

# Spring return damper actuator DM-ML-06 (-S / -RS)

## Introduction

The DM-ML actuator enables remote operation of a ventilation damper. The actuators with 6 Nm of torque are the most popular choice for ventilation dampers.

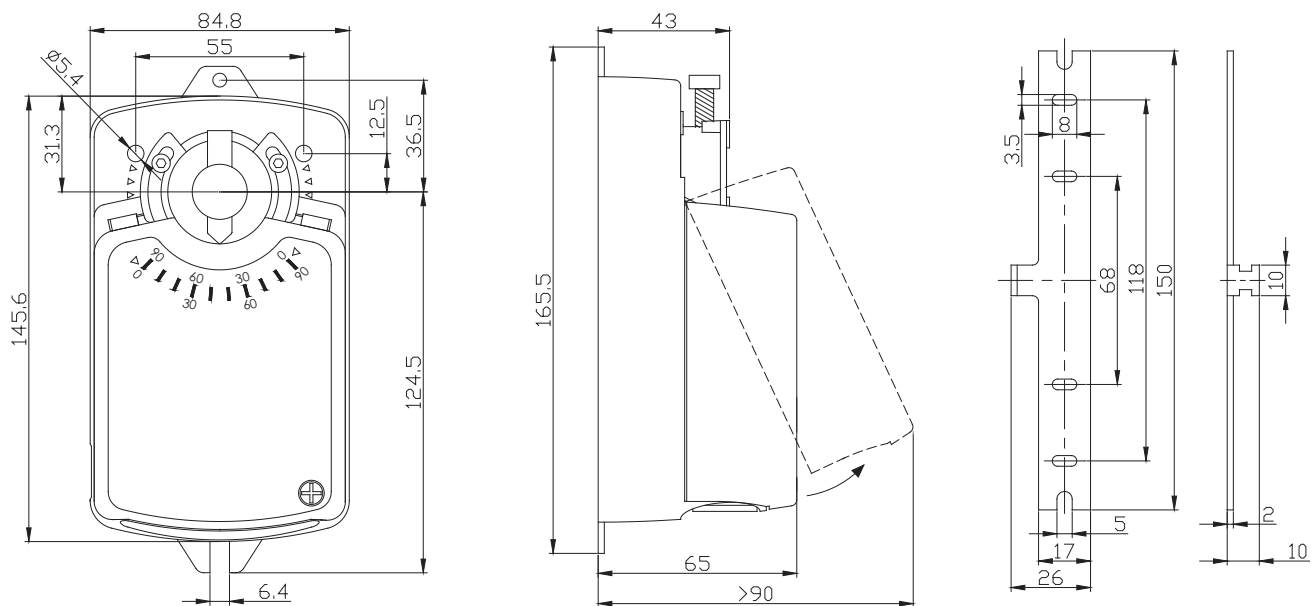
The torque of 6 Nm allows opening dampers with the cross-sectional surface area up to 1.2 m<sup>2</sup>; they can be installed on ventilator dampers up to 400 mm in diameter. -RS-series actuators offer the possibility of precise damper regulation, due to an analog control signal with feedback. The -S series have built-in limit switches, which can pass on the current damper position.

Thanks to the use of servomotors, it is possible to remotely close and open the air flow in the ventilation ducts.

## Features

- Torque 6Nm
- Remote control
- Damper size to 1.2m<sup>2</sup>
- Shaft diameter:  $\varnothing$ 6...16mm  $\square$ 8x8...12x12mm
- Choice of L / R rotation direction
- Control: On/Off / 2-Point/3-Point
- Protection degree IP44
- Nominal voltage 24V or 230V

## Dimensions

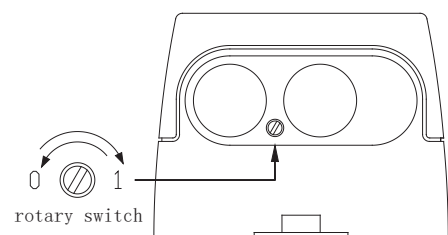


## Switch the direction of rotation

It is possible to change the direction of rotation:

- with the rotary switch - on the rear side of housing
- by connecting the power supply correctly - acc. to the table below

Power supply	Terminal 1,2	Terminal 1,3
Direction of rotation	anticlockwise	clockwise

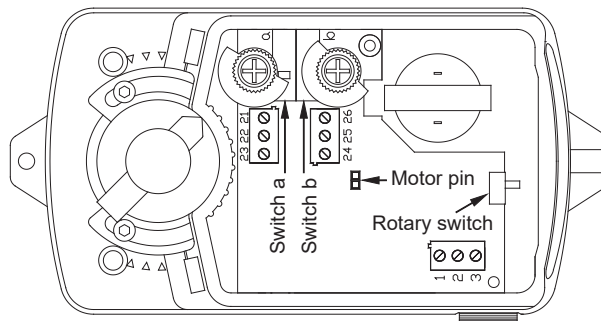


# DM-ML-06 (-S / -RS)

In the DM-ML-06-24(230)-S model, the actuator position signal can be conducted by means of limit switches:

Switch a	Terminal 21,22	Terminal 21,23
0-10°	Short circuit	Open circuit
10-90°	Open circuit	Short circuit
Switch b	Terminal 24,25	Terminal 24,26
0-80°	Open circuit	Short circuit
80-90°	Short circuit	Open circuit

\*Accordinging to customer order requirement set switch angle

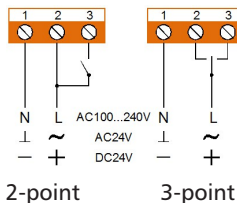


## Technical data

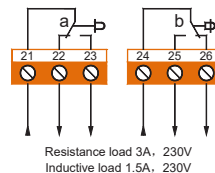
Model	DM-ML-06-24-S DM-ML-06-24-RS	DM-ML-06-230-S DM-ML-06-230-RS
Torque	6 Nm	6 Nm
Damper size	1.2 m <sup>2</sup>	1.2 m <sup>2</sup>
Running time	70s (95°)	
Nominal voltage	AC 24 V 50/60 Hz; DC 24 V	AC 100~240 V 50/60 Hz
Power consumption	3W - nominal 0.5W - holding	3W - nominal 0.7W - holding
Wire sizing	0.5 mm <sup>2</sup>	
Weight	0.75 kg	
Angle of rotation	max. 95°	
Angle of rotation limitation	5~85° (in 5° steps)	
Position indication	Mechanical	
Manual override	Gearing latch disengaged by push button, self-resetting	
Service life	ca. 60 000 cycles	
Sound level	max. 45 dB(A)	
Protection class	III	II
Protection degree	IP44	
Ambient temperature	-20 ~ +50°C	
Humidity test	95% RH, non condensing, EN 60730-1	
Inventory temperature	-30 ~ +80°C	
Certificate	CE	

## Wiring diagram

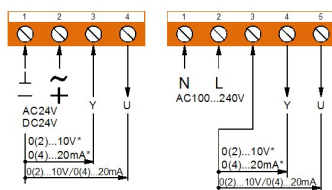
DM-ML-06-24 / DM-ML-06-230



DM-ML-06-24-S / DM-ML-06-230-S

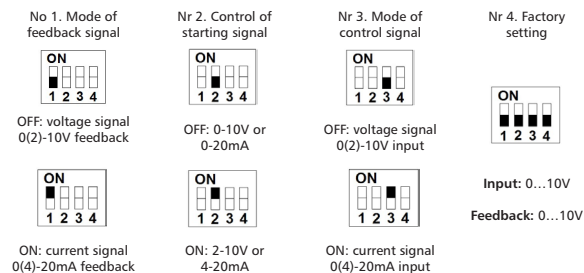


DM-ML-06-24-RS / DM-ML-06-230-RS



0(2)...10V input impedance  $R_{\geq}200K\Omega$   
0(4)...20mA input impedance  $R_{\geq}500K\Omega$

