

AVM321S/AVM322S: 1000N Actuator with analog SUT positioner

Areas of use

For actuation of 2- and 3-way valves. For controllers with constant output (0...10 V / 4...20 mA) or switching output (2-point or 3-point control)

Improving energy efficiency

Automatic adaptation to valve, optimal operator convenience, precision control and high energy efficiency with minimal operating noise.

Features

- BLDC motor (brushless DC) with electronic control unit SUT (Superior Universal Technology) of the third generation and electronic load-dependent cut-off
- Automatic recognition of applied control signal (constant or switched), operating display with bi-coloured LED
- Independent adaptation to the stroke of the valve between 10 and 20 mm
- Very low operating noise
- With the built-in absolute distance measurement system, the position is always maintained in case of power failure
- The direction of operation, characteristic (linear / equal percentage), positioning time and control signal (voltage/current) can be adjusted with coding switches
- Integrated forced operation can be set with coding switches (with selectable direction of operation)
- Easy re-initialisation using a coding switch
- Crank handle for external manual adjustment with motor cut-off
- Simple assembly with valve; spindle is automatically connected after control voltage is applied
- Electrical parallel operation of 5 actuators
- Parameterisation option available through bus interface



Technical description

- Power supply 24 V~ or 24 V= (optional accessory module for 85...265Vac 50/60Hz)
- Three-piece housing of flame retardant yellow/black plastic and seals with degree of protection IP54
- Maintenance-free gearbox made of plastic; threaded spindle and gearbox base-plates made of steel
- Patented drive-valve coupling
- Mounting column made of aluminium
- Fixing bracket made of cast light alloy for the valve fitting with 20 mm stroke and made of plastic for the valve fitting with 8 mm stroke
- Electrical connections (max. 1.5 mm²) with screw terminals
- Two break-out cable inlets for metric screw fittings made of plastic M20×1.5
- Fitting position, vertically upright to horizontal, not hanging
- Nominal thrust 1000 N²

Products

Type	Positioning time (s/mm)	Nominal stroke (mm)
AVM321SK001*)	12 (4)	10
AVM322SK001*)	6 (4)	20

*) CSA-certified actuators on request

Dimension drawing

Accessories:
1-0152313 Feedback module 4...20 mA
1-0152315 Constant 230 V module

Type	a	b	c
AVM321	53	187,4	33
AVM322	64	241	44

Technical data

Power supply		Admissible ambient conditions		
Operating voltage	24 V~	±20%, 50...60 Hz	Operating temperature	-10...55 °C
	24 V=	-10%...+20%	Storage and transport temperature	-40...80 °C
with accessory module	85-265 V~	±15%, 50...60 Hz	Humidity	5...85% rh
Power consumption (at nominal voltage, with movement)		< 1.7 W, < 3.5 VA		No condensation
Parameters		Installation		
Nominal force ¹⁾	1000 N	Dimensions W x H x D (mm)	AVM321S 160x187x88	
Operating noise ²⁾ (at nominal force)	< 30 dB(A)		AVM322S 160x241x88	
Response time	> 200 ms	Degree of protection	IP 54 (EN 60529)	
Media temperature ³⁾	0...100 °C	Weight (kg)		
Nominal voltage	24 V~/=	AVM321S	1.5	
Characteristic	Linear / equal percentage	AVM322S	1.6	
Positioner ⁴⁾		Standards and directives		
Control signal y	0...10 V, R _i ≥ 50 kΩ	Protection class	III (EN 60730-1), EN60730-2-14	
Control signal y	4...20 mA, R _i ≤ 50 Ω	Additional information		
Positional feedback signal y ₀	0...10 V, load ≥ 5 kΩ	Fitting instructions	99.70.03	
		Declaration on materials and the environment	MD 51.375	
Starting point U ₀	0 or 10 V	Declaration of incorporation	P100012470	
Starting point I ₀	4 or 20 mA	Manual & connection diagram	99.70.06.01	
Control span ΔU	10 V			
Hysteresis Xsh	160 mV			
Control span ΔI	16 mA			
Hysteresis Xsh	0.22 mA			

1) Actuating power 1000 N under nominal conditions (24 V, 25 °C ambient temperature, 50 Hz).

With boundary conditions (19.2 V~ / 28.8 V~ / 21.6 V= / 28.8 V=, -10 °C / 55 °C, 60 Hz) and positioning time, the actuating tensile force is minimised to 800 N

2) Noise level with the slowest positioning time, test distance 1m

3) Use the appropriate accessory when the temperature of the medium is > 100 °C (temperature adaptor).

4) Also for 2- or 3-point, depending on type of connection

Power consumption at nominal voltage

Type	Positioning time (s/mm)	Status	Active power P (W)	Apparent power S (VA)
AVM321S	12 / (4)	Operation	< 1.7	< 3.5
AVM322S	6 / (4)	Standstill *	< 0.45	
		Sizing		≥ 4.5

*) Standstill = actuator in the end position, voltage applied to terminal 1 or 2, motor switched off.

CE Conformity

EMC Directive 2004/108/EC
EN 61000-6-1
EN 61000-6-2
EN 61000-6-3
EN 61000-6-4
Low-voltage Directive 2006/95/EC
EN 60730-1
EN 60730-2-14
Over-voltage category III
Degree of contamination II
Maximum altitude. 2000 m
Machinery Directive 2006/42/EC in accordance with Annex II B
EN 12100

Accessories

Type	Description
1-0152285	Temperature adaptor for media temperature > 100 °C ... 240 °C
1-0152313*	4...20 mA feedback module
1-0152315*	Constant power supply module for 85...265Vac 50/60Hz
	Cable glands M20×1.5

*) Dimension drawing or connection diagram is available under the same number

