

Field Device Catalogue

2020



Delivering quality and performance-proven products

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Distech Controls Field Device Program

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Distech Controls aims to provide our Partners with an extensive range of field devices to complement our building automation offering – for a complete, cost effective solution, from design to installation. From facilitating your ordering process, to delivering quality and performance-proven products, combined with the dedicated expertise of our Field Devices Sales Associates, look to Distech Controls for all your field devices requirements.

Our Field Device catalogue provides detailed information on a wide variety of field devices designed to enhance your building automation and energy management systems. We also invite you to visit our website at www. distech-controls.com for additional product documentation and other valuable information.

From quotations, and product selection, to submittals and technical questions, our dedicated Field Devices Sales Associates are here for you. Contact them to discuss how Distech Controls' Field Device Program can benefit your projects and buildings:

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m/s

AVT

Air Velocity Transmitter



Air Velocity

Temperature and Air Velocity Transmitter
 Multi-point Air Velocity Sensors

Air velocity sensors output the actual speed of airflow to the building automation system. This allows the BAS to monitor and control the amount of air flowing through the ventilation system.



Distech Controls Inc.

AV-AVT

Temperature & Air Velocity Transmitter

Temperature & Air velocity transmitter for measuring and monitoring air velocities in supply/exhaust air plants, ventilators, regulation flaps and electro damper registers. The control transmitter provides air temperature and velocity information to a Building Automation System (BAS) through analog outputs (2 to 10 VDC or 4 to 20 mA).

Specifications

Probe	Airfoil shaped 2 x 3/4 in. 6063T5 aluminum
Output others	(optional) Relay (volt free contact), 230 V ~ / 6 A, 30 V = / 6 A Changer, adjustable switching threshold and hysteresis
Output airflow / temperature	Temperature: 0-10 V (linear to °C), load min. 1 k Ω or 4-20 mA (linear to °C), load max. 400 Ω Air velocity: 0-10 V (linear to m/s), Last min. 1 k Ω or 4-20 mA (linear to m/s), Load max. 400 Ω
Power supply	15-24 V = (±10%) or 24 V ~ (±10%)
Power consumption	0-10V: 35 mA (50 mA with relay) 4-20mA: +40 mA
Measuring range air velocity	0-2 m/s: <0,2 m/s + 5% of measuring value, (typ. at 0-10 m/s: <0,5 m/s + 5% of measuring value, 0-20 m/s: <1,0 m/s + 5% of measuring value
Thermal shift	±0,8 %FS / K, units calibrated at 22 °C
Accuracy temperature	0 to +50 °C
Display	LCD for indication of measuring values (optional)
Ambient temperature	0 to +50 °C
Ambient humidity	max. 85% rH short term condensation
Cable entry size	M16 with relay option (-R) 2x M16
Protection	IP54 according to DIN EN 60529
Terminal block	Terminal block, max. 1,5 mm ²
Enclosure material	ABS, PC
Pocket material	Stainless Steel 1.430 (SS304)
Pocket length and OD	210 mm, Ø 10 mm
Dimensions	90 x 71,5 x 36 mm
Weight	220 g
Storage temperature	-20 to +70 °C



Features & Benefits

- Ease of installation
- Maintenance-free

AV-EP Series Multi-point Air Velocity Sensors (ABS) - 100 to 600 mm

Using a PS-DPA Air Differential Pressure Sensor of an appropriate range, the output of the sensor represents the velocity pressure and is defined by the following equation:

Velocity = $\sqrt{(2 \times \text{Velocity Pressure}) / 1.2}$

Model Selection

AV-EP-100	Multi-point Air Velocity Sensor (ABS) 100 mm
AV-EP-200	Multi-point Air Velocity Sensor (ABS) 200 mm
AV-EP-300	Multi-point Air Velocity Sensor (ABS) 300 mm
AV-EP-400	Multi-point Air Velocity Sensor (ABS) 400 mm
AV-EP-500	Multi-point Air Velocity Sensor (ABS) 500 mm
AV-EP-600	Multi-point Air Velocity Sensor (ABS) 600 mm
Accessory	

AV-TUBE-8MM Duct probe adjustment flange

Note: The AV-EP must be mounted a minimum of 2m away from any bends, fans, heating batteries etc. in the duct-work. Always point the flow direction arrow on the probe flange into the air flow.



- Mounting plate to suit flat, round and oval ducts
- Double gasket seals the probe to the duct
- Push on connectors to suit AV-TUBE-8mm
- Ideal for small attenuators





Features & Benefits

- Mounting plate to suit flat ducts
- Double gasket seals the probe to the duct
- Push on connectors to suit AV-TUBE-8mm

AV-MPS Series Multi-point Air Velocity Sensors (S/S) - 700 to 2000 mm

A Multi-point Air Velocity Sensor for use in larger ducts or where turbulent airflow is likely to be encountered. Stainless steel construction is used for the tubing and all gaskets are provided. Using a PS-DPA Air Differential Pressure Sensor of an appropriate range, the output of the sensor represents the

velocity pressure and is defined by the following equation:

Velocity = $\sqrt{(2 \times \text{Velocity Pressure}) / 1.2}$

Model Selection

AV-MPS-700	Multi-point Air Velocity Sensor (S/S) 700 mm
AV-MPS-800	Multi-point Air Velocity Sensor (S/S) 800 mm
AV-MPS-1000	Multi-point Air Velocity Sensor (S/S) 1000 mm
AV-MPS-1250	Multi-point Air Velocity Sensor (S/S) 1250 mm
AV-MPS-1500	Multi-point Air Velocity Sensor (S/S) 1500 mm
AV-MPS-1750	Multi-point Air Velocity Sensor (S/S) 1750 mm
AV-MPS-2000	Multi-point Air Velocity Sensor (S/S) 2000 mm
Accessory	
AV-TUBE-8MM	Duct probe adjustment flange



Damper Actuators

Damper Actuators

Dampers are the control points for regulating the flow of air in a ventilation system. Our spring and non-spring return series of actuators can control small terminal unit dampers up to large intake air dampers. Options are available for input voltage, control signal output, as well as auxiliary end switches.

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DA-004N024PX Non-Spring Return Damper Actuator

The small electric damper actuator series have been developed to operate small and medium air damper in ventilation and air conditioning systems. The compact design makes this actuator highly versatile.

Specifications

(4 Nm)

the second se	
Supply voltage	AC 24 V +25% -20%
Frequency	50/60 Hz
Power requirement	3.6 VA
Control signal	DC 0(2)-10 V or 0(4)-20 mA with field-furnished 500 ohm resistor
Position signal	DC 0(2)-10 V
Angle of rotation	90° (93° mech)
Cable	1.2 m PVC
Service lifetime	100,000 rotations
Auxiliary switches	None
Noise level	35 dB(A)
Protection class	11
Degree of protection	IP42
Operating temperature	-20 °C to 60 °C / IEC 721-3-3
Storage temperature	-40°C to 85 °C / IEC 721-3-2
Humidity	5 to 90% r.h. non-condensing
Service	Maintenance-free
Weight	0.5 kg

Model Selection

DA-004N024PX

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Damper Actuator	DA-	004	N	024	Р	Х
Torque (Nm)	004 = 4Nm 008 = 8Nm 010 = 10Nm 016 = 16Nm 020 = 20Nm 024 = 24Nm						
Action	N = Non Spring Return S = Spring Return						
Supply voltage	024 = 24 V 230 = 230V						
Control signal	D = On / Off F = Floating P = Proportional U = Universal						
Position switches	X = None 1 = 1 Switch 2 = 2 Switches						

Non-spring return damper actuator, 24V, Proportional, 4Nm





Features & Benefits

- DC 0(2)-10 V or 0(4)-20 mA with field-furnished 500 Ω resistor
- Load-independent running time
- Up to 5 actuators in parallel operation possible
- 1.2 M PVC Cable or Terminal block
- Simple direct-mounting with universal adapter for fitting on a 8-13 mm Ø round axis or on a 8-10 mm square shaft
- Selectable direction of rotation
- Manual release button
- Automatic shut-off at end position
- Devices meet CE requirements

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Features & Benefits

- Automatic signal input detection model On/Off, Floating and Proportional increase availability at distributors and simplify retrofits.
- High speed actuator model allows applications in loop that require a quick response time.
- Optional auxiliary switch & potentiometer feedback provide line voltage capable single Pole Double-Throw (SPDT) switch and 140Ω , $1K\Omega$, $2K\Omega$ or $10K\Omega$ feedback potentiometric.
- Self-calibrating to adjust stroke, eliminating need of complex calibration procedure when adjusting stops.
- · Electronic stall detection protects from overload at all angles of rotation. The actuator may be stalled anywhere in its rotation range without the need for mechanical end switches.
- Microprocessor-controlled brushless DC motor provides constant runtime independent of torque and increases life cycle by reducing wear

DA-010N024UX **Non-Spring Return Damper Actuator** (10 Nm)

The DA-0010Sx Series Electric Non-Spring Return Actuators provide control of dampers in HVAC Systems for 10Nm rated torque.

These bidirectional actuators do not require a damper linkage and are easily installed on round shafts or square shafts.

An optional line voltage auxiliary switch kit can be field installed to indicate an end-stop position or perform switching functions within the selected rotation range.

AC: 24 VAC (AC 19.2 to 28.8 V) at 50/60 Hz Class 2 (North America) or SELV

Specifications

Power requirements

	(Europe), 6.2 VA running DC: 24 VDC (DC 21.6 to 26.4 V) Class 2 (North America) or SELV (Europe), 1.9 W running
Transformer sizing	≥6.5 VA
Feedback signal	0 (2) to 10 VDC
Running torque	10 Nm (90 lb·in)
Rotation range	Mechanically Limited 35° to 95° ±3° in 5° increments
Rotation time	35 seconds
Rotation time autocalibration	35 seconds
Cycles	100,000 full stroke cycles; 2,500,000 repositions
Audible noise	<40 dBA at 1 m (39-13/32 in.)
Electrical connections	$1.2\ m$ (48 in.) Halogen Free Cable with 0.82 mm2 (18 AWG) conductors and 6 mm (0.25 in.) ferrule ends
Operating temperature	-30 to 60°C (-22 to 140°F), 95% RH, non-condensing
Storage temperature	-40 to 85°C (-40 to 185°F), 95% RH, non-condensing
Enclosure	IP54
Shipping weight	0.9 kg

Model Selection

DA-010N024UX* Non-spring return damper actuator, 24V, On/Off, Floating, and Proportional, 10Nm

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Damper Actuator	DA-	010	Ν	024	U	Х
Torque (Nm)	004 = 4Nm 008 = 8Nm 010 = 10Nm 016 = 16Nm 020 = 20Nm 024 = 24Nm						
Action	N = Non Spring Return S = Spring Return						
Supply voltage	024 = 24 V 230 = 230V						
Control signal	D = On / Off F = Floating P = Proportional U = Universal						
Position switches	X = None 1 = 1 Switch 2 = 2 Switches						

IMPORTANT: This matrix is for information purposes only. For the list of available actuator models, please refer to the Model Selection table for each actuator series

The 16 and 24Nm Series Electric Actuators are direct-mount actuators. These bidirectional actuators do not require a damper linkage, and are easily installed on round shafts or square shafts using the standard shaft clamp included with the actuator.

Actuators provide 90° of rotation. A graduated scale from 0° to 90° and a position indicator provide visual indication of stroke.

Specifications

Running time	DA-016N024PX: 80 sec. DA-024N024PX: 125 sec.
Supply voltage	AC 24 V ±20% / DC ±10%
Frequency	50/60 Hz
Power requirement	3.6 VA
Power consumption	0.3 W (at en position), 2.5 W (running)
Wire sizing	6.0 VA / 3.6 A @ 2 ms
Control signal	Y1: DC 0 10 V / Ri 250 Ω Y2: 020 mA / Ri 388 Ω
Position signal (U)	DC 010 V / R > 50 kΩ
Angle of rotation	Working range: 90° (93°mech.) Limiting: 5°85° in 5° < steps
Service lifetime	60,000 rotations
Sound power level	45 dB(A)
Protection class	1
Degree of protection	IP54 cable down
Operating temperature	-20°C to 50°C
Storage temperature	-30°C to 60°C
Humidity	5 to 90% r.H. not condensing
Weight	1.1 kg

Model Selection

DA-016N024F2	Non-spring return damper actuator, 24V, On/Off, Floating, 16Nm, with 2 auxiliary switches
DA-016N230F2	Non-spring return damper actuator, 230V, On/Off, Floating, 16Nm, with 2 auxiliary switches
DA-016N024PX	Non-spring return damper actuator, 24V, Proportional, 16Nm
DA-024N024F2	Non-spring return damper actuator, 24V, On/Off, Floating, 24Nm, with 2 auxiliary switches
DA-024N230F2	Non-spring return damper actuator, 230V, On/Off, Floating, 24Nm, with 2 auxiliary switches
DA-024N024PX	Non-spring return damper actuator, 24V, Proportional, 24Nm

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Damper Actuator	DA-	016	N	024	Р	Х
Torque (Nm)	004 = 4Nm 008 = 8Nm 010 = 10Nm 016 = 16Nm 020 = 20Nm 024 = 24Nm						
Action	N = Non Spring Return S = Spring Return						
Supply voltage	024 = 24 V 230 = 230V						
Control signal	D = On / Off F = Floating P = Proportional U = Universal						
Position switches	X = None 1 = 1 Switch 2 = 2 Switches						

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.



- High torque in a compact package size to expand the range of damper applications in HVAC system.
- Requires no crankarm or linkage, and is capable of direct mounting to a round shaft up to 20 mm diameter and to a square shaft up to 16 mm.
- Protects from overload at all angles of rotation.
 Power consumption is reduced in holding mode. The actuator may be stalled anywhere in its rotation range without the need for mechanical end switches.
- Eliminates need for electrical ground connection for regulatory agency compliance.
- Provides constant runtime independent of torque.
- Manufactured under International Standards Organization (ISO) 9001 Quality Control Standards

DA-008S024PX



Features & Benefits

- 0(2)-10 V or 0(4)-20mA control signal
- Up to 5 actuators in parallel operation possible
- Electrical connection with halogen-free cable
- Simple direct mounting with universal adapter on Ø 8 mm to 16 mm shaft or 6 mm to 12 mm square shaft. An optional M9208-600 Jackshaft Coupler Kit is available for 12 to 19 mm round shafts, or 10 mm to 14 mm square shafts
- Limitation of rotation angle
- Manual positioning with crank handle
- Two auxiliary switches, one adjustable
- Microprocessor-controlled brushless DC motor provides constant runtime independent of torque and increases life cycle by reducing wear

Spring Return Damper Actuator (8 Nm) Proportional Control

The 8Nm Spring Return electric damperactuator series has been specially developed for the motorized operation of air dampers in air conditioning systems. The compact design and universal adapter fitted with limitation of rotation angle make this actuator highly versatile.

When the control signal is applied the actuator drives the damper to the operational position, while evenly tensioning the integrated spring. After a power failure the stored energy in the spring immediately brings the damper to the safety position. Manual operation is automatically cancelled when the actuator is in electrical operation.

Specifications

Power requirements	AC: 24 Vac at 50/60 Hz (AC 19.2 to 28.8 V) DC: 24 Vdc (DC 21.6 to 28.8 V)
Power consumption	Running: 7.9 VA (AC); 3.5 W (DC) Holding position: 5.5 VA (AC; 1.9 W (DC)
Transformer sizing	8 VA min. per actuator
Control input impedence	Voltage: 100,000 ohms Current: 500 ohms with Field Furnished Resistor
Rotation range	Maximum Full Stroke: 95° Adjustable Stop: 35° to 95° Maximum Position
Rotation time for 90o	50 Seconds Constant for 8 Nm Load (running) 17 to 25 Seconds for 0 to 8 Nm Load (spring return)
Cycles	100,000 full stroke cycles; 2,500,000 repositions
Audible noise	Running: <35 dBA at 8 Nm Load Holding: <20 dBA Spring returning: <52 dBA at 8 Nm Load
Electrical connections1	1.2 m UL 758 Type AWM Halogen-Free Cable with 0.85 mm2 (18 AWG) conductors and 6 mm ferrule ends
Operating temperature	-40 to 60°C; 90% RH Maximum, Non-condensing
Storage temperature	-40 to 85°C; 95% RH Maximum, Non-condensing
Enclosure	IP54 for all mounting orientations
Shipping weight	DA-008N024PX: 1.6 kg DA-008N024P2: 1.7 kg

1. For electrical connections on auxiliary switches, refer to product datasheet

Model Selection

DA-008S024P2*	Spring return damper actuator, 24V, Proportional control, 8Nm, with 2 auxiliary switches
DA-008S024PX*	Spring return damper actuator, 24V, Proportional control, 8Nm

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Damper Actuator	DA-	008	S	024	Р	Х
Torque (Nm)	004 = 4Nm 008 = 8Nm 010 = 10Nm 016 = 16Nm 020 = 20Nm 024 = 24Nm						
Action	N = Non Spring Return S = Spring Return						
Supply voltage	024 = 24 V 230 = 230V						
Control signal	D = On / Off F = Floating P = Proportional U = Universal						
Position switches	X = None 1 = 1 Switch 2 = 2 Switches						

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.

DA-008Sxxxxx

Spring Return Damper Actuator (8 Nm) On/Off Control

The 8Nm Spring Return electric damperactuator series has been specially developed for the motorized operation of air dampers in air conditioning systems. The compact design and universal adapter fitted with limitation of rotation angle make this actuator highly versatile.

When the control signal is applied the actuator drives the damper to the operational position, while evenly tensioning the integrated spring. After a power failure, the stored energy in the spring immediately brings the damper to the safety position. Manual operation is automatically cancelled when the actuator is in electrical operation.