### Function setting for S2 dial switch



# Spring return damper actuator DM-ML-08(-S)

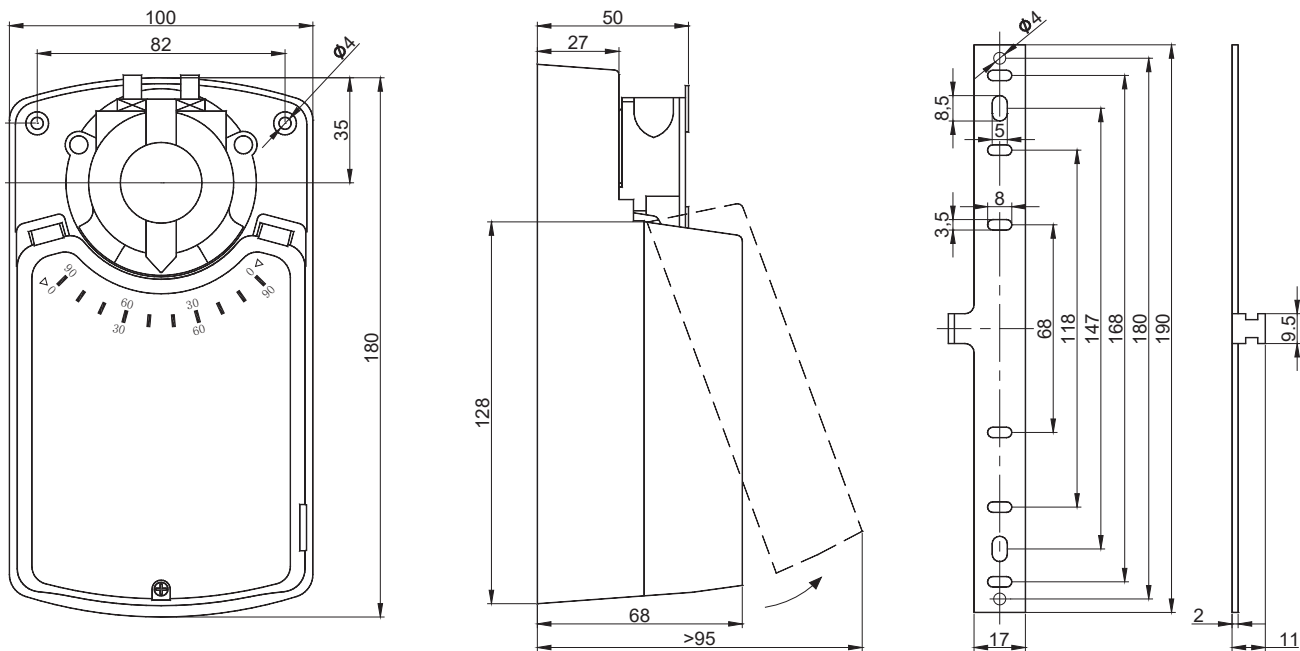
## Introduction

The DM-ML-08(-S) actuator enables remote operation of a ventilation damper. The actuators with 8 Nm of torque are the most popular choice for ventilation dampers. The torque of 8 Nm allows opening dampers with the cross-sectional surface area up to 1.5 m<sup>2</sup>; they can be installed on ventilator dampers up to 400 mm in diameter. Due to its compact size, it can be mounted when limited space is available. Thanks to the use of servomotors, remote adjustment is possible air flow in ventilation ducts.

## Features

- Torque 8Nm
- Remote control
- Damper size to 1.5m<sup>2</sup>
- Shaft diameter:  $\varnothing$ 10...20mm  $\square$ 10x10...16x16mm
- Choice of L / R rotation direction
- Control: On/Off / 2-Point/3-Point
- Protection degree IP44
- Nominal voltage 24V or 230V

## Dimensions

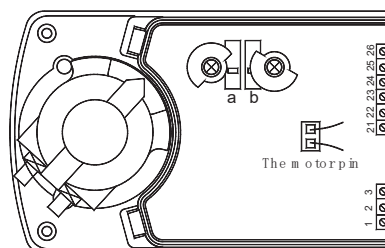


## Switch the direction of rotation

It is possible to change the direction of rotation:

- by connecting the power supply correctly - acc. to the table below

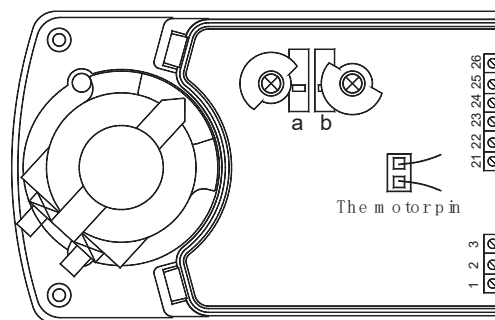
Power supply	Terminal 1,2	Terminal 1,3
Direction of rotation	anticlockwise	clockwise



# DM-ML-08

In the DM-ML-06-24(230)-S model, the actuator position signal can be conducted by means of limit switches:

Switch a	Terminal 21,22	Terminal 21,23
0-10°	Short circuit	Open circuit
10-90°	Open circuit	Short circuit
Switch b	Terminal 24,25	Terminal 24,26
0-80°	Open circuit	Short circuit
80-90°	Short circuit	Open circuit



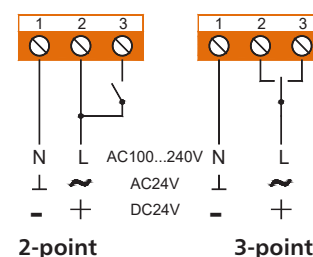
\*According to customer order requirement set switch angle

## Technical data

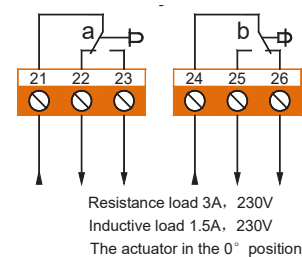
Model	DM-ML-08-24-S	DM-ML-08-230-S
Torque	8 Nm	8 Nm
Damper size	1.5 m <sup>2</sup>	1.5 m <sup>2</sup>
Running time	55s (95°)	
Nominal voltage	AC 24 V 50/60 Hz; DC 24 V	AC 100~240 V 50/60 Hz
Power consumption	4.5W - nominal torque 0.3W - holding	4.5W - nominal torque 0.5W - holding
Wire sizing	0.5 mm <sup>2</sup>	
Weight	1.3 kg	
Angle of rotation	max. 95°	
Angle of rotation limitation	5~85° (in 5° steps)	
Position indication	Mechanical	
Manual override	Gearing latch disengaged by push button, self-resetting	
Service life	ca. 60 000 cycles	
Sound level	max. 45 dB(A)	
Protection class	III	II
Protection degree	IP44	
Ambient temperature	-20 ~ +50°C	
Humidity test	95% RH, non condensing, EN 60730-1	
Inventory temperature	-30 ~ +80°C	
Certificate	CE	

