

Frese OPTIMA Compact actuator DN10-DN32

Application

Proportional or 3-position modulating control of Frese OPTIMA Compact valves in heating, ventilating and air conditioning systems.

The actuator can be mounted on the valve by hand and without the need of a specific tool.

Due to the compact design of the actuator it is particularly suitable for installations where space is limited.



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Features

- Nominal stroke on proportional 0-10V actuator up to 5.5 mm. Presetting from factory 2.5 or 5.5 mm.
- 3-position, On/Off or 0..10 V DC control signal. Other control signals can be selected by use of dip switches.
- Direct assembly with union nut to the neck of the valve. No tools required.
- Bi-color LED for status and diagnostic.
- Linear or EQ% characterization available on the same actuator
- The actuator is short-circuit-proof and protected against polarity reversal.
- Plug-in cable for supply voltage and control signal.
- Small outer dimensions
- Removable cable
- Auto zero detection
- IP 43 protection
- Voltage and Current analog inputs

Approval

- Conforms to: EMC directive 2004/108/EC
- Low voltage directive 2006/95/EC



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Technical data

Supply voltage:	See "Types and Operation data"
Frequency:	50/60 Hz
Cable lenght:	1,5m
Protection class:	IP 43 acc. EN60529
Ambient conditions:	Temperature 0°C...50°C Humidity 10-90% r.F.
Weight:	215 g
Nominal force:	>120N
Input impedance:	> 100 k Ohm (DC 0...10v)
Nominal stroke:	2,5 - 5,0 - 5,5mm (Can be set by dip switches)

Types and Operation Data

Types	Valve Dim.	Function	Running time (50 Hz)	Supply voltage	Power Consumption	Parallel operation No. of actuator
53-1180	DN10-DN32	DC 0..10 V 5,5mm	8 s/mm	AC/DC 24 V +/- 15%	2,5 VA	Max. 4
53-1181	DN10-DN32	3 - position/On/Off	13 s/mm	AC 24 V +/- 15%	2,5 VA	Max. 4
53-1182	DN10-DN32	3 - position/On/Off	13 s/mm	AC 230 V +/- 10%	6,5 VA	Max. 4
53-1183	DN10-DN32	DC 0..10 V 2,5 mm	8 s/mm	AC/DC 24 V +/- 15%	2,5 VA	Max. 4

Ordering

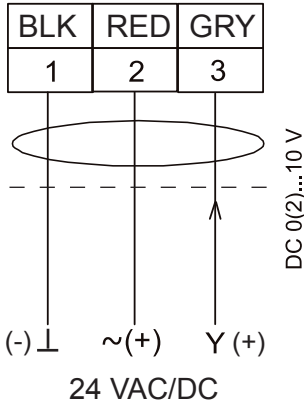
When ordering, please give quantity, designation and type code. **Example** - 1pc, 0-10V 5,5 mm valve actuator, 24V, 53-1180.

