

ECM SERIES ELECTRONIC RETURN DAMPER ACTUATOR

Modulating Control
5 Nm

ECM...05 (S1) SERIES

ECM series actuators with Electronic Return® (ER) function are designed and produced for extended functionalities in HVAC systems: air handling equipment, fan coils and laboratory applications. Electronic Return® (ER) is able to manage short voltage interruptions for max. 10 seconds.



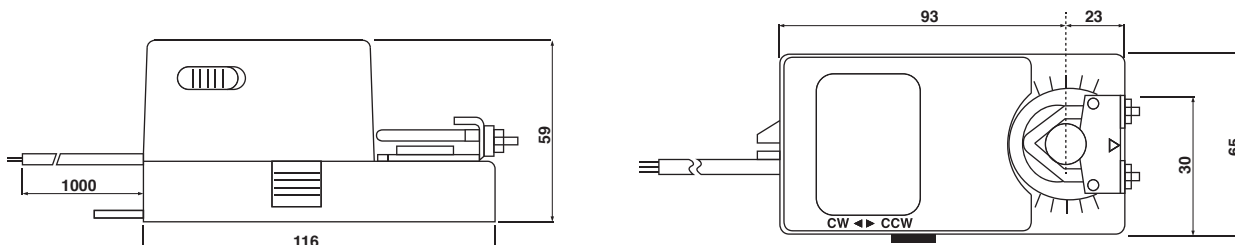
PRODUCT FEATURE

- Torque 5 Nm
- Damper size 1.0 m²
- Power supply AC/DC 24V
- Modulating Control Signal DC 0(2)...10 V
- Shaft dimensions - Ø 6...15 mm / □ 5...10 mm
- Minimum Shaft Length 40 mm
- Adjustable angle of rotation
- Selectable direction of rotation of reversing actuator
- Actuator with 1 m cable connection
- Manual Over-ride push button when required

MODEL SELECTION TABLE

MODEL /TYPE	TORQUE	POWER SUPPLY	RUNNING TIME	RETURN	AUXILIARY SWITCH
ECM 1.2-05	5 Nm	AC/DC 24V ± 10%	50...55 sec	25 sec	-
ECM 1.2-05S1	5 Nm	AC/DC 24V ± 10%	50...55 sec	25 sec	1 x SPDT (Adjustable)

DIMENSION (mm)



TECHNICAL SPECIFICATION

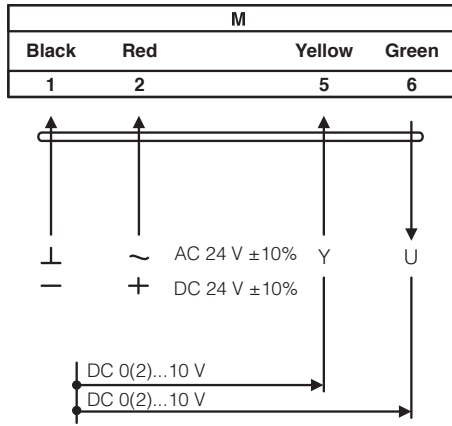
MODEL NUMBER	ECM 1.2-05 (S1)
TORQUE	5 Nm
DAMPER SIZE	1.0 m ²
SHAFT DIMENSION	Ø 6...15 mm / □ 5...10 mm*
POWER SUPPLY	AC/DC 24 V ± 10%
FREQUENCY	50...60 Hz
CONTROL SIGNAL (INPUT)	DC 0(2)...10 V
POSITION SIGNAL (OUTPUT)	DC 0(2)...10 V
POWER CONSUMPTION	
● OPERATING	7.2 W
● END POSITION	1.2 W
FOR WIRE SIZING	6.5 VA
ELECTRICAL CONNECTION	1 m Cable
PROTECTION CLASS	Class III ⚡
ANGLE OF ROTATION	90° (95° mechanical)
WEIGHT	< 0.55 Kg
LIFE CYCLE	60,000 Rotation
SOUND LEVEL	40 dB
IP PROTECTION	IP54
OPERATING TEMPERATURE	-30°...50° as per IEC 721-3-3
NON-OPERATING TEMPERATURE	-30°...+60° C / IEC 721-3-2
AMBIENT HUMIDITY	5%...95% rH non condensing / EN
MAINTENANCE	Maintenance Free
MODE OF OPERATION	Type I / EN 60730-1
EMC	CE & ISO 9000 to EN / EEC

*Note that shaft dimension has a tolerance offset of ± 0.2mm.