Specifications

Power requirements	AC: 24 Vac at 50/60 Hz (AC 18 to 30 V) DC: 24 Vdc (DC 21.6 to 28.8 V)
Power consumption (DA-008S024Dx)	Running: 6.1 VA (AC); 3.5 W (DC) Holding position: 1.2 VA (AC); 0.5 W (DC)
Power consumption (DA-008S230Dx)	Running: 0.04 A Holding position: 0.03 A
Transformer sizing	DA-008S024DX: 7 VA min. per actuator DA-008S230DX: N/A
Control input impedence	Voltage: 100,000 ohms Current: 500 ohms with Field Furnished Resistor
Rotation range	Maximum Full Stroke: 95° Adjustable Stop: 35° to 95° Maximum Position
Rotation time for 90°	55 to 71 Seconds for 0 to 8 Nm Load (running) 13 to 26 Seconds for 0 to 8 Nm Load (spring return)
Cycles	60,000 Full Stroke Cycles
Audible noise	Running: 47 dBA at 8 Nm Load Holding: <20 dBA Spring returning: <52 dBA at 8 Nm Load
Electrical connections ¹	1.2 m UL 758 Type AWM Halogen-Free Cable with 0.85 mm2 (18 AWG) conductors and 6 mm ferrule ends
Standardd operating temp.	-20 to 60°C; 90% RH Maximum, Non-condensing
Extended operating temp.	-40 to 20°C; 90% RH Maximum, Non-condensing
Storage temperature	-40 to 85°C; 95% RH Maximum, Non-condensing
Enclosure	IP54 for all mounting orientations
Shipping weight	DA-008S024DX: 1.6 kg DA-008S230DX: 1.7 kg

1. For electrical connections on auxiliary switches, refer to product datasheet

Model Selection

DA-008S024DX*	Spring return damper actuator, 24V, On/Off control, 8Nm
DA-008S024D2*	Spring return damper actuator, 24V, On/Off control, 8Nm, with 2 auxiliary switches
DA-008S230DX*	Spring return damper actuator, 230V, On/Off control, 8Nm
DA-008S230D2*	Spring return damper actuator, 230V, On/Off control, 8Nm, with 2 auxiliary switches

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Damper Actuator	DA-	008	S	024	D	Х
Torque (Nm)	004 = 4Nm 008 = 8Nm 010 = 10Nm 016 = 16Nm 020 = 20Nm 024 = 24Nm						
Action	N = Non Spring Return S = Spring Return						
Supply voltage	024 = 24 V 230 = 230V						
Control signal	D = On / Off F = Floating P = Proportional U = Universal						
Position switches	X = None 1 = 1 Switch 2 = 2 Switches						

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.



- ON/OFF control
- Up to 5 actuators in parallel operation possible
- Electrical connection with halogen-free cable
- Simple direct mounting with universal adapter on Ø 8 mm to 16 mm shafts or 6 mm to 12 mm square shafts. An optional M9208-600 Jackshaft Coupler Kit is available for 12 to 19 mm round shafts, or 10 mm to 14 mm square shafts.
- Limitation of rotation angle
- Manual positioning with crank handle
- Two auxiliary switches, one adjustable



Features & Benefits

- 0(2)-10 V or 0(4)-20mA control signal
- Up to 5 actuators in parallel operation possible
- Electrical connection with halogen-free cable (actuators available with 1m cable)
- · Simple direct mounting with universal adapter on Ø 12 mm to 19 mm shaft or 10-12-14 mm square shaft. An optional M9220-600 Jackshaft Coupler Kit is available for 19 to 27 mm round shafts, or 16, 18, and 19 mm square shafts
- 80 mm min shaft length
- Tandem Operation possible
- · Limitation of rotation angle
- Manual positioning with crank handle
- 2 auxiliary switches, 1 adjustable
- Automatic shut-off at end position (overload switch)

DA-020S024Px Series

Spring Return Damper Actuator (20 Nm) Proportional Control

The 20Nm spring return electric damper-actuator series has been specially developed for the motorized operation of safety air dampers, (anti-icing) in air conditioning systems, smoke evacuation dampers and sealing dampers. The compact design and universal adapter fitted with limitation of rotation angle make this actuator highly versatile.

When the control signal is applied, the actuator drives the damper to the operational position, while evenly tensioning the integrated spring. After a power failure the stored energy in the spring immediately brings the damper to the safety position. Manual operation is automatically cancelled when the actuator is in electrical operation.

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Damper area	4.0 m2
Running time motor	150 sec. 90 seconds in Calibration or Override Mode
Running time spring return	26 sec.
Power consumption	Running: 15.5 VA (AC); 6.7 W (DC) At end position: 7.7 VA (AC); 2.9 W (DC)
Dimensioning	20 VA
Control signal	DC 0(2)-10 V or 0(4)-20 mA
Working area Y	Not adjustable
Position signal	DC 0(2)10 V
Angle of rotation	Working range 90o Limitation 0o to 30o and 90o to 60o
Auxiliary switches	S1 setting range: 0o fix S2 setting range: 25o to 90o adjustable
Cable	Motor: 4-wire 1-2-3-4 Switches: 6-wire 21-22-23-24-25-26
Lifetime	60,000 rotations
Noise level	55 dB(A)
Protection class	Ι
Enclosure	IP54
Operating temperature	-40 to 55oC / IEC 721-3-3
Storage temperature	-65 to 85oC / IEC 721-3-2
Humidity	5 to 95 %, non condensing
Service	Maintenance-free
Weight	2.9 kg

Model Selection

DA-020S024PX*	Spring return damper actuator, 24V, Proportional control, 20Nm
DA-020S024P2*	Spring return damper actuator, 24V, Proportional control, 20Nm, with 2 auxiliary switches
	Accessories (order separately)
M9000-158	Tandem Mounting Kit used to mount two 20Nm Proportional Electric Springback Actuators in tandem to deliver twice the torque

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Damper Actuator	DA-	020	S	024	Р	Х
Torque (Nm)	004 = 4Nm 008 = 8Nm 010 = 10Nm 016 = 16Nm 020 = 20Nm 024 = 24Nm						
Action	N = Non Spring Return S = Spring Return						
Supply voltage	024 = 24 V 230 = 230V						
Control signal	D = On / Off F = Floating P = Proportional U = Universal						
Position switches	X = None 1 = 1 Switch 2 = 2 Switches						

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.

DA-020SxxxDx Series —— Spring Return Damper Actuator (20 Nm) On/Off Control

The 20Nm spring return electric damper-actuator series has been specially developed for the motorized operation of safety air dampers (anti-icing) in air conditioning systems, smoke evacuation dampers, and sealing dampers. The compact design and universal adapter fitted with limitation of rotation angle make this actuator highly versatile.

When the control signal is applied, the actuator drives the damper to the operational position, while evenly tensioning the integrated spring. After a power failure the stored energy in the spring immediately brings the damper to the safety position. Manual operation is automatically cancelled when the actuator is in electrical operation.

Specifications

Damper area	4.0 m2
Running time motor	24-57 sec.
Running time spring return	11-15 sec.
Supply voltage	DA-020S024Dx: AC/DC 24V DA-020S230Dx: AC 230V
Frequency	50-60 Hz
Power consumption (DA-020S024Dx)	Running: 24.6 VA (AC); 17.6 W (DC) At end position: 5.4 VA (AC); 2.8 W (DC)
Power consumption (DA-020S230Dx)	Running: 0.15 A At end position: 0.09 A
Dimensioning	25 VA
Control signal	On/Off (2-point)
Position signal	None
Angle of rotation	Working range 90o Limitation 0o to 30o and 90o to 60o
Auxiliary switches	S1 setting range 0o fix S2 setting range 25o to 90o adjustable
Cable	Motor: 2-wire 1-2 Switches: 6-wire 21-22-23-24-25-26
Lifetime	60,000 rotations
Noise level	66 dB(A)
Protection class	11
Enclosure	IP54
Operating temperature	-40 to 55oC / IEC 721-3-3
Storage temperature	-65 to 85oC / IEC 721-3-2
Humidity	5 to 95 %, non condensing
Service	Maintenance-free
Weight	DA-020S024Dx: 2.9 kg DA-020S230Dx: 3.5 kg



DA-020S024DX*	Spring return damper actuator, 24V, On/Off control, 20Nm
DA-020S024D2*	Spring return damper actuator, 24V, On/Off control, 20Nm, with 2 auxiliary switches
DA-020S230DX*	Spring return damper actuator, 230V, On/Off control, 20Nm
DA-020S230D2*	Spring return damper actuator, 230V, On/Off control, 20Nm, with 2 auxiliary switches
	Accessories (order separately)
M9000-158	Tandem Mounting Kit used to mount two 20Nm Proportional Electric Springback Actua- tors in tandem to deliver twice the torque

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Damper Actuator	DA-	020	S	024	D	Х
Torque (Nm)	004 = 4Nm 008 = 8Nm 010 = 10Nm 016 = 16Nm 020 = 20Nm 024 = 24Nm						
Action	N = Non Spring Return S = Spring Return						
Supply voltage	024 = 24 ∨ 230 = 230∨						
Control signal	D = On / Off F = Floating P = Proportional U = Universal						
Position switches	X = None 1 = 1 Switch 2 = 2 Switches						



Features & Benefits

- ON/OFF control
- Up to 5 actuators in parallel operation possible
- Electrical connection with halogen-free cable (actuators available with 1m cable)
- Simple direct mounting with universal adapter on Ø 12 mm to 19 mm shaft or 10-12-14 mm square shaft. An optional M9220-600 Jackshaft Coupler Kit is available for 19 to 27 mm round shafts, or 16, 18, and 19 mm square shafts
- 80 mm min shaft length

switch)

- Tandem Operation possible
- Limitation of rotation angle
- Manual positioning with crank handle
- 2 auxiliary switches, 1 adjustable Automatic shut-off at end position (overload

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.

• Energy saving at end positions





Fluid Sensing

Conventional Relays Liquid Flow Switch

Fluid sensing devices are used to ensure proper flow in piping systems, monitor liquid levels and warn the system of leaks, amongst other functions. Our collection of liquid flow switches, level switches and leak detectors can be installed on new and retrofit projects alike.



FS-ENW-E12 Series

Conventional Relays

The FS-ENW-E12 Series flow sensors help protect submersible pumps from overflowing or running dry and controls pumps or valves for automatically filling and emptying containers by means of electrodes and ground connection

Specifications

Operating voltage Response sensitivity Input Input / electrode voltage Output / contact Output / switching voltage Output / continuous current Output / total current Mechanical endurance Electrical endurance Switching frequency Display Dimensions (W x H x D) Weight Operating temperature range Storage temperature range Protection

230 V AC / 24 V AC 5 to 50 kΩ, adjustable up to 3 electrodes 12 V 2 changeover contacts (DPDT) 250 V 6 A 8 A / across all contacts 1 x 107 switching cycles 1 x 105 switching cycles 600 cycles/h Green LED 22.5 x 75 x 95 mm 300 g 0 °C to +55 °C -20 °C to +70 °C Housing: IP40 Terminal Block: IP20



Applications

Monitoring of filling levels or leakage of conductive, noncombustible media.

Features & Benefits

- Acts as monitor
- Acts as two-level controller

Model Selection

FS-ENW-E12 230 V AC FS-ENW-E12 24 V AC FS-LS-TE1 FS-WD-LKS1 Conventional Relays; 230 V AC Conventional Relays; 24 V AC Level detector - to combine with FS-ENW-E12 Leakage sensor - to combine with FS-ENW-E12

FS-541 Liquid Flow Switch

The FS-541 series of Paddle Switches are intended to monitor liquid flow within pipes and provides a VFC output on detection of either a specific flow rate or flow failure. They screw directly into a 1" BSPT boss.

Specifications

Ambient Temperature	-40 to +85°C
Medium Temperature	-40 to +120°C
Operating pressure	1100kPa max.
Materials	Paddle: Stainless steel Rod: Brass (S/S for FS-541S) Enclosure: ABS flame retardant
Switch rating	15 (8) A SPDT @ 24-250 VAC, VFC
Pipe suitability	1" to 8"
Protection	IP65
Dimensions	Housing: 113.5 x 65 x 62 mm Paddles: 28.5, 54.5, 83.5 and 161.5 mm
Weight	300 g



Applications

For monitoring of liquid flow in pipes

- Adjustable switching point
- Stainless steel wetted parts for aggressive media



Gas Sensing

Duct SensorsRoom Sensors

Gas sensing devices are vital to the wellbeing of building occupants. Our portfolio of gas sensors can detect carbon dioxide (CO_2) , volatile organic compounds (VOC). Available devices can transmit gas levels back to the BAS and can also directly control exhaust systems to remove harmful toxins and bring in fresh air.



GS-D Series Duct Sensor for Air Quality and Temperature

The GS-D Series are room carbon dioxide gas detectors. These devices provide precision measurement of CO_2 gas or VOC. The GS-D series uses a highly accurate and reliable Nondispersive Infrared (NDIR) sensor combined with state-of-the-art digital linearization and temperature compensated circuitry in an attractive, low profile enclosure for room applications to monitor room CO_2 or VOC levels. A linear analog signal output of 4-20 mA, 0-5 or 0-10 Vdc is provided for connection to a building automation system.

Specifications

Output Voltage (model dependent)	VV models: 2x 0-10 V or 0-5V
Output Current (model dependent)	AA models: 2x 4-20 mA
Temperature Measurement Range	0°C to +50 °C; 32°F to 122°F
Temperature Accuracy	±0,5 K (typ. at 21 °C)
CO ₂ Measurement Range	0 to 2000 ppm
CO ₂ Accuracy	±50 ppm +3% of reading (typ. at 21 °C, 50% rH)
Sensor	CO2: NDIR (non-dispersive, infrared) VOC: heated metal oxide semiconductor
Operating Temperature	0°C to 50°C; 32°F to 122°F
Operating Humidity	max. 85% rH, short term condensation

Model Selection

GS-D TCO2 VV GS-D TCO2 AA GS-D TVOC VV GS-D TVOC AA Duct sensor CO2 and temperature, – active 2 x 0-10 V Duct sensor CO2 and temperature, – active 2 x 4-20 mA Duct sensor VOC and temperature, – active 2 x 0-10 V Duct sensor VOC and temperature, – active 2 x 4-20 mA

GS-R Series

Room Sensor for Air Quality and Temperature

The GS-R Series are room sensors suitable for detection of CO_2 , VOC and temperature. The sensors provide a linear analog signal output of 0-5 or 0-10 Vdc for connection to a building automation system.

Specifications

Output Voltage (model dependent) VV models: 2x 0-10 V or 0-5V Output Current (model dependent) AA models: 2x 4-20 mA Temperature Measurement Range 0°C to +50 °C; 32°F to 122°F Temperature Accuracy ±0,5 K (typ. at 21 °C) 0 to 2000 ppm CO, Measurement Range CO₂ Accuracy ±50 ppm +3% of reading (typ. at 21 °C, 50% rH) CO2: NDIR (non-dispersive, infrared) Sensor VOC: heated metal oxide semiconductor Operating Temperature 0°C to 50°C; 32°F to 122°F Operating Humidity max. 85% rH, short term condensation

Model Selection

GS-R TCO2 VV	Room sensor CO2 and temperature, - active 2 x 0-10 V
GS-R TCO2 AA	Room sensor CO2 and temperature, - active 2 x 4-20 mA
GS-R TVOC VV	Room sensor VOC and temperature, - active 2 x 0-10 V
GS-R TVOC AA	Room sensor VOC and temperature, - active 2 x 4-20 mA



Applications

Designed for duct mounted applications

Features & Benefits

- Robust design: UV-resistant case
- Extended operating temperature range
- Ease of installation
- Tool-free and removable connectors



Applications

- Office buildings
- Office building
- Hotels
- Cinemas

- Ease of installation
- Tool-free and removable connectors
- Maintenance-free





Humidity Sensing

- Duct Humidity and Temperature Sensors
- Room Humidity and Temperature Sensors
- □ Outdoor Sensor for Relative Humidity and Temperature
- Dew Point Detector for Condensation Prevention

Humidity sensing devices help maintain a comfortable environment for building occupants and safe conditions for equipment where moisture can cause damage. A variety of humidity and combination humidity and temperature sensors are available in different types of enclosures for installation in rooms, ducts and outdoors. Humidity sensing accuracy can be chosen based on the needs of the application. Sensors for monitoring and detecting condensation are also available.



HS-D Series **Duct Humidity and Temperature Sensors**

The HS-R Series are room humidity transmitters that use a highly accurate and field-proven RH sensor in a sleek, elegant, and low profile enclosure to monitor room relative humidity levels. The RH output can be field selected as a linear 4-20 mA, 0-5 or 0-10 Vdc signal. This product offers a cost effective solution for customers who wish to have ease of installation to their Building Automation System.

Specifications

Output Voltage (type-dependent)	VV models: 2x 0-10 V or 0-5V
Output Current (type-dependent)	AA models: 2x 4-20 mA
Power Consumption (type-dependent)	VV models: 0,4 W (24 V =), 0,8 VA (24 V ~) AA models: typ. 1 W / 24 V =
Temperature Measurement Range	adjustable at the transducer: -20°C to +80°C; -4°F to +176°F (default setting) 0°C to +50°C; 32°F to +122°F -40°C to +60°C; -40°F to +140°F -15°C to +35 °C; 5°F to +95°F
Temperature Accuracy	±0,3 K (typ. at 21 °C)
Humidity Measurement Range	0 to 100% non-condensing Absolute humidity: 0-50 (default) or 0-80 g/m ³ Enthalpy: 0-85 KJ/kg Dew point: 0°C to +50°C; 32°F to +122°F (default) or -20°C to +80°C; -4°F to +176°F
Humidity Accuracy	±2% between 10-90% rH (typ. at 21 °C)
Operating Temperature	-20°C to +70°C; -4°F to 158°F

Model Selection

HS-D TH 140 VV HS-D TH 140 AA

Duct humidity and temperature sensor, - active 2 x 0-10 V Duct humidity and temperature sensor. - active 2 x 4-20 mA

Applications

Designed for control and monitoring applications

Features & Benefits

- Robust design: UV-resistant case
- Extended operating temperature range
- Ease of installation
- Tool-free and removable connectors
- Maintenance-free

HS-R Series **Room Humidity and Temperature Sensors**

The HS-R Series are room humidity transmitters that use a highly accurate and field-proven RH sensor in a sleek, elegant, and low profile enclosure to monitor room relative humidity levels. The RH output can be field selected as a linear 4-20 mA, 0-5 or 0-10 Vdc signal. This product offers a cost effective solution for customers who wish to have ease of installation to their Building Automation System.

