

Data Sheet

Thermal Actuator TWA-Z with Halogen Free Cable

Application



Danfoss thermal actuator TWA-Z is used with the automatic balancing and control valve from Danfoss, called AB-QM. The actuator can be controlled with an on/off controller or pulse width modulation (PWM).

TWA-Z and AB-QM provide a cost effective solution for the control of hot and /or chilled water for heated or chilled ceilings, small reheaters and recoolers in temperature control systems.

Main features:

- 24 V AC/DC or 230 V AC supply
- Position indicator
- Normally closed (NC) version
- Max. medium temperature 120° C
- Halogen free cable included

Ordering

Type	Supply voltage	Cable length	Code no.
TWA-Z NC	24 V AC	1.2 m	082F1380
TWA-Z NC	230 V AC		082F1382
TWA-Z NC	24 V AC	5 m	082F1384
TWA-Z NC	230 V AC		082F1388
TWA-Z NC	24 V AC	10 m	082F1386
TWA-Z NC	230 V AC		082F1390

Technical Data

Power supply	24 V AC/DC	230 V AC
Max. inrush current	< 350 mA	< 250 mA
Power consumption	2 W	
Frequency	50/60 Hz	
Control input	On/off and PWM	
Closing force	90 N	
Min. stroke	2.8 mm	
Full stroke time	3 min.	
Max. medium temperature	120° C	
Ambient temperature	2 to 60° C	
Storage and transport temperature	-40 to 70° C	
Protection class	III	II
Grade of enclosure	IP 41	
Cable length	1.2 m, 5 m or 10 m	
Weight	0.15 kg	

Operation

TWA-Z actuator works on the thermal expansion principle:

- moves actuator stem in one direction in case of heating of the actuator and
- moves actuator stem in another direction in case of no heating of the actuator

Available in 24V (SELV) or 230V.

The TWA-Z NC has an internal spring, which is factory fixed with a split ring (*Fig.1*) to hold the spring retracted in its off-the-shelf state.

The use of split ring allows the actuator to be mounted to the valve. Once mounted, the split ring has to be removed.

The actuator is equipped with a position indicator to show the position of the actuator stem (*Fig.2*).

The AB-QM valve is closed in stem down position. Without actuator force the internal spring opens the valve.

Combination, TWA-Z NC & AB-QM (*Fig.3*)

- in the non-energized state the valve is closed in the energized state the valve is opened.

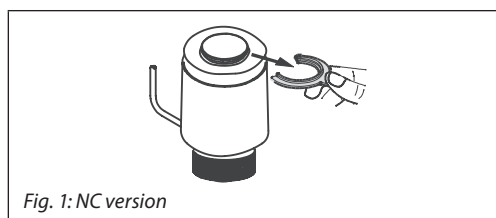


Fig. 1: NC version

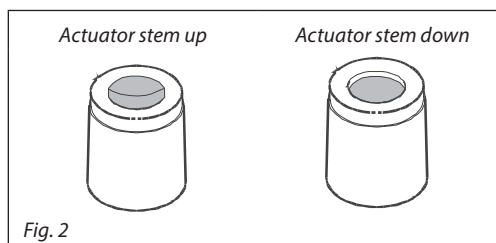


Fig. 2

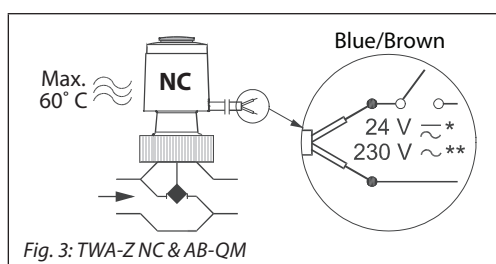
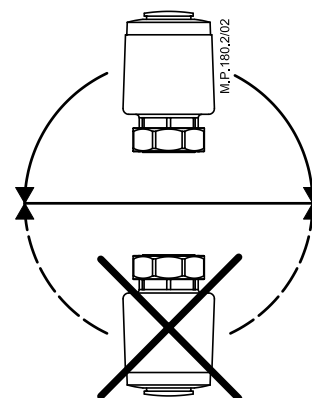


Fig. 3: TWA-Z NC & AB-QM

Installation

Mechanical

Installation of the valve with the actuator is allowed in horizontal position or upwards.

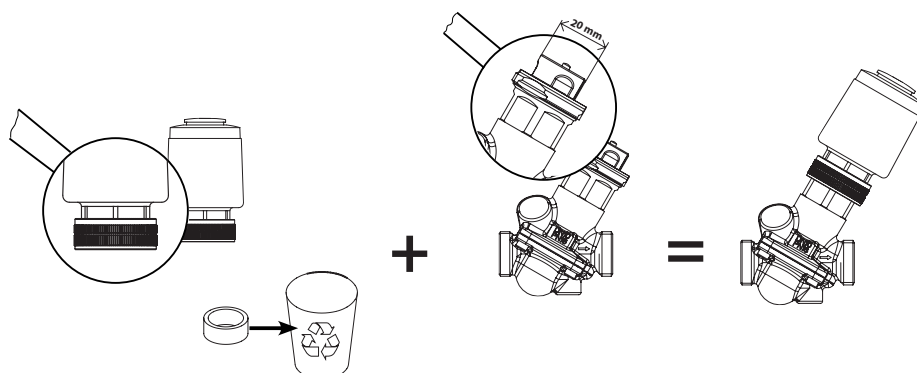


Disposal

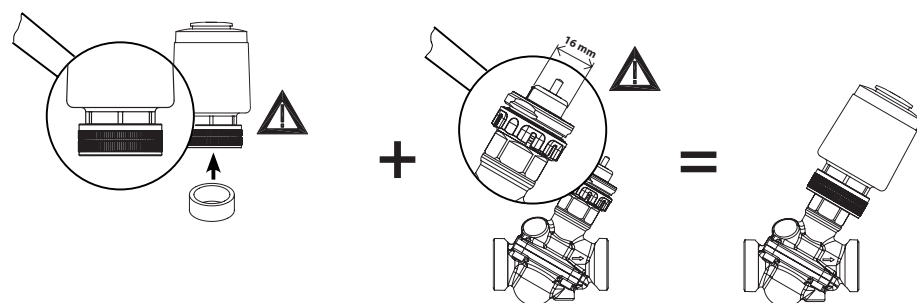
The actuator must be dismantled and the elements sorted into various material groups before disposal.

Actuator / Valve Combinations

TWA-Z (Gen. 2011) & AB-QM (2nd gen.)



TWA-Z (Gen. 2011) & AB-QM (1st gen.)



Dimensions

