

EBM SERIES

BALL VALVE ELECTRONIC RETURN ACTUATOR

Modulating Control

10 Nm



EBM...10 (S1) SERIES

EBM electronic return ball valve actuators are especially designed and produced for applications in the HVAC systems. Our wide range of standard valve actuators has been developed to operate and position ball valves of different sizes.

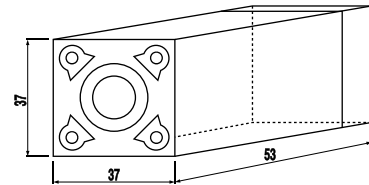
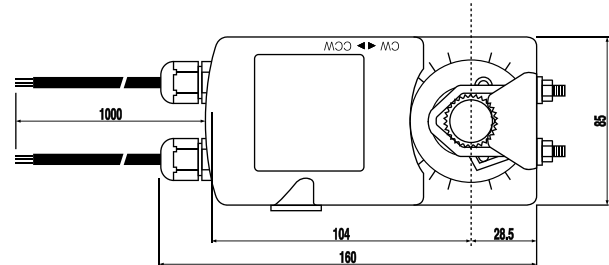
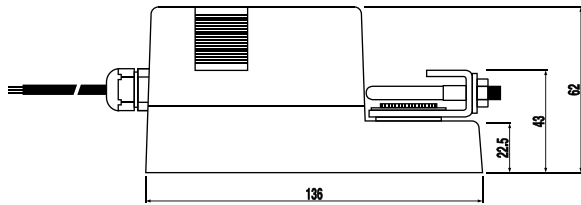
PRODUCT FEATURE

- Torque 10 Nm
- Valve size DN40(1½") / DN50(2")
- Power supply AC/DC 24 V and AC 230 V
- Control Modulating DC 0(2)...10 V & DC 0(4)...20 mA
- Shaft dimensions - □ 9.0 mm (fixed)
- Selectable direction of rotation of reversing actuator
- Actuator with 1 m cable connection
- Optional 1 Adjustable SPDT auxiliary switch

MODEL SELECTION TABLE

MODEL / TYPE	TORQUE	POWER SUPPLY	RUNNING TIME	RETURN	AUXILIARY SWITCH
EBM 1.1-10	10 Nm	AC/DC 24 V ± 10%	60...80 sec	40 sec	-
EBM 1.1-10S1	10 Nm	AC/DC 24 V ± 10%	60...80 sec	40 sec	1 x SPDT
EBM 2.2-10	10 Nm	AC 230 V ± 10%	60...80 sec	40 sec	-
EBM 2.2-10S1	10 Nm	AC 230 V ± 10%	60...80 sec	40 sec	1 x SPDT

DIMENSION (mm)



