the above list, please contact Regin for further help.

*NC, normally closed actuator refers to valves that closes when the stem is pushed into the valve, like radiator valves usually do. For valves closing upwards (when valve stem is pushed out of valve with a spring normally) you must think in the opposite way.

VA02

VA10

VA16H

VA17

VA18

VA26

VA32

VA39

VA41

VA50

VA54

VA59

VA64

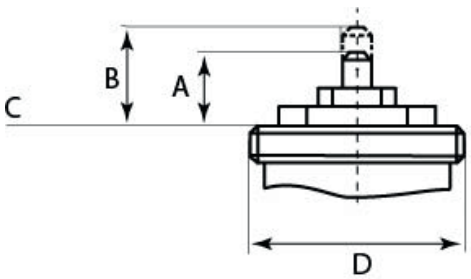
VA66

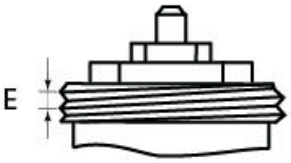
VA72

VA78

VA80

VA90





A	10,5 mm
B	13 mm
D	30 mm
E	1,5 mm

--> VA50 + RTA(O)M100 (4 mm, 100 N)

A: Dimension of valve closed
B: Dimension of valve open
C: Important: reference for measurement = top edge of thread
D: Diameter of screw thread (e.g. M30 x 1.5)
E: Thread pitch, usually 1,5mm as in M30 x 1,5

OVA-131

OVA-031

OVA-A1

OVA-A2

OVA-A3

OVA-015

OVA-141

OVA-020

Adapter kit for adapting Regin's actuators to valves of other brands

The key to finding the correct adapter is the valve. It is important to have information regarding the brand and name of the valve when choosing the adapter.

ABS, VADSTENA, VM (SHUNTMASTER)

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
SV...25	25 mm	20 mm	RVAN5...	OVA-131	
SV...27	25 mm	20 mm	RVAN5...	OVA-131	
SV...33	32 mm	20 mm	RVAN5...	OVA-131	
SV...35	32 mm	20 mm	RVAN5...	OVA-131	
SV...36	32 mm	20 mm	RVAN5...	OVA-131	
SV...47	40 mm	20 mm	RVAN5...	OVA-131	
SV...54	50 mm	40 mm	RVAN18...	OVA-031	
SV...55	50 mm	40 mm	RVAN18...	OVA-031	
SV...56	50 mm	40 mm	RVAN18...	OVA-031	
SV...62	65 mm	40 mm	RVAN18...	OVA-031	
SV...65	65 mm	40 mm	RVAN18...	OVA-031	
SV...66	65 mm	40 mm	RVAN18...	OVA-031	
SV...67	65 mm	40 mm	RVAN18...	OVA-031	

ARI ARMATUREN

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
485-489	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
485-489	40 - 50 mm	14 mm	RVAN18	OVA-A3	
485-489	65 - 100 mm	20 - 30 mm	RVAN18.../RVNA25...	OVA-A2	

BELIMO

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
H4	15 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-015	
H5	15 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-015	
H6	15 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-015	
H6	65 mm (kvs 58)	18 mm	RVAN10…	OVA-015	
H7	15 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-015	
H7	65 mm (kvs 58)	18 mm	RVAN10…	OVA-015	
H7	80 mm (kvs 90)	18 mm	RVAN10…	OVA-015	

CONTROLLI

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VMB	15 - 50 mm	16.5 mm	RVAN5.../RVAN10...	OVA-141	
VSB	15 - 50 mm	16.5 mm	RVAN5.../RVAN10...	OVA-141	

DANFOSS

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
AB-QM	10 - 20 mm	2,3 mm	RVAPC...	N/A	
AB-QM	25 - 32 mm	4.5 mm	RVAPC…	N/A	
(H)VF2/(H)VF3	15 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-020	
(H)VFS2	15 - 25 mm	15 mm	RVAN5…/RVAN10…	OVA-020	
(H)VL2/(H)VL3	15 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-020	
(H)VRB2/(H)VRB3	15 mm	10 mm	RVAN5…	OVA-020	
(H)VRB2/(H)VRB3	20 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-020	
(H)VRG2/(H)VRG3	15 mm	10 mm	RVAN5…	OVA-020	
(H)VRG2/(H)VRG3	20 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-020	
VR2/VR3	15 - 25 mm	15 mm	RVAN5…/RVAN10…	OVA-020	

OVA-131

OVA-031

OVA-F4

ESBE

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VL2FA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FC	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FD	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FS	20-40 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2TA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2TB	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FAA	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FDA	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2TAA	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2TBA	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL3FA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL3FC	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL3TA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL3TB	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA121	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA221	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA131	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA425	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA325	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA325	65 mm	25 mm	RVAN5.../RVAN10...	OVA-031	
VLA325	65 mm	25 mm	RVAN18.../RVAN25...	OVA-131	
VLA325	80-150 mm	45 mm	RVAN18.../RVAN25...	OVA-131	
VLA335	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA335	65 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-F4	
VLB125	65-150 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VLB135	65-150 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VLB235	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLB325	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLB325	65 mm	25 mm	RVAN5.../RVAN10...	OVA-131	
VLB325	65 mm	25 mm	RVAN18.../RVAN25...	OVA-031	
VLB325	80-150 mm	45 mm	RVAN18.../RVAN25...	OVA-131	
VLB225	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLB225	65 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-F4	
VLB235	65 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-F4	
VLB335	15-50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLB335b	65 mm	25 mm	RVAN5.../RVAN10...	OVA-131	
VLB335	65 mm	25 mm	RVAN18.../RVAN25...	OVA-031	
VLB335	80-150 mm	45 mm	RVAN18.../RVAN25...	OVA-031	
VLC125	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLC225	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLC325	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLC425	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLE122	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLE132	15 - 50 mm	20 mm	RVAN.../RVAN10...	OVA-131	
VLE222	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLE325	20 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLF125	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLF135	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLF335	65 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-F4	

OVA-161

GEAMATIC

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
V121G (M6 threaded stem)	15 - 50 mm	20 mm	RVAN5…/RVAN10…	OVA-161	

OVA-011

HONEYWELL

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
V176A	15 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V176B	20 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V176B	100 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V186	15 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V186	20 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V186	100 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5011R	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5013A	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5013F	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5013R	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5015A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5016A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5016A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5025A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5025A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5049A	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-011	
V5049A	100 - 150 mm	38 mm	RVAN18…/RVAN25…	OVA-013	
V5050A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5050A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5328A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5329C	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5329A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V538C6xxx	50 - 150 mm	27 - 40 mm	RVAN18.../RVAN25...	OVA-013	
V538C3xxx	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	

OVA-013

OVA-171

IMI HYDRONICS

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
KTM512	15 - 50 mm	10 mm	RVAN5…	OVA-171	

INDUSTRIETECHNIK

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VFX	15 - 20 mm (up to kvs 2.5)	2,5 mm	RVAPC...	N/A	

OVA-J1

OVA-A1

OVA-A2

JOHNSON

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
BM-2xx2	15 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
BM-2xx8	15 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
V5210	10 - 20 mm	4 mm	RVAPC...	N/A	
V5510	10 - 20 mm	3,7 mm	RVAPC...	N/A	
V5810	10 - 20 mm	3,7 mm	RVAPC...	N/A	
VG6210	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VG6510	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VG6810	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VG7201/VG7203	25 - 32 mm	13 mm	RVAN5.../RVAN10...	OVA-J1	
VG7201/VG7203	40 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
VG7401/VG7403	25 - 32 mm	13 mm	RVAN5.../RVAN10...	OVA-J1	
VG7401/VG7403	40 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
VG7802/VG7804	25 - 32 mm	13 mm	RVAN5.../RVAN10...	OVA-J1	
VG7802/VG7804	40 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	

The OVA-J1 adapter applies to valves with a M28x1,5 neck and a 1/4" UNF-28 threaded stem.