Specifications

Output Voltage (type-dependent)	VV models: 2x 0-10 V or 0-5V
Output Current (type-dependent)	AA models: 2x 4-20 mA
Power Consumption (type-dependent)	VV models: 0,4 W (24 V =), 0,8 VA (24 V ~) AA models: typ. 0,5 W / 24 V =
Temperature Measurement Range	0°C to +50 °C; 32°F to 122°F
Temperature Accuracy	±0,5 K (typ. at 21 °C)
Humidity Measurement Range	0 to 100% relative humidity
Humidity Accuracy	±2% between 10-90% rH (typ. at 21 °C)
Operating Temperature	-20°C to +70°C; -4°F to 158°F
Operating Humidity	max. 85% rH, short term condensation

Model Selection

HS-R TH VV HS-R TH AA

> Room humidity and temperature sensor, – active 2 x 0-10 V $\,$ Room humidity and temperature sensor, - active 2 x 4-20 mA

Applications

- Office buildings
- Hotels
- Cinemas

- Ease of installation
- · Tool-free and removable connectors
- Maintenance-free



Applications

Designed for control and monitoring applications

Features & Benefits

- Robust design: UV-resistant case
- · Extended operating temperature range
- Ease of installation
- Tool-free and removable connectors
- Maintenance-free

Applications

applications

Features & Benefits

• Ease of installation

Maintenance-free

HS-O TH Series Outdoor Sensor for Relative Humidity and Temperature

The HS-0 TH is a duct humidity and temperature sensor in outdoor areas. The sensor provides a linear analog signal output of 0-5 or 0-10 Vdc for connection to a Building Automation System. In delivery condition, the sensor is designed for measuring temperature and relative humidity. Alternatively, the output can be set to absolute humidity, enthalpy or dew point.

Specifications

Output Voltage (type-dependent)	VV models: 2x 0-10 V or 0-5V
Output Current (type-dependent)	AA models: 2x 4-20 mA
Power Consumption (type-dependent)	VV models: 0,4 W (24 V =), 0,8 VA (24 V ~) AA models: typ. 1 W / 24 V =
Temperature Measurement Range	adjustable at the transducer: -20°C to +80°C; -4°F to +176°F (default setting) 0°C to +50°C; 32°F to +122°F -40°C to +60°C; -40°F to +140°F -15°C to +35°C; 5°F to +95°F
Temperature Accuracy	±0,3 K (typ. at 21 °C)
Humidity Measurement Range	0 to 100% non-condensing Absolute humidity: 0-50 (default) or 0-80 g/m ³ Enthalpy: 0-85 KJ/kg Dew point: 0°C to +50°C; 32°F to +122°F (default) or -20°C to +80°C; -4°F to +176°F
Humidity Accuracy	±2% between 10-90% rH (typ. at 21 °C)
Operating Temperature	-20°C to +70°C; -4°F to 158°F

Model Selection

HS-0 TH VV Outdoor temperature and humidity sensor, - active 2 x 0-10 V HS-O TH AA Outdoor temperature and humidity sensor, - active 2 x 4-20 mA

HS-O TH WSA Series

Outdoor Sensor for Relative Humidity and Temperature

The HS-0 TH WSA is a protected temperature and humidity sensor for outdoor applications. The sensor provides a linear analog signal output of 0-5 or 0-10 Vdc for connection to a Building Automation System. The radiation shield protects the outdoor sensors from rain and radiated heat. Thanks to the curved shape and color of the plates, air flow moves across the sensors to keep radiated temperatures from rooftops and surrounding surfaces from affecting humidity readings.

Specifications

Output Voltage (type-dependent)	VV models: 2x 0-10 V or 0-5V
Output Current (type-dependent)	AA models: 2x 4-20 mA
Power Consumption (type-dependent)	VV models: 0,4 W (24 V =), 0,8 VA (24 V ~) AA models: typ. 1 W / 24 V =
Temperature Measurement Range	adjustable at the transducer: -20°C to +80°C; -4°F to +176°F (default setting) 0°C to +50°C; 32°F to +122°F -40°C to +60°C; -40°F to +140°F -15°C to +35 °C; 5°F to +95°F
Temperature Accuracy	±0,3 K (typ. at 21 °C)
Humidity Measurement Range	0 to 100% non-condensing Absolute humidity: 0-50 (default) or 0-80 g/m ³ Enthalpy: 0-85 KJ/kg Dew point: 0°C to +50°C; 32°F to +122°F (default) or -20°C to +80°C; -4°F to +176°F
Humidity Accuracy	±2% between 10-90% rH (typ. at 21 °C)
Operating Temperature	-20°C to +70°C; -4°F to 158°F
Mandal Oalaadaa	

Model Selection

HS-O TH WSA VV	
HS-O TH WSA AA	

Outdoor temperature and humidity sensor, - active 2 x 0-10 V Outdoor temperature and humidity sensor, - active 2 x 4-20 mA



Designed for control and monitoring

• Designed for outdoor applications

 Robust design: UV-resistant case · Extended operating temperature range

Tool-free and removable connectors

Distech Controls Inc.

HS-DPD Series

Dew Point Detector for Condensation Prevention

The HS-DPD Condensation Prevention sensor uses a field-proven humidity sensor combined with a tightlycoupled precision thermistor to provide early warning of condensing conditions in chilled beam / ceiling applications and prevent "indoor rain" condensation. The sensor can also be used in any heating, ventilation or air conditioning application to where condensation must be avoided.

Specifications

Temperature Accuracy	±0.2°C (±0.4°F), 0°C to 50°C (32°F to 122°F)
Humidity Accuracy	±3 %RH @ 90 %RH
Response Time	<1 second
Setpoint Range	±2°C (dewpoint)
Alarm Contact Rating	Form C (NO + NC), 1 A @ 24 Vac/dc
Alarm Hysteresis	1 minute delay on alarm to prevent false alarms
Power Supply	5 to 28 Vac/dc
Consumption	3 mA max @ 24 Vdc max
Dimensions	56mm x 50mm x 21mm
Material	Grey ABS
Protection	IP30
Weight	35 g



HS-DPD-05M

Dew Point Detector for condensation prevention with 5m lead



• Chilled beams

- Chilled ceilings

- Compact design
- · Normally open and normally closed contacts
- 5V to 28V powered







Network Connectivity

LTE Routers
 Micro-UPS DC with Modbus/BACnet-MS/TP Communication

Network connectivity devices maintain proper communication between controllers in a BAS. Our product range consists of adapters, routers, repeaters, switches and devices for connecting BACnet networks.

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NC-RUT240

LTE Router

NC-RUT240 is a compact, cost-effective and powerful industrial router for professional applications. Router delivers high performance for mission-critical cellular communication. Equipped with external SIM holder and signal strength status LEDs, it ensures easy network management. External antenna connectors make it possible to attach desired antennas and to easily find the best signal location.

Specifications

Dimensions (W x D x H)	83 mm x 74 mm x 25 mm
Weight	125 g
Power supply	100-240 VAC -> 9 VDC wall adapter
Input voltage range	9-30VDC
Power consumption	< 5W
Operating temperature	-40 °C to 75 °C
Storage temperature	-45 °C to 80 °C
Operating humidity	10% to 90% Non-condensing
Storage humidity	5% to 95% Non-condensing
CPU	High performance (400 MHz)
DDR2 memory	64 Mbytes
Antenna connectors	2 x SMA for LTE, 1 x RP-SMA for WiFi
LTE	LTE FDD: B1/B3/B5/B7/B8/B20; Class 3 (23dBm±2dB) LTE TDD: B38/B40/B41; Class 3 (23dBm±2dB) LTE CAT4: Up to 150 Mbps (DL); Up to 50 Mbps (UL)
UMTS/DC-HSPA+	Frequency: 850/900/2100 MHz DC-HSPA+ mode: Max 42Mbps (DL); Max 5.76Mbps (UL) UMTS mode: 384 kbps DL, 384 kbps UL TD-SCDMA: Max 4.2Mbps (DL) Max 2.2Mbps (UL)
GSM/GPRS/EDGE	Frequency: 900/1800 MHz; GPRS/EDGE multislot class 12
Ethernet	IEEE 802.3, IEEE 802.3u
Wi-Fi	IEEE 802.11 b/g/n Encryption methods: 64/128-bit WEP, WPA, WPA2, WPA & WPA2 Frequency: 2.401-2.483 CHz
VPN protocols	OpenVPN, IPsec, CRE, L2TP, PPTP



Applications

Connecting IP controllers to 3G and 4G networks

Features & Benefits

- OpenVPN, PPTP, L2TP, IPSec
- GRE Tunnel
- WiFi Hotspot
- Backup WAN
- SNMP
- Dynamic DNS
- Mobile Quota Control

NC-RUT955 **LTE Router**

NC-RUT955 is a highly reliable and secure LTE router for professional applications. The router delivers high performance, mission-critical cellular communication, and GPS location capabilities. It is equipped with connectivity redundancy through dual SIM failover. External antenna connectors make it possible to attach desired antennas and to easily find the best signal location.

Specifications

Dimensions (W x D x H)	80 mm x 106 mm x 46 mm
Weight	280 g
Power supply	100-240 VAC -> 9 VDC wall adapter
Input voltage range	9-30VDC
Power consumption	< 7W
Operating temperature	-40 °C to 75 °C
Storage temperature	-45 °C to 80 °C
Operating humidity	10% to 90% Non-condensing
Storage humidity	5% to 95% Non-condensing
CPU	High performance (560 MHz)
DDR2 memory	128 Mbytes
Antenna connectors	2 x SMA for LTE, 1 x SMA for CPS, 2 x RP-SMA for WiFi
Ethernet	IEEE 802.3, IEEE 802.3u
Wi-Fi	IEEE 802.11 b/g/n Encryption methods: 64/128-bit WEP, WPA, WPA2, WPA & WPA2 Frequency: 2.401-2.483 CHz
VPN protocols	OpenVPN, IPsec, CRE, L2TP, PPTP



Applications

- Connecting IP controllers to 3G and 4G networks
- Forwarding alarm emails as SMS

Features & Benefits • OpenVPN, PPTP

- IPsec
- Dynamic DNS
- GRE Tunnel
- L2TP
- SNMP
- WiFi Hotspot
- Mobile Quota Control
- Backup WAN

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NC-SDC

Micro-UPS DC with Modbus/ BACnet-MS/TP Communication

NC-SDC-M-RS is a micro-UPS power supply with a "Smart Backup Inside" and a very long service life. It allows you to keep control of your Smart Building in case of a power failure, thus avoiding false alarms to the supervisor due to network glitches. It filters electromagnetic disturbances and delivers a constant voltage to the equipment. Its output voltage is adjustable from -8% to +13%.

Specifications

Dimensions Boîtiers (W x H x D)	DIN 1: 100 x 124 x 82 mm DIN 2: 100 x 124 x 122 mm DMR: 161 x 92 x 65 mm
Poids	DIN 1: 0,68 kg DIN 2: 0,96 -1,36 kg DMR: 0,5 kg
Protection	IP20
Terminal Blocks	0.25 to 2.5 mm ²
Storage temperature	-25 °C to +60 °C
Operating temperature	-10 °C to +55 °C in cabinet at 100% load -5 °C to +60°C in cabinet at 75% load
Storage humidity	Relative humidity 10 to 95%
Operating humidity	Relative humidity 20 to 95%
Voltage network AC	98 to 265 V AC
Voltage network DC	140 to 375 V DC
Frequency	45 to 65 Hz
Class	Class 1
Maximum output power	30 W / 55W
Precision on voltage	1%
Adjustment by potentiometer [55 W]	-8% to +13%
Protection	Against overvoltages Against surges in user output (connection error) Against overcurrent Against output short-circuits

Terminal Valve Actuator Part Code Breakdown Matrix

NC-SDC-M-	24V-	2	D-	DMR	RS
Voltage	24 V				
Power	2 = 33W 3 = 55W				
Backup Type	D G				
Enclosure Type	DMR = ABS DNX = Aluminium				

Applications

- Extend the range of your RS-485 BACnet MS/TP field bus by 4000 ft
- Augment an attenuated signal to add extra devices to your channel

Features & Benefits

- Ultra-compact/Plug-and-Play parallel configuration without accessories
- Operates in power-saving mode when the backup is charged
- Remote-controller backup mode
- Push-button disconnect of the backup (reset)
- Filters disturbances of the electrical network
- Indicates the % of remaining autonomy
- Performs self-diagnostic and diagnoses faults in environment
- Selection of Modbus or BACnet configuration via a downloadable program
- Parallel configuration without accessories for: power increase/increase of the backup/redundancy duration
- Lead-free, cadmium-free backup, 100% recyclable
- Service life of more than 10 years

NC-BASRTPBXX BACnet/IP to MS/TP Adapter

The BACnet/IP to MS/TP adapter is a convenient device used to connect a laptop to an MS/TP network with all the electronics supplied in a lightweight, small plastic case. The unit is powered from a USB port removing the need for batteries or wall plugs.

Specifications

Operating Temperature	0°C to 60°C (32°F to 140°F)
Relative Humidity	10 to 95% non-condensing
Power Input	USB (Type B Port)
Voltage	5 VDC
Current	300 mA
Power Consumption	2.5 W
Material	Plastic (Black)
Ethernet Port	IEEE 802.3 10 Mbps, 100Mbps 10BASE-T, 100BASE-TX Shielded RJ-45
MS/TP Port	ANSI/ASHRAE 135 (ISO 16484-5) 9600, 16 200, 38 400, 76 800 bps EIA-485 3-pin terminal block
Approvals	EN 55022, EC 55024, CFR 47, Part 15 Class A RoHS compliant



Applications

- Connect to MS/TP network using a notebook or PC
- Commission devices before your network is up and running
- Lightweight portable plastic case for inclusion in integration kit
- Connect directly to a Distech Controls field controller using the provided cable

Features & Benefits

- Route between BACnet®/IP to BACnet BACnet®
 MS/TP networks
- Diagnostic LEDs include MS/TP traffic monitor
- Optically isolated MS/TP communication port
- Web server for commissioning, re-configuring and troubleshooting
- 10/100 Mbps Ethernet auto-negation and automatic medium-dependent interface crossover port

NC-BASRTXBXX BACnet/IP to MS/TP Router

The router routes messages between BACnet/IP and BACnet MS/TP networks as per the ANSI/ASHRAE 135 (ISO 16484-5) standard. It allows BACnet/IP devices connected over Ethernet to communicate with MS/TP devices. The router is configurable via its web page.

Specifications

Operating Temperature	0°C to 60°C (32°F to 140°F)
Relative Humidity	10 to 95% non-condensing
Power Input	24 AC/DC ±10%
Current	125 mA
Power Consumption	3W, 3VA
Material	Metal (Black)
Ethernet Port	IEEE 802.3 10 Mbps, 100Mbps 10BASE-T, 100BASE-TX Shielded RJ-45
MS/TP Port	ANSI/ASHRAE 135 (ISO 16484-5) 9600, 16 200, 38 400, 76 800 bps EIA-485 3-pin terminal block
Installation	DIN Rail
Approvals	EN 55022, EN 55024, FCC Part 15 Class A RoHS compliant



Applications

- Use existing Ethernet infrastructure
- Locate MS/TP devices where no MS/TP cable exists
- Add IP address to MS/TP devices
- Provide access to MS/TP devices from multiple BACnet/IP enabled controllers
- End-of-line MS/TP bias and termination provided by router

Features & Benefits

- Route between BACnet®/IP to BACnet® MS/TP networks
- Diagnostic LEDs include MS/TP traffic monitor
 Optically isolated MS/TP communication port
- Web server for commissioning, re-configuring and troubleshooting
- 10/100 Mbps Ethernet auto-negation and automatic medium-dependent interface crossover port

C | NETWORK CONNECTIVITY





Pressure Sensing

- Pressure Transmitters
- Differential Pressure Transmitters
- Differential Pressure Switches
- Pressure Switches

Maintaining correct pressure in a control system is extremely important for proper system function, equipment protection and can be critical in clean room applications. Our family of pressure sensors can measure air and liquid, static and differential pressures within all common ranges and units.



PS-DPA Series

Differential Pressure Transmitter

The PS-DPA transmitter is a differential pressure transducer for monitoring differential pressure of air and other non-flammable and non-aggressive gases. The LCD models have a transparent cover with background light.

