

# OPTIMA Compact Actuators

MO-series DN10-DN32

## Application

Proportional 4-20mA, 0-10V DC or 2-10V DC modulating or On/Off 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 high IP 54 protection it is suitable for industrial applications, and with the compact design of the actuator, it is particularly suitable for installations where space is limited.



## Features motoric actuators

- Feedback signal 0-10V
- Failsafe system (Rechargeable accumulator)
- Failsafe function to open or close the valve
- Self calibrating stroke up to 8.5 mm.
- Simple snap-on installation
- LC-Display for status indication (position, control voltage and error-code)
- Manual operation for maintenance and installation
- Linear or EQ% characterization
- The actuator is short-circuit-proof and protected against polarity reversal
- Plug-in cable for supply voltage and control signal
- Small outer dimensions
- Removable halogen free cable 1 m, 2 m or 3 m (See specifications)
- Wieland RST16I5 connector (58-8900)
- IP 54 protection

## Features thermic actuators

- On/Off control signal
- Simple snap-on installation
- Small outer dimensions
- Removable halogen free cable 1 m
- First-Open function
- IP 54 protection
- Power consumption 1 - 1.2 W

## Approval

- Conforms to: EMC directive 2014/30/EU
- Low voltage directive 2014/35/EU



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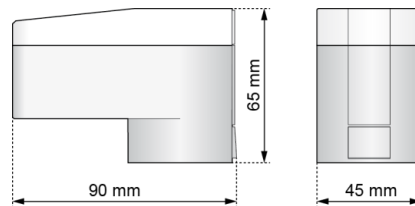
## OPTIMA Compact Motoric Actuators

Product Programme

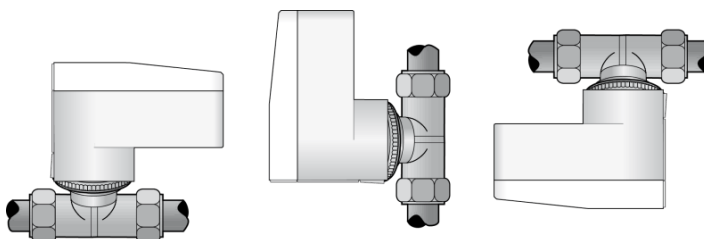
Types	Valve Dim.	Cable	Function	Characteristic	Control signal	Running time	Supply voltage (50/60 Hz)	Power Consumption
53-1979	DN10-DN32	1 m halogen free	Feedback	EQ%	0-10 V DC	15 s/mm	AC 24 V - 10%/+20 DC 24 V +/-20%	1.4W /2.6 VA
53-1980	DN10-DN32	1 m halogen free	Feedback Fail Safe Open	EQ%	0-10 V DC	15 s/mm	AC 24 V - 10%/+20 DC 24 V +/-20%	1.4W /2.6 VA *(2.6W /3.8 VA)
53-1981	DN10-DN32	1 m halogen free	Feedback Fail Safe Close	EQ%	0-10 V DC	15 s/mm	AC 24 V - 10%/+20 DC 24 V +/-20%	1.4W /2.6 VA *(2.6W /3.8 VA)
58-8900	DN10-DN32	1 m halogen free Wieland connector	-	Linear	4-20 mA DC	15 s/mm	AC/DC 24 V +20/- 10%	1.4W /2.6 VA
58-8906	DN10-DN32	3 m halogen free	-	Linear	2-10 V DC	15 s/mm	AC/DC 24 V +20/- 10%	1.4W /2.6 VA
58-8907	DN10-DN32	2 m halogen free	-	Linear	4-20 mA DC	15 s/mm	AC/DC 24 V +20/- 10%	1.4W /2.6 VA
58-8909	DN10-DN32	1 m halogen free	-	Linear	0-10 V DC	15 s/mm	AC/DC 24 V +20/- 10%	1.4W /2.6 VA

\*) Temporary

Dimensions [mm]



Installation positions for IP54 (All directions)





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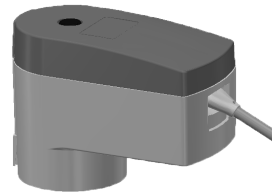
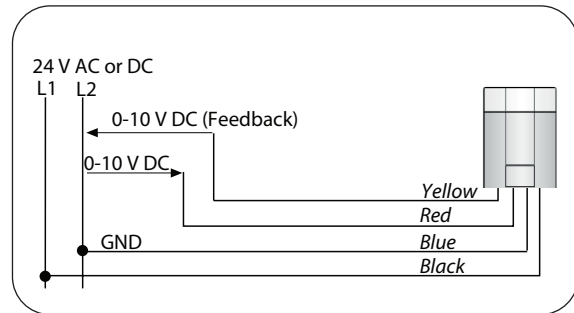


