

# CM SERIES STANDARD DAMPER ACTUATOR

**Modulating Control**  
**20 Nm**

## CM...20 (S) SERIES

CM standard damper actuators are specially designed and produced for applications in the HVAC Systems. Our wide range of Swisotec standard damper actuators has been developed to operate and position air dampers of different sizes.



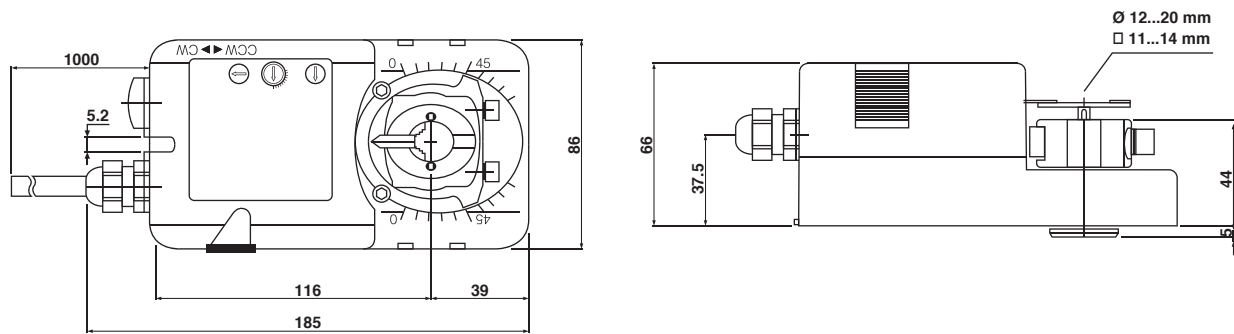
## PRODUCT FEATURE

- Torque 20 Nm
- Damper size 4.0 m<sup>2</sup>
- Power supply AC/DC 24V and AC 230 V
- Control Modulating DC 0(2)...10 V & 0(4)...20 mA
- Shaft dimensions - Ø 12...20 mm / □ 11...14 mm
- Minimum Shaft Length 40 mm
- Adjustable angle of rotation
- Selectable direction of rotation of reversing actuator
- Actuator with 1 m cable connection
- Optional 2 Adjustable SPDT auxiliary switches
- Manual Over-ride push button when required

## MODEL SELECTION TABLE

MODEL / TYPE	TORQUE	POWER SUPPLY	RUNNING TIME	AUXILIARY SWITCHES
CM 1.1-20	20 Nm	AC/DC 24 V ± 10%	100...150 sec	-
CM 1.1-20S	20 Nm	AC/DC 24 V ± 10%	100...150 sec	2 x SPDT (Adjustable)
CM 2.2-20	20 Nm	AC 230 V ± 10%	100...150 sec	-
CM 2.2-20S	20 Nm	AC 230 V ± 10%	100...150 sec	2 x SPDT (Adjustable)

## DIMENSION (mm)



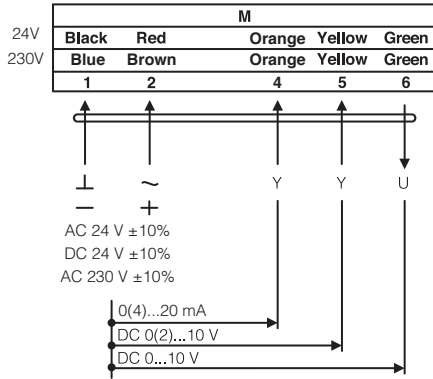
## TECHNICAL SPECIFICATION

MODEL NUMBER	CM 1.1-20 (S)	CM 2.2-20 (S)
TORQUE	20 Nm	20 Nm
DAMPER SIZE	4.0 m <sup>2</sup>	4.0 m <sup>2</sup>
SHAFT DIMENSION	Ø 12...20 mm / □ 11...14 mm	Ø 12...20 mm / □ 11...14 mm
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
POSITION SIGNAL (OUTPUT)	DC 0...10 V	DC 0...10 V
POWER CONSUMPTION		
● OPERATING	8.0 W	8.0 W
● END POSITION	2.0 W	2.0 W
FOR WIRE SIZING	14.0 VA	14.0 VA
ELECTRICAL CONNECTION	1 m Cable	1 m Cable
AUXILIARY SWITCHES RATING	3 (1.5) A, AC 250 V	3 (1.5) A, AC 250 V
PROTECTION CLASS	Class III ⚡	Class II ⚡
ANGLE OF ROTATION	90° (95° mechanical)	90° (95° mechanical)
WEIGHT	1.2 Kg	1.2 Kg
LIFE CYCLE	60,000 Rotation	60,000 Rotation
SOUND LEVEL	45 dB	45 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

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20 Nm**

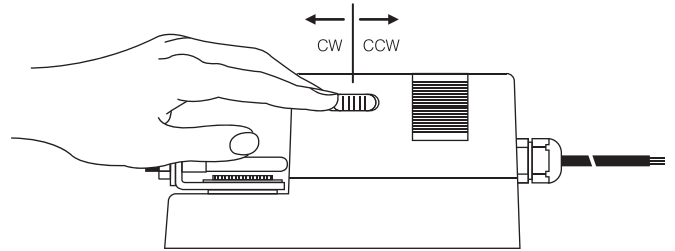
## WIRING DIAGRAM CM...20 (S) POWER SUPPLY AC/DC 24V / AC 230V