VV models: 0-10 V or 0-5 V AA models: 2x 4-20 mA

±1 Pa at range <250 Pa

manual zero-point calibration

LCD 29x35 mm with backlight

-10°C to 50°C; 14°F to 122°F

40 kPa

max. 2,3 W (24 V =), max. 4,3 VA (24 V ~) -40°C to 125°C: 32°F to 257°F

-50 to +50 Pa; -100 to +100 Pa; -150 to +150 Pa

Pa; 0 to +1500 Pa; 0 to +2000 Pa; 0 to +2500 Pa

±5 Pa at range <500 Pa, ±10 Pa at range >500 Pa ±10 Pa at range <2000 Pa, ±25 Pa at range >2000 Pa

+3000 Pa; 0 to +4000 Pa; 0 to +5000 Pa; 0 to +7000 Pa

0 to +25 Pa; 0 to +50 Pa; 0 to +100 Pa; 0 to +250 Pa; -25 to +25 Pa;

-100 to +100 Pa; 0 to +100 Pa; 0 to +250 Pa; 0 to +500 Pa; 0 to +1000

0 to +1000 Pa; 0 to +1500 Pa; 0 to +2000 Pa; 0 to +2500 Pa; 0 to

Specifications

Output Voltage (type-dependent)
Output Current (type-dependent)
Power Consumption
Temperature Measurement Range
Pressure Measurement Range (Type 250)
Pressure Measurement Range (Type 2500)
Pressure Measurement Range (Type 7000)
Pressure Accuracy (Type 250)
Pressure Accuracy (Type 2500)
Pressure Accuracy (Type 7000)
Maximum Working Overpressure
Calibration
Display

Operating Temperature

Model Selection

 PS-DPA250 (LCD) VV
 Differential Pressure Transducer, 250 Pa, 2 x 0-10 V

 PS-DPA2500 (LCD) VV
 Differential Pressure Transducer, 2500 Pa, 2 x 0-10 V

 PS-DPA7000 (LCD) VV
 Differential Pressure Transducer, 7000 Pa, 2 x 0-10 V

 PS-DPA250 (LCD) AA
 Differential Pressure Transducer, 250 Pa, 2 x 4-20 mA

 PS-DPA2500 (LCD) AA
 Differential Pressure Transducer, 2500 Pa, 2 x 4-20 mA

 PS-DPA7000 (LCD) AA
 Differential Pressure Transducer, 7000 Pa, 2 x 4-20 mA

 PS-DPA7000 (LCD) AA
 Differential Pressure Transducer, 7000 Pa, 2 x 4-20 mA



Applications

- Monitoring of air filters
- Fans
- Industrial cooling air cycles
- Flows in ventilation ducts

Features & Benefits

- Robust design: UV-resistant case
- Extended operating temperature range
- Ease of installation
- Tool-free and removable connectors
- Maintenance-free

PS-DPS Series _____ Differential Pressure Switch

The PS-DPS switch is an adjustable differential pressure switch for monitoring differential pressure of air and other non-flammable and non-aggressive gases.

Specifications

Output Switch Contact	NO/NC contacts, switching difference PS-DPS300 or PS-DPS500 : 20 Pa PS-DPS1500 : 80 Pa PS-DPS4500: 180 Pa
Pressure Measurement Range	PS-DPS300 : 30-300 Pa PS-DPS500 : 30-500 Pa PS-DPS1500: 100-1500 Pa PS-DPS4500: 500-4500 Pa
Pressure Accuracy	PS-DPS300 or PS-DPS500: typ. ±5 Pa PS-DPS1500: typ. ±10 Pa PS-DPS4500: typ. ±50 Pa
Maximum Working Overpressure	50 kPa
Switching Values	switching load, max. 250 V
Operating Temperature	-20°C to 60°C; 4°F to 140°F
Operating Humidity	max. 85% non-condensing

Model Selection

Differential Pressure Switch, 300 Pa
Differential Pressure Switch, 500 Pa
Differential Pressure Switch, 1500 Pa
Differential Pressure Switch, 4500 Pa



Applications

- Monitoring of air filters
- Fans
- Industrial cooling air cycles
- Flows in ventilation ducts



Applications • Air conditioning

- Heating
- Water application

Features & Benefits

- Extended operating temperature range
- Ease of installation
- Maintenance-free

Applications

Compressors

Monitoring of air filters

Features & Benefits

• Ease of installation

• Maintenance-free

Extended operating temperature range

PS-DLF Series

Pressure Transmitter

The PS-DLF pressure transmitter is used to measure pressure in fluids, air or other non-flammable or nonaggressive gases. It is suitable for plants with refrigerant, and for pressure detection in liquid mediums for air conditioning, heating and water application.

Specifications

Output Voltage (type-dependent)	V models: 0-10 V, min. load 5 kΩ
Output Current (type-dependent)	A models: 4-20 mA. max. load 500 Ω
Power Consumption (type-dependent)	V models: typ. 0,15 W (24 V =); 0,3 VA (24 V ~) A models: typ. 0,5 W (24 V =)
Temperature Measurement Range	-40°C to 125°C; 32°F to 257°F
Pressure Measurement Range	Device-dependent
Pressure Accuracy	±0,5% (typ. at +21 °C)
Maximum Working Overpressure	2-fold nominal pressure
Enclosure Material	wetted parts stainless steel V2A
Operating Temperature	-40°C to 105°C; -40°F to 221°F

Model Selection

PS-DLF <x> V G1/4"</x>	G1/4" Pressure Transmitter - active, 0-10 V
PS-DLF <x> A G1/4"</x>	G1/4" Pressure Transmitter - active, 4-20 mA
PS-DLF <x> V G1/2"</x>	G1/2" Pressure Transmitter - active, 0-10 V
PS-DLF <x> A G1/2"</x>	G1/2" Pressure Transmitter - active, 4-20 mA
<x> measuring ranges: Other measuring range</x>	0-4 bar (0-58 psi), 0-6 bar (0-87 psi), 0-10 bar (0-145 psi), 9-16 bar (0-232 psi) s on request



PS-DPL Series **Differential Pressure Transmitter for Liquid Medium**

The PS-DPL Series differential pressure transmitter detects the differential pressure in liquid media. Typical areas of application include supply and return liquid flows in heating systems as well as the monitoring of filters and compressors.

Specifications

Output Voltage (type-dependent)	V models: 0-10 V, min. load 2 kΩ
Output Current (type-dependent)	A models: 2x 4-20 mA. max. load 900 Ω
Power Consumption (type-dependent)	V models: typ. 0,37 W (24 V =); 0,9 VA (24 V ~) A models: max. 0,5 W (24 V =)
Temperature Measurement Range	-5 °C to 75 °C; 14°F to 167°F
Pressure Measurement Range	PS-DPL1: 0-1 bar PS-DPL2,5: 0-2,5 bar PS-DPL4: 0-4 bar PS-DPL6: 0-6 bar
Pressure Accuracy	<±1% of measuring range (typ. at -5 °C to 75 °C)
Maximum Working Overpressure	PS-DPL1: 6 bar PS-DPL2,5: 6 bar PS-DPL4: 16 bar PS-DPL6: 16 bar 40 kPa
Operating Temperature	-10°C to 50°C; 14°F to 122°F
Operating Humidity	max. 85% short term condensation

Model Selection

PS-DPL1/V	Differential Pressure Transducer, 1 bar, 2 x 0-10 V
PS-DPL2,5/V	Differential Pressure Transducer, 2.5 bar, 2 x 0-10 V
PS-DPL4/V	Differential Pressure Transducer, 4 bar, 2 x 0-10 V
PS-DPL6/V	Differential Pressure Transducer, 6 bar, 2 x 0-10 V
PS-DPL1/A	Differential Pressure Transducer, 1 bar, 4-20 mA
PS-DPL2,5/A	Differential Pressure Transducer, 2.5 bar, 4-20 mA
PS-DPL4/A	Differential Pressure Transducer, 4 bar, 4-20 mA
PS-DPL6/A	Differential Pressure Transducer, 6 bar, 4-20 mA



Distech Controls Inc.

PS-PL-FD113

Liquid Differential Pressure Switch

The PS-PL-FD113 Liquid Differential Pressure Switch is suitable for monitoring flow status across pumps, chillers, valves etc. The switch has an adjustable set point from 0.3 bar to 4.5 bar with a fixed differential of 0.2 bar. A dial on the front indicates the approximate setting of the switch.

Specifications

Range	0.3 to 4.5 bar
Switching differential	0.2 bar
Pipe connections	1/4" BSP female
Ambient temperature	0°C to 50°C; 32°F to 122°F
Liquid temperature	0 to 110°C; 32°F to 230°F
Switch rating	5 (3) A @ 240 VAC
Protection	IP30
Dimensions	128 x 175 x 48 mm
Weight	800 g
Note: A mounting bracket is supplied wi	th the switch

Liquid DP Switch - 0.2 to 4.0 bar

Note: A mounting bracket is supplied with the swite

Model Selection

PS-PL-FD113

Applications

 Chillers Valves

- Features & Benefits
- SPDT switch
- Single unit covers a wide pressure range

Monitoring flow status across pumps

• Simple to configure

PS-PL-PSA Series Liquid Pressure Switches

The PS-PL-PSA Series are adjustable pressure switches, suitable for the monitoring of flow failure and proving in pumps, chillers, valves etc. Units have an adjustable setpoint and differential.

Specifications

Range	PS-PL-PSA1: -0.75 to 3 bar PS-PL-PSA2: -0.8 to 1.5 bar, PS-PL-PSA3: -0.5 to 7 bar
Differential	PS-PL-PSA1: 0.25 to 1.5 bar PS-PL-PSA2: 0.2 to 1 bar, PS-PL-PSA3: 0.5 to 5 bar
Pressure connections	1⁄4" BSP male
Ambient temperature	-50°C to 70°C; -58°F to 158°F
Liquid temperature	-50°C to 70°C; -58°F to 158°F
Switch rating	230 VAC @ 24 (10) A
Protection	IP44
Dimensions	42 x 85 x 75 mm max.
Weight	346 g

Model Selection

PS-PL-PSA1	Liquid Pressure Switch: -0.75 to 3 bar, auto reset
PS-PL-PSA2	Liquid Pressure Switch: -0.8 to 1.5 bar
PS-PL-PSA3	Liquid Pressure Switch: -0.5 to 7 bar

Accessories

PS-PL-PIG PS-PL-BRK 2m (6.56 ft) of 6mm (0.24") copper tubing + fitting Bracket for PS-PL-PSAx



Applications

Monitoring flow status across pumps

- Chillers
- Valves

Features & Benefits

- Adjustable pressure range
- Narrow adjustable differential depending on model
- Range and differential pointer units in bar and psig
- High rated SPDT contacts
- Shatter resistant contacts
- · Captive terminal and cover screws





Relays

- □ Single Relay Modules
- □ Single-Phase Controllers
- □ Three-Phase Controllers

Relays are a standard component in all control systems. We have a complete line of pilot, power, and specialty relays in a variety of form factors.





RE-Relays Single Relay Modules

These relays are used with BMS controllers for switching plant and isolation of input signals. They are supplied complete with DIN-rail mounting base and retaining clip.

Specifications

Relay clip	Auto eject type supplied
Ambient Temperature	-10°C to 50°C
Dimensions	55 x 12 x 50 mm
Input signals	RE-RM21-21 12 VDC: 10 Vdc RE-RM21-21 24 VDC: 24 Vdc RE-RM21-21 24 VAC: 24 VAC RE-RM21-21 24 VAC: 24 VAC RE-RM21-21 230 VAC: 230 VAC
Output contacts	RE-RM21-21 12 VDC: 10 Vdc RE-RM21-21 24 VDC: 24 Vdc RE-RM21-21 24 VAC: 24 VAC RE-RM21-21 24 VAC: 24 VAC RE-RM21-21 230 VAC: 230 VAC
Weight	60 g
Model Selection	



Model Selection

RE-Relay	12VDC relay used to make a digital command from a universal output
Relay Base	Base for 12VDC relay
RE-RM21-21 24 VAC	Single Relay, 24VAC Module
RE-RM21-21 24 VDC	Single Relay, 24Vdc Module
RE-RM21-21 230 VAC	Single Relay, 230VAC Module



RE-1P Series

Single-phase Controllers

The single phase DIN-Rail mounting controllers are suitable for providing control of electric heating loads from an analogue signal. The units utilise solid-state switching with "zero crossing technology" to provide accurate switching control. All items are provided with an alarm output for over temperature protection and LED Indication of Output ON, and are designed to mount on DIN rail.

Specifications

Input signal	Selectable; 0-10V, 0-5V, 2-10V or 4-20mA
Supply (load)	220-255Vac 50/60Hz
LED indication	ON when output is on
Alarm output	(as power supply) 0V when over temp alarm is active
Ambient temperature	0°C to 45°C without de-rating
Dimensions (W x H x D)	RE-1P-2: 75 x 94 x 80mm RE-1P-4/7: 75 x 94 x 80mm
Weight	RE-1P-2: 200g RE-1P-4: 709g RE-1P-7: 800g

Model Selection

RE-1P-2	2kW Controller, 9A
RE-1P-4	4kW Controller, 18A
RE-1P-7	7kW Controller, 30A



Applications

- Electric heating coils
- Heating cables
- Electric furnaces

Features & Benefits

- Selectable control input
- Over temperature protection with auto reset
- No additional heat sinks or RFI filters required
- Efficient electronic switching

RE-3P Series

Three-phase Controllers

The RE-3P range are suitable for providing control of electric heating loads from an analogue signal. he units utilise solid-state switching with "zero crossing technology" to provide accurate switching control. All control-lers are provided with an alarm output for over temperature protection and LED Indication of Output ON. The 12 & 18kW versions are for Din-rail mounting and 27, 36, 57 & 86kW are designed to mount on the control panel back plate.

Specifications

Input signal	Selectable; 0-10V, 0-5V, 2-10V or 4-20mA
Supply (load)	220-255Vac 50/60Hz
Supply (control)	24Vac/dc ±10% (DIN-rail types)
LED indication	ON when output is on
Alarm output	(as power supply) 0V when over temp alarm is active
Ambient temperature	0°C to 45°C without de-rating
Dimensions (W x H x D)	RE-3P-12/18: 170 x 110 x 102mm RE-3P-27/36: 257 x 102 x 142mm RE-3P-57/86: 257 x 200 x 158mm
Weight	RE-3P-12: 621g RE-3P-18: 882g RE-3P-27/36: 3.8kg RE-3P-57: 7.2kg RE-3P-66: 8kg

Model Selection

RE-3P-12	Din-rail 12kW Controller, 16A per phase
RE-3P-18	Din-rail 18kW Controller, 25A per phase
RE-3P-27	Panel mount 27kW Controller, 37A per phase
RE-3P-36	Panel mount 36kW Controller, 50A per phase
RE-3P-57	Panel mount 57kW Controller, 80A per phase
RE-3P-86	Panel mount 86kW Controller, 120A per phase



Applications

- Electric heating coils
- Heating cables
- Electric furnaces

- Selectable control input
- Over temperature protection with auto reset
- No additional heat sinks or RFI filters required
- · Efficient electronic switching



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SC | SIGNAL CONVERTERS

Signal Converters

Digital Input MultiplexersRelay Modules

Signal converters help to connect various kinds of equipment to a control system. Many simple devices serve to alter analog, floating, resistance, pulse, pneumatic and other control signals in a variety of ways.



SC-IO-DIM Series

Digital Input Multiplexers

These SC-I0-DIM Series modules are intended for use with BMS controllers to expand their input capacity by multiplexing four or six digital signals or 4 x 24 VAC/dc inputs into a single analogue controller unit. Each combination of input states corresponds to an analogue value from the SC-I0-DIM4 and SC-I0-DIM6 which can be decoded into four or six digital status bits.

Specifications

Inputs
Outputs
Power supply
Current
LED indication
Ambient Temperatur
Humidity
Dimensions
Weight

VFC, 24 VAC or 24 Vdc 0-10 Vdc into 2 kΩ impedance 4-20 mA into 500 Ω max 24 VAC \pm 15% @ 50 Hz; 24 Vdc +15% – 6% 35 mA max. voltage output mode 55 mA max. current output mode Supply OK, supply voltage low, supply voltage high, current output (4-20 mA output only) -10°C to +50°C 0 to 80% non-condensing SC-IO-DIM4: 75 x 55 x 42 mm SC-IO-DIM4: 75 x 75 x 42 mm

Model Selection

SC-IO-DIM4 SC-IO-DIM6 $4\ x$ VFC or 24 VAC/dc inputs, selectable output $6\ x$ VFC or 24 VAC/dc inputs, selectable output

Applications

 Expand input capacity by multiplexing inputs into a single analogue controller unit

Features & Benefits

- Fault finding LED indication
- Input status indication
- Input status simulation
- Expands controller input capacity
- Self calibrating output

SC-IO-RM

Relay Modules

The SC-IO-RM range of relay modules is intended for use with BMS controllers to convert an analogue control output to various switching relay modes. The adjustable relay module provides individually adjustable on and off switching points.

LEDs indicate correct operation and Hand/Off/Auto jumpers ease commissioning. Low current draw from 0-10Vdc controller output means that the IO-RM range works successfully with most BEMS controllers.

Specifications

Input signal	0 to 10Vdc <1mA
Input impedance	Approx. 11kΩ
Output contacts	8A @ 230Vac (resistive load)
Power supply	24Vac/dc ±15% @ 50Hz
Power consumption	100mA max.
Ambient Temperature	0°C to 40°C
Ambient Humidity	0 to 80% RH non-condensing
Dimensions	SC-IO-RM-2+RM-A: 72 x 49.5 x 55mm SC-IO-RM-3: 72 x 64 x 55mm SC-IO-RM-4: 72 x 82 x 55mm SC-IO-RM-8: 72 x 156 x 55mm
Weight	SC-IO-RM-2: 100g SC-IO-RM-3: 140g SC-IO-RM-4: 200g SC-IO-RM-8: 300g SC-IO-RM-A: 82a

Model Selection

SC-IO-RM-2	2-stage Relay Module
SC-IO-RM-3	3-stage Relay Module
SC-IO-RM-4	4-stage Relay Module
SC-IO-RM-8	8-stage Relay Module
SC-IO-RM-A	Adjustable Switching Point Relay Module



Applications

 Control of raise/lower valves, damper actuators, pump changeover and boiler control.

- Fault finding LED indication
- Relay status LED indication
- Link selectable raise/lower, hi/low or binary modes
- On/Off/Auto links for ease of commissioning





Temperature Sensing

Room Temperature Sensors
 Immersion Temperature Sensors

Outdoor Temperature Sensors

Averaging Temperature Sensors
 Duct Temperature Sensors

Surface Temperature Sensors

Temperature sensors are fundamental to any BAS where occupant comfort is paramount. Our full line of temperature sensors and transmitters are used for air, liquid and solid surfaces and are available with a variety of temperature sensor types, enclosures and form factors.





TS-C Series **Cable Temperature Sensors**

The TS-C Series sensors are cable sensors for temperature measurement in HVAC applications.