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Connection diagrams

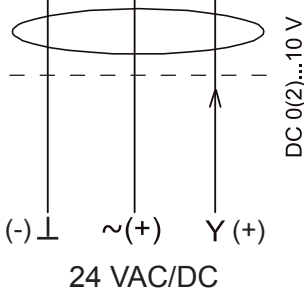
53-1180

0-10V, 24V, 5,5 mm



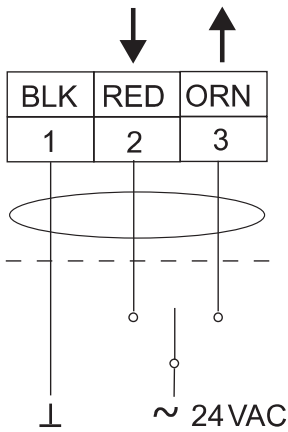
53-1183

0-10V, 24V, 2,5 mm



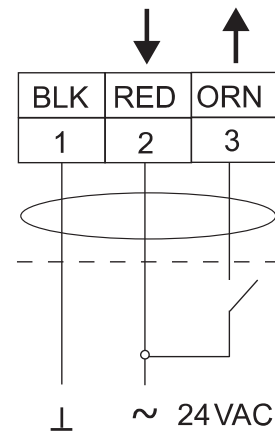
53-1181

3-position 24V



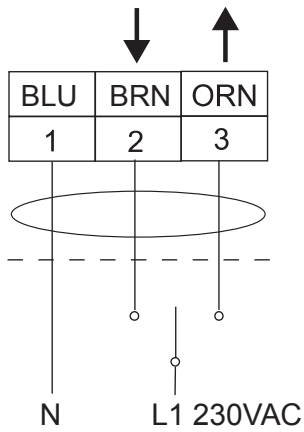
53-1181

On/Off 24V



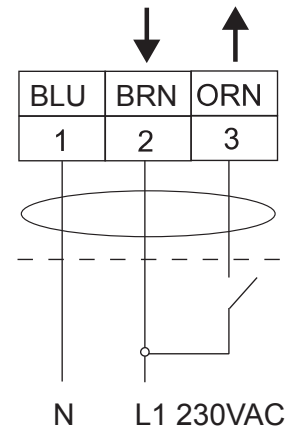
53-1182

3-position 230V



53-1182

On/Off 230V



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Configuration after installation

53-1180 & 53-1183

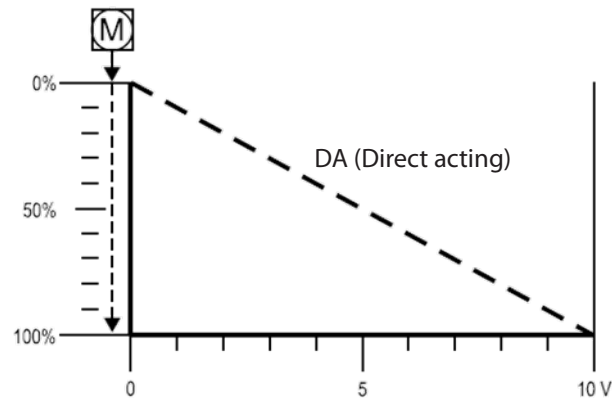
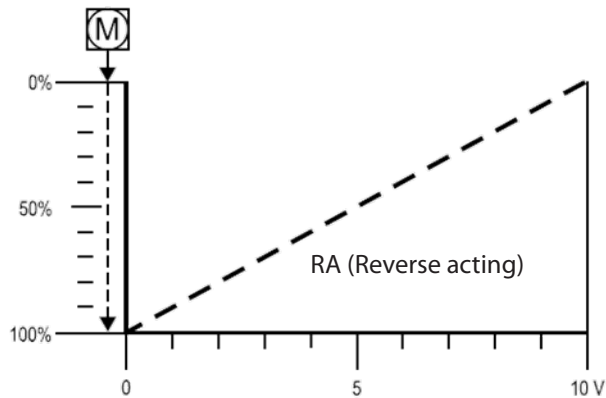
Dip switch 1-2-3

Control signal range
Factory setting 0-10V

	OFF	ON					
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	0...10VDC	0...20mA	0...5VDC	5...10VDC	2...10VDC
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4...20mA
5	<input type="checkbox"/>	<input type="checkbox"/>	DA		RA		
6	<input type="checkbox"/>	<input type="checkbox"/>	LIN		Eq%		
7	<input type="checkbox"/>	<input type="checkbox"/>	VDC		mA		

Dip switch 4

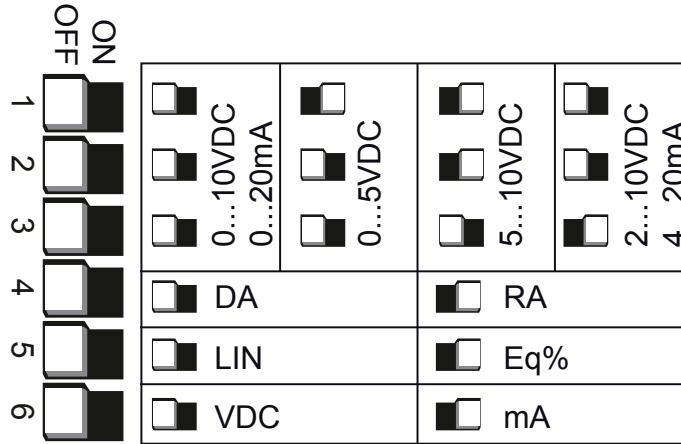
Stem action
Factory setting RA (Reverse acting)



