



## VALVE ACTUATORS 400 N

SE4

### APPLICATION

Electric actuator SE4 is suitable to drive VFZ valve body series in HVAC systems.

Actuator is equipped with a 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 SE4M24 is self-adjusting. 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: adjustment, control, end stop position, error condition.

TYPE	FORCE N	STROKE mm	POWER SUPPLY Vac 50/60 HZ	ACTION	POWER CONSUMPTION VA
SE4M24	400	5.5	24 ± 10%	0...10 Vdc 4...20 mA	5.0
SE4F24	400	5.5	24 ± 10%	2-, 3-point (floating)	5.0
SE4F230	400	5.5	110...240 ± 10%	2-, 3-point (floating)	7.0

**Note:** on request available version with M30x1.5 ring connection instead of 3/4" (product code "SE4xxM30")

### TECHNICAL DATA

**Power supply:**

- SE4M24 24 Vac ± 10% 50/60 Hz
- SE4F24 24 Vac ± 10% 50/60 Hz
- SE4F230 110...240 Vac ± 10% 50/60 Hz

**Running time:** approx. 70 sec.

**Manual override:** by 3 mm hexagonal key

**Action:** direct / reverse selectable by jumper

**Working conditions:** 0...50 °C, 10...90 r.h.% (without condensing)

**Storage temp.:** -20...70 °C

< 95% r.h.

**Cable:** plug-in type in PVC, section 3 x 0.50 mm<sup>2</sup>, 1,5 m length

**Connection:** metal ring 3/4" (on request M30 x 1.5)

**Housing:** matt polycarbonate

**Protection class:** IP54, classe II (SE4F230), classe III (SE4M24, SE4F24)

**Self extinguishing:** V0 - V1 according to UL94

**Dimensions:** 90 x 70 x 104,5 mm

**Weight:** 360 g

### 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. Perform the electrical connections as per the wiring diagrams. 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):**

INPUTS	R <sub>in</sub>
0...10 V	~ 65 kOhm
0...4 V	~ 65 kOhm
6...10 V	~ 65 kOhm
2...10 V	~ 65 kOhm
4...20 mA	= 500 Ohm

### STATUS INDICATION BY LED (INTERNAL)

**GREEN slowly blinking:** self-adjusting in upper 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.

**GREEN lighted:** motor on upper end stop or is moving toward upper 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

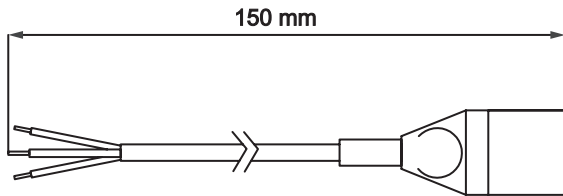
**Slow blinking:** 2 flashing / second

**Fast blinking:** 8 flashing / second



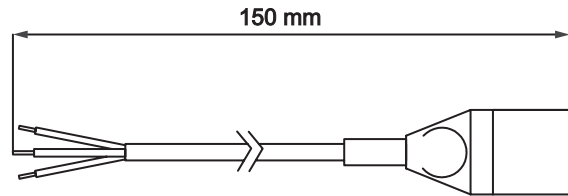
WIRING DIAGRAM

SE4F24 / SE4F230



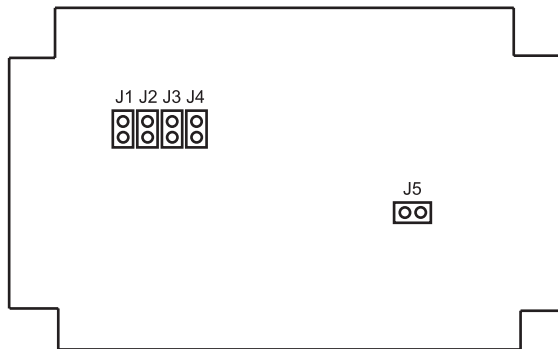
COM.	Blue
DOWN	Black
UP	Brown

SE4M24



COM	Blue
IN. (Y) 0...10 V	Black
24 Vac	Brown

JUMPERS POSITION ON PCB SE4M24



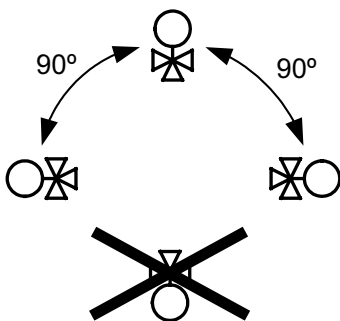
INPUT SIGNAL	J1	J2	J3	J5	J4
0...10 V					
0...4 V					
6...10 V					
2...10 V					
4...20 mA					
DIRECT ACTION					
REVERSE ACTION					

DIRECT / REVERSE ACTION SE4M24

DA: 0 Vdc shaft in uppest position (A-AB valve port closed)  
 10 Vdc shaft in lowest position (A-AB valve port open)  
 RA: 0 Vdc shaft in lowest position (A-AB valve port open)  
 10 Vdc shaft in uppest position (A-AB valve port closed)  
 Factory setting: DA, input signal 0...10 Vdc

Jumper unmounted  
 Jumper mounted

MOUNTING POSITIONS



OVERALL DIMENSIONS (mm)