KIEBACK UND PETER

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
RF	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
RF	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-A2	
RK	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
RK	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-A2	

OVA-031

OVA-134

OVA-L1

OVA-081

OVA-082

L&G, L&S, SIEMENS VALVES

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VFF31 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF32 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF33 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF34 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF35 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF36 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFG31 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG32 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG33 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG34 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG35 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG36 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VMP43	15 - 20 mm	5,5 mm	RVAZ4L1…	OVA-L1	
VMP45	10 - 40 mm	5,5 mm	RVAZ4L1...	OVA-L1	
VMP47	10 - 20 mm	2,5 mm	RVAPC...	N/A	
VPF52E	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VPF52F	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF21	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF21	100 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF22	25 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VVF22	25 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF22 (until 2015-10)	100 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF22 (from 2015-10)	100 mm	40 mm	RVAN18…/RVAN25…	OVA-082	
VVF31	25 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF31	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF32	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VVF32	15 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF32 (until 2015-10)	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF32 (from 2015-10)	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-082	
VVF40	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF40	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF41	50 - 150 mm	20/40 mm	RVAN18.../RVAN25...	OVA-082	
VVF42	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VVF42	15 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF42 (until 2015-10)	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF42 (from 2015-10)	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-082	
VVF42…K	50 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VVF42…K	50 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF42…K	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF43	65 - 250 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF45	50 - 150 mm	20/40 mm	RVAN18.../RVAN25...	OVA-082	
VVF51	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF52	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF53	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VVF53	15 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF53	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF53…K	50 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VVF53…K	50 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VVF53…K	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VVF53…K	200 - 250 mm	40 mm	RVAN18…/RVAN25…	OVA-082	
VVF61	15 - 25 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF61	40 - 150 mm	20/40 mm	RVAN18.../RVAN25...	OVA-082	
VVG11 (VARIVALVE)	15 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVG11	20 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VVG12 (VARIVALVE)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VVG41	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVG44	15 - 40 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVG55	15 - 25 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVG549	15 - 25 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVI46	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VVI52	15 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVP45	10 - 40 mm	5,5 mm	RVAZ4L1...	OVA-L1	
VVP47	10 - 20 mm	2,5 mm	RVAPC...	N/A	
VVS46	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VXF21	25 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF21	100 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF22	25 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VXF22	25 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VXF22 (until 2015-10)	100 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VXF22 (from 2015-10)	100 mm	40 mm	RVAN18…/RVAN25…	OVA-082	
VXF31	25 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF31	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF32	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VXF32	15 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VXF32 (until 2015-10)	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VXF32 (from 2015-10)	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-082	
VXF40	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF40	100 - 150 mm	10 mm	RVAN18.../RVAN25...	OVA-082	
VXF41	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF41	50 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF42	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VXF42	15 - 80 mm	20 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VXF42 (until 2015-10)	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VXF42 (from 2015-10)	100 - 150 mm	40 mm	RVAN18…/RVAN25…	OVA-082	
VXF43	65 - 250 mm	40 mm	RVAN18…/RVAN25…	OVA-081 + 02133011	
VXF53	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-081	
VXF61	15 - 25 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF61	40 - 150 mm	20/40 mm	RVAN18.../RVAN25...	OVA-082	
VXG11 (VARIVALVE)	15 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VXG11	20 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VXG12 (VARIVALVE)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VXG41	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXG44	15 - 50 mm	5.5 mm	RVAZ4L1	OVA-L1	
VXI46	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VXP45	10 - 40 mm	5,5 mm	RVAZ4L1...	OVA-L1	
VXP47	10 - 20 mm	2,5 mm	RVAPC...	N/A	
VXS46	15 - 25 mm	2,5 mm	RVAPC...	N/A	

OVA-F1

LDM

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
RV 111/F	15 - 40 mm	5.5 mm	RVAZ4L1...	OVA-L1	
RV 111/T	15 - 40 mm	5.5 mm	RVAZ4L1...	OVA-L1	
RV 111/W	15 - 40 mm	5.5 mm	RVAZ4L1...	OVA-L1	

OVA-F2

OVA-F3

OSBY VALVES (OAB)

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
2SAS, 2SBS, 2SAM, 2SBM	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-F1	
2SBS, 2SBM	100 mm	38 mm	RVAN18…	OVA-F2	
BTR	15 - 50 mm	20 mm	RVAN5…/RVAN10…	OVA-F3	
BTV	15 - 50 mm	20 mm	RVAN5…/RVAN10…	OVA-F3 + 2921451401	
CVFS	20 - 65 mm	32 mm	RVAN18…	OVA-F2	
ETVS, ETVSU, ETRS, ETRSU	15 - 50 mm	20 mm	RVAN5…/RVAN10…	OVA-F1	
FRS, FRSD	15 - 65 mm (kvs 0.6 - 6.3)	20 mm	RVAN5…/RVAN10…	OVA-F1	
FRS	32 - 65 mm (kvs 10 - 20)	20 mm	RVAN18…	OVA-F2	
GTVS, GTRS	32 - 40 mm	20 mm	RVAN5…/RVAN10…	OVA-F1	
GTVS, GTRS	50 - 150 mm	24 - 40 mm	RVAN18…/RVAN25…	OVA-F2	
MMV, MMR	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
MMVA	15 - 50 mm	20 mm	RVAN5…/RVAN10…	OVA-F3	
MRT	20 - 25 mm	20 mm	RVAN5…/RVAN10…	OVA-F1	
MTVS, MTRS	15 - 50 mm	20 mm	RVAN5…/RVAN10…	OVA-F1	
NMTV, NMTR	15 - 20 mm	20 mm	RVAN5…/RVAN10…	OVA-121	
NTVS	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-F1	
NTVS	100 - 150 mm	38, 40 mm	RVAN18…/RVAN25…	OVA-F2	
STR, STV	15 - 50 mm	15 mm	RVAN5…/RVAN10…	OVA-121	

OVA-134

OVA-121

OLD OSBY VALVES WITH 3/8'' UNF THREAD ON THE STEM

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
2SA/2SB	15 - 80 mm	20 mm	RVAN5…/RVAN10…	OVA-132	
2SB	100 mm	38 mm	RVAN18...	OVA-133	
CVF	20 - 65 mm	32 mm	RVAN18...	OVA-133	
GTR/GTV	25 - 50 mm	20 - 24 mm	RVAN5.../RVAN10...	OVA-132	
GTR/GTV	65 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-133	
MTR/MTV	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-132	

OVA-132

OVENTROP

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
Cocon 2TZ	15 - 20 mm	2,5 mm	RVAPC...	N/A	
Cocon QTZ	10 - 32 mm	2,8 / 3,5 / 4 mm	RVAPC...	N/A	
Tri-M Plus	15 mm	2,5 mm	RVAPC...	N/A	

OVA-133

PETTINAROLI

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
91-series	15 - 25 mm	3 mm	RVAPC...	VA7010	
93-series	20 - 32 mm	6 mm	RVAPC...	VA748X	

VA7010

VA748X

REGIN

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VTTV/VTTR/VTTB	15 - 20 mm (up to kvs 2.5)	2,5 mm	RVAPC...	N/A	

OVA-A1

OVA-A2

OVA-133

OVA-132

OVA-151

RICCIUS + SOHN

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
HMVF2	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-H1	
HMVF2	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-H2	
HMVF3	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-H1	
HMVF3	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-H2	
HMVFA2	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
HMVFA2	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-A2	
HMVFA3	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
HMVFA3	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-A2	
RGV2	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-H1	
RGV3	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-H1	
RGVA2	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
RGVA3	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	

SATCHWELL

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
SVB-XXX-F3	50 - 150 mm	23 - 40 mm	RVAN18.../RVAN25...	OVA-133	
SVG-XXX-F3	50 - 150 mm	23 - 40 mm	RVAN18.../RVAN25...	OVA-133	
SVR-XXX-F3	50 - 150 mm	23 - 40 mm	RVAN18.../RVAN25...	OVA-133	
SVR-G2	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-132	
SVR-G3	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-132	
VZ, MVZ	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-132	
VZF, MVZF	65 - 150 mm	27 - 40 mm	RVAN18.../RVAN25...	OVA-133	