## 53-1980 Motoric actuator, Feedback & Fail Safe Open with 1m cable

### Technical data

<b>Supply voltage:</b>	AC 24 V - 10%/+20 DC 24 V +/-20%
<b>Protection class:</b>	IP 54 acc. EN60529
<b>Frequency:</b>	50/60 Hz
<b>Control signal:</b>	0-10 V DC
<b>Feedback signal:</b>	0-10 V DC
<b>Input impedance:</b>	> 100 kOhm
<b>Force:</b>	125N (-20% / +40%)
<b>Stroke:</b>	Max 8.5 mm (Self calibrating)
<b>Running time:</b>	15 s/mm
<b>Ambient conditions:</b>	Temperature 0°C to 50°C Humidity 10-90% r.F.
<b>Cable:</b>	1 m halogen free
<b>Weight:</b>	155 g (excl. cable)

### Connection diagram

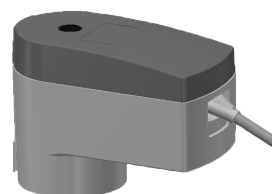
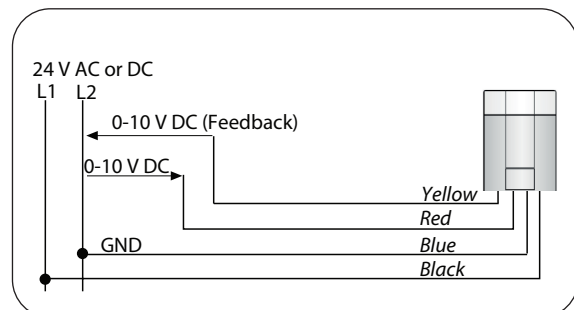


## 53-1981 Motoric actuator, Feedback & Fail Safe Close with 1m cable

### Technical data

<b>Supply voltage:</b>	AC 24 V - 10%/+20 DC 24 V +/-20%
<b>Protection class:</b>	IP 54 acc. EN60529
<b>Frequency:</b>	50/60 Hz
<b>Control signal:</b>	0-10 V DC
<b>Feedback signal:</b>	0-10 V DC
<b>Input impedance:</b>	> 100 kOhm
<b>Force:</b>	125N (-20% / +40%)
<b>Stroke:</b>	Max 8.5 mm (Self calibrating)
<b>Running time:</b>	15 s/mm
<b>Ambient conditions:</b>	Temperature 0°C to 50°C Humidity 10-90% r.F.
<b>Cable:</b>	1 m halogen free
<b>Weight:</b>	155 g (excl. cable)

### Connection diagram



## OPTIMA Compact Actuators

MO-series DN10-DN32

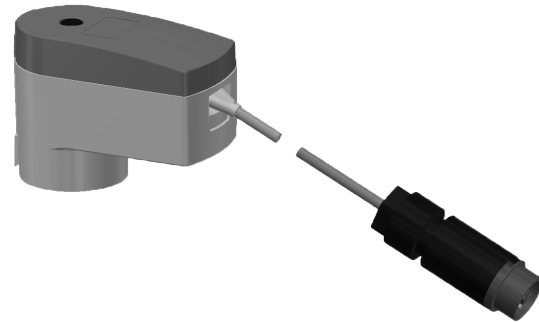
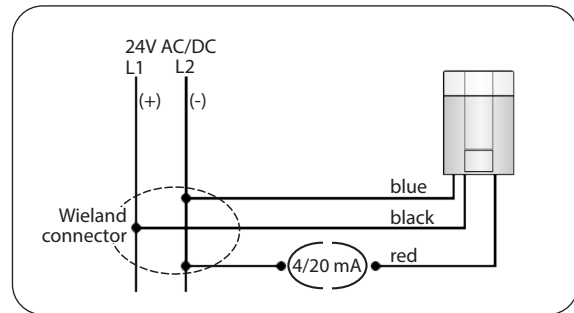
### 58-8900 Motoric actuator with 1m cable incl. Wieland connector