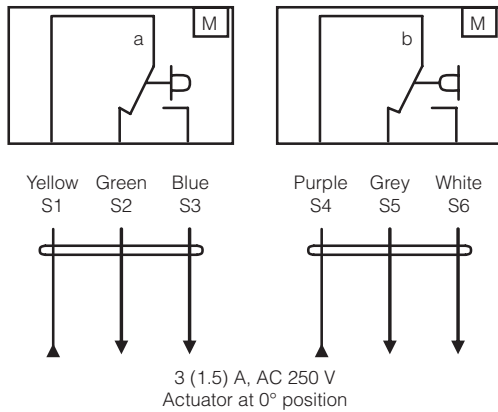
## DIRECTION OF ROTATION CM...20 (S)

Default factory setting: CW.

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



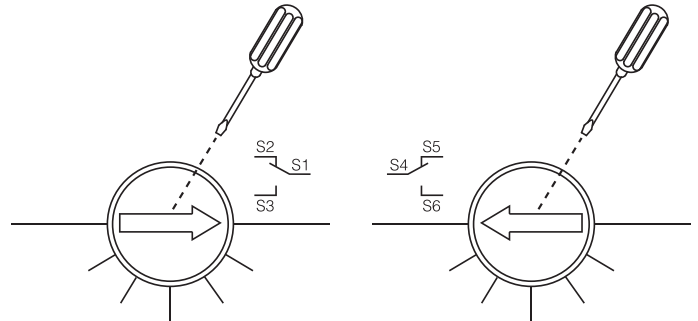
## WIRING DIAGRAM CM...20 (S) AUXILIARY SWITCHES



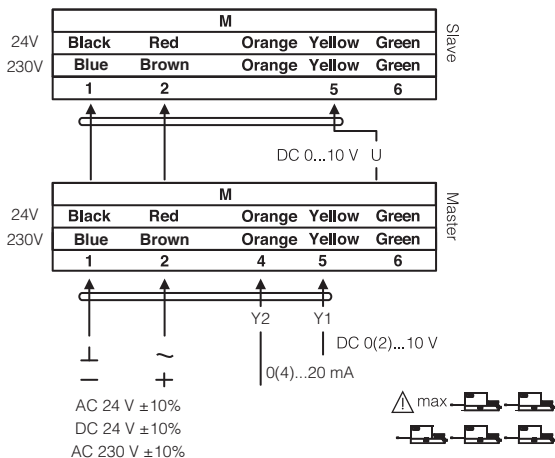
## AUXILIARY SWITCH CM...20 (S)

Switch **a** factory-set at 5° and 85°.

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



## WIRING DIAGRAM CM...20 (S) PARALLEL CONNECTION



## REMARK

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

## ADJUSTING CONTROL SIGNALS CM...20 (S)

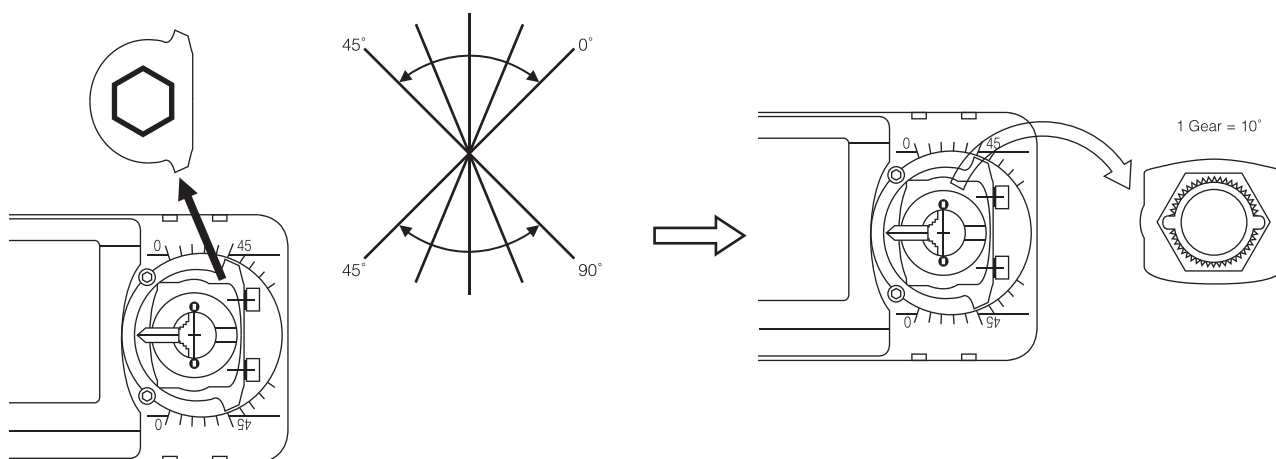
Control Signal 5                    DC 0...10V  
Input Resistance                    Ri100k Ohm

### Factory Default Setting

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



### On Request

## ANGLE OF ROTATION LIMITING



## 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.