Specifications

Output Passive	
Measuring Temperature Range	
Operating Temperature Range	
Temperature Accuracy	
Sensor	
Protection	
Pocket	

NTC10k -35°C to 100°C; -31°F to 212°F with connection wire, -35°C to 100°C; -31°F to 212°F ±0.22°C/25°C 2-wire, sensor cable 2 or 6 m IP65 stainless steel Mat. 1.4571, Ø=6 mm, mounting length 50, 100, 150, 200, 250 mm

Model Selection

TS-C 050 2M	Cable temperature sensor – Pocket length 50m - Total length 2 meters
TS-C 050 6M	Cable temperature sensor – Pocket length 50m - Total length 6 meters
TS-C 150 6M	Cable temperature sensor – Pocket length 150m - Total length 6 meters



Applications

- Temperature measurement in immersion temperature applications
- Designed for control and monitoring applications

TS-DI Series Duct/Immersion Temperature Sensors

The TS-DI Series sensors are used for measurement of air temperature and other gaseous mediums for HVAC applications.

Specifications

Output Voltage (type-dependent)	V models: 0-10 V or 0-5 V
Output Current (type-dependent)	A models: 4-20 mA
Output Passive	NTC10K
Power Consumption (type-dependent)	V models: typ. 0,4 W (24 V =); 0,8 VA (24 V ~) A models: typ. 0,5 W (24 V =)
Measuring Temperature Range (passive)	-50°C to 150°C; -58 °F to 302°F
Operating Temperature Range (max)	-50°C to 50°C; -58°F to 122°F -20°C to 80°C; 4°F to 176°F -15°C to 35°C; 5°F to 95°F 10°C to 120°C; 50°F to 248°F 0°C to 50°C; 32°F to 122°F 0°C to 100°C; 32°F to 212°F 0°C to 160°C; 32°F to 212°F 0°C to 160°C; 32°F to 320°F (default) 0°C to 250°C; 32°F to 482°F
Temperature Accuracy	V / A models: ± 0.5 K (typ. at 21°C within default measuring range) Passive: $\pm 0.22^\circ$ C / 25°C
Sensor (passive)	2-wire (default), 3-wire or 4-wire
Protection	IP65
Pocket	stainless steel V4A, Ø=6 mm, mounting length 50, 100, 150, 200, 250, 300, 450 mm

Model Selection

TS-DI <xxx></xxx>	Duct/Immersion temperature sensor – passive
TS-DI <xxx> V</xxx>	Duct/Immersion temperature sensor – active V 0-10 V
TS-DI <xxx> A</xxx>	Duct/Immersion temperature sensor – active A 4-20 mA
<xxx>: mounting length 50/100/150/200</xxx>	/250/300/450 mm

nting length



Applications

- Supply and exhaust ducts in HVAC systems
- Can be used as an immersion temperature sensor when combined with a thermowell pocket

- Robust design: UV-resistant case
- Extended operating temperature range
- Ease of installation
- Tool-free and removable connectors





Applications

Distech Controls Inc.

- Exhaust systems
- Gaseous environments
- Liquid environments

Features & Benefits

- Designed for locking on to control and display systems.
- Model RG03 is specially constructed for measuring higher temperatures

High temperature sensor

The TS-F Series sensors are duct/immersion temperature sensors for measuring temperature in gaseous and liquid media at high temperature.

Specifications

Output Voltage (type-dependent)	V models: 0-10 V or 0-5 V
Output Current (type-dependent)	A models: 4-20 mA
Output Passive	PT1000
Power Consumption (type-dependent)	V models: typ. 1 W (24 V =) 0,8 VA (24 V ~) A models: typ. 0,5 W (24 V =)
Measuring Temperature Range (passive)	0°C to 600°C; 21°F to 1112°F
Output Signal Temperature Range (Scaling Analog Output)	0°C to 400°C; 21 °F to 752°F
Operating Temperature Range (Max. permissible operating temperature)	Sensor pocket: 0°C to 500°C; 21°F to 932°F , short term max. 600°C; 1112°F V / A models: -35°C to 70 °C, -31°F to 158°F Passive: -35°C to 90 °C, -31°F to 194°F
Temperature Accuracy	V / A models: $\pm 0.2^{\circ}C/\pm 0.1\%$ of reading (typ. at 21°C) Passive: $\pm 0.3^{\circ}C$ / 0°C
Sensor (passive)	3-wire
Protection	IP66
Pocket	stainless steel V4A, Ø=11 mm, mounting length: 250 mm
Model Selection	
TS-F PT1000	Duct/Immersion temperature sensor – passive

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TS-F 250 V Duct/Immersion temperature sensor - active V 0-10 V TS-F 250 A Duct/Immersion temperature sensor - active A 4-20 mA

TS-O Series

Outdoor Temperature Sensor

The TS-0 Series sensor is suitable for outdoor temperature measurements.

Specifications

Output passive	
Temperature Measurement Range	

Operating Temperature Range

NTC10K -35°C to 90 °C, -31°F to 194°F

Temperature Accuracy

-35°C to 90 °C, -31°F to 194°F

±0.22°C/25°C IP65

Model Selection

TS-O

Protection

Outdoor temperature sensor - passive NTC10k



Applications

- Cold rooms
- Greenhouses
- Production plants
- Warehouses

- Robust design: UV-resistant case
- Extended operating temperature range
- Ease of installation
- Tool-free and removable connectors
- Designed for locking on control and display systems

TS-O P Series Outdoor Temperature Sensors

The TS-0 Series sensors is suitable for outdoor temperature measurements. They are equipped with a stainless steel external probe for faster response.

Specifications

Output Voltage (type-dependent)	V models: 0-10 V or 0-5 V
Output Current (type-dependent)	A models: 4-20 mA
Output Passive	NTC10K
Power Consumption (type-dependent)	V models: typ. 0,4 W (24 V =); 0,8 VA (24 V ~) A models: typ. 0,5 W (24 V =)
Output Signal Temperature Range (Scaling Analog Output)	-50°C to 50°C; -58°F to 122°F (default) -20°C to 80°C; 4°F to 176°F -15°C to 35°C; 5°F to 95°F 10°C to 120°C; 50°F to 248°F 0°C to 50°C; 32°F to 122°F 0°C to 100°C; 32°F to 212°F 0°C to 160°C; 32°F to 212°F 0°C to 250°C; 32°F to 482°F
Operating Temperature Range (Max. permissible operating temperature)	V / A models: -35°C to 70°C, -31°F to 158°F Passive: -35°C to 90°C, -31°F to 194°F
Temperature Accuracy	V / A models: ± 0.5 K (typ. at 21°C within default measuring range) Passive: $\pm 0.22^\circ$ C / 25°C
Protection	IP65
Pocket	stainless steel V2A, Ø=6 mm, L=2mm

Model Selection

TS-O P	Duct/Immersion temperature sensor – passive
TS-OPV	Duct/Immersion temperature sensor – active V 0-10 V
TS-O P A	Duct/Immersion temperature sensor – active A 4-20 mA

- **Applications** Cold rooms
- Greenhouses
- Production plants
- Warehouses

Features & Benefits

- Robust design: UV-resistant case
- Extended operating temperature range
- Ease of installation
- · Tool-free and removable connectors

TS-S Series

Contact temperature sensor

The TS-S Series sensors is suitable for temperature measurement of pipes and round surfaces.

Specifications

Output Voltage (type-dependent)	V models: 0-10 V or 0-5 V
Output Current (type-dependent)	A models: 4-20 mA
Output Passive	NTC10k
Power Consumption (type-dependent)	V models: typ. 1 W (24 V =) 0,8 VA (24 V ~) A models: typ. 0,5 W (24 V =)
Measuring Temperature Range	-35°C to 90 °C, -31°F to 194°F
Output Signal Temperature Range (Scaling Analog Output)	V / A models: -50°C to 50°C; -58°F to 122°F -20°C to 80°C; 4°F to 176°F -15°C to 35°C; 5°F to 95°F 10°C to 120°C; 50°F to 248°F 0°C to 50°C; 32°F to 122°F 0°C to 100°C; 32°F to 212°F (default) 0°C to 160°C; 32°F to 230°F 0°C to 250°C; 32°F to 482°F
Operating Temperature Range (Max. permissible operating temperature)	Sensor pocket: -50°C to 120°C, -58°F to 248°F Enclosure V / A models: -35°C to 70°C, -31°F to 158°F Enclosure Passive: -35°C to 90°C, -31°F to 194°F
Temperature Accuracy	V / A models: ±0,5 K (typ. at 21 $^\circ\text{C}$ within default measuring range) Passive: ±0,22 $^\circ\text{C}$ / 25 $^\circ\text{C}$
Sensor (passive)	optional, 2-wire (default), 3-wire or 4-wire
Protection	IP65
Pocket	brass, spring-loaded sensor



Model Selection

TS-S	Contact temperature sensor - passive NTC10k
TS-S V	Contact temperature sensor – active V 0-10 V
TS-S A	Contact temperature sensor - active A 4-20 mA



Applications

Control and monitoring of temperature

- Robust design: UV-resistant case
- Extended operating temperature range
- Ease of installation
- Tool-free and removable connectors





Applications

Control and monitoring of temperature

Features & Benefits

- Extended operating temperature range
- Ease of installation

Applications

Features & Benefits

Ease of installation

Robust design: UV-resistant case

Extended operating temperature range

Tool-free and removable connectors

Contact temperature sensor

The TS-S 2m | 6M Series are contact sensors with connection cable and brass strap used to measure the surface temperature of pipes (cold or hot water) and other contact surfaces.

Specifications

Output Passive	NTC10k
Measuring Temperature Range	-35°C to 100 °C, -31°F to 212°F
Temperature Accuracy	Depending on length of connection wire, ±0,22°C / 25°C
Sensor (passive)	2-wire, cable length 2 m or 6 m
Protection	IP65
Pocket	brass, Ø=6 mm, mounting length 35 mm
Ambient Conditions	-35°C to 100°C; -31°F to 212°F,

Model Selection

TS-S 2M TS-S 6M

Contact temperature sensor - passive NTC10k - Cable length 2m Contact temperature sensor - passive NTC10k - Cable length 6m

TS-S-2M Series

Contact Temperature Sensors

The TS-S-2M Series sensors is suitable for temperature measurement of pipes and round surfaces.

Specifications

Output Voltage (type-dependent)	V models: 0-10 V or 0-5 V
Output Current (type-dependent)	A models: 4-20 mA
Power Consumption (type-dependent)	V models: typ. 0,4 W (24 V =); 0,8 VA (24 V ~) A models: typ. 0,5 W (24 V =)
Output Signal Temperature Range (Scaling Analog Output)	-50°C to 50°C; -58°F to 122°F -20°C to 80°C; 4°F to 176°F -15°C to 35°C; 50°F to 95°F 10°C to 120°C; 50°F to 248°F 0°C to 50°C; 32°F to 122°F 0°C to 100°C; 32°F to 212°F 0°C to 160°C; 32°F to 320°F (default) 0°C to 250°C; 32°F to 482°F
Operating Temperature Range (Max. permissible operating temperature)	Sensor pocket: -50°C to 135°C, -58°F to 275°F Enclosure: -35°C to 70°C, -31°F to 158°F Mounting base: -35°C to 90°C, -31°F to 194°F
Temperature Accuracy	±0,5 K (typ. at 21°C within default measuring range)
Protection	IP65
Pocket	brass, Ø=6 mm, mounting length 35 mm

Model Selection

TS-S 2M V	Contact temperature sensor – active V 0-10 V
TS-S 2M A	Contact temperature sensor – active A 4-20 mA



Control and monitoring of temperature

TS-ST Series

Duct, Wall & Outside Mount Relative Humidity & **Temperature Thermostats**

The TS-ST Series thermostats are well suited for a number of applications of temperature control or safety cut-out in pipe work systems, calorifiers, duct work systems, green houses and many other installations. They all have the set-point adjustment under the cover to prevent unauthorised tampering.

They are available in two types:

CONTROL THERMOSTATS (AUTO RESET): with an adjustable set point, adjustable differential and auto reset, which provides a switched output to a heater or controller.

SAFETY THERMOSTATS (MANUAL RESET): with an adjustable set-point, fixed differential and manual reset, which provides high limit cut-out on boilers etc.

Specifications

Switch rating	24 to 250VAC @ 16(4)A
Sensing element	Liquid filled copper element
Housing Material	ABS UL94 V0 (flame retardant)
Ambient	Temperature: -35 to 65°C (-31 to 149°F) RH: 0 to 95% RH, non-condensing
Capillary length (ST-C)	1.5m (4.92ft)
Duct probe (ST-D)	280mm (11.02") x 16mm (0.63") dia.
Immersion pocket (ST-I)	Dimensions: 130mm (5.12"), thread ½" BSPT Material: Stainless Steel
Conformity	CE marked
Protection	TS-ST-D-01A: IP54 TS-ST-S-01A: IP30 Others: IP65 (auto reset types) Manual reset: IP43
Dimensions	TS-ST-S-01A: 86.5 x 38 x 53 mm (3.41 x 1.50 x 2.09") Others: 108 x 70 x 72mm (4.25 x 2.76 x 2.83")
Weight	Capillary: 340g (0.75lb) Duct: 700g (1.54lb) Immersion: 580g (1.28lb) Wall: 480g (1.06lb) Strap-on: 250g (0.55lb)

Model Selection

Capillary Sensor; 50°C to 140°C (122°F to 284°F); Manual Reset Duct Sensor; -35°C to +35°C (-31°F to 95°F); Auto Reset Duct Sensor; 0°C to 90°C (32°F to 194°F); Auto Reset Duct Sensor; -30°C to +30°C (-22°F to 86°F); Auto Reset Duct Sensor; 0°C to +90°C (-32°F to 194°F); Manual Reset Immersion Sensor; 0°C to 120°C (32°F to 248°F); Auto Reset Immersion Sensor; 0°C to 110°C (32°F to 230°F); Manual Reset Immersion Sensor; 20°C to 90°C (68°F to 194°F); Manual Reset Wall Sensor; -30°C to +30°C (-22°F to 86°F); Auto Reset Strap-On Sensor; 0°C to 90°C (32°F to 194°F); Auto Reset



Applications

- Temperature control
- · Safety cut-out in pipe work systems, calorifiers, duct work systems, green houses, etc.

- Robust housing
- Immersion sensors supplied with pocket
- Ideal for many applications
- Volt free contacts
- · Concealed adjustment





Applications

Control and monitoring of temperature

Features & Benefits

Robust design

Applications

Features & Benefits Extended pressure range • Extended velocity range • Ease of installation

- Extended operating temperature range
- Ease of installation

Frost protection thermostat

The frost protection thermostat TS-TFR is used for downstream temperature monitoring of water air heaters in ven-tilation and airconditioning systems to prevent frost damages. It has a small differential gap and a good repeatability. The reset can be done automatically or manually in case of type -R.

The frost protection thermostat can be used to initiate the following frost protection functions: Stop fan, Close outside air dampers, Open heating coil valve 100%, Star heating coil pump, Switch-off chiller (condenser) and humidifier, Trip visual and/or audible frost alarm

Specifications

Output switch contact	single pole change over, contact rating max. 10 A
Set point range	-10°C to 12°C (factory setting +5 °C)
Switching values	Differential gap: 2°C ±1°C
Temperature Accuracy	±0,5°C
Protection	IP65
Capillary pipe	Copper with tube filling R 507, 1,8 m, 3 m, 6 m, 12 m, sensor operating length approx. 600 mm, contact material Ag/Ni (90%/10%), gold plated (3 µm)

Model Selection

TS-TFR <x></x>	Frost protection thermostat - automatic reset
TS-TFR <x>R</x>	Frost protection thermostat - manual reset
<x>: capillary tube length 1,8/3/6/12 m</x>	



Control and monitoring of temperature

TS-THVADS Series Thermowell pocket with pressure screw

The TS-THVADS Series are thermowell pockets made of stainless steel and equipped with pressure screw for temperature sensing.

Pipe: 1.4571 (V4A)

Specifications

Material

Turned part: 1.4404 (V4A) Compressive strength Up to 40 bar up to 200 °C Operating ambient temperature

Model Selection

TS-THVADS50	Thermowell pocket for 50 mm sensor length, 30 m/s max. flow velocity
TS-THVADS100	Thermowell pocket for 100 mm sensor length, 13.5 m/s max. flow velocity
TS-THVADS150	Thermowell pocket for 150 mm sensor length, 9 m/s max. flow velocity
TS-THVADS200	Thermowell pocket for 200 mm sensor length, 5.5 m/s max. flow velocity
TS-THVADS250	Thermowell pocket for 250 mm sensor length, 4 m/s max. flow velocity
TS-THVADS300	Thermowell pocket for 300 mm sensor length, 2.5 m/s max. flow velocity
TS-THVADS450	Thermowell pocket for 450 mm sensor length, 1 m/s max. flow velocity

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Distech Controls Inc.



Valves

- \square Zone Valves
- □ Globe Valves
- Ball Valves
- $\hfill\square$ Pressure Independent Valves
- □ Butterfly Valves

Valves are the control points for regulating the flow of water in a piping system. Our line of control valves include ball, globe, butterfly and pressure independent valves for zone to central plant applications.



VA-VG3000 Series

2-Way and 3-Way Terminal Unit Valves

The VG3000 brass valve series is primarily designed to regulate the flow of water in response to the demand of a controller in zone and terminal unit applications and can be used in combination with VA-0100 Thermal ON/OFF Actuators, and VA-0160 Electric Terminal Unit Valve Actuators. The valves are available in 2-way and 3-way mixing with built-in bypass configurations.

