



Digital electro-pneumatic position controller

ARI-STEVI-POS®

Figure 94.P20

Positioner for single-acting pneumatic linear
and rotary actuators



Features

- automatic valve travel or rotation angle adaption
- wear-free, contactless position sensing
- Low (own) air consumption
- Simple, clear parameterization via handy switches
- Operation: 4 - 20 mA
- Manometer set optional
- Feedback signal optional: 4 - 20 mA



Position controller for single-acting pneumatic linear actuators



Position controller for single-acting pneumatic rotary actuators

Functional description

The ARI-STEVI-POS® electropneumatic positioner is attached to single-acting pneumatic control valves to convert an electrical 4 to 20 mA setpoint signal into a valve position. The actual position of the control valve is detected via a wear-free, contactless magnetic Hall sensor and compared with the setpoint. The positioner uses a pneumatic module to regulate the pressure in the pneumatic actuator so that the actual position lies within a defined deadband range around the setpoint.

The most important settings, such as inversion, deadband and tight-closing function, can be conveniently adjusted via handy switches.

The LCD display allows the user to monitor the status of the position controller.

When the hood is open, it is possible in manual operating mode to move the valve via the position controller using the pushbutton.

In addition to an automatically adjusting deadband, various fixed deadbands of 0.5 %, 1 % and 3 % can also be set.

With the tight-closing function, the pneumatic actuator is completely vented as soon as the setpoint falls below or exceeds the adjusted limits in order to build up the max. force for closing. The function can be switched on or off as required for each direction via a switch.

Type code

Example-Type number: 94P20-01G-0000-Z0

		9	4	P20	-	01	G	-	0	0	00	-	Z0
Actuators & Accessories	-	9											
Positioner, position indicator	-	4											
Series	STEVI-POS® (single-acting; plastic)		P20										
	-												
Communication	2-wire 4-20 mA					00							
	2-wire 4-20 mA + Feedback					01							
Connection electric / pneumatic	M20x1.5 & G1/4						G						
	1/2" NPT & 1/4" NPT (Adapter)						N						
	-												
Options	without Manometer												0
	Manometer plastic, Block aluminium												1
	Silencer - plastic												0
	Silencer - stainless steel												3
	no selection												00
	-												-
Approvals / Certificates													Z0



Technical data

Type	ARI-STEVI-POS®
Stroke range (linear actuator)	10 up to 120 mm
Rotation angle range (rotary actuator)	25° up to 100°
Pneumatics	single-acting
Auxiliary energy	Supply air: 1,4 up to 7 bar (20 up to 105 psi)
Air connection	G1/4
Manometer connection	G1/8
Operation	4...20 mA: max. load voltage: 9,5 V (475 Ω)
Behavior in case of control signal failure	Valve is vented
Behavior in case of air pressure failure	Valve is vented
Max. cable cross section	Operation: 2,5 mm ²
Cable diameter for cable glands	M20x1,5: clamping range Ø8 - 13 mm
Linearity	±1.5 % F.S. ¹⁾
Hysteresis	1.4 % F.S. ¹⁾
Resolution	0.5 % F.S. ¹⁾
max. permissible ambient temperature	-20 °C...+80 °C (-4 °F...+176 °F)
max. storage temperature	-25°C...+80 °C (-13 °F...+176 °F)
Body material	PA
Hood material	PC
Protection class EN 60529	IP66
Corrosion class	C3 according to EN ISO 12944-2
Pneumatic operating medium <ul style="list-style-type: none"> • Solid particulates • Pressure dew point • Oil content 	Compressed air according to ISO 8573-1 <ul style="list-style-type: none"> • Class 4 permanent • Class 4 (min. 10 K below ambient temperature) • Class 4
Ventilate actuator <ul style="list-style-type: none"> • Supply air pressure 2 bar (29 psi) • Supply air pressure 