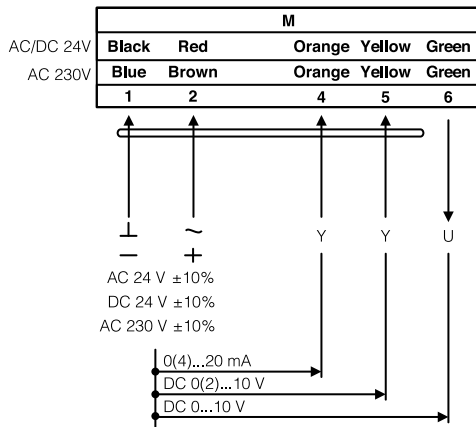
TECHNICAL SPECIFICATION

MODEL NUMBER	EBM 1-10 (S1)	EBM 2-10 (S1)
TORQUE	10 Nm	10 Nm
VALVE SIZE	DN40(1½") / DN50(2")	DN40(1½") / DN50(2")
SHAFT DIMENSION	□ 9.0 mm (fixed)	□ 9.0 mm (fixed)
POWER SUPPLY	AC/DC 24 V ± 10%	AC 230 V ± 10%
FREQUENCY	50...60 Hz	50...60 Hz
CONTROL SIGNAL (INPUT)	DC 0(2)...10 V, 0(4)...20 mA	DC 0(2)...10 V, 0(4)...20 mA
POSITION SIGNAL (OUTPUT)	DC 0...10V	DC 0...10V
POWER CONSUMPTION		
● OPERATING	7.2 W	7.2 W
● END POSITION	1.2 W	1.2 W
FOR WIRE SIZING	140 VA	10 VA
ELECTRICAL CONNECTION	1 m Cable	1 m Cable
AUXILIARY SWITCH RATING	3 (1.5) A, AC 250 V	3 (1.5) A, AC 250 V
PROTECTION CLASS	Class III ⚡	Class III ⚡
ANGLE OF ROTATION	90° (95° mechanical)	90° (95° mechanical)
WEIGHT	< 0.8 Kg	< 0.8 Kg
LIFE CYCLE	60,000 Rotation	60,000 Rotation
SOUND LEVEL	40 dB	40 dB
IP PROTECTION	IP54	IP54
OPERATING TEMPERATURE	-20°...50° as per IEC 721-3-3	-20°...50° as per IEC 721-3-3
NON-OPERATING TEMPERATURE	-30°...+60° C / IEC 721-3-2	-30°...+60° C / IEC 721-3-2
AMBIENT HUMIDITY	5%...95% rH non condensing / EN	5%...95% rH non condensing / EN
MAINTENANCE	Maintenance Free	Maintenance Free
MODE OF OPERATION	Type I / EN 60730-1	Type I / EN 60730-1
EMC	CE & ISO 9000 EN / EEC	CE & ISO 9000 EN / EEC

EBM SERIES BALL VALVE ELECTRONIC RETURN ACTUATOR

**Modulating Control
10 Nm**

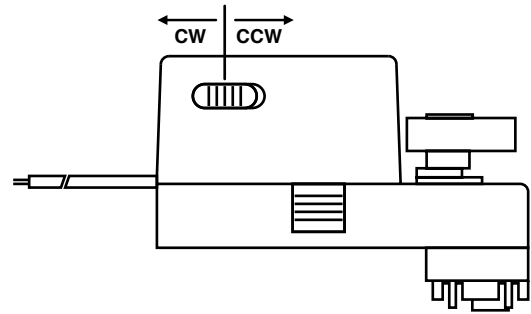
WIRING DIAGRAM EBM...10 (S1) POWER SUPPLY AC/DC 24V / AC 230V



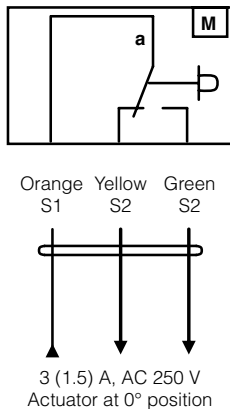
DIRECTION OF ROTATION EBM...10 (S1)

Default factory setting: CCW.

Direction of rotation can be changed by toggling between CW/CCW switch on the actuator's housing.



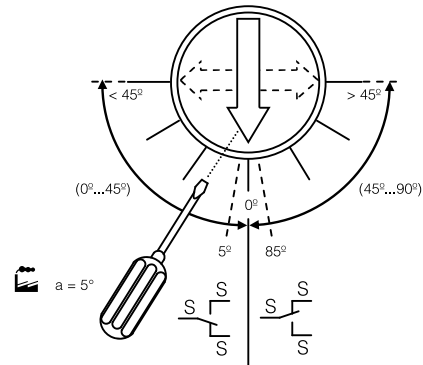
WIRING DIAGRAM EBM...10 (S1) AUXILIARY SWITCH



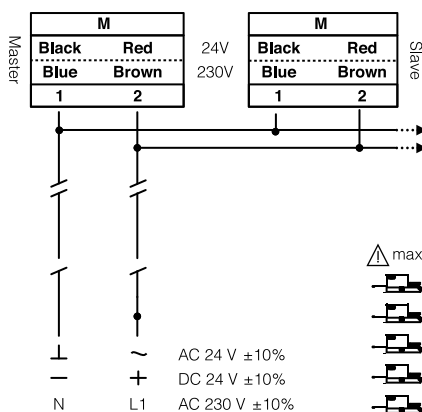
AUXILIARY SWITCH EBM...10 (S1)

Switch a factory-set at 5°.

The auxiliary switch can be optimally adjusted between 0°...90°.

