

SE4 – electric actuators 400 N

MODULATING / 3-POINT CONTROL



The appearance of the product may differ from the illustration. Technical specifications are subject to change.

SE4 SERIES

APPLICATION AND USE

Electric actuator SE4 is suitable to drive VFZ valve body series in HVAC systems. Two action types are available:

- floating (3-point),
- modulating (voltage and current signal).

Actuator is equipped with torque limit device, to power off motor when end stops are reached. The assembly actuator/valve body is done directly and easily by a metal ring nut, no tool is necessary.

The actuator is self-adjusting (SE4M24). When it is powered-on the stroke is automatically adapted to the valve, no calibration is required. Actuator is fitted with manual override by a hexagonal key. An internal LED indicates the current state of the actuator: stroke adjustment, control, end stop position, error condition.

Model	Force [N]	Stroke [mm]	Power supply 50/60 Hz	Control	Power consumption [VA]
SE4M24	400	5.5	24	modulating	5.5
SE4F24	400	5.5	24	2-, 3- point (floating)	5.0
SE4F2301	400	5.5	110...240	2-, 3- point (floating)	7.0

M30 models with nut M30x1.5 instead of the standard 3/4"

TECHNICAL SPECIFICATION

Power supply:	
- SE4M24	24 V _{AC} ± 10% 50/60 Hz
- SE4F24	24 V _{AC} ± 10% 50/60 Hz
- SE4F230	110...240 V _{AC} ± 10% 50/60 Hz
Running time:	approx. 70 sec.
Manual override:	by 3 mm hexagonal key
Control:	direct / reverse selectable by jumper
Working conditions:	0...50°C, 10...90 % rH (non condensing)
Storage temp:	-20...70°C, < 95% rH.
Cable:	plug-in type in PVC, wire 3 x 0.5 mm ² , length 1,5 m
Connection:	metal ring 3/4" (on request M30 x 1.5)
Housing:	polycarbonate
Protection class:	IP54, classe II (SE4F230), classe III (SE4M24, SE4F24)
Self extinguishing:	V0 - V1 according to UL94
Dimensions:	see drawing
Weight:	360 g

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ASSEMBLY / INSTALLATION

Actuator is factory supplied with the shaft in upper position. Otherwise, power off the unit and insert the hexagonal key into screw of manual override on the top of cover. Drive the shaft in upper position turning the key anticlockwise. Mount the actuator onto valve body and tighten the metal ring nut on the thread of bonnet valve body.

Pay attention that the clearance around the unit is sufficient to mount correctly the actuator. Połączenia elektryczne wykonuje się zgodnie ze schematami. Pay attention that power supply value corresponds to the value of actuator indicated on label stuck on unit.

SE4M24 has different Input signals as per below table (selectable by jumpers):

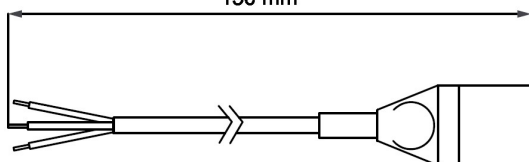
CONTROL SIGNAL	R_{in}
0...10V	~ 65 kOhm
0...4 V	~ 65 kOhm
6...10V	~ 65 kOhm
2...10V	~ 65 kOhm
4...20 mA	= 500 Ohm

STATUS INDICATION BY LED (INTERNAL)

GREEN slowly blinking:	self-adjusting in uppest position (SE4M24).
RED slowly blinking:	self-adjusting in lowest position (SE4M24).
GREEN fast blinking:	modulating to upper position.
RED fast blinking:	modulating to lower position.
RED lighted:	motor on uppest end stop or is moving toward uppest end stop (SE4M24).
RED lighted:	motor on lowest end stop or is moving toward lowest end stop (SE4M24).
ORANGE lighted:	error, try 3 times to unlock and then 3 times to self-adjust (SE4M24).
ORANGE blinking:	permanent error (SE4M24)
RED and GREEN blinking:	jumpers setting not correct (SE4M24)
All LEDS OFF:	control position reached out of end stops
Slow flashing:	2 flashing / second
Rapid flashing:	8 flashing / second

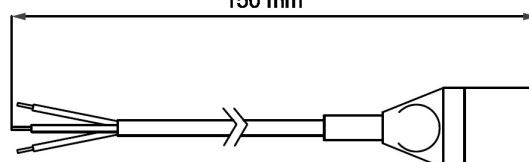
WIRING DIAGRAM

SE4F24 / SE4F230
150 mm



COMMON	Blue
DOWN	Black
UP	Brown

SE4M24
150 mm

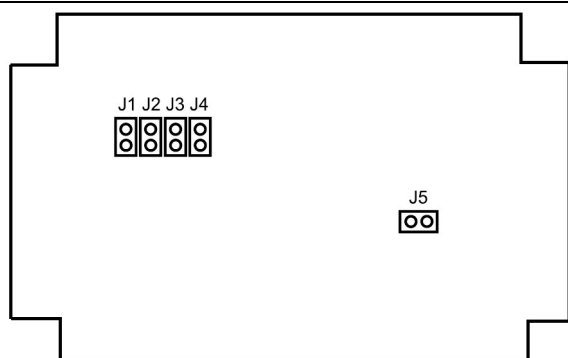


COMMON	Blue
Y (control signal) 0 ... 10 V _{DC}	Black
24 V AC	Brown

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JUMPERS POSITION ON PCB SE4M24



INPUT SIGNAL	J1	J2	J3	J5	J4
0...10V					
0...4 V					
6...10V					
2...10V					
4...20 mA					
DIRECT ACTION					
REVERSE ACTION					

DIRECT / REVERSE ACTION SE4M24

"Direct Action": shaft in uppest position at 0 V_{Vdc}
(A-AB valve port closed)
shaft in lowest position at 10 V_{DC}
(A-AB valve port open)

"Reverse Action": shaft in lowest position at 0 V_{DC}
(A-AB valve port open)
shaft in uppest position at 10 V_{Vdc}
(A-AB valve port closed)

Default factory setting: "Direct action", input signal 0... 10 V_{DC}

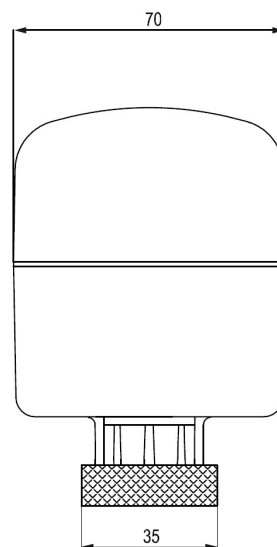
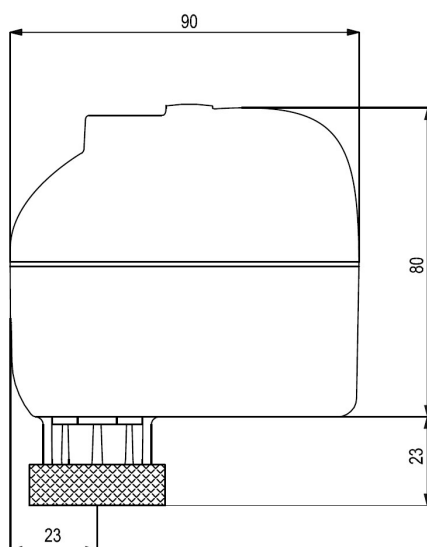


Jumper in OPEN position



Jumper in CLOSED position

DIMENSIONS [mm]



Due to continuous product improvement, specifications are subject to change without notice.

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