SAUTER

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
B6F	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
B6G	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
B6R	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
B6S	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
BUL	10 - 20 mm	3,7 mm	RVAPC...	N/A	
BUT	10 - 20 mm	3 mm	RVAPC...	N/A	
BXD	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
BXE	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
BXL	25 - 40 mm	2,9 mm	RVAPC...	N/A	
V6F	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
V6G	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
V6R	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
V6S	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
VCL	10 - 32 mm	2,8 / 3,5 / 4 mm	RVAPC...	N/A	
VUL	10 - 20 mm	4 mm	RVAPC...	N/A	
VUT	10 - 20 mm	3/4 mm	RVAPC...	N/A	
VXD	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
VXE	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
VXL	10 - 20 mm	2,5 mm	RVAPC...	N/A	

OVA-031

OVA-131

OVA-231

TAC + SCHNEIDER

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
STL	20 - 65 mm	31.5 mm	RVAN18...	OVA-031	
STL-SR	20 - 65 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V211	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V211T	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V212	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V212T	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V221	65 - 100 mm	30/39.5 mm	RVAN18.../RVAN25...	OVA-031	
V222	65 - 100 mm	30 mm	RVAN18...	OVA-031	
V231	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V232	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V241	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V265	40 - 100 mm	31.5/40.9/50.3 mm	RVAN18.../RVAN25...	OVA-031	
V282	15 mm	15 mm	RVAN5...	OVA-231	
V282	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V282	40 - 50 mm	31.5 mm	RVAN18...	OVA-031	
V292	15 mm	15 mm	RVAN5…	OVA-231	
V292	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V292	40 - 100 mm	31.5/40.9/50.3 mm	RVAN18.../RVAN25...	OVA-031	
V294	15 mm	15 mm	RVAN5	OVA-231	
V294	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V295	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V295	40 - 100 mm	31.5/40.9/50.3 mm	RVAN18.../RVAN25...	OVA-031	
V298	20 - 40 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V311	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V311T	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V321	65 - 100 mm	30 mm	RVAN18...	OVA-031	
V341	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V353	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V384	15 mm	15 mm	RVAN5…	OVA-231	
V384	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V384	40 - 50 mm	31.5 mm	RVAN18...	OVA-031	
V386	15 mm	15 mm	RVAN5…	OVA-231	
V386	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V386	40 - 50 mm	31.5 mm	RVAN18...	OVA-031	
V392	15 mm	15 mm	RVAN5…	OVA-231	
V392	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V392	40 - 50 mm	31.5 mm	RVAN18...	OVA-031	
V394	15 mm	15 mm	RVAN5…	OVA-231	
V394	20 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V394	40 - 53 mm	31.5 mm	RVAN18...	OVA-031	
V395	40 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V395	65 - 100 mm	30/39.5 mm	RVAN18.../RVAN25...	OVA-031	
VG211	15 - 50 mm	16.5/25 mm	RVAN5.../RVAN10...	OVA-131	
VG221F	65 mm	25 mm	RVAN10...	OVA-131	
VG221F	80 - 150 mm	45 mm	RVAN18.../RVAN25...	OVA-031	
VG222	65 - 150 mm	25/45 mm	RVAN18.../RVAN25...	OVA-031	
VG311F	65 mm	25 mm	RVAN10…	OVA-131	
VG311F	65 - 150 mm	25/45 mm	RVAN18.../RVAN25...	OVA-031	
VG321	65 - 150 mm	25 - 45 mm	RVAN18.../RVAN25...	OVA-031	
VZ28/VZ28C	15 - 20 mm	2,5 mm	RVAPC...	N/A	
VZ38/VZ38C	15 - 20 mm	2,5 mm	RVAPC...	N/A	
VZ48/VZ48C	15 - 20 mm	2,5 mm	RVAPC...	N/A	

OVA-FM25

WATTS INDUSTRIES

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
2131	15 - 25 mm	2,5 mm	RVAPC...	N/A	
3131	15 - 25 mm	2,5 mm	RVAPC...	N/A	
4131	15 - 25 mm	2,5 mm	RVAPC...	N/A	

OVA-FM50

WSE/NORSHUNT

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
FM25	25 mm	23.5 mm	RVAN5.../RVAN10...	OVA-FM25	
FM50	50 mm	37.5 mm	RVAN18...	OVA-FM50	

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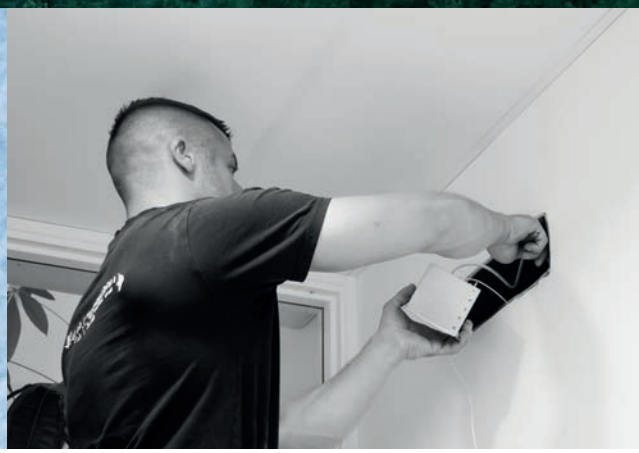
DAMPER ACTUATORS



DAMPER ACTUATOR EQUIVALENTS

With spring return

MODELS

Article	Description	Replaces RDAB	Replaces Belimo	Note
RDAS4S-230	4 Nm, on/off, 230 V, spring return	RDAB5S-230 (4 Nm)	LF230 (4 Nm)	
RDAS4S-230S	4 Nm, on/off, 230 V, spring return, aux. switch	RDAB5S-230S (4 Nm)	LF230-S (4 Nm)	
RDAS4S-24	4 Nm, on/off, 24 V, spring return	RDAB5S-24 (4 Nm)	LF24 (4 Nm)	
RDAS4S-24S	4 Nm, on/off, 230 V, spring return, aux. switch	RDAB5S-24S (4 Nm)	LF24-S (4 Nm)	
RDAS4S-24A	4 Nm, 0…10 V, 24 V, spring return	RDAB5S-24A (4 Nm)	LF24-SR (4 Nm)	
RDAS7S-230	7 Nm, on/off, 230 V, spring return	RDAB10S-S (10 Nm, 230 V setup)	NF230A-S2 (10 Nm), NFA-S (10 Nm, 230V setup)	
RDAS7S-230S	7 Nm, on/off, 230 V, spring return, aux. switch	RDAB10S-S (10 Nm, 230 V setup)	NF230A-S2 (10 Nm), NFA-S (10 Nm, 230V setup)	
RDAS7S-24	7 Nm, on/off, 24 V, spring return	N/A	NF24A (10 Nm), NFA (10 Nm, 24V setup)	
RDAS7S-24S	7 Nm, on/off, 24 V, spring return, aux. switch	RDAB10S-S (10 Nm, 24 V setup)	NF24A-S2 (10 Nm), NFA-S (10 Nm, 24V setup)	
RDAS7S-24A	7 Nm, 0-10 V, 24 V, spring return	RDAB10S-24A (10 Nm)	NF24A-SR (10 Nm)	
RDAS18S-230	18 Nm, on/off, 230 V, spring return	RDAB20S (20 Nm, 230 V setup)	NF230A (10 Nm), SF230A (20 Nm), NFA (10 Nm, 230V setup), SFA (20 Nm, 230V setup)	
RDAS18S-230S	18 Nm, on/off, 230 V, spring return, aux. switch	RDAB10S-S (10 Nm, 230 V setup), RDAB20S-S (20 Nm, 230V setup)	NF230A-S2 (10 Nm), SF230A-S2 (20 Nm), NFA-S (10 Nm, 230V setup), SFA-S (20 Nm, 230V setup)	
RDAS18S-24	18 Nm, on/off, 24 V, spring return	RDAB20S (20 Nm, 24 V setup)	NF24A (10 Nm), SF24A (20 Nm), NFA (10 Nm, 24V setup), SFA (20 Nm, 24V setup)	
RDAS18S-24S	18 Nm, on/off, 24 V, spring return, aux. switch	RDAB10S-S (10 Nm, 24 V setup), RDAB20S-S (20 Nm, 24 V setup)	NF24A-S2 (10 Nm), SF24A-S2 (20 Nm), NFA-S (10 Nm, 24V setup), SFA-S (20 Nm, 24V setup)	
RDAS18S-24A	18 Nm, 0-10 V, 24 V, spring return	RDAB10S-24A (10 Nm), RDAB20S-24A (20 Nm)	NF24A-SR (10 Nm), SF24A-SR (20 Nm)	

