

Frese OPTIMA Compact Failsafe & Feedback Actuators DN10-DN32

Application

Proportional 0-10V or 2-10V 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.

0-10V or 2-10V feedback signal for indication of stem position of the PICV.



Features - Feedback Actuators

- Automatic stroke calibration when the actuator is powered up
- Direct assembly with union nut to the neck of the valve. No tools required
- LED for status and diagnostic
- Linear characterization as standard
- EQ% characterization available on the same actuator
- Running time is 18.5 sec/mm
- Standard 1m cable
- Small outer dimensions
- IP 54 protection
- Analog Voltage and Current (with external 500 Ohm resistor) inputs
- Analog feedback voltage signal
- Manual override

Features - Failsafe Actuators

- Same features as feedback actuators with additional:
 - Failsafe system (Super Caps)
 - Failsafe function to open or close the valve
 - Failsafe running time is 9.2 sec/mm

Approval

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



Frese OPTIMA Compact Failsafe & Feedback Actuators DN10-DN32

Technical data - Feedback Actuator

Supply voltage:	24V AC/DC
Protection class:	IP 54 acc. EN60529
Frequency:	50/60 Hz or DC
Control signal:	0-10V/2-10V DC
Input impedance:	>100 k Ohm (DC 0-10v)
Force:	>120N
Stroke:	Max 6.5mm with auto calibration
Ambient conditions:	Temperature 2°C - 50°C Humidity 5-95% r.F.
Cable length:	1.0 m
Weight:	0.4 kg



Operation Data

Item no.	Valve Dim.	Control signal	Running time (50 Hz)	Supply voltage	Power Consumption	Feedback signal
53-1988	DN10-DN32	DC 0-10V/2-10V	18.5 s/mm	AC/DC 24 V +/- 15%	5 VA	0-10V/2-10V

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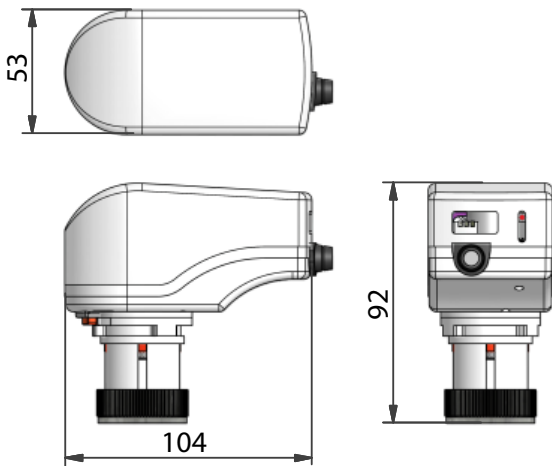
Operation Data

Item no.	Valve Dim.	Control signal	Running time (50 Hz)	Supply voltage	Power Consumption	Feedback signal
53-1987	DN10-DN32	DC 0-10V/2-10V	18.5 s/mm	AC/DC 24 V +/- 15%	6 VA (10 VA Peak)	0-10V/2-10V

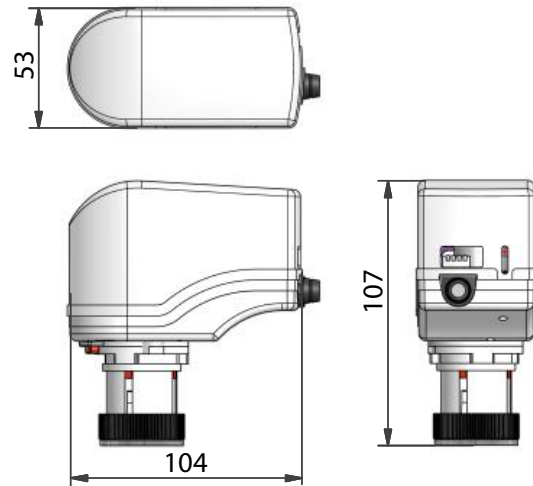
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Dimensions [mm]

53-1988

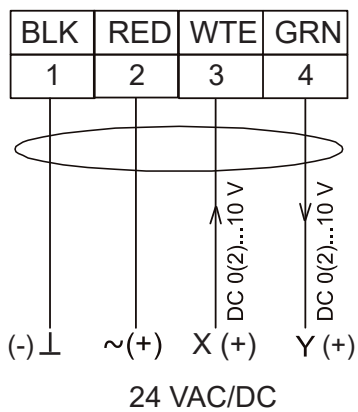


53-1987



Wiring diagram

53-1987
53-1988



Frese OPTIMA Compact Failsafe & Feedback Actuators DN10-DN32

Configuration

53-1988

1) Rotation Direction

OFF: Valve NO (up at 0Vdc)
ON: Valve NC, down at 0Vdc (DEFAULT)



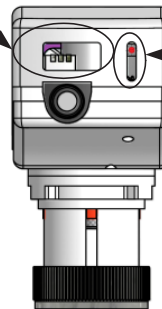
2) Characterization

OFF: Linear (DEFAULT)
ON: EQ%

3) Input Analog

Signal & Feedback
OFF: 2-10 Vdc
ON: 0-10 Vdc (DEFAULT)

DIP switches



LED Status

Normal:
Error:
Auto stroke:

Flash 0.5 sec ON / 10 sec OFF
Flash 0.2 sec ON/ 0.2 sec OFF
Continuous ON

53-1987

1) Rotation Direction

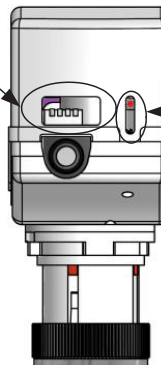
OFF: Valve NO (up at 0Vdc)
ON: Valve NC, down at 0Vdc (DEFAULT)



2) Characterization
OFF: Linear (DEFAULT)
ON: EQ%

3) Input Analog
Signal & Feedback
OFF: 2-10 Vdc
ON: 0-10 Vdc (DEFAULT)

DIP switches



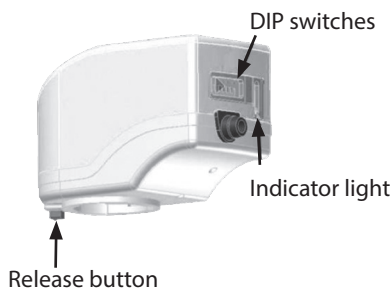
LED Status

Normal:
Error:
Auto stroke:
Failsafe operation:

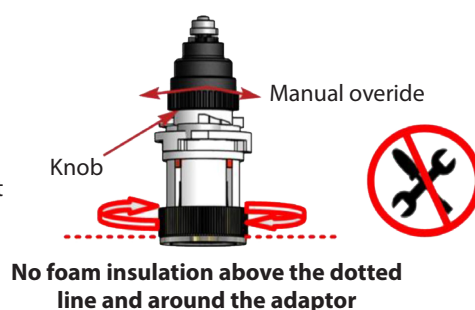
Flash 0.5 sec ON / 10 sec OFF
Flash 0.2 sec ON/ 0.2 sec OFF
Continuous ON
Flash 0.1 sec ON/ 2 sec OFF

Actuator mounting on valve & Manual override

ACTUATOR



VALVE ADAPTOR



1. Mount the valve adaptor to the valve and finger-tighten only.
⚠ Finger-tighten only. Do not use a wrench or any other tool.
2. Rotate knob clockwise to open the valve. Do not force knob in either direction!
3. Manually adjust the knob to test piping network.
4. Once satisfied that the network is working properly, engage the actuator over the valve adaptor and turn 30° clockwise (CW). You should hear an audible click.
5. To disengage the actuator, press the release button while turning the actuator CCW 30°.

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