Specifications

Body rating PN16 Inherent flow characteristic Linear Service Water, Fluid O Body size DN10, K_{ve} and close-off pressure See pr Body connection Gas (I Nominal stroke 4.0 mr Connection to actuator M30 x Fluid temperature limit 2 to 11 Ambient temperature limits -2 to 5 Max pressure drop Δp See pr Max weight See pr Materials Body:

PN16 Nominal, maximum rated pressure Linear Water, glycol solutions (max 50%) Fluid Group 1 according 67/548/EEC DN10, DN15, DN20 See product datasheet Gas (ISO 228/1) 4.0 mm M30 x 1.5 2 to 110°C -2 to 50°C See product datasheet See product datasheet Body: EN12165 CW617 Brass CuZn40Pb2 Stem: AISI 303 stainless steel (X10CrNiS1809) Spring: AISI 302 stainless steel (X10CrNiF1809)

Model Selection

VA-VG3211BS	2-way zone valve, DN15, Kvs 0,4 - 1/2" BSPP Male connection, Close off pressure 6bar
VA-VG3211CS	2-way zone valve, DN15, Kvs 0,63 - 1/2" BSPP Male connection, Close off pressure 6bar
VA-VG3211DS	2-way zone valve, DN15, Kvs 1 - 1/2" BSPP Male connection, Close off pressure 6bar
VA-VG3210ES	2-way zone valve, DN15, Kvs 1,6 - 1/2" BSPP Male connection
VA-VG3210FS	2-way zone valve, DN15, Kvs 2,5 - 1/2" BSPP Male connection
VA-VG3210JS	2-way zone valve, DN20, Kvs 2,5 - 3/4" BSPP Male connection
VA-VG3210KS	2-way zone valve, DN20, Kvs 4 - 3/4" BSPP Male connection
VA-VG3210LS	2-way zone valve, DN25, Kvs 6,3 - 1" BSPP Male connection
VA-VG3410BS	3-way zone valve, Bypass, DN15, Kvs 0,4 - 1/2" BSPP Male connection
VA-VG3410CS	3-way zone valve, Bypass, DN15, Kvs 0,63 - 1/2" BSPP Male connection
VA-VG3410DS	3-way zone valve, Bypass, DN15, Kvs 1 - 1/2" BSPP Male connection
VA-VG3410ES	3-way zone valve, Bypass, DN15, Kvs 1,6 - 1/2" BSPP Male connection
VA-VG3410FS	3-way zone valve, Bypass, DN15, Kvs 2,5 - 1/2" BSPP Male connection
VA-VG3410JS	3-way zone valve, Bypass, DN20, Kvs 2,5 - 3/4" BSPP Male connection
VA-VG3410KS	3-way zone valve, Bypass, DN20, Kvs 4 - 3/4" BSPP Male connection
VA-VG3410LS	3-way zone valve, Bypass, DN25, Kvs 6,3 - 1" BSPP Male connection

Plug: EPDM



- 2-way PDTC (NO) with 6 bar close off pressure allows valve operating when high pump head is available
- Extend range of KVS allows a wide range of application
- Forged brass body, stainless steel stem and spring ensure longevity and it is compact
- Actuator can be field installed after piping to simplify installation in confined location
- Commissioning Cap available as accessory for easy commissioning and manual operation without an actuator





Features & Benefits

- + K_{vs} calculation in not necessary
- · Valve authority calculation is not required
- · Specific devices or knowledge are not necessary
- Compact design that allows installing the valve also in small spaces such as fan-coils or narrow supply spaces.
- · Flow rate adjustment without disassembling the actuators

VA-VP1000 Series

Pressure Independant Control Valves

VP1000 Series pressure independent control valves combine a differential pressure regulator and a regulating valve for flow adjustment.

VP1000 Series valves also allow adjustments the flow rate in case of partial load of the system, and they always ensure a stable adjustment of the connected supply. The differential pressure regulator corrects any differential pressure variation. This leads to a considerable reduction in temperature variations and adjustment movements and to the extension of the life of the moving devices connected to it.

Specifications

Accuracy	0 to 1 bar ± 5%
ΔP max.	600 kPa - 6 bar
Temperature	-10°C to 120°C
Max. working pressure	2500 kPa - 25 Bar
Start-up max.	VP10xAAA, VP10xAAE, VP10xAAG: 20 kPa - 0,20 bar Other models: 25 kPa - 0,25 bar
Leakage	VP10xAAA, VP10xAAE, VP10xAAG, VP10xBAJ,IVP10xBAN: Class IV IEC 60534-4 VP100CAU, VP100CAW, VP100DAW, VP100DAY: 0,01% of flow rate

Model Selection

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/A-VP10xAAA	Pressure independant control valve, Female BSPP Rp 1/2" EN 10226-1 fitting, 150 l/h - 0,042 l/s max flow rate
/A-VP10xAAE	Pressure independant control valve, Female BSPP Rp 1/2" EN 10226-1, 600 l/h - 0,167 l/s max flow rate
/A-VP10xAAG	Pressure independant control valve, Female BSPP Rp 1/2" EN 10226-1, 780 l/h - 0,217 l/s max flow rate
/A-VP10xBAJ	Pressure independant control valve, Female BSPP Rp 3/4" EN 10226-1, 1000 l/h - 0,278 l/s max flow rate
/A-VP10xBAN	Pressure independant control valve, Female BSPP Rp 3/4" EN 10226-1, 1500 l/h - 0,417 l/s max flow rate
/A-VP100CAU	Pressure independant control valve, Female BSPP Rc 1" EN 10226-1, 2200 l/h - 0,611 l/s max flow rate
A-VP100CAW	Pressure independant control valve, Female BSPP Rc 1" EN 10226-1, 2700 l/h - 0,750 l/s flow rate
A-VP100DAW	Pressure independant control valve, Female BSPP Rc 1 1/4" EN 10226-1, 2700 l/h - 0,750 l/s max flow rate
A-VP100DAY	Pressure independant control valve, Female BSPP Rc 1 1/4" EN 10226-1, 3000 l/h - 0,833 l/s max flow rate
/A-VP100JDB	Pressure independant control valve, Female BSPP Rp 3/4" EN 10226-1, 1850 l/h - 0,514 l/s max flow rate
A-VP100HAA	Pressure independant control valve, Female BSPP Rp 1/2" EN 10226-1 fi tting, 150 l/h - 0,042 l/s max flow rate
A-VP100HDA	Pressure independant control valve, Female BSPP Rp 1/2" EN 10226-1, 450 l/h - 0,125 l/s max flow rate
/A-VP100JAJ	Pressure independant control valve, Female BSPP Rp ¾" EN 10226-1, 1000 l/h - 0,278 l/s max flow rate



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The VA-0100Tx Terminal Unit Actuators Series provide ON/OFF control in HAVC application. The compact design of these actuators make them suitable for installations in confined spaces, such as fan-coil applications. The VA-0100Tx actuators are designed for field mounting on VG3000 terminal unit valves and VP1000 pressure independent valves. Moreover, thanks to an innovative fixing system, the VA-0100Tx is suitable for almost all the terminal unit valves in the market.

Specifications

Type of motor	Thermal ("Wax" power element)
Action	Normally closed (stem retracts when energized)
Nominal force	100 N + 5%
Nominal stroke	5 mm
Electrical connection	1.5 m PVC cable, wire sections 2 x 0.75 mm ²
Ingress protection rating	IP54 (EN60529)
Connection to valves	M30 x 1.5
Ambien conditions	Max. valve operating temp. 100 °C Operating temp. 0 to +60 °C, non condensing Storage temp25 to +60 °C, non condensing
Weight, packaging excl.	0.1 kg
Power consumption	Continuous: 1 W
Supply voltage (50/60 Hz)	VA-0100TSC230DX: 230 Vac ±10% VA-0100TSC024DX: 24 Vac +20%10%
Running time	VA-0100TSC230DX: ~4 min VA-0100TSC024DX: 4.5 min

Model Selection

VA-0100TSC024DX*	Thermic zone valve actuator, 24V, Normally Close, On/Off control, 100N
VA-0100TSC230DX*	Thermic zone valve actuator, 230V, Normally Close, On/Off control, 100N
	Accessories (order sparately)
VA64	Adapter for VP1000

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below. **For adapter to retrofit with other brands, please contact us.



Features & Benefits

- Low and line voltage models available for flexible applications
- Suitable to almost all of terminal unit valve on the market
- Easy to install, no expert required, just one click to snap onto the valve adapter.
- Compact design is ideal for installation in confined spaces
 (fan coils, etc.)
- · Can be mounted after valve body is installed
- Allows more flexibility in actuator selection
- Actuator stroke visible in any direction, in confined space and in dark
- environment
- · Installation permitted in any direction

Terminal Valve Actuator Part Code Breakdown Matrix

	Valve Actuator	VA-	0100	Т	S	С	230	D	Х
Torque (Nm)	0100 = 100N 0160 = 160N								
Туре	T = Thermal Actuator Z = Zone Valve Actuator								
Action	N = Non Spring Return S = Spring Return								
Return Position	O = Normally Open C = Normally Closed N = None								
Supply Voltage	024 = 24V 230 = 230V								
Control Signal	D = On / Off F = Floating P = Proportional U = Universal								
Position Switches	X = None 1 = 1 Switch 2 = 2 Switches								

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.



Features & Benefits

Distech Controls Inc.

- · Suitable for any controller with voltage and current analog input
- · Different analog input ranges allow flexible applications
- · Double colour LED provides information about status and diagnostic
- · Removable cable for easy connection or replacement
- · Auto Stroke Detection is suitable for valves with variable stroke switches, and is easier to install. It also allows more flexibility in actuator selection

VA-0160ZNN024PX Series

Electric Terminal Unit Valve Actuator

The VA-0160Zx Series provides proportional control in HVAC applications. The compact design of this actuator makes it suitable for installation in confined spaces, such as fan coil, chilled ceiling, manifolds, etc. The VA-0160Zx Series actuator is designed for field mounting onto Distech Controls and competitor's Terminal Unit Valves. Due to the innovative concept of auto stroke detection, the VA-0160x can be installed over most of the conventional terminal unit valve in the market and PICV with variable strokes.

Specifications

Supply voltage (50/60 Hz)	24 VAC +/-15% 24 VDC +/-15%
Input impedence	Voltage: >100 kΩ Current: 500 Ω
Power consumption	Apparent: 2.5 VA Active: 1.5 W
Max. mechanical stroke	6.3 mm
K _{vs} and close-off pressure	See product datasheet
Running time	8 sec/mm
Protection	IP43
Material	Cover: ABS + PC Yoke: PA66 – Glass Mineral filled (30% total) Thread nut: Brass CuZn40Pb2
Temperatures	Operating: 0 °C to 50 °C, 10 to 90 RH% Storage: -20 °C to 65 °C, 5 to 95 RH% Fluid: (max.) 95°C
Electrical connection	2 m cable length (3 x 0.35 mm ²)
Operating status indicators	LED
Audible noise rating	< 30 dB(A)
Madel Celection	

Model Selection VA-0160ZNN024PX*

24 VAC/VDC, proportional electric actuator, 160 N - Auto stroke detection - 2m cable

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Valve Actuator	VA-	0100	Т	S	С	230	D	Х
Torque (Nm)	0100 = 100N 0160 = 160N								
Туре	T = Thermal Actuator Z = Zone Valve Actuator								
Action	N = Non Spring Return S = Spring Return								
Return Position	O = Normally Open C = Normally Closed N = None								
Supply Voltage	024 = 24V 230 = 230V								
Control Signal	D = On / Off F = Floating P = Proportional U = Universal								
Position Switches	X = None 1 = 1 Switch 2 = 2 Switches								

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.



Distech Controls Inc.

VA-VG1x05xx Series _____ 2-Way and 3-Way Ball Valves

The VG1000 series ball valves are used for the water control of air treatment systems in Heating, Ventilating and Air Conditioning (HVAC) systems. They are operated by direct or remote mounted spring return and non spring return actuators.

Specifications

Body pressure rating	PN40
Leakage rate	< 0.01% from the Kvs, < 1% for bypass port
Port connection	British Standard Pipe Parallel (BSPP) - (Rp, ISO 7/1)
Flow characteristic	2-way and 3-way (control port) valve: Equal % 3-way valve in bypass: Linear
Valve body	Material: Forged brass Size: DN15 to DN50
Trim	Ball: Stainless steel Stem: Stainless steel Seat PTFE with graphite part and EPDM O-ring
Suitable medium	Water, with max. 50% glycol Steam

Model Selection

VA-VG1x05AD	Ball valve, DN15, Control port kvs 1, Bypass port kvs 0.63
VA-VG1x05AE	Ball valve, DN15, Control port kvs 1.6, Bypass port kvs 1.0
VA-VG1x05AF	Ball valve, DN15, Control port kvs 2.5, Bypass port kvs 1.6
VA-VG1x05AG	Ball valve, DN15, Control port kvs 4.0, Bypass port kvs 2.5
VA-VG1x05AL	Ball valve, DN15, Control port kvs 6.3, Bypass port kvs 4.0
VA-VG1x05AN	Ball valve, DN15, Control port kvs 10, Bypass port kvs 5.0
VA-VG1x05BL	Ball valve, DN20, Control port kvs 6.3, Bypass port kvs 4.0
VA-VG1x05BN	Ball valve, DN20, Control port kvs 10, Bypass port kvs 5.0
VA-VG1x05CN	Ball valve, DN25, Control port kvs 10, Bypass port kvs 6.3
VA-VG1x05CP	Ball valve, DN25, Control port kvs 16, Bypass port kvs 8.0
VA-VG1x05DP	Ball valve, DN32, Control port kvs 16, Bypass port kvs 10.0
VA-VG1x05DR	Ball valve, DN32, Control port kvs 25, Bypass port kvs 12.5
VA-VG1x05ER	Ball valve, DN40, Control port kvs 25, Bypass port kvs 16.0
VA-VG1x05ES	Ball valve, DN40, Control port kvs 40, Bypass port kvs 20.0
VA-VG1x05FS	Ball valve, DN50, Control port kvs 40, Bypass port kvs 25.0
VA-VG1x05FT	Ball valve, DN50, Control port kvs 63, Bypass port k_{vs} 31.5



- Forged brass body
- K_{vs} 1-63
- 2-way, 3-way mixing and diverting configurations
- Inherent equal percentage flow characteristic in the in-line port of all valves
- Compatible with VA-0004BNN024PX and VA-0010BN-N024UX actuators (compatibility varies per model; see datasheet for details)





Features & Benefits

- 2-way and 3-way mixing
- Body rating PN16
- Valve fluid temperature limits -18 to 140 °C
- Flow characteristics:
 - 2-way: Equal percentage (according EN60534-2-4)
 - 3-way: Equal percentage (according EN60534-2-4) Flow characteristics of Inline port (Coil) and linear percentage flow characteristics of angle port (By-pass)
- Rangeability greater than 500:1

2-Way and 3-Way Flanged Ball Valves

VA-VG1xE5xx Series

The VG1000 series control ball valves are used for the water control of air treatment systems in ventilation and air conditioning units as well as heating system. They are operated by remote mounted spring return and non spring return actuators.

Specifications

Body pressure rating	PN16
Leakage rate	0.01% of Maximum Flow, Control port of Maximum Flow, Bypass Port (3-way only)
End connections	Flanged, DIN EN 1092, Type 16, Form B sealing strip
Flow characteristic	Equal Percentage (according EN60534-2-4)
Body	Material: Forged brass EN 12165 Size: DN65, DN80, and DN100
Trim	Ball: Stainless Steel x5CrNi1810 EN10088-3 Stem: Stainless Steel x5CrNi1810 EN10088-3 Seat: EPDM O-Ring Disk: A model AS-1145HS Ball seat: PTFE graphite filled
Suitable medium	Hot water, chilled water, 50/50 glycol solutions 172 kPa Saturated Steam for HVAC Systems
Fluid temperature limits	-18 to 140 °C

Model Selection

/A-VG12E5GT	2-way Flanged Ball valve, DN65, Control port k _{vs} 63
/A-VG12E5GU	2-way Flanged Ball valve, DN65, Control port kvs 100
/A-VG12E5HU	2-way Flanged Ball valve, DN80 Control port kvs 100
/A-VG12E5HW	2-way Flanged Ball valve, DN80 Control port kvs 18
/A-VG12E5JV	2-way Flanged Ball valve, DN100 Control port kvs 150
/A-VG12E5NY	2-way Flanged Ball valve, DN125, Control port kvs 250
/A-VG12E5PZ	2-way Flanged Ball valve, DN150, Control port kvs 350
/A-VG18E5GT	3-way Flanged Ball valve, DN65, Control port kvs 63
/A-VG18E5GU	3-way Flanged Ball valve, DN65, Control port kvs 100
/A-VG18E5HU	3-way Flanged Ball valve, DN80, Control port kvs 100
/A-VG18E5HW	3-way Flanged Ball valve, DN80 Control port kvs 180
/A-VG18E5JV	3-way Flanged Ball valve, DN100 Control port kvs 150
/A-VG18E5NY	3-way Flanged Ball valve, DN125, Control port kvs 250
/A-VG18E5PZ	3-way Flanged Ball valve, DN150, Control port kvs 350
	Actuators
DA-024N024PX	24 VAC/DC, 24 Nm Non-spring Return Actuator
DA-020S024PX	24 VAC/DC, 20 Nm Spring Return Actuator
DA-020S024P2	24 VAC/DC, 20 Nm Spring Return Actuator, 2 x SPDT switches
DA-020S024DX	24 VAC/DC, 20 Nm Spring Return Actuator
DA-020S024D2	24 VAC/DC, 20 Nm Spring Return Actuator, 2 x SPDT switches
DA-020S230DX	230 VAC, 20 Nm Spring Return Actuator
DA-020S230D2	230 VAC, 20 Nm Spring Return Actuator, 2 x SPDT switches
	Accessories (order separately)
M9000-518	Mounting Kit used to mount VG1000 Series valaves to DA-024x Series actuators
M9000-519	Mounting Kit used to mount VG1000 Series valaves to DA-020x Series actuators



Distech Controls Inc.

VA-0004BNN024PX Series Small Ball Valve Actuator

The VA-0004Bx electric actuator series has been developped for the operation of ball valves. These synchronous, motor-driven direct mountable actuators are used to provide accurate positioning on VA-VG1000 series DN15, DN20 and DN25 ball valves.

