

# AVM321S/AVM322S: 1000N Actuator

(With analog SUT positioner)

0-99.70.06-B

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## TECHNICAL DESCRIPTION

Power supply 24 V~ or 24 V= (optional accessory module for 85...265V ac 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 actuator-valve coupling  
Mounting studs made of aluminium.

Fixing bracket made of aluminium for the valve fitting with 20 mm and made of plastic for the valve fitting with 10 mm stroke.

Electrical connections (max. 1.5 mm<sup>2</sup>) with screw terminals.

Two break-out cable inlets for metric screw fitting made of plastic M20×1.5.

Fitting position, vertically upright to horizontal, not upside down unless protected from dripping water.

Subject to change without notice.

## AREAS OF USE

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

## IMPROVING ENERGY EFFICIENCY

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

## FEATURES

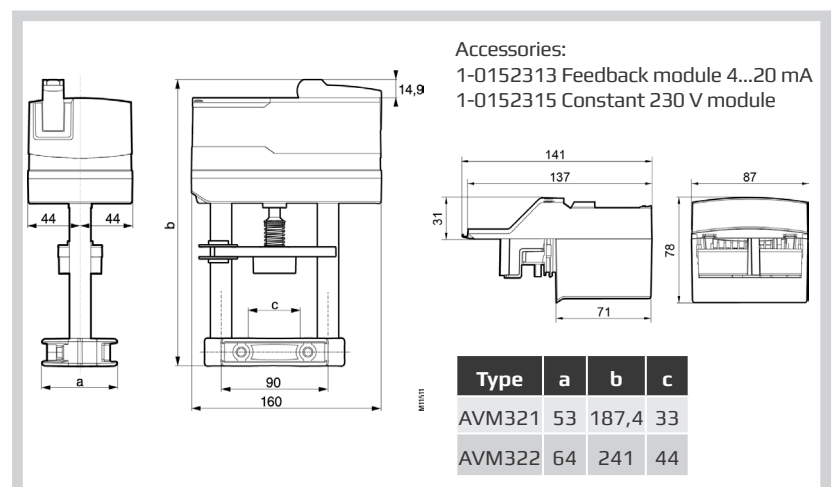
- BLDC motor (brushless DC) with electronic control unit SUT (Superior Universal Technology) of the third generation and electronic load-dependent cut-off
- Automatic recognition of applied control signal (constant or switched), operating display with bi-coloured LED
- Independent adaptation to the stroke of the valve between 8 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

## PRODUCTS

Type	Positioning time (s/mm)	Nominal stroke (mm)
AVM321SK001 <sup>1)</sup>	12 (4)	10
AVM322SK001 <sup>1)</sup>	6 (4)	20

<sup>1)</sup>CSA-certified actuators on request

## DIMENSION DRAWING



## TECHNICAL DATA

Power supply	
Operating voltage	24 V~ ±20 %, 50...60 Hz
	24 V=-10%...+20 %
	230 V~ ±15 % 50...60 Hz
Power consumption (at nominal voltage, with movement)	< 1.7 W, < 3.5 VA

Parameters	
Nominal force <sup>1)</sup>	1000 N
Operating noise <sup>2)</sup> (at nominal force)	< 30 dB(A)
Response time	> 200 ms
Media temperature <sup>3)</sup>	0...100 °C Option 240°C
Nominal voltage	24 V~/=
Characteristic	Linear / equal percentage
Positioner <sup>4)</sup>	
Control signal y	0...10 V, R
Control signal y	4...20 mA, R <sub>i</sub> ≤ 50 kΩ
Positional feedback signal y <sub>0</sub>	0...10 V, load ≥ 5 kΩ
Starting point U <sub>0</sub>	0 or 10 V
Starting point I <sub>0</sub>	4 or 20 mA
Control span ΔU	10 V
Hysteresis Xsh	160 mV
Control span ΔI	16 mA
Hysteresis Xsh	0.22 mA

<sup>1)</sup> 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

<sup>2)</sup> Noise level with the slowest positioning time, test distance 1m

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

<sup>4)</sup> 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)
AVM3215	12 / (4)	Operation	< 1.7	< 3.5
AVM3225	6 / (4)	Standstill *	< 0.45	
		Sizing		≥ 4.5

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

## ACCESSORIES

Type	Description
1-0152285	Temperature adaptor for media temperature > 100 °C ... 240 °C
1-0152313 *	4...20 mA feedback module, Accuracy +/- 5% of full range
1-0152315 *	Power supply 85-265V 50/60HZ
1-0147655	Cable glands M20x1.5 IP68

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

Admissible ambient conditions	
Operating temperature	-10...55 °C
Storage and transport temperature	-40...80 °C
Humidity	5...85% rh No condensation

Installation	
Dimensions W x H x D (mm)	AVM3215 160x187x88 AVM3225 160x241x88
Degree of protection IP 54	(EN 60529)
Weight (kg)	
AVM3215	1.5
AVM3225	1.6

Standards and directives	
Protection class III (EN 60730-1), EN60730-2-14	

Additional information	
Fitting instructions	99.70.03
Declaration on materials and the environment	MD 51.375
Declaration of incorporation	P100012470
Manual & connection diagram	99.70.06.01

## 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