#### Technical data

<b>Supply voltage:</b>	AC/DC 24 V +20/- 10%
<b>Protection class:</b>	IP 54 acc. EN60529
<b>Frequency:</b>	50/60 Hz
<b>Control signal:</b>	4-20 mA DC
<b>Input impedance:</b>	500 Ohm
<b>Force:</b>	125N (-20% / +40%)
<b>Stroke:</b>	Max 8.5 mm (Self calibrating)
<b>Running time:</b>	15 s/mm
<b>Ambient conditions:</b>	Temperature 0°C to 50°C Humidity 10-90% r.F.
<b>Cable:</b>	1 m halogen free
<b>Connector:</b>	Wieland RST1615
<b>Weight:</b>	155 g (excl. cable & connector)

#### Connection diagram

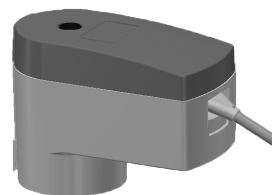
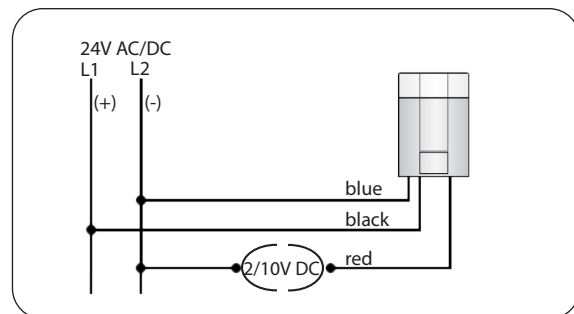


### 58-8906 Motoric actuator with 3m cable

#### Technical data

<b>Supply voltage:</b>	AC/DC 24 V +20/- 10%
<b>Protection class:</b>	IP 54 acc. EN60529
<b>Frequency:</b>	50/60 Hz
<b>Control signal:</b>	2-10 V DC
<b>Input impedance:</b>	> 100 kOhm
<b>Force:</b>	125N (-20% / +40%)
<b>Stroke:</b>	Max 8.5 mm (Self calibrating)
<b>Running time:</b>	15 s/mm
<b>Ambient conditions:</b>	Temperature 0°C to 50°C Humidity 10-90% r.F.
<b>Cable:</b>	3 m halogen free
<b>Weight:</b>	155 g (excl. cable)

#### Connection diagram



# OPTIMA Compact Actuators

MO-series DN10-DN32

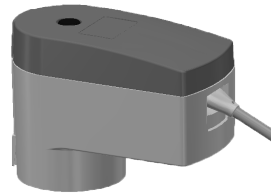
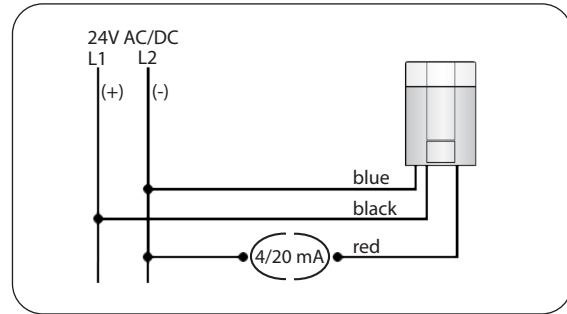
## 58-8907 Motoric actuator with 2m cable



### Technical data

<b>Supply voltage:</b>	AC/DC 24 V +20/- 10%
<b>Protection class:</b>	IP 54 acc. EN60529
<b>Frequency:</b>	50/60 Hz
<b>Control signal:</b>	4-20 mA DC
<b>Input impedance:</b>	500 Ohm
<b>Force:</b>	125N (-20% / +40%)
<b>Stroke:</b>	Max 8.5 mm (Self calibrating)
<b>Running time:</b>	15 s/mm
<b>Ambient conditions:</b>	Temperature 0°C to 50°C Humidity 10-90% r.F.
<b>Cable:</b>	2 m halogen free
<b>Weight:</b>	155 g (excl. cable)

### Connection diagram

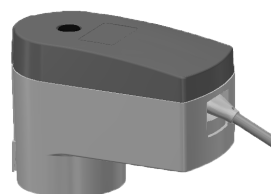
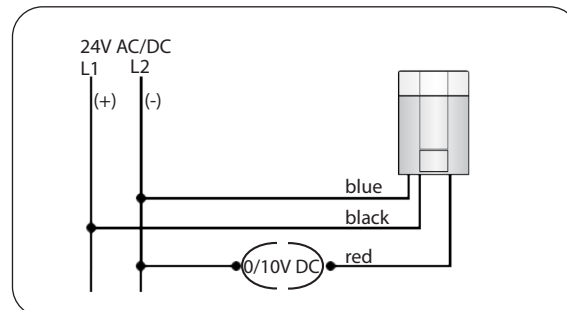