Without spring return

MODELS

Article	Description	Replaces RDAB	Replaces Belimo	Note
RDAS5-230	5 Nm, on/off or 3-point, 230 V	RDAB5-230 (5 Nm)	LM230A (5 Nm)	
RDAS5-230S	5 Nm, on/off or 3-point, 230 V, aux. switch	RDAB5-230S (5 Nm)	LM230A-S (5 Nm)	
RDAS5-24	5 Nm, on/off or 3-point, 24 V	RDAB5-24 (5 Nm)	LM24A (5 Nm)	
RDAS5-24S	5 Nm, on/off or 3-point, 24 V, aux. switch	RDAB5-24S (5 Nm)	LM24A-S (5 Nm)	
RDAS5-24A	5 Nm, 0…10 V, 24 V	RDAB5-24A (5 Nm)	LM24A-SR (5 Nm)	
RDAS10-230	10 Nm, on/off or 3-point, 230 V	RDAB10-230 (10 Nm)	NM230A (10 Nm)	
RDAS10-230S	10 Nm, on/off or 3-point, 230 V, aux.switch	RDAB10-230S (10 Nm)	NM230A-S (10 Nm)	
RDAS10-24	10 Nm, on/off or 3-point, 24 V	RDAB10-24 (10 Nm)	NM24A (10 Nm)	
RDAS10-24S	10 Nm, on/off or 3-point, 24 V, aux. switch	RDAB10-24S (10 Nm)	NM24A-S (10 Nm)	
RDAS10-24A	10 Nm, 0-10 V, 24 V	RDAB10-24A (10 Nm)	NM24A-SR (10 Nm)	
RDAS20-230	20 Nm, on/off or 3-point, 230 V	RDAB20-230 (20 Nm)	SM230A (20 Nm)	
RDAS20-230S	20 Nm, on/off or 3-point, 230 V, aux. switch	RDAB20-230S (20 Nm)	SM230A-S (20 Nm)	
RDAS20-24	20 Nm, on/off or 3-point, 24 V	RDAB20-24 (20 Nm)	SM24A (20 Nm)	
RDAS20-24S	20 Nm, on/off or 3-point, 24 V, aux. switch	RDAB20-24S (20 Nm)	SM24A-S (20 Nm)	
RDAS20-24A	20 Nm, 0-10 V, 24 V	RDAB20-24A (20 Nm)	SM24A-SR (20 Nm)	
RDAS20-24AS	20 Nm, 0-10 V, 24 V, aux. switch	N/A	SM24A-SR-S2 (20 Nm)	
RDAS35-230	35 Nm, 3-point, 230 V	RDAB40-230 (40 Nm)	GM230A (40 Nm)	
RDAS35-24	35 Nm, 3-point, 24 V	RDAB40-24 (40 Nm)	GM24A (40 Nm)	
RDAS35-24A	35 Nm, 0-10 V, 24 V	RDAB40-24A (40 Nm)	GM24A-SR (40 Nm)	

DAMPER ACTUATORS WITH SPRING RETURN

RDAS4S

4 Nm

Damper actuator with spring return, 4 Nm. For 2-point (on/off) or 0…10V control signal.

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8…15 mm
Damper shaft, square	6…11 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	0.6 m^2
Torque	4 Nm
Protection class	IP54
Running time, actuator	60 s
Closing time, spring	15 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS4S-230	230 V ~ (100…240 V ~ 50/60 Hz)	-	2-point, On/Off	
RDAS4S-230S	230 V ~ (100…240 V ~ 50/60 Hz)	Yes	2-point, On/Off	
RDAS4S-24	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	2-point, On/Off	
RDAS4S-24S	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	Yes	2-point, On/Off	
RDAS4S-24A	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	0...10 V	

RDAS7S

7 Nm

Damper actuator with spring return, 7 Nm. For 2-point (on/off) or 0…10V control signal.

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	6.4…20.5 mm
Damper shaft, square	6.4…13 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	1.5 m^2
Torque	7 Nm
Protection class	IP54
Running time, actuator	90 s
Closing time, spring	15 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS7S-230	230 V ~ (100…240 V ~ 50/60 Hz)	-	2-point, on/off	
RDAS7S-230S	230 V ~ (100…240 V ~ 50/60 Hz)	Yes	2-point, On/Off	
RDAS7S-24	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	2-point, On/Off	
RDAS7S-24S	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	Yes	2-point, On/Off	
RDAS7S-24A	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	0...10 V	

RDAS18S

18 Nm

Damper actuator with spring return, 18 Nm. For 2-point (on/off) or 0…10V control signal.

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8…25.6 mm
Damper shaft, square	6…18 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	3.0 m^2
Torque	18 Nm
Protection class	IP54
Running time, actuator	90 s
Closing time, spring	15 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS18S-230	230 V ~ (100…240 V ~ 50/60 Hz)	-	2-point, On/Off	
RDAS18S-230S	230 V ~ (100…240 V ~ 50/60 Hz)	Yes	2-point, On/Off	
RDAS18S-24	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	2-point, On/Off	
RDAS18S-24S	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	Yes	2-point, On/Off	
RDAS18S-24A	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	0...10 V	

DAMPER ACTUATORS WITHOUT SPRING RETURN

RDAS5

5 Nm

Damper actuator without spring return, 5 Nm. For 2-point (on/off)/3-point or 0…10 V control signal.

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8…16, 8…10 mm
Damper shaft, square	6…12.8 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	0.8 m²
Torque	5 Nm
Protection class	IP54
Running time, actuator	150 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS5-230	230 V ~ (100…240 V ~ 50/60 Hz)	-	3-point or 2-point, On/Off	
RDAS5-230S	230 V ~ (100…240 V ~ 50/60 Hz)	Yes	3-point or 2-point, On/Off	
RDAS5-24	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	3-point or 2-point, On/Off	
RDAS5-24S	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	Yes	3-point or 2-point, On/Off	
RDAS5-24A	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	0...10 V	

RDAS10

10 Nm

Damper actuator without spring return, 10 Nm. For 2-point (on/off)/3-point or 0…10 V control signal.

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8…16 mm, 8…10 mm
Damper shaft, square	6…12.8 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	1.6 m²
Torque	10 Nm
Protection class	IP54
Running time, actuator	150 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS10-230	230 V ~ (100…240 V ~ 50/60 Hz)	-	3-point or 2-point, On/Off	
RDAS10-230S	230 V ~ (100…240 V ~ 50/60 Hz)	Yes	3-point or 2-point, On/Off	
RDAS10-24	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	3-point or 2-point, On/Off	
RDAS10-24S	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	Yes	3-point or 2-point, On/Off	
RDAS10-24A	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	0...10 V	

RDAS20

20 Nm

Damper actuator without spring return, 20 Nm. For 2-point (on/off)/3-point or 0…10 V control signal.

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8…20.5 mm
Damper shaft, square	8…14.5 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	4.0 m^2
Torque	20 Nm
Protection class	IP54
Running time, actuator	150 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS20-230	230 V ~ (100…240 V ~ 50/60 Hz)	-	3-point or 2-point, On/Off	
RDAS20-230S	230 V ~ (100…240 V ~ 50/60 Hz)	Yes	3-point or 2-point, On/Off	
RDAS20-24	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	3-point or 2-point, On/Off	
RDAS20-24S	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	Yes	3-point or 2-point, On/Off	
RDAS20-24A	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	-	0...10 V	
RDAS20-24AS	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 V DC)	Yes	0...10 V	

RDAS35

35 Nm

Damper actuator without spring return, 35 Nm. For 3-point or 0…10 V control signal.

