

AR30 W22S, W23S: Motorised actuator with positioner

How energy efficiency is improved

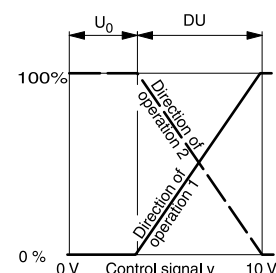
Electric cut-off in end position to save energy

Features

- Actuation of control units such as air dampers, control valves, butterfly valves, etc. for controllers with continuous output (0...10 V or 0...20 mA)
- Synchronous motor with limit switch and integrated positioner
- Maintenance-free gear unit
- Moves the control unit to any intermediate position
- Angle of rotation min. 90° to max. 180°
- Direction of operation can be selected by means of a switch
- Electrical connections (max. 1.5 mm²) via screw terminals
- Cable gland M20 × 1.5



AR30W23SF020



Technical data

Power supply		
Power supply		24 V~, ± 20%, 50 Hz
Power consumption during operation		Approx. 5.1 W
Power consumption when idle		Approx. 0.7 VA
Parameters		
	Admissible operating time	100 %
Positioner	Control signal 0...10 V	$R_i = 30 \text{ k}\Omega$
	Control signal 0...20 mA	$R_i = 50 \text{ k}\Omega$
	Positional feedback 0...10 V	Permissible load $\geq 2.5 \text{ k}\Omega$
	Positional feedback 0...620 mV	Permissible load $\geq 100 \text{ k}\Omega$
	Starting point U_0	0.4...9.1 V
	Control span ΔU	1...10 V
	Switching range X_{sh}	4% of ΔU
	Admissible damper surface area ¹⁾	5 m ²
	Angle of rotation ²⁾	90°
	Torque and holding torque	15 Nm
Ambient conditions		
	Admissible ambient temperature	-5...60 °C
	Admissible ambient humidity	< 95% rh
	Storage and transport temperature	-30...70 °C
Construction		
	Weight	1.1 kg
	Housing material	Light-metal alloy; cover made of transparent, fire-retardant thermo-plastic
Standards and directives		
	Type of protection ³⁾	IP 55 (EN 60529), in pendent position IP 54 (EN 60529)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3 EN 61000-6-4
Overview of types		
Type	Running time for 90°	
AR30W22SF020	60 s	
AR30W23SF020	120 s	

¹⁾ Recommended value for equal-sided, smooth-running air dampers

²⁾ Angle of rotation of end shaft is 90 °C (factory set). Changing the arrangement to 180° is possible by reversing the cogs and readjusting the limit switches

³⁾ Type of protection IP 55 with cable gland M20 × 1.5



Accessories

Type	Description
0188813000	Ball joint for clamping lever
0294148000	Fixing bracket for wall mounting
0294967000	Pivot pin for clamping lever
0370059000	Clamping lever for shaft, Ø 8...18 mm
0370774001	Crank handle for manual adjustment
0370785001	Position indicator
0370819000	Flat-sided hub
0372460001	Cable screw fitting (plastic M20 × 1,5) incl. locking nut and seal

Description of operation

The built-in positioner controls the positioning motor depending on the controller's output signal y . Direction of operation 1 and 2 can be selected with connector S2. Direction of operation 2 (as delivered ex works): The end shaft rotates in the anti-clockwise direction (viewing the control unit from the actuator). Starting point U_0 and control span ΔU are adjustable. The reversible synchronous motor is switched off in the end positions by the limit switches.

Connector S4 is used to select the position feedback signal.

Connector S5 is used to select the control signal.

Priority switching: The control unit can be moved to any chosen intermediate position by closing the electrical circuit using terminals 2-45 or 2-46. The end shaft rotates in the anti-clockwise direction (viewing the control unit from the actuator) when the power is applied to terminal 46.

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product documents must also be adhered to. Changing or converting the product is not admissible.

Engineering and fitting notes

The angle of rotation is changed from 90° to 180° by reversing the two cogs and readjusting the limit switches. The end contacts and auxiliary change-over contacts are adjusted centrally on the switch tower, which has a direct mechanical connection to the end shaft (fitting instructions MV 505335). The earthing terminal is in the light-alloy housing. The actuator is fastened by means of threaded holes on the end shaft side (4 M5 holes as in AR30 W1, or 3 M6 holes as in A44 W). The motorised actuator can be fitted in any position.

Additional version information

Due to the permanent lubrication of the motor and the gear unit, no maintenance is required for the actuator. Manual adjuster using accessory crank, for 90°

- AR30 W21 → 34 turns
- AR30 W22 → 14 turns
- AR30 W23 → 29 turns

Outdoor installation

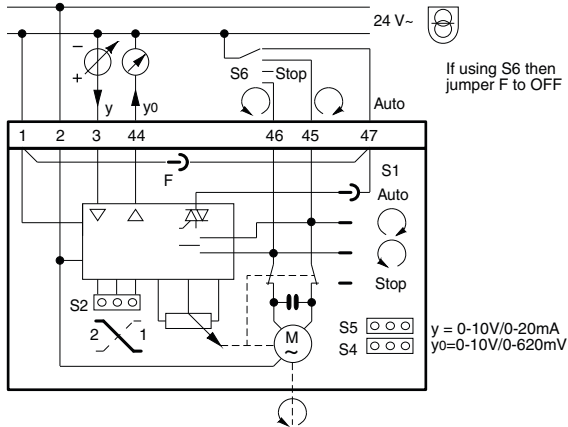
The devices must also be protected from the weather if they are installed outside the building.

Disposal

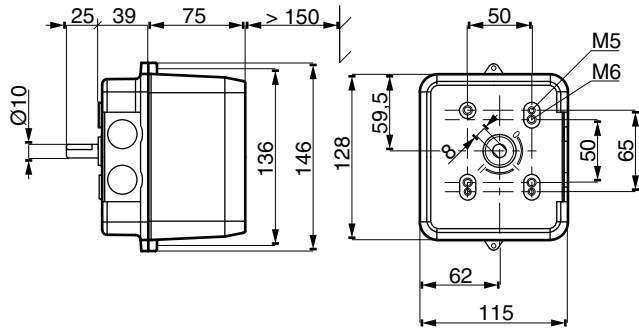
When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram



Dimension drawing



Accessories

