

ACTUATORS FOR DAMPERS (max. 4 m² - 20 Nm)

CSS 43.. – CSS 404 Eng.

- **Power supply:**
 - CSS ..8 (230 V~) - CSS ..4 (24 V~/-)
- **Electric control:**
 - SPDST or SPDT (On-Off/modulating)
 - progressive 2... 10 V (CSS 404)
- **Rotation:**
 - max angle. 95°
 - time - 150 s
- **Installation:**
 - directly on damper shaft



1. APPLICATION

CSS... actuators are suitable for the operation, with linear rotary movement, of dampers in ventilating and air conditioning zones.

The available torque (20 Nm) permits operating dampers up to 4 m² on condition that these have a very well-balanced movement.

2. MODELS

Code	Power supply & consumption	Max angle rotation	Rotation time	Applied torque	Control	Auxiliary switch supplied
CSS 438	230 V~ ± 10% (6 VA)	95°	150 s	20 Nm	On-Off 2/3 punti	—
CSS 438/C	230 V~ ± 10% (6 VA)	95°	150 s	20 Nm	On-Off 2/3 punti	1 SPDT
CSS 434	24 V~/– ± 20% (4VA)	95°	150 s	20 Nm	On-Off 2/3 punti	—
CSS 434/C	24 V~/– ± 20% (4VA)	95°	150 s	20 Nm	On-Off 2/3 punti	1 SPDT
CSS 404	24 V~/– ± 20% (4VA)	95°	150 s	20 Nm	2...10 V–	—

3. ACCESSORIES (optional)

Code	Description
FCS 123	1 SPDT auxiliary switch, with: (0.5 A) current; 1m, of 3 x 0.75 mm ² cable included:
FCS 223	
PCS 104	2 auxiliary SPDT switches, with: (0.5 A) ; 1m, of 6 x 0.75 mm ² cable included
KH 8	Built-in manual positioner 0...100%, (only for CSS 404 actuators) .
AH 20	Universal lever to apply to the damper drive shafts (∅ 10... 18 mm.; □ 10... 14 mm.).
KG 10	Actuator lever.
ZG-SMA	Connection ball joint (for shafts with ∅ 10 mm. max.).
	Kit for installing actuators on the level.

4. TECHNICAL DATA

Power supply:		Type of control	see "Models"
– CSS ..8	230 V~ ± 10%	Electrical connections: (pre-set	
– CSS ..4	24 V~/– ± 20%	– CSS 43.. (1 cable: control)	1m, 3 x 0.75 mm ²
Frequency	50...60 Hz	– CSS 43../C (2 cables: control & auxiliary contacts)	1m, 3 x 0.75 mm ²
Consumption:		– CSS 404 (1 cable: power & control)	1m, 4 x 0.75 mm ²
– CSS ..8	6 VA (2,5 W)	Room temperature:	
– CSS ..4	4 VA (2 W)	– operation	– 30...+50 °C
Torque	20 Nm	– transport & storage	– 40...+80 °C
Run time	see "Models"	Room humidity	95% (EN 60730-1)
Direction of rotation	reversible	Protection	IP 54
Rotation angle	max.95°(adjustable)	Weight:	about 1.1Kg

5. INSTALLATION

Before attaching the actuator to the damper, carry out the following preliminary checks in order to avoid any difficulties at the moment of installation.

Check:

- that there is sufficient space available for installing the actuator, i.e. between the damper shaft and any walls, channels or pipework in the immediate vicinity.
- the dimensions of the dampers (max. 4 m²) and the balance on the shaft.
- that the motor has all parts necessary for its correct installation.

The actuator must be installed directly on the damper shaft ; (∅ 10...20 mm); with a minimum projection of 48 mm

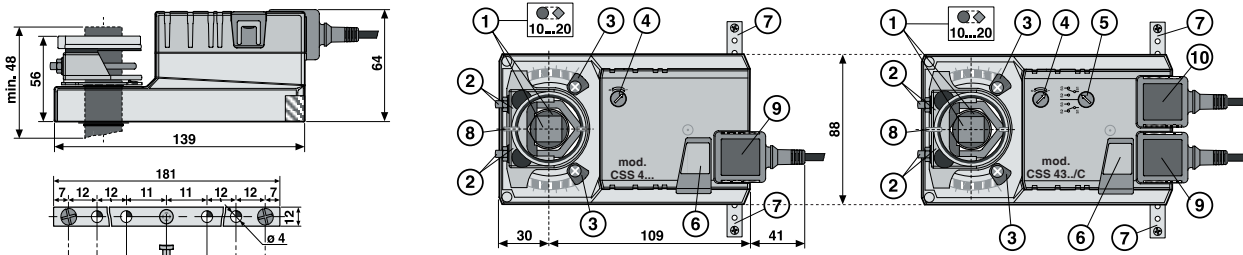
Position the damper at about half run, insert the actuator on the pin and, using the anti-torsion adjustable bracket supplied, secure it; secure also the shaft by means of the assembled motor block.

Make the electrical connections using the cable already attached and observing the safety regulations in force.