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8…25.6 mm
Damper shaft, square	6…18 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	6.0 m^2
Torque	35 Nm
Protection class	IP54
Running time, actuator	125 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS35-230	230 V ~ (100…240 V ~ 50/60 Hz)	-	3-point	
RDAS35-24	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 DC)	-	3-point	
RDAS35-24A	24 V AC/DC (20…28 V AC 50/60 Hz / 24…48 DC)	-	0...10 V	

DAMPER ACTUATOR ACCESSORIES

Damper actuator accessories for RDAS

Article	Description	Note
ASK71.9	Damper crank arm for RDAS with torque 5-35Nm	
ASK71.6	Rotary/linear set with lever and plate for RDAS5 and RDAS10	
ASK78.6	Centering insert for RDAS5 and RDAS10, 8x8mm square profile	
ASK78.7	Centering insert for RDAS5 and RDAS10, 10x10mm square profile	
ASK74.7	Shaft extension for RDAS with torque 7-35Nm	
ASK71.14	Rotary/linear set with lever and plate for RDAS20	
ASC77.1E	External aux. switch (1) for RDAS with torque 7Nm, 18Nm, 20Nm and 35Nm	
ASC77.2E	External aux. switch (2) for RDAS with torque 7Nm, 18Nm, 20Nm and 35Nm	
DPTW	Positioner 0...100 % for modulating actuators (0…10 V), wall mounting	
DPTF	Positioner 0...100 % for modulating actuators (0…10 V), panel mounting	

ASK71.9

ASK71.6

ASK78.6

ASK78.7

ASK74.7

ASK71.14

ASC77.1E

ASC77.2E

DPTW

DPTF

14

MISCELLANEOUS PRODUCTS

TRANSFORMERS

Transformer, 15 VA, DIN-rail mounting

Transformer with built-in PTC fuse. Overload and short-circuit proof.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 15 VA)
Output voltage	12 / 24 V AC
Max. load	15 VA
Mounting	DIN-rail
Number of modules	2
Protection class	IP20
Isolation class	II
Temperature class	B
Dimensions, external (WxHxD)	35 x 90 x 60 mm

Article	Description	Note
TRAFO15N2/D	Transformer	

Transformer, 40 VA, DIN-rail mounting

Transformer with built-in PTC fuse. Overload and short-circuit proof.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 40 VA)
Output voltage	12 V AC and 24 V AC
Max. load	40 VA
Mounting	DIN-rail
Number of modules	3
Ambient temperature	Max. 40 °C °C
Protection class	IP20
Isolation class	II
Temperature class	B
Dimensions, external (WxHxD)	53 x 90 x 60 mm

Article	Description	Note
TRAFO40N3/D	Transformer	

Transformer, 60 VA, wall mounting

Transformer with replaceable fuses on both poles of the secondary side. Overload and short-circuit proof.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 60 VA)
Output voltage	24 V AC
Max. load	60 VA
Mounting	Wall
Ambient temperature	Max. 40 °C
Protection class	IP44
Isolation class	II
Temperature class	B
Dimensions (WxHxD mm)	73 x 124 x 67

Article	Description	Note
TRAFO60	Transformer	

Transformer, 63 VA, DIN-rail mounting

Transformer with built-in PTC fuse. Overload and short-circuit proof.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 63 VA)
Output voltage	12 and 24 V AC
Max. load	63 VA
Mounting	DIN-rail
Number of modules	6
Ambient temperature	Max. 40 °C °C
Protection class	IP20
Isolation class	II
Temperature class	B
Dimensions, external (WxHxD)	106 x 90 x 62 mm

Article	Description	Note
TRAFO63/D	Transformer	

Transformer, 75 VA, wall mounting

Transformer with replaceable fuses on both poles of the secondary side.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 75 VA)
Output voltage	24 V AC
Max. load	75 VA
Mounting	Wall
Ambient temperature	Max. 40 °C
Protection class	IP23
Isolation class	II
Temperature class	B
Dimensions, external (WxHxD)	82 x 110 x 77 mm

Article	Description	Note
TRAFO75	Transformer	

CASINGS

Industry standard casing

Plastic industry standard casing with transparent lid for DIN-rail mounting.

Technical data	
Protection class	IP65

Article	Width	Number of modules	Note
EK54	54 mm	3	
EK216	216 mm	12	
EK324	324 mm	18	
EK432	216 mm	24	

Front mounting kit, IP55

For front mounting of products intended for DIN-rail mounting. Including DIN-rail, nuts and bolts.

Technical data	
Mounting	Front mounted
Number of modules	12
Weight (incl. packaging)	0.87 kg
Dimensions, external (WxHxD)	308x169x70 mm
Protection class	IP55

Article	Description	Note
FMK2	Front mounting kit, 12 modules	

OTHER

REPEAT485

Repeater

Repeater for connecting multiple units or for lengthening a cable. REPEAT485 is suitable in Regio systems since it provides galvanic isolation for RC controllers during communication.

Article	Description	Note
REPEAT485	Repeater, RS485	

CONV232-485

RS232 to RS485 converter

RS232 to RS485 converter. Can be used together with a PC to convert the serial com port into RS485 when using EXOline.

Article	Description	Note
CONV232-485	RS232 to RS485 converter	

Thermometer

Thermometer for duct mounting. Can be adjusted to fit different duct sizes by means of a moveable fastening flange. A rubber seal prevents air leakage.

Technical data	
Diameter	65 mm
Total length	162 mm

Article	Description	Temperature range	Note
T40	Thermometer	-40...+40 °C	
T60	Thermometer	0...60 °C	
T100	Thermometer	0...100 °C	

Differential pressure manometer

Simple, compact, easy-to-use filter manometer. MINI1200 is supplied with measuring fluid, pressure outlets and an adhesive label for noting down the filter type and the initial and final pressure drop.

Technical data	
Pressure range	0...1200 Pa
Dimensions	180 x 30 mm

Article	Description	Note
MINI1200	Manometer	
MINI1200:25	Manometer, 25 units	

Differential pressure manometer

Device for high accuracy measurements. The manometer measures up to 600 Pa differential pressure with enhanced resolution between 0...200 Pa. Equipped with blow-out protection and a knob for zero-point adjustment. Max. total pressure 100 kPa.

MV600 is supplied with measuring fluid, pressure outlets, tubing, screws and an adhesive label for noting down the initial and final pressure drop.

Technical data	
Pressure range	0...600 Pa
Accuracy	±3 %
Ambient temperature	-45...+65 °C
Dimensions	210 x 140 x 33 mm

Article	Description	Note
MV600	Manometer	

Manometer accessories

Article	Description	Note
MM-F2	Blue measuring fluid (MINI1200) 1.05 g/cm^3, 500 ml	
MM-F3	Red measuring fluid (MV600) 0.786 g/cm^3, 30 ml	
MTU:25	Pressure outlet, black plastic. For 6 mm tubing, 25 pcs	
MTU:100	Pressure outlet, black plastic. For 6 mm tubing, 100 pcs	
MM-P:25	Plastic tubing Ø 6 mm. Transparent, 25 m.	
MM-P:100	Plastic tubing Ø 6 mm. Transparent, 100 m.	
IPP8:1000	Expansion plug, grey plastic, 8 mm, 1000 pcs	
IPP10:1000	Expansion plug, grey plastic, 10 mm, 1000 pcs	
IPP12:250	Expansion plug, black plastic, 12 mm, 250 pcs	
T-ROR:100	Plastic T-branch joining piece, for 6 mm tubing, 100 pcs	

Rotation sentinel

SPINN/D is an electronic rotation sentinel, primarily intended for supervision of rotating heat-exchanger wheels. It has a change-over alarm relay and a function for blocking the alarm output at intentional stops.

Technical data	
Supply voltage	230 V AC, 5 VA
Alarm relay	5 A, 250 V AC, change-over
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Description	Note
SPINN/D	Rotation sentinel	

ACCESSORIES

Article	Description	Note
RR-G3	Sensor including magnet	
MAGNET-424	Extra magnet	

Step controller, 1- and 2-stage

Step controller suitable for heating/cooling or alarm applications. It converts a 0...10 V DC input signal to a relay output. The controller is suitable for DIN-rail or cabinet mounting and have adjustable switching points. The step controller with 2 relays can be set to either binary or sequential control. Individually settable on/off levels.