## Wiring diagram

DM-ML-08-24 / DM-ML-08-230



DM-ML-08-24-S / DM-ML-08-230-S



# Spring return damper actuator DM-FL-05

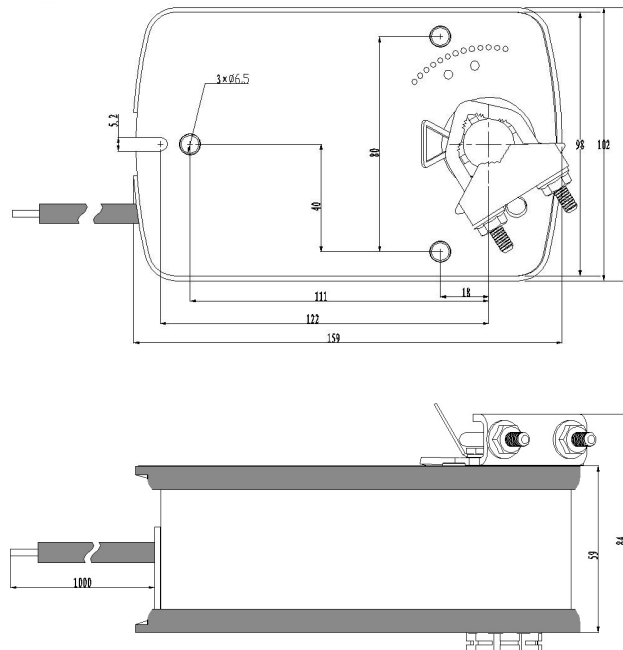
## Introduction

Rotary actuators DM-FL with spring-return assembly are designed for circular and square ventilation dampers, both single and multi-blade, up to 1m<sup>2</sup>. Due to its compact size, it can be mounted when limited space is available.

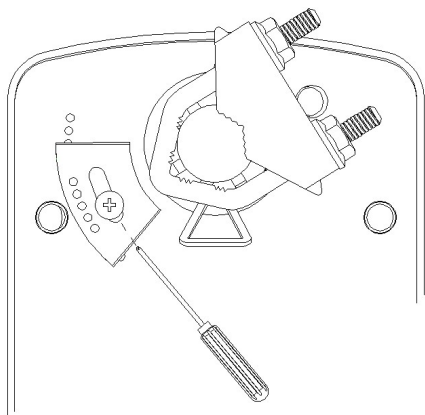
## Features

- Return spring
- It can be controlled by single line
- Damper surface up to 1m<sup>2</sup>
- Universal adapter: circular shaft size, max  $\varnothing$ 18mm
- Choice of L/ R rotation direction by appropriate assembly
- The angle of rotation can be selected
- Steel housing is with the features of fixation, compact and anticollision
- Sealed cover and housing can meet the criteria of IP54
- 24V or 230V supply

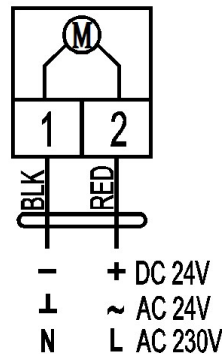
## Dimensions



## Mechanical position limitation installation method



## Wiring diagram



# DM-FL-05

## Dane techniczne

Model	DM-FL-05-24	DM-FL-05-230
Torque	5 Nm	5 Nm
Damper size	1 m <sup>2</sup>	1 m <sup>2</sup>
Running time	Running time 70s; spring reset time<20s	
Power supply	AC 24 V 50/60 Hz; DC 24 V	AC 100~240 V 50/60 Hz
Power onsumption	working 5W, stop 3W	
Wire sizing	0.5 mm <sup>2</sup>	
Weight	1.9 kg	
Direction of rotation	to install on the other side	
Angle of rotation	max. 95°	
Angle limit	position limit 5~85° (5°each step)	
Position indication	machine instruction	
Manual override	without	
Life-time	60 000 times rotation	
Sound power level	max. 45 dB(A) when motor warking, max 62dB(a) while spring retur	
Protection class	III	II
Protection degree	IP54	
Ambient temperature	-20 ~ +50°C	
Ambient humidity	5~95% RH	
Inventory temperature	-40 ~ +70°C	
Marking	CE	