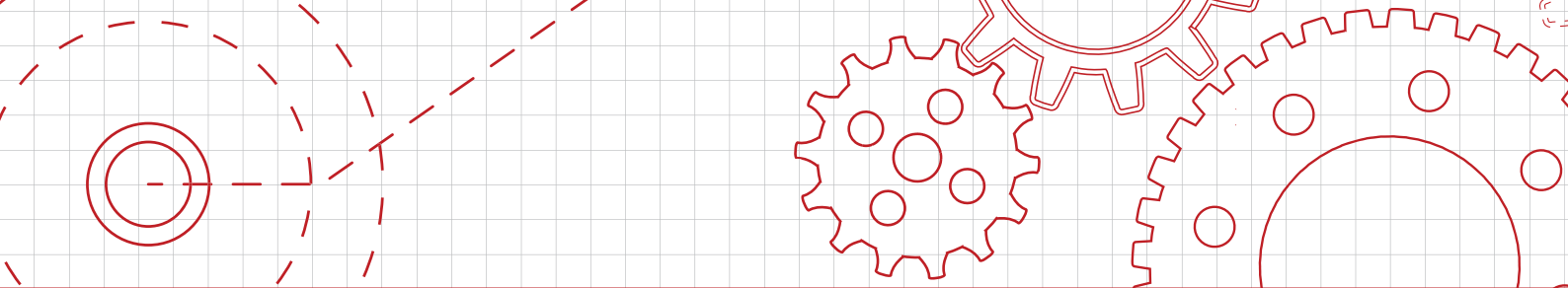


WIRING DIAGRAM EBM...10 (S1) PARALLEL CONNECTION



REMARK

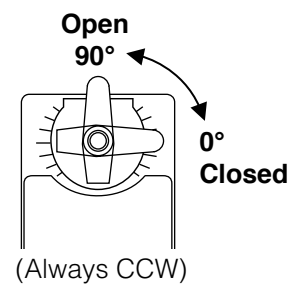
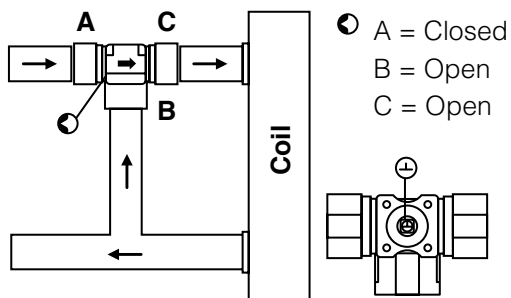
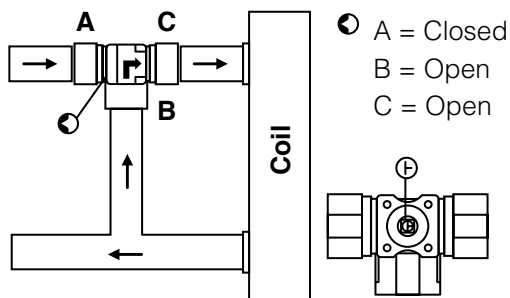
Parallel connection of EBM...10 (S1) actuators are limited to 5. Power consumption must be observed.



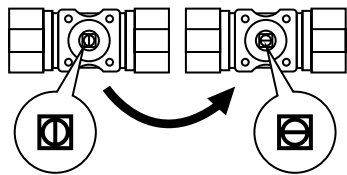
MIXING CLOSED

MIXING OPEN

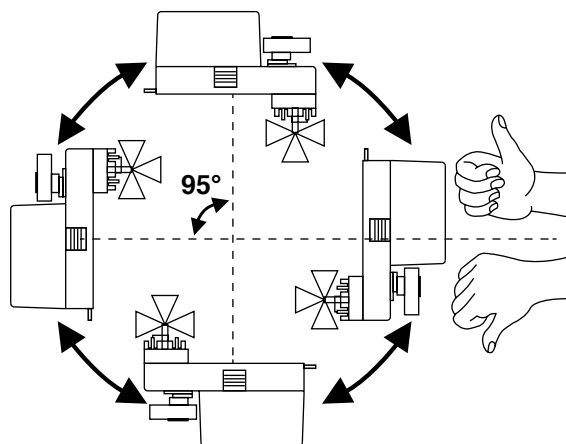
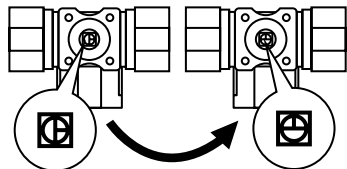
ACTUATOR POSITION



2-way Closed 2-way Open



3-way Closed 3-way Open



IMPORTANT REMARK

For special requirement, consult your local Swisotec's representative.

This actuator includes electrical and electronic components and may not be disposed as household garbage. Please consider the local valid legislation.

AC / DC 24 V: Connect via safety isolating transformer.
 AC 230 V: To isolate from the main power supply, the system must incorporate a device which disconnects the phase conductor (with at least a 3mm contact gap.)

The performance specifications are nominal and conform to acceptable industry standards. Swisotec shall not be liable for damages resulting from misapplication or misuse of its products.