NB: If necessary, it is possible to connect several actuators in parallel, taking into account their technical features (these must be the same).

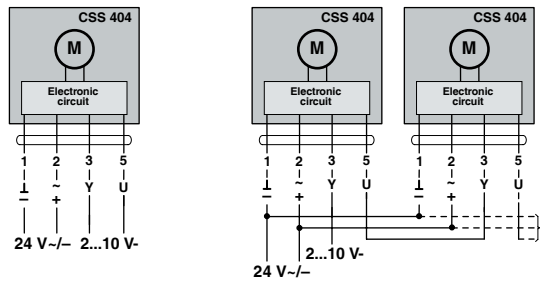
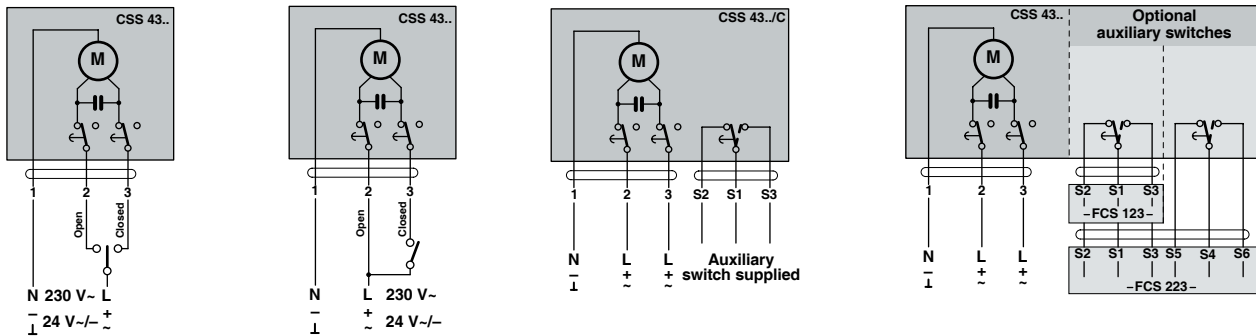
To lengthen the cables supplied do NOT use telephone or similar cables.

6. OVERALL DIMENSIONS – DESCRIPTION

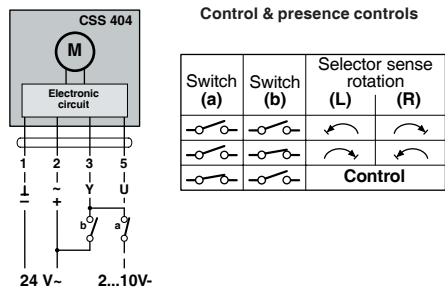


- 1 – Damper drive shaft
- 2 – Shaft locking pin
- 3 – End of run stop
- 4 – Rotation direction switch
- 5 – Auxiliary reverse switch
- 6 – Manual release button
- 7 – Anti-torsion locking bracket
- 8 – Position indicator
- 9 – Connector electrical connections
- 10 – Connector connections auxiliary switch

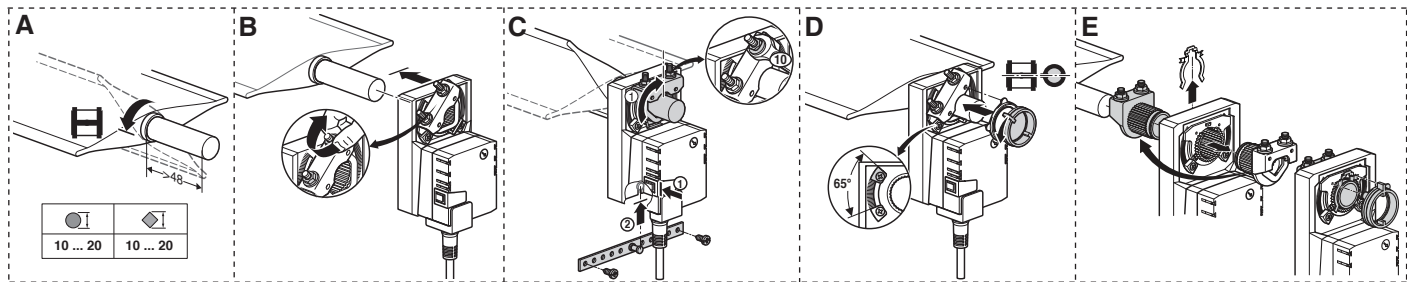
7. WIRING DIAGRAMS



NB: For the parallel connection it is indispensable to take account of the powers; moreover pay attention to the synchronization of one motor with another (± 5%).



8. INSTALLATION SEQUENCE



Amendments to data sheet

Date	Revision No.	Page	Section	Amendment description
13.10.05 MC	-	-	General	Composition Data Shee.
27.03.06 MC	-	1-2	General	Arrangement data & page layout.
		2	7. Wiring diagrams	Added: diagram parallel connections & precedence controls with descriptive table.
02.12.08 MC	01	1	3. Accessories	Added: specific accessories for motor type, (AH 20, ZG-SMA).
		2	8. Installation sequence	All designs replaced (since unclear); replacement table at foot of page.



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