Technical data	
Supply voltage	24 V AC +/- 15 % 50-60 Hz, 24 V DC (18…35 V DC)
Input signal	0…10 V DC
Output signal	0...10 V DC
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Description	Output	Step differential	Note
SC1/D	Step controller with 1 relay (change-over)	One relay, change-over, 10 A, 250 V AC	-	
SC2/D	Step controller with 2 relays (closing)	Two relays, in closing, 10 A, 250 V AC	0...2 V DC	

Frost protection unit

The electronic frost protection unit is mainly intended for use in air handling systems. If the temperature falls below the setpoint, the relays will fall and an alarm LED lights up. The unit should be connected to an NTC sensor placed on the heating coil or return water pipe. The frost protection unit has two alarm relays and manual or automatic reset. The sensor must have 0...30°C temperature range.

When there is frost risk, the device has a 0...10 V DC control output that can be used to override the valve.

Technical data	
Supply voltage	24 V AC
Power consumption	2 VA
Setpoint	0…15 °C
P-band, control signal override	5 K (fixed)
Inputs	
Sensor inputs	1, 0...30°C (NTC sensor)
Control signal	0...10 V DC (from the controller)
Outputs	
Relays	24 V AC, 1 A, change-over and 230 V AC, 1 A, single contact
Output signal	0...10 V DC
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Description	Note
FV1/D	Frost protection unit (delivered without a sensor)	

Signal converter

Signal converter which selects the highest and lowest signal of up to six connected inputs and transforms them into two separate max. and min. output signals. If fewer than six inputs are used, unused inputs are left open. Both outputs can be used simultaneously. No settings are necessary.

Technical data	
Supply voltage	24 V AC, 3 VA
Input signal	Six, 0...10 V DC
Output signal	One max. signal 0...10 V DC and one min. signal 0...10 V DC
Accuracy	±3 % of the input signal
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Description	Note
MM6-24/D	Signal converter	

Transient protection for RS485 (EXOline) and hIEXOline

DIN-rail mounting.

Article	Number of modules	Description	Note
X1804	2.7	Transient protection	

Relay module

Coupling module which serves as electrical separation between controller and load. Equipped with screw-type terminal blocks (lift system) providing an easy and rapid wiring. The module has manual control function, LED indication and integral protective circuit.

Technical data	
Nominal voltage UN	24 V AC/DC
Output contact	One change-over contact (SPDT)
Max. switching voltage	250 V AC/DC
Max. making current	8 A
Continuous current	6 A
Ambient temperature	-20...+55 °C
Dimensions (WxHxL)	11.2 x 60 x 60 mm

Article	Description	Note
KR24-1W-S	Relay module, 1 relay, on/off/auto switch	

Relay modules

Relay modules with potential-free high load change-over contact. The modules have secure isolation according to DIN VDE 0106-101 and DIN VDE 0160.

KRAC24-2WAU is especially suitable for use with microsensors.

Technical data	
Output voltage	250 V AC
Nominal current	8 A
Ambient temperature	-40…+70 °C
Mounting	On DIN-rail 35 mm
Number of modules	1
Dimensions (WxHxD)	15.6 x 61 x 75 mm
Protection class	IP20
Change-over relays	2

Article	Description	Supply voltage	LED	Note
KRAC24-2WAU	Relay module, suitable for DDC technology	24 V AC	X	
KRAC230-2W	Relay module	230 V AC	X	

Power supply unit, 230 V AC / 24 V DC, stabilised

230 V AC / 24 V DC, stabilised.

Article	Max. current	Mounting	Number of modules	Note
X1111	0.6 A	DIN-rail or panel	1.3	
X1312	2.1 A	DIN-rail	2.3	
X1314	4.2 A	DIN-rail	2.9	

Push-button with indicator bulb

Pushbutton for extended running. Pressing PBI results in an instantaneous closed contact, which will activate extended running for the connected system. The pushbutton has a light bulb which, if desired, can be connected to the system for run indication. Bulbs for 230 V AC and 24 V AC are supplied.

Technical data	
Nominal current	16 A
Voltage rating	250 V
Mounting	Flush mounting
Protection class	IP20

Article	Description	Note
PBIE	Push-button with indicator bulb for flush mounting	

Timer with alternating relay

Timer for room mounting, activated when pressed. The connection time can be set to 15 min, 30 min, 1 h, 2 h, 4 h and 8 h. The timer is switched off when the set time has expired, or when the timer is pressed during the connection period.

Technical data	
Voltage range	230 V AC
Effect	Alternating voltage: Max. 2300 VA (resistive). Fluorescent tube load: Max. 360 VA.
Connection	Potential-free relay output
Main fuse	Max. 10 A
Connection time	15 min, 30 min, 1 h, 2 h, 4 h, 8 h
Protection class	IP20
Installation	CEE60

Article	Description	Note
TIM480N	Timer with alternating relay	

Cooling spray

For control of frost protection. Cools down to -50°C.

Article	Description	Note
CS-260	Cooling spray, 200 ml	

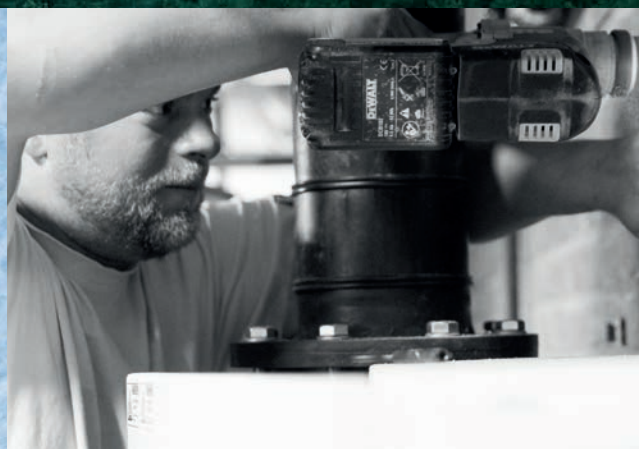
Smoke spray

Spray for control of smoke detectors. Suitable for control of ionisation or optical smoke detectors.

Article	Description	Note
SS-260	Smoke spray, 260 ml	

C

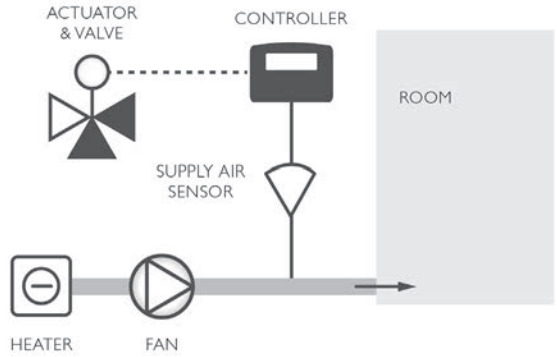
CONTROL THEORY



CONTROL THEORY

CONSTANT SUPPLY AIR CONTROL

Constant supply air control (constant supply air, duct temperature control) is used when heated air is blown into a room at a constant temperature. A temperature sensor is located in the supply air duct. This sensor is connected to a controller (with P- or PI-function) and the controller is connected to an actuator with a valve. The controller can also control multiple actuators in sequence.



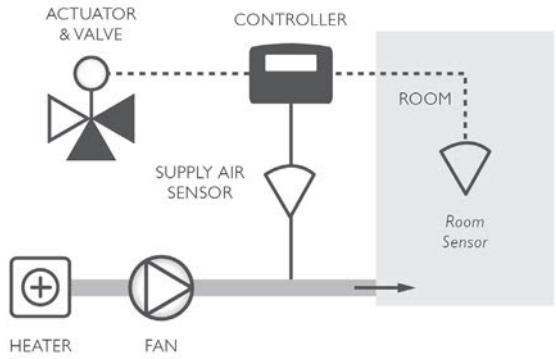
ROOM CONTROL

Room control (constant room temperature, extract air control) is used to maintain a constant temperature in the room. It is also used when the temperature in the room is variable due to draughts, machinery heat loads, etc. The supply air temperature will vary depending on whether it is necessary to heat or to cool the premises. A sensor located in the supply air duct dictates a minimum and a maximum supply air temperature so that air which is too cold or too hot is not blown into the room.

Regin's controllers have built-in cascade control. They, in turn, contain two controllers, P+PI or PI+PI. The first controller is connected to a sensor in the room and the second to a sensor in the supply air duct. The controllers are connected so that the output signal of the first controller forms the input signal of the second.