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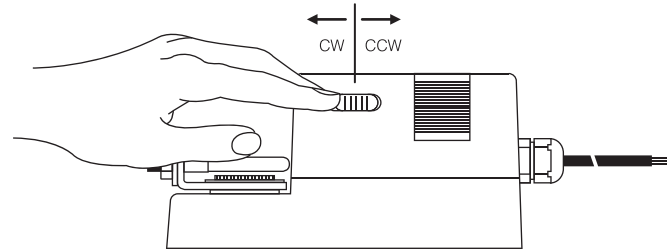
WIRING DIAGRAM ECM...05 (S1) POWER SUPPLY AC/DC 24 V



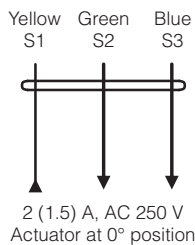
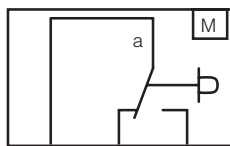
DIRECTION OF ROTATION ECM...05 (S1)

Default factory setting: CW.

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



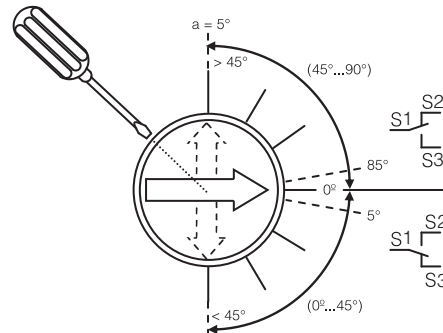
WIRING DIAGRAM ECM...05 (S1) AUXILIARY SWITCH



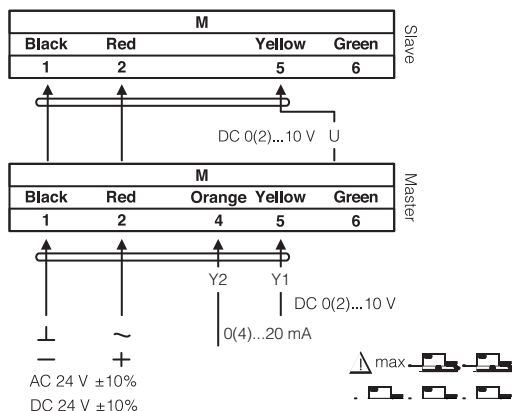
AUXILIARY SWITCH ECM...05 (S1)

Auxiliary switch **(a)** factory-set at 5°.

Auxiliary switch **(a)** can be optimally adjusted between 0°...90°.



WIRING DIAGRAM ECM...05 (S1) PARALLEL CONNECTION

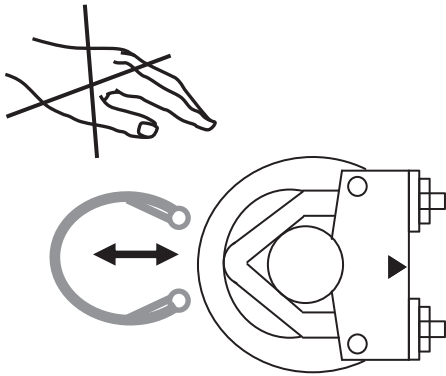


REMARK

During parallel operation, the output signal (terminal 6, DC 0(2)...10 V) of the master actuator must be connected to terminal 5 of the next slave actuator.

RELEASING THE ADAPTER

Releasing the adapter is not required.

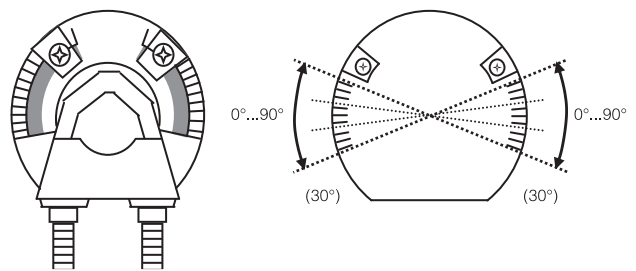


LIMITING ANGLE OF ROTATION

Adjustment of Mechanical Limiter

1. Loosen screw of mechanical limiter
2. Move limiter to appropriate position*
3. Tighten screw

*Working range of 90° can be reduced up to 30° from end position.



ADJUSTING CONTROL SIGNALS

Control Signal 5 DC 0...10V
Input Resistance Ri100k Ohm



Factory Default Setting

Control Signal 5 DC 2...10V
Input Resistance Ri500k Ohm

On Request

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.