Specifications

Torque	4 Nm
Valve size	DN15, DN20, DN25
Running time	72 sec.
Supply voltage	AC 24 V +25% -20%
Frequency	50-60 Hz
Power requirement	3.6 VA
Control signal	DC 0(2)-10 V or 0(4)-20 mA
Position signal	DC 0(2)-10 V
Angle of rotation	90° (93° mech)
Operating temperature	-20 to +60 °C / IEC 721-3-3
Storage temperature	-40 to +85 °C / IEC 721-3-2
Humidity	5 to 90 % R.F., non condensing
Degree of protection	IP42
Connection	1.2 m PVC cable
Fluid temperature limit	-30 to 95 °C (140 °C with M9000-561 Thermal Barrier)

Model Selection

VA-0004BNN024PX*

Non-spring retrun actuator, 24VAC, 4Nm stroke, 1.2m cable for VA-VG1000 valvesl

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.



Features & Benefits

- DC 0(2)-10 V or 0(4)-20 mA control signal with field furnished 500 Ω resistor
- Load-independent running time
- Up to 5 actuators in parallel operation possible
- 1.2 m PVC cable
- Selectable direction of rotation
- Noiseless operation
- Manual release button
- · Automatic shut-off at end position

Terminal Valve Actuator Part Code Breakdown Matrix

	Valve Actuator	VA-	0004	В	Ν	Ν	024	Р	Х	
Torque (Nm)	0004 = 4Nm 0010 = 10Nm									
Туре	B = Ball/Butterfly Valve Actuator									
Action	N = Non Spring Return S = Spring Return									i
Return Position	O = Normally Open C = Normally Closed N = None									r t
Supply Voltage	024 = 24V 230 = 230V									
Control Signal	D = On / Off F = Floating P = Proportional U = Universal									
Position Switches	X = None 1 = 1 Switch 2 = 2 Switches									

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.





Features & Benefits

Distech Controls Inc.

- · High speed actuator model allows applications in loop that require a quick response time.
- · Optional auxiliary switch & potentiometer feedback provide line voltage capable single Pole Double-Throw (SPDT) switch and 140 Ω , 1K Ω , 2K Ω or 10K Ω feedback potentiometric.
- · Microprocessor-controlled brushless DC motor provides constant runtime independent of torque and increases life cycle by reducing wear.
- · Electronic stall detection protects from overload at all angles of rotation. The actuator may be stalled anywhere in its rotation range without the need for mechanical end switches.

VA-0010BNN024UX

Ball Valve Actuator

The VA-0010Bx Electric Non Spring Return Actuators are used to provide accurate positioning on VG1000 Series DN15 up to DN50 ball valves in Heating, Ventilating and Air Conditioning (HVAC) applications.

Specifications

Torque	10 Nm
Valve size	DN15 to DN50
Power requirement	24 VAC (AC 19.2 to 28.8 V) at 50/60 Hz 24 VDC (DC 21.6 to 26.4 V)
Transformer sizing	≥6.5 VA
Rotation time	35 sec.
Rotation range	mechanically limited 35° to 95° ±3° in 5° increments
Operating temperature	-30 to 60 °C (-22 to 140 °F), 95% RH, noncondensing (EN 60730-1)
Storage temperature	-40 to 85 °C (-40 to 185 °F), 95% RH, noncondensing
Degree of protection	IP54/NEMA 5
Water temperature limit	-30 to 100 °C (-22 to 212 °F) -30 to 140 °C (-22 to 284 °F) (with Thermal Barrier)
Steam temperature limit	103 kPa (15 psig) at 121 °C (250 °F) (with Thermal Barrier)

Model Selection

VA-0010BNN024UX*	Non-spring retrun actuator, 24VAC/VDC, 10 Nm stroke, 1.2 m cable for VA-VG1000 valves
	Accessories
M9300-1	Auxiliary Switch Kit (one single-pole, double-throw)
M9300-2	Auxiliary Switch Kit (two single-pole, double-throw)
M9000-561	Thermal Barrier Kit
M9000-342	NEMA 4X, IP66/67 Weathershield Kit for VG1000 Series Ball Valves

*For a breakdown of the actuator part codes, please refer to the sample Part Code Breakdown matrix below.

Terminal Valve Actuator Part Code Breakdown Matrix

	Valve Actuator	VA-	0010	В	Ν	Ν	024	U	Х
Torque (Nm)	0004 = 4Nm 0010 = 10Nm								
Туре	B = Ball/Butterfly Valve Actuator								
Action	N = Non Spring Return S = Spring Return								
Return Position	O = Normally Open C = Normally Closed N = None								
Supply Voltage	024 = 24V 230 = 230V								
Control Signal	D = On / Off F = Floating P = Proportional U = Universal								
Position Switches	X = None 1 = 1 Switch 2 = 2 Switches								

IMPORTANT: This matrix is for information purposes only, For the list of available actuator models, please refer to the Model Selection table for each actuator series.


VA-BUN Series

3 Way Valves - BUN

These control valves are characterised by being extremely reliable and accurate, and make a considerable contribution to providing environmentally friendly control. They comply with the most demanding requirements such as having a rapid closing function, handling differential pressures, controlling media temperatures and providing a shut-off facility – all with a low-noise design. The valve can be controlled to any intermediate position using an electric drive. The valve is closed with the valve stem extended.

Specifications

Nominal pressure	PN16
Fluid	Water
Fluid temperature	-15 to 150°C
Characteristics	F200 : linear F3xx : exponential
Materials	DZR (Dezincification Resistant) cast brass body DZR cast brass seat Stainless steel spindle DZR brass glass-fibre reinforced Teflon sealing ring Stuffing box made of DZR brass with wiper ring and double O-ring seal in EPDM
Weight	DN15: 820 g DN20: 1 kg DN25: 1.30 kg DN32: 1.74 kg DN40: 2.52 kg DN50: 3.44 kg

Features & Benefits

- Nominal pressure 16 bar
- Nominal diameter DN15 to DN50
- Control valve, contains no silicone grease
- Equal percentage characteristic, adjustable with SUT actuators to linear or quadratic
- Linear mixing passage characteristic
- · If the spindle is retracted, the valve is closed
- · Can be used as mixing valve or diverting valve

VA-BUN015F330	3-way valve with male thread, PN16, DN15, K _{vs} 1 (=%)
VA-BUN015F320	3-way valve with male thread, PN16, DN15, K _{vs} 1.6 (=%)
VA-BUN015F310	3-way valve with male thread, PN16, DN15, K _{vs} 2.5 (=%)
VA-BUN015F300	3-way valve with male thread, PN16, DN15, K _{vs} 4.0 (=%)
VA-BUN020F300	3-way valve with male thread, PN16, DN20, K _{vs} 6.3 (=%)
VA-BUN015F300	3-way valve with male thread, PN16, DN25, K _{vs} 10 (=%)
VA-BUN032F300	3-way valve with male thread, PN16, DN32, K _{vs} 16 (=%)
VA-BUN040F300	3-way valve with male thread, PN16, DN40, K _{vs} 22 (=%)
VA-BUN050F300	3-way valve with male thread, PN16, DN50, K _{vs} 28 (=%)
VA-BUN050F200	3-way valve with male thread, PN16, DN50, K_{vs} 40, linear
	Accessories
VA-361951015	Screw fitting for male thread with flat seal DN15
VA-361951020	Screw fitting for male thread with flat seal DN20
VA-361951025	Screw fitting for male thread with flat seal DN25
VA-361951032	Screw fitting for male thread with flat seal DN32
VA-361951040	Screw fitting for male thread with flat seal DN40
VA-361951050	Screw fitting for male thread with flat seal DN50

VA-VUN Series

Features & Benefits Nominal pressure 16 bar

- Nominal diameter DN15 to DN50
- · Control valve, contains no silicone grease
- Equal percentage characteristic, adjustable with SUT actuators to linear or quadratic
- Linear mixing passage characteristic
- · If the spindle is retracted, the valve is closed
- · Closing procedure against or with pressure

2 Way Valves - VUN

These control valves are characterised by being extremely reliable and accurate, and make a considerable contribution to providing environmentally friendly control.

They comply with the most demanding requirements such as a quick-closing function, handling differential pressures, controlling media temperatures and providing a shut-off facility - all with a low-noise design. The valve can be controlled to any intermediate position using an electric drive. The valve is closed when the valve stem is extended.

Specifications

Nominal pressure	PN16
Fluid	Water
Fluid temperature	-15 to 150°C
Characteristics	F200 : linear F3xx : exponential
Materials	DZR (Dezincification Resistant) cast brass body DZR cast brass seat Stainless steel spindle DZR brass glass-fibre reinforced Teflon sealing ring Stuffing box made of DZR brass with wiper ring and double O-ring seal in EPDM
Weight	DN15: 820 g DN20: 1 kg DN25: 1.30 kg DN32: 1.74 kg DN40: 2.52 kg DN50: 3.44 kg

VA-VUN015F350	2-way valve with male thread, PN16, DN15, K _{vs} 0.4 (=%)
VA-VUN015F340	2-way valve with male thread, PN16, DN15, K _{vs} 0.63 (=%)
VA-VUN015F330	2-way valve with male thread, PN16, DN15, K _{vs} 1 (=%)
VA-VUN015F320	2-way valve with male thread, PN16, DN15, K _{vs} 1.6 (=%)
VA-VUN015F310	2-way valve with male thread, PN16, DN15, K _{vs} 2.5 (=%)
VA-VUN015F300	2-way valve with male thread, PN16, DN15, K _{vs} 4.0 (=%)
VA-VUN020F300	2-way valve with male thread, PN16, DN20, K _{vs} 6.3 (=%)
VA-VUN025F300	2-way valve with male thread, PN16, DN25, K_{vs} 10 (=%)
VA-VUN032F300	2-way valve with male thread, PN16, DN32, K _{vs} 16 (=%)
VA-VUN040F300	2-way valve with male thread, PN16, DN40, K _{vs} 22 (=%)
VA-VUN050F300	2-way valve with male thread, PN16, DN50, K_{vs} 28 (=%)
VA-VUN050F200	2-way valve with male thread, PN16, DN50, K _{vs} 40, linear
	Accessories
VA-361951015	Screw fitting for male thread with flat seal DN15
VA-361951020	Screw fitting for male thread with flat seal DN20
VA-361951025	Screw fitting for male thread with flat seal DN25
VA-361951032	Screw fitting for male thread with flat seal DN32
VA-361951040	Screw fitting for male thread with flat seal DN40
VA-361951050	Screw fitting for male thread with flat seal DN50



VA-BUE/-BQE 3-Way Flanged Valves

The key features of these control valves are their high reliability and precision, making a major contribution towards environment-friendly control. They meet demanding requirements including quick-close functions, coping with differential pressures, controlling the medium temperature and providing a shut-off function - and all this is achieved with a low noise level.

An automatic and fixed connection is made between the valve stem and the drive shaft. The cone (which is made of brass) controls an equal-percentage flow in the control passage.

To compensate for the complementary characteristic of the consumer and to guarantee an identical quantity of medium regardless of the valve position, the mixing passage acts with a linear characteristic. The tightness of this valve is guaranteed by the seat which is machined in the body. The stuffing box is maintenance-free; it consists of a brass body, 2 0-rings, a wiper ring and the grease reserve. This is free of silicone grease and no silicone oil must be used for the stem.

Specifications

PN16 / PN10
-10 to 150°C
F200 : linear I F300 : exponential
Grey cast iron body I Grey cast iron seat Stainless steel spindle Nominal diameter DN15 to DN50 cones in brass with glass-fibre reinforced Teflon sealing ring Cone nominal diameter DN65 to DN150 in brass, metal-to-metal seal Stuffing box made of brass with wiper ring and double O-ring seal in EPDM
DN50: 11,2 kg DN65: 19,0 kg DN80: 224.0 kg DN100: 34.0 kg DN125: 52.0 kg DN150: 76.0 kg

Model Selection

3-way flanged valve, PN10/16, DN50, 8mm stroke, K _{vs} 28
3-way flanged valve, PN10/16, DN50, 8mm stroke, K _{vs} 40
3-way flanged valve, PN16, DN65, 20mm stroke, K _{vs} 63
3-way flanged valve, PN16, DN80, 20mm stroke, K _{vs} 100
3-way flanged valve, PN16, DN80, 20mm stroke, K _{vs} 160
3-way flanged valves, PN16, DN125, 40mm stroke, K _{vs} 220
3-way flanged valves, PN16, DN150, 40mm stroke, K 320



- Nominal pressure 16 bar
- Control valve, contains no silicone grease; painted black
 Naminal diameters DNF0 to DN150
- Nominal diameters DN50 to DN150
- Equal percentage characteristic in the case of F300, adjustable with SUT actuators to linear or quadratic
- Linear characteristic in the case of F200 from DN50 with increased kvs value, adjustable with SUT actuators to equal percentage or quadratic
- · Linear mixing passage characteristic
- · With the spindle retracted, the valve is closed
- · Can be used as control valve or diverting valve





Features & Benefits

Pushing force of min. 2500 N

- Stepping motor with SUT (Sauter Universal Technology) electronic control unit and electronic load-dependent cut-off
- Automatic detection of control signal applied (continuous or switching), display via 2 LEDs
- The type of characteristic curve (linear, quadratic or equal percentage) can be adjusted in the drive
- Independent adaptation to valve stroke between 8 and 49 mm, captive even if the power is turned off
- Direction of travel can be selected via screw terminals when making electrical connection or remotely
- Coding switch for selection of characteristic and running time (35, 60 or 120 sec.)
- Hand crank for external manual adjustment with motor cut-off and as trip for re-initialisation
- Easy assembly with valve, spindle connection takes place automatically after application of control voltage
- · Many adaptors allow assembly on third-party valves

VA-AVM Series

Valve Actuators -VUN / -BUN, -BUE / -BQE, -VUE / -VQE

The automatic adaptation to valve, precision control and high energy efficiency with minimal operating noise makes the AVM series the perfect drive for the actuation of two or three-way globe valves, for controllers with continuous output (0-10 V or 4-20 mA) or switching output (2-point or 3-point control). Depending on the type of connection, the AVM may be used as a continuous drive (0-10 V and/or 4-20 mA),

Depending on the type of connection, the AVM may be used as a continuous drive (0-10 V and/or 4-20 mA), as a 2-point drive (OPEN/CLOSED) or as a 3-point drive (OPEN/STOP/CLOSED) with an intermediate position.

24 VAC + 20% - 50/60 Hz

Specifications

Power supply

· · · · · · · · · · · · · · · · · · ·	
	24 Vcc ± 15%
Power consumption	10 W
Fluid temperature	130°C
Ambient temperature	-10 to 55°C
lumidity	95% HR
Protection	AVM 105: IP54 AVM 234: IP66
Response time for 3-point	200 ms
Veight	AVM 105: 0.7 kg AVM 234: 4.1 kg

Model Selection

VA-AVM105SK004	Actuator for valves VUN/BUN, SUT 24V, 8mm, 35/60/120s, 250N
VA-AVM115SF132	Actuator for valves VUN/BUN, SUT 24V, 8mm, 35/60/120s, 500N
VA-AVM321SF132	Actuator for valves VUN/BUN, SUT 24V, 8mm, 35/60/120s, 1000N
VA-AVM322SF132	Actuator for valves VQE/BQE, DN65/80,SUT 24V, 20mm, 35/60/120s, 1000N
VA-AVM234SF132	Actuator for valves VQE/BQE, 24V, 2500N,14-40mm



Features & Benefits

Nominal pressure 16 bar

- Control valve, contains no silicone grease; painted black
- Nominal diameters DN50 to DN150
- Equal percentage characteristic in the case of F300, adjustable with SUT actuators to linear or quadratic
- Linear characteristic in the case of F200 from DN50 with increased kvs value, adjustable with SUT actuators to equal percentage or quadratic
- · With the spindle retracted, the valve is closed

VA-VUE/-VQE Series 2-Way Flanged Valves - VUE

The key features of these control valves are their high reliability and precision, and they make a major contribution towards environment-friendly control. They meet demanding requirements including quick-close functions, coping with differential pressures, controlling the medium temperature and providing a shut-off function and all this is achieved with a low noise level.

An automatic and fixed connection is made between the valve stem and the drive shaft. The cone (which is made of brass) controls an equal-percentage flow in the control passage.

To compensate for the complementary characteristic of the consumer and to guarantee an identical quantity of medium regardless of the valve position, the mixing passage acts with a linear characteristic. The tightness of this valve is guaranteed by the seat which is machined in the body. The stuffing box is maintenance-free; it consists of a brass body, 2 0-rings, a wiper ring and the grease reserve. This is free of silicone grease and no silicone oil must be used for the stem.

Specifications

Nominal pressure	PN16 / PN10
Fluid temperature	-10 to 150°C
Characteristics	F200 : linear F300 : exponential
Material	Grey cast iron body I Grey cast iron seat Stainless steel spindle Nominal diameter DN15 to DN50 cones in brass with glass-fibre reinforced Teflon sealing ring Cone nominal diam. DN65 to DN150 in brass, metal-to-metal seal Stuffing box made of brass with wiper ring and double O-ring seal in EPDM
Weight	DN50: 11.2 kg DN100: 33 kg DN65: 17.3 kg DN125: 48 kg DN80: 22.9 kg DN150 : 68.0 kg

VA-VUE050F300	2-Way Flanged Valve, PN 16/10 DN50, 8mm stroke, K _{vs} 28
VA-VUE050F200	2-Way Flanged Valve, PN 16/10 DN50, 8mm stroke, K _{vs} 40
VA-VQE065F300	2-Way Flanged Valve, PN 16, DN65, 20mm stroke, K _{vs} 63
VA-VQE080F300	2-Way Flanged Valve, PN 16, DN80, 20mm stroke, K _{vs} 100
VA-VQE100F300	2-Way Flanged Valve, PN 16, DN100, 40mm stroke, K _{vs} 160
VA-VQE125F300	2-Way Flanged Valve, PN 16, DN125, 40mm stroke, K _{vs} 220
VA-VQE150F300	2-Way Flanged Valve, PN 16, DN150, 40mm stroke, K _{vs} 320





VA-VBFxxxx Series

2-Way VBF Butterfly Valves

VFB butterfly valves series are specifically designed for a wide range of Heating, Ventilating, and Air Conditioning (HVAC) applications, including two-position and modulating control of hot, chilled, or condenser water, and 50/50 glycol solutions.