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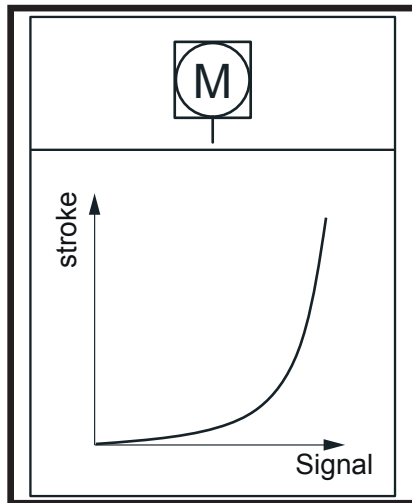
Configuration after installation

53-1180 & 53-1183

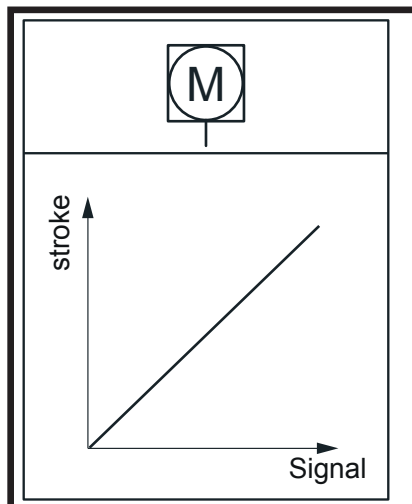


Dip switch 5

Actuator characterization
Factory setting Eq%



EQ% characterization



Linear characterization

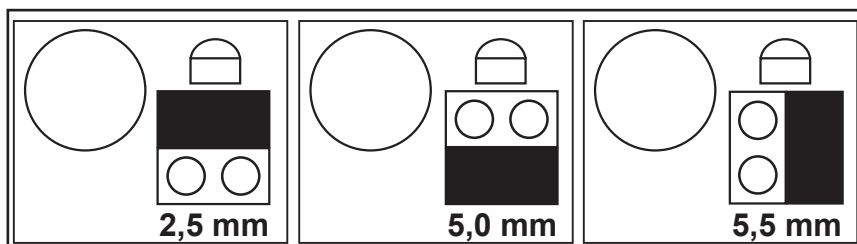
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Configuration after installation

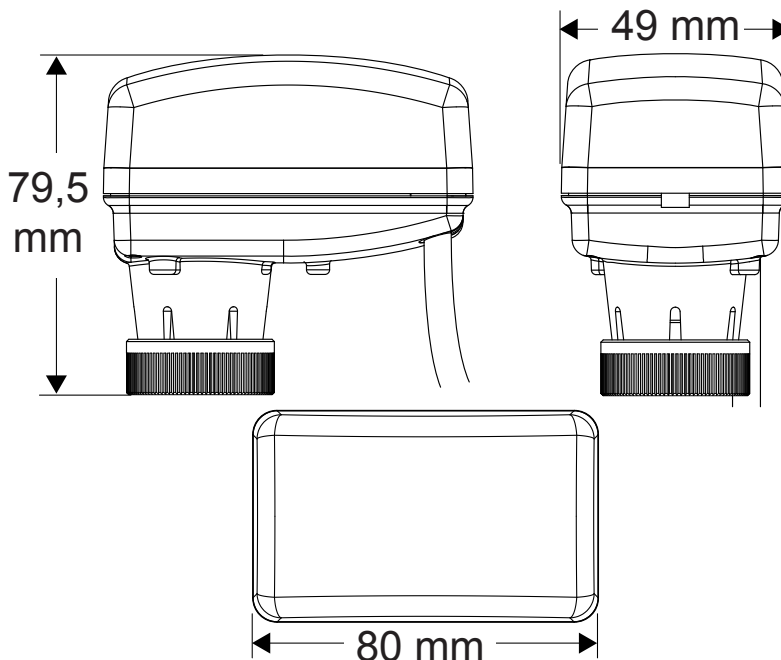
The actuator stroke can be selected via the Jumper and can be set to 2,5mm - 5,0mm or 5,5 mm

53-1180
Factory setting 5,5 mm

53-1183
Factory setting 2,5mm



Dimensions



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