A temperature change in the room results in a change of the duct controller setpoint. The size of this change is determined by the cascade factor, CF. The cascade factor is the amplification at the first controller, i.e. the number of degrees by which the supply air temperature should be changed if the room temperature is changed by 1°C.

The main sensor is located in the room or in the extract air duct (if the average temperature of multiple rooms is required). The main sensor, together with the controller, determines the supply air temperature for each individual load. The controller can also control several actuators in sequence.



FROST PROTECTION – FROST PROTECTION SENSOR

The purpose of the frost protection sensor is to prevent the formation of ice in the air heating coil. If ice is allowed to form, the air heater may freeze and burst, with subsequent water damage. The location of the temperature sensor is of particular importance, since it must be able to sense when the temperature is too low. It can be difficult to determine where in the air heater the temperature is at its lowest.

The sensor can be placed on a pipeline (1), on the return (2), or on a pipe bend (3). The best location depends on the design of the heater. Some heating coils are fitted with a standard sensor receptor (4). A frost protection sensor may be electromechanical or electronic. The electronic frost protection sensor often has several functions:

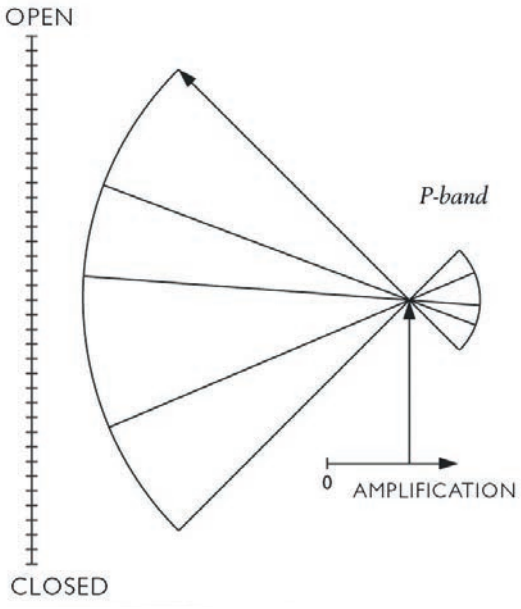
A.	To stop the supply air fan at a certain temperature.
B.	To provide a minimum limit for the heating coil temperature when the fan is in operation.
C.	To maintain a constant coil temperature when the fan is non-operational. The outdoor air damper will close when the frost protection sensor stops the fan.

P-CONTROL, P-BAND

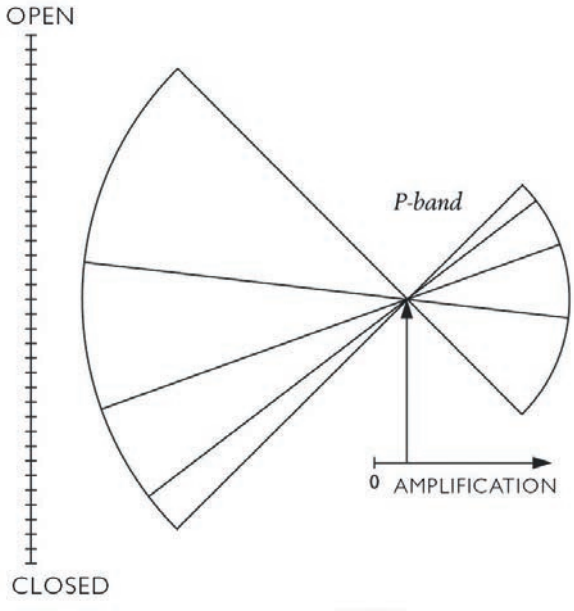
P-control stands for proportional control, i.e. a change at the sensor bears a certain relation to a change in the actuator. The magnitude of the actuator movement is determined by the amplification F. A small amplification results in a small movement for a given change, while a large amplification results in a large movement for the same change. However, the amplification F is not usually used in terms of comfort: instead, we refer to a P-band. The P-band is equal to 1/F (%). The P-band can also be expressed as the temperature change required for the actuator to move from closed to open position. Then the P-band value is specified in°C.

One example of P-controllers is automatic thermostat valves fitted to radiators. When the temperature in the room drops, the valve opens to the corresponding extent. These valves usually have a P-band of 2°C, i.e. a change in the room temperature of 2°C is required for the valve to open fully, which means that the temperature in the room will vary within these 2°C. This is known as P deviation. It should then be possible for the P-band to be reduced in order to achieve a more even temperature, but the system would then become unstable, i.e. the valve would start to open and close continuously, with a fluctuating temperature (increasing and decreasing) as a result.

P-controllers are sometimes used for ventilation purposes in order to maintain a constant temperature, e.g. the supply air temperature. Then the P deviation results in an undesirable temperature variation. If P deviation is not required, it is possible to use a controller containing an integrator instead so that PI-control is achieved.



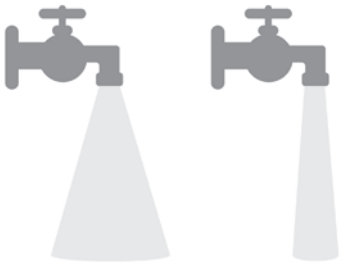
Large amplification means a small P-band



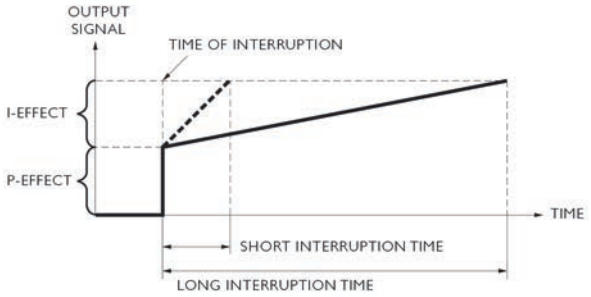
Small amplification means a large P-band

PI-CONTROL, I-TIME

PI-control is a combination of P-control and I-control. It is possible to compare PI-control with what happens when you fill a bucket with water - first you turn the tap on fully (P-effect) and then you gradually turn it off again (I-effect) until the bucket is full.



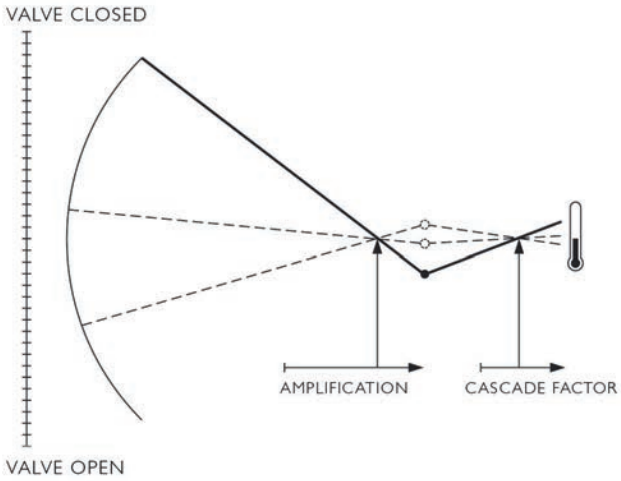
I-control means integrating control. This means a control link where the output signal is influenced by the magnitude and time of the input signal. A large deviation over a long period of time gives a large output signal and vice versa - a small deviation over a short period of time gives a small output signal. This signal is added to the signal from the P-controller. I-time is defined as the time it takes to increase the output signal to equal the value of the P stage.



C

CASCADE CONTROL, CASCADE FACTOR

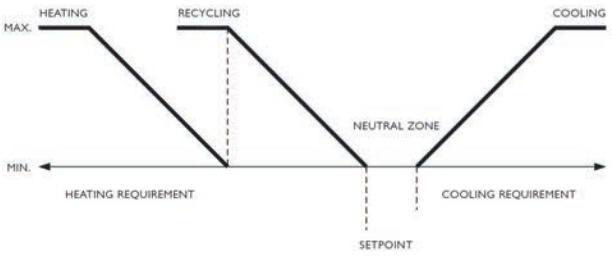
Cascade control is utilised e.g. for room control. Two controllers (P + PI or PI + PI) are used. The first controller is connected to a sensor in the room and the second to a sensor in the supply air duct. The controllers are connected so that the output signal of the first controller forms the input signal of the second. The cascade factor is the amplification at the first controller, i.e. the number of degrees by which the supply air temperature should be changed if the room temperature is changed by 1°C.



SEQUENCE CONTROL, NEUTRAL ZONE

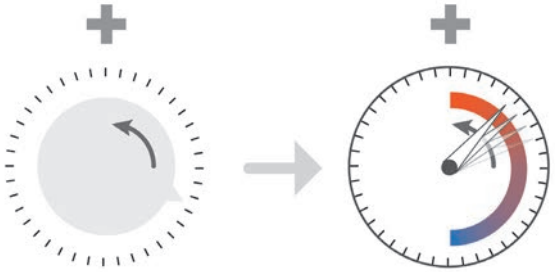
"Sequence" means "series" and therefore "sequence control" means "series control". When using sequence control, several actuators (output signals) are controlled in sequence, i.e. one actuator moves to its end position first followed by the next actuator, and so on. Sequence control usually takes place in two (e.g. cooling - heating) or three (e.g. cooling - recycling - heating) stages.

A neutral zone can be set between the cooling stage and the heating stage. The neutral zone (Nz) will give the cooling stage a higher setpoint value. This leads to a saving in energy used for cooling and will result in greater comfort since no sudden cold will be experienced by a person entering the room.



SETPOINT CONTROL

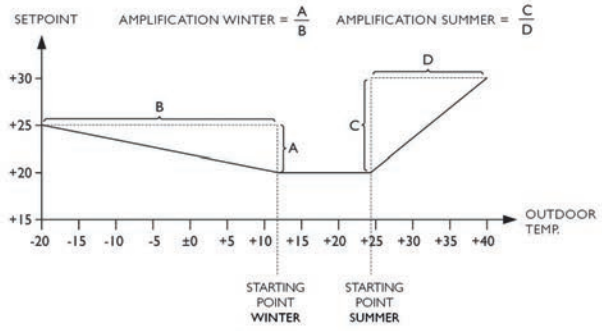
The SPC (setpoint control) input is used to change the desired temperature (setpoint value) from distance. This is done by displacing the setpoint value up or down. The input is adjusted to accommodate a standard signal, e.g. 0...10 V DC. At 5 V there is no effect, at 0 V the setpoint value is fully reduced, and at 10 V the value is fully increased.



OUTDOOR TEMPERATURE COMPENSATION

In some cases, it is desirable for the outdoor temperature to influence the main controller setpoint value, i.e. if the outdoor temperature falls below or exceeds a set value, the setpoint value is increased gradually. An outdoor sensor is then connected to the main controller via a separate unit.

Compensation can take place in the summer and/or in the winter. Summer compensation means that the setpoint value is increased when the outdoor temperature exceeds a set value, and winter compensation means that the setpoint value is increased when the outdoor temperature falls below a set value. An amplification factor for both summer and winter compensation determines the amount by which the setpoint value should be increased.



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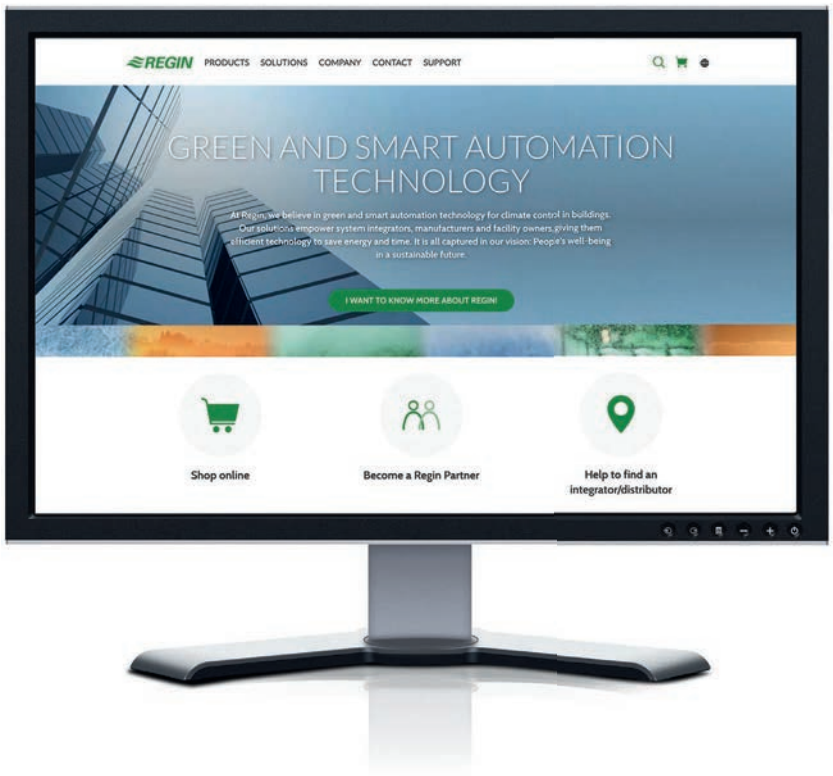

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CONVERSION CHARTS

	Unit	Factor	Unit	Factor	Unit
Length	Inches Feet	x 25.4 x 0.3048	= mm = m	x 0.03937 x 3.208	= inches = feet
Area	Square inches Square feet	x 645.16 x 0.0929	= mm^2 = m^2	0.00155 x 10.764	= in^2 = ft^2
Volume	Cubic inches Cubic feet Cubic feet Pints Imp.gal Imp.gal	x 16387 x 0.02832 x 28.32 x 0.56825 x 4.546 x 0.004546	= mm^3 = m^3 = litre = litre = litre = m^3	0.000061 x 35.31 x 0.0353 x 1.7598 x 0.22 x 220	= in^3 = ft^3 = ft^3 = Pints = Imp.gal = Imp.gal
Mass	lb (pounds)	x 0.4536	= kg	x 2.2046	= lb
Force	lb (pounds)	x 4.448	= N	x 0.22482	= lb
Speed	ft/min	x 0.00508	= m/s	x 196.85	= ft/m
Flow	imp.gal/min Imp.gal/h ft^3/min	x 0.07577 x 0.000126 x 0.000472	= l/s = m^3/s = m^3/s	x 13.2 x 7936.51 x 2118.64	= imp.gal/min = imp.gal/h = ft^3/min
Heating power	kcal/h	x 1.163	= W	x 0.8598	= kcal/h
Pressure	lb/in^2 lb/in^2 kg/cm^2	x 0.0689 x 0.0703 x 0.9807	= bar = kg/cm^2 = bar	x 14.5 x 14.22 x 1.020	= lb/in^2 = ib/in^2 = kg/cm^2

	kPa	Pa	bar	mmWC	mWC	MPa	kp/cm^2	psi
1 kPa		1000	0.01	100	0.1	0.001	0.01	0.15
1 Pa	0.001		0.00001	0.1	0.0001	0.000001	0.00001	0.00015
1 bar	100	100000		10000	10	0.1	1	15
1 mmWC	0.01	10	0.0001		0.001	0.00001	0.0001	0.0015
1 mWC	10	10000	0.1	1000		0.01	0.1	1.5
1 Mpa	1000	1000000	10	100000	100		10	150
1 kp/cm^2	100	100000	1	10000	10	0.1		15
1 psi	6.666667	6666.667	0.066667	666.6667	0.666667	0.006667	0.066667	

bar	x 14.50377	= psi
bar	x 100	= kPa
kg/cm^2	x 14.22334	= psi
inches Hg	x 0.4912	= psi
N/m^2	x 1.0	= Pa
mbar	x 100	= Pa
°C	x (1.8x°C)+32	= °F
kgcm	x 0.098	= Nm
litre	x 1000	= m^3
gal (IMP)	x 4.5460	= litre
gal (US)	x 3.7854	= litre
gal (IMP)	x 1.20095	= gal (US)

REGIN
THE CHALLENGER

HEAD OFFICE Regin Controls Sverige AB, Box 116, SE-428 22 Kållered • Visiting address: Bangårdsvägen 35, SE-428 36 Kållered
Phone: +46 (0)31 720 02 00 • Fax: +46 (0)31 720 02 50 • info@regincontrols.com • www.regincontrols.com

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