Cooled and heated water with 50% Glycol vol. max

All valves are factory tested for bubble-tight shutoff at 100% of the fully-rated pressure. These valves are also bidirectional, allowing positive shutoff with the flow in either direction.

Well water, salt water

Gas tight leak rate A (EN12266-1)

Body: ASTM A126 Class B ≈ GG 25

Stem: ASTM A582 Type 416 ≈ 1.4405

Modified Equal Percentage

VBF, 2-way Flange PN6/PN10/PN16

16 Bar

4 m/s

As per ISO 5211

Seals: EPDM

-29°C to 121°C

sunlight

Specifications

Service

Body type Pipe connection Actuator mounting flange Pressure rating Max. fluid velocity Leakage Flow characteristics Materials

Fluid temperature limits Ambient temperature limits

Model Selection

VA-VFB025H

VA-VFB035H

VA-VFB040H

VA-VFB050H VA-VFB065H

VA-VFB080H

VA-VFB100L

DA-016N024PX

DA-024N024PX

DA-020SXXXX

VBF butterfly valve, DN25, 1", 52 K_{st}, Max close-off pressure 10 bar
VBF butterfly valve, DN32, 1 1/4", 72 K_{st}, Max close-off pressure 10 bar
VBF butterfly valve, DN40, 1 1/2", 126 K_{st}, Max close-off pressure 10 bar
VBF butterfly valve, DN50, 2", 124 K_{st}, Max close-off pressure 12 bar
VBF butterfly valve, DN65, 2 1/2", 243 K_{st}, Max close-off pressure 12 bar
VBF butterfly valve, DN80, 3", 397 K_{st}, Max close-off pressure 12 bar
VBF butterfly valve, DN80, 3", 397 K_{st}, Max close-off pressure 12 bar
VBF butterfly valve, DN80, 3", 397 K_{st}, Max close-off pressure 3.5 bar
Actuators¹
16 Nm non-spring return actuator
24 Nm non-spring return actuator
20 Nm spring return actuator

-20°C to 80°C in a dry and dust-free environment, not exposed to strong

1. See datasheet for linkage possibilities.



- Low seating/unseating torques reduce actuator torque and size requirements, particularly with lower-pressure rated valves
- Bubble-tight shutoff ensures positive closure when needed
- Broad range of pre-assembled actuators
- Offers a wide selection for new and replacement electric and pneumatic actuators
- High-integrity components provide quality valve assemblies, combining long cycle life with optimal engineered functional designs
- Fluid temperature limits: -29 °C to 121 °C
- · Flow characteristics modified equal percentage



0 79



Wireless

ReceiversTemperature Sensors

Wireless devices offer cost savings and flexibility of installation. They are ideal for building retrofits, open spaces that undergo frequent layout changes and installations on all kinds of surfaces. These devices use energy harvesting technologies and low power wireless communication in order to be truly wireless and battery-less.



Open-to-Wireless™ Receiver

Wireless Receiver

Distech Controls' Open-to-Wireless[™] Wireless Receiver enables controllers to receive input signals from wireless sensors and switches. It is fully compatible with Distech Controls' LonWorks[®] and BACnet[®] controllers, and uses the EnOcean protocol for communication. The Wireless Receiver can be installed in multiple ways. For example, using double-face adhesive tape, the Wireless Receiver can be mounted on almost any type of surface and be within close proximity of the controller. If the controller is in a metal enclosure, the Wireless Receiver can be mounted on the enclosure's exterior using a ½-inch NPT hub. The Wireless Receiver performs best when the antenna is elongated and away from metal objects or surfaces (more than 1" (2.5 cm) away from metal). A 6.5 ft (2 m) long cord, provided with the Wireless Receiver, is used to connect it to the controller. In building retrofits, the Wireless Receiver and preserving original architecture and materials. Wiring complexities are avoided and any initial design errors can be easily fixed. Because the Wireless Receiver can be directly connected to Open-to- Wireless ready controllers, their input counts can be easily expanded, making field upgrades simple and straightforward.

Specifications

Operating Temperature	0°C to 50°C; 32°F to 122°F
Storage Temperature	-20°C to 70°C; -4°F to 158°F
Relative Humidity	0 to 90% Non-condensing
Power Supply	From controller
Communication Protocol	EnOcean
Cable	Telephone cord (included)
Connector	4P4C modular jack
Material	ABS type PA-765A (White enclosure with black antenna)
Mounting Options	Wall mounting using two-sided tape (included) or screws and wall anchor. Mounting on a metal enclosure using a ½-inch NPT hub (included)

Model Selection

PDITE-WIRE868X2

Open-to-Wireless EnOcean Wireless Receiver (868.3 MHz) with 2m (6.5') cable. Compatible with ECB & ECL controllers.



Applications

- Enables controllers to receive input signals from a wide variety of wireless battery-less room sensors and switches
- Facilitates building retrofits, minimizing impact on building structure, saving on time and costs with re-wiring, fixing initial design errors, and expanding controller input count

- Wireless communication permits the optimization of sensor placement, easy relocation of sensors and switches, removes the need to open walls and extensive installation work
- Multiple mounting options, giving you flexibility during installation
- Available in two models for communication on 902MHz, 868MHz, to suit your country or local area's transmission spectrum standards
- Cord with modular connectors included, making connection to the controller fast and straightforward
- Powered directly by the controller, simplifying installation





Applications

- Perform building retrofits with minimal impact on architecture and materials.
- Install wireless devices on any surface, such as glass, brick and stone.
- Support open spaces that undergo frequent changes in layout or require seasonal displacement.
- Expand controller input count.

Features & Benefits

- · Wireless communication permits the optimization of sensor placement, easy relocation of sensors and switches, removes the need to open walls and extensive installation work
- Available in three models for communication on 902MHz or 868MHz to suit your country or local area's transmission spectrum standards

Allure[™] ECW-Sensor Series

Room Temperature Sensors

The Allure™ ECW-Sensor series are wireless and battery-less room temperature sensors specifically designed to communicate with Distech Controls' Open-to- Wireless™ controllers via radio telegrams in accordance with the EnOcean® standard. All Allure ECW-Sensor models possess an integrated temperature sensor for precision local temperature sensing. In addition, some models feature a rotary knob for setpoint adjustment, fan speed setting, and a push button for occupancy override. All models are powered by solar energy, providing maintenance-free operation and are part of Distech Controls' Open-to-Wireless solution. All models are available for 902, and 868 MHz frequency bands, making them compliant for use in most countries. The alluring, slim profile enclosure is suitable for classrooms, hotels, executive areas, office spaces and commercial areas. A separate sub-base allows it to be mounted on any surface with double-sided adhesive tape.

Specifications

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Technology	EnOcean, STM
Transmitting frequency	868.3 MHz
Transmitting range	approx. 30 m in buildings, approx. 300 m upon free propagation
Temperature sensor range	0°C to +40°C
Resolution	0.15 K
Absolute accuracy typ.	± 0.5 K
Wake-Up Cylcle Time	1, 10, 100(default) seconds; Jumper selectable
Transmit Interval Time	1, 10 (default),100; Jumper selectable
Energy generator	Solar cell, internal goldcap, maintenance-free
Enclosure	ABS Type PA-765A
Ambient temperature	5°C to 65°C
Transport	-20°C to 57°C
Relative Humidity	0% to 95% rH, non condensing
Weight	180g

re ECW-Sensor (868)	Open-to-Wireless battery-less space temperature sensor, Enocean®
re ECW-Sensor-O (868)	Open-to-Wireless battery-less space temperature sensor with override, Encean® 868.3 MHz
re ECW-Sensor-S (868)	Open-to-Wireless battery-less space temperature sensor with setpoint cool/ warm, Enocean® 868.3 MHz
re ECW-Sensor-SO (868)	Open-to-Wireless battery-less space temperature sensor with setpoint cool/warm and override, ${\sf Enocean} @$ 868.3 MHz
re ECW-Sensor-SOF (868)	Open-to-Wireless battery-less space temperature sensor with setpoint cool/warm, override and fan speed selector, ${\sf Enocean} $ 868.3 MHz



Distech Controls Inc.

WI-SR65

Outdoor Temperature Sensors

Battery and wireless outdoor sensor for temperature control in connection with the receiving interfaces SRCx and higher-graded control systems. Transmission to receiver by means of radio telegrams according to EnOcean standard. With integrated temperature sensor and solar energy storage for maintenance-free operation.

Specifications

the second s	
Technology	EnOcean, STM
Transmitting frequency	868.3 MHz
Transmitting range	approx. 30 m in buildings, approx. 300 m upon free propagation
Temperature detection	Range: -20°C to 60°C Resolution: 0.31 K Absolute accuracy: typ. +/-0.8 K
Measuring value detection	every 100 seconds
Sending interval	every 100 seconds with changes > 1.6 K every 1000 seconds with changes < 1.6 K
Energy generator	Solar cell, internal goldcap, maintenance-free
Ambient temperature	-25 to 65°C
Transport	-25 to 65°C / max. 70%rH, non-condensed
Weight	110g

Model Selection

WI-SR65

Outdoor temperature sensor, wireless (868.3MHz), solar cell powered.



Applications

Outdoor temperature measurement

Features & Benefits

- · Wireless communication permits the optimization of sensor placement, easy relocation of sensors and switches, removes the need to open walls and extensive installation work
- Available in 902MHz or 868MHz to suit your country or local area's transmission spectrum standards

WI-SRW02 Wireless Window Contact - 868MHz

Battery-less radio window contact for status monitoring of windows and doors in connection with the receiving interfaces SRC-x and higher-graded control systems. Satus monitoring of windows and doors. Transmission to the receiver by means of radio telegrams based on the EnOcean standard. With integrated solar energy storage.

Specifications

Technology	EnOcean, STM
Transmitting frequency	868.3 MHz
Transmitting range	approx. 30 m in buildings, approx. 300 m upon free propagation
Temperature detection	Range: 10°C to 90°C Resolution: 0.31 K Absolute accuracy: typ. +/-0.8 K
Measuring value detection	every 100 seconds
Sending interval	every 100 seconds with changes > 1.6 K every 1000 seconds with changes < 1.6 K
Energy generator	Solar cell, internal goldcap, maintenance-free
Enclosure	Bottom part material PA6, colour white Top cover material PC, colour crystal clear
Protection	IP40 according to EN60529
Ambient temperature	-25 to 65°C
Transport	-25 to 65°C/ max.
Weight	115g

Model Selection

WI-SRW02

Door/window contact, wireless (868.3MHz), solar cell powered



Applications

Turning fan coil Off, when window opened

- Interoperable. Communicates wirelessly with other devices using the EnOcean wireless standard
- Self-powered. Integrated solar cell harvests indoor light to power the device and eliminates the need for wires or batteries
- Single button with LED indicator light enables simple device configuration
- Built in mounting plate for easy installation on any standard door or window frame
- Internal tray for optional coin cell battery use in low light environments







Your Resources

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YOUR RESOURCES









Temp. °C	PT100 Ohm	PT1000 Ohm	Ni1000 Ohm	Ni1000 TK5000 Ohm	KTY81-110 Ohm	KTY81-121 Ohm	KTY81-122 Ohm
-50	80,31	803,10	743,00	790,88	515	505	525
-40	84,27	842,70	791,00	830,83	567	557	577
-30	88,22	882,20	842,00	871,69	624	614	634
-20	92,16	921,60	893,00	913,48	684	674	694
-10	96,09	960,90	946,00	956,24	747	737	757
0	100,00	1.000,00	1.000,00	1.000,00	815	805	825
10	103,90	1.039,00	1.056,00	1.044,79	886	876	896
20	107,79	1.077,90	1.112,00	1.090,65	961	951	971
25	109,74	1.097,40	1.141,00	1.113,99	1.000	990	1.010
30	111,67	1.116,70	1.171,00	1.137,61	1.040	1.030	1.050
40	115,54	1.155,40	1.230,00	1.185,71	1.122	1.112	1.132
50	119,40	1.194,00	1.291,00	1.234,97	1.209	1.199	1.219
60	123,24	1.232,40	1.353,00	1.285,44	1.299	1.289	1.309
70	127,07	1.270,00	1.417,00	1.337,14	1.392	1.382	1.402
80	130,89	1.308,90	1.483,00	1.390,12	1.490	1.480	1.500
90	134,70	1.347,00	1.549,00	1.444,39	1.591	1.581	1.601
100	138,50	1.385,00	1.618,00	1.500,00	1.696	1.686	1.706
110	142,29	1.422,00	1.688,00	1.556,98	1.805	1.795	1.815
120	146,06	1.460,60	1.760,00	1.615,36	1.915	1.905	1.925
130	149,82	1.498,20	1.853,00	1.675,18	2.023	2.013	2.033
140	153,58	1.535,80	1.909,00	1.736,47	2.124	2.114	2.134
150	157,31	1.573,10	1.987,00	1.799,26	2.211	2.201	2.221

Temp. °C	KTY81-210 Ohm	FeT Ohm	LM235Z mVolt	BALCO 500 Ohm	NTC 1,6K Ohm	NTC 1,8k Ohm	NTC 2,2K Ohm
-50	1.030	-	382,1	-	-	-	
-40	1.135	-	2.332	399,8	53.370	40.375	73.060
-30	1.247	1.934,70	2.432	418,0	28.173	22.906	38.550
-20	1.367	2.030,41	2.532	435,6	15.489	13.477	21.200
-10	1.495	2.127,68	2.632	453,3	8.840	8.198	12.110
0	1.630	2.226,53	2.732	471,0	5.222	5.141	7.162
10	1.772	2.327,01	2.832	488,7	3.184	3.315	4.372
20	1.922	2.429,15	2.932	497,3	1.999	2.193	2.747
25	2.000	2.480,86	2.982	506,3	1.600	1.800	2.200
30	2.080	2.533,00	3.032	523,6	1.289	1.486	1.773
40	2.245	2.638,60	3.132	541,3	851,9	1.028	1.173
50	2.417	2.745,99	3.232	558,5	576,1	726	793
60	2.597	2.855,23	3.332	576,2	397,9	522	548
70	2.785	2.966,36	3.432	593,4	280,2	382	386
80	2.980	3.079,42	3.532	610,6	200,9	284	276
90	3.182	3.194,47	3.632	627,8	146,5	214	201
100	3.392	3.311,56	3.732	645,1	108,5	164	149
110	3.607	3.430,75	3.832	662,3	81,5	127	112
120	3.817	3.552,09	3.932	679,1	62,1	99	85
130	4.008	3.675,65	-	696,3	47,9	-	66
140	4.166	3.801,48	-	713,1	37,4	-	51
150	4.280	3.929,65	-	-	29,5	-	40

Temp. °C	NTC3K Ohm	NTC 3,3K Ohm	NTC 5K Ohm	NTC 5,369 Ohm	NTC-SAT Ohm	NTC 10K kOhm	NTC 10K PRE kOhm
50	-	-	333.914,00	-	-	667,83	-
-40	102.690	109.600	167.835,50	116.300	9.709	335,67	239,80
-30	53.730	57.820	88.341,50	66.190	9.462	176,68	135,20
-20	29.346	31.800	48.487,00	39.100	9.063	96,97	78,91
-10	16.674	18.160	27.649,00	23.890	8.468	55,30	47,54
0	9.822	10.740	16.325,40	15.060	7.658	32,65	29,49
10	5.976	6.558	9.951,75	9.778	6.665	19,90	18,79
20	3.750	4.121	6.246,85	6.517	5.573	12,49	12,26
25	3.000	3.300	5.000,00	5.369	5.025	10,00	10,00
30	2.417	2.660	4.028,00	4.449	4.493	8,06	8,19
40	1.598	1.759	2.662,45	3.104	3.519	5,32	5,59
50	1.081	1.190	1.800,50	2.209	2.704	3,60	3,89
60	747,3	822	1.243,55	1.600	2.059	2,49	2,76
70	526,8	579	875,80	1.178	1.566	1,75	1,99
80	378,3	415	628,09	880,5	1.198	1,26	1,46
90	276,3	302	458,06	666,6	925	0,92	1,08
100	204,9	224	339,32	510,3	725	0,68	0,82
110	154,2	168	255,03	393,6	577	0,51	0,62
120	117,7	128	194,30	305,2	468	0,39	0,48
130	90,9	98	149,91	238,9	386	0,30	0,38
140	71,1	77	117,04	188,4	325	0,23	0,30
150	56,2	60	92,40	150,2	278	0,18	0,24

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Temp. °C	NTC10- CAREL Ohm	NTC12K Ohm	NTC20k kOhm	NTC30K Ohm	NTC50K Ohm	NTC100K Ohm
-50	-	-	1.490,40	-	4.168.934	-
-40	186.796	396.422,72	803,20	1.219.114	2.033.606	3.216.000
-30	110.881	204.948,28	412,80	622.924	1.038.697	1.721.000
-20	67.683	111.626,16	220,60	331.871	553.243	955.400
-10	42.431	63.671,20	122,40	183.696	306.183	548.800
0	27.280	37.841,88	70,20	105.305	175.508	325.500
10	17.961	23.332,63	41,60	62.343	103.903	198.900
20	12.092	14.869,02	25,34	38.019	63.364	125.000
25	10.000	12.000	20,00	30.000	50.000	100.000
30	8.312	9.761,37	15,88	23.828	39.714	80.530
40	5.826	6.582,83	10,21	15.317	25.529	53.140
50	4.159	4.548,87	6,71	10.079	16.799	35.860
60	3.020	3.213,88	4,51	6.778	11.297	24.690
70	2.228	2.317,13	3,10	4.651	7.750,9	17.330
80	1.668	1.701,83	1,82	3.251	5.418,7	12.830
90	1.266	1.271,35	1,54	2.313	3.854,8	8.996
100	974	964,72	1,11	1.673	2.787,2	6.636
110	758	742,67	0,81	1.228	2.046,1	4.966
120	597	579,39	0,60	915	1.523,4	3.766
130	475	457,60	0,45	-	1.149,5	2.892
140	382	365,57	0,34	-	878,2	2.247
150	310	-	0,27	-	678,8	1.766

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