## 58-8909 Motoric actuator with 1m cable

### Technical data

<b>Supply voltage:</b>	AC/DC 24 V +20/- 10%
<b>Protection class:</b>	IP 54 acc. EN60529
<b>Frequency:</b>	50/60 Hz
<b>Control signal:</b>	0-10 V DC
<b>Input impedance:</b>	> 100 kOhm
<b>Force:</b>	125N (-20% / +40%)
<b>Stroke:</b>	Max 8.5 mm (Self calibrating)
<b>Running time:</b>	15 s/mm
<b>Ambient conditions:</b>	Temperature 0°C to 50°C Humidity 10-90% r.F.
<b>Cable:</b>	1 m halogen free
<b>Weight:</b>	155 g (excl. cable)

### Connection diagram



# OPTIMA Compact Actuators

MO-series DN10-DN32

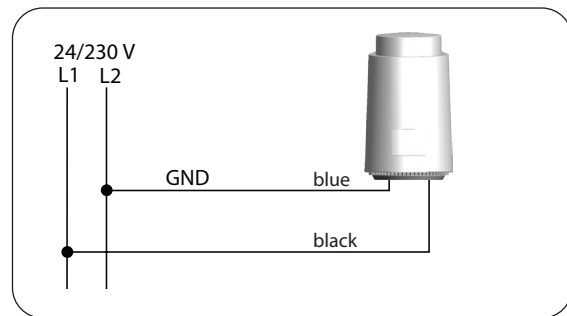


## Frese OPTIMA Compact Thermic Actuators

### Technical data

<b>Characteristics:</b>	Thermic actuators
<b>Protection class:</b>	IP 54 acc. EN60529
<b>Frequency:</b>	50/60 Hz
<b>Ambient conditions:</b>	Temperature 0°C to 60°C Humidity 10-90% r.F.
<b>Cable:</b>	1m halogen free
<b>Weight:</b>	110 g (excl. cable)

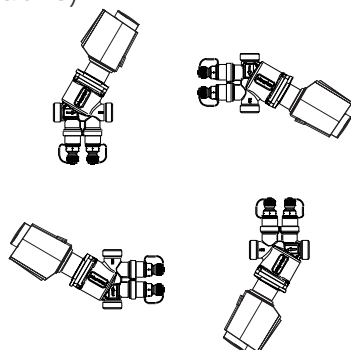
### Connection diagram



### Product Programme

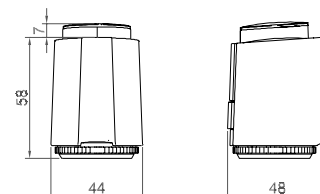
Types	Valve Dim.	Actuator type	Control signal	Running time (Force)	Supply voltage (50/60 Hz)	Power Consumption
58-8904	DN10-DN20 2.5 mm stroke	Normally Closed	On/Off	240 s (100N)	AC 230 V +/- 10%	1.0W
58-8905	DN10-DN32 5.0-5.5mm stroke	Normally Closed	On/Off	270 s (125N)	AC 230 V +/- 10%	1.2W
58-8913	DN10-DN32 2.5-5.5mm stroke	Normally Open	On/Off	270 s (125N)	AC 230 V +/- 10%	1.2W
58-8914	DN10-DN32 2.5-5.5mm stroke	Normally Open	On/Off	270 s (125N)	AC/DC 24 V + 20 /- 10%	1.2W
58-8915	DN10-DN32 2.5-5.5mm stroke	Normally Closed	On/Off	270 s (125N)	AC/DC 24 V + 20 /- 10%	1.2W

### Installation positions for IP54 (All directions)

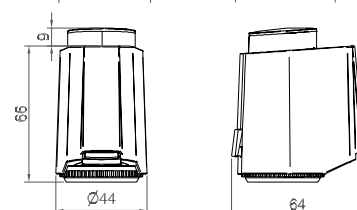


### Dimensions [mm]

**58-8904**



**58-8905  
58-8913  
58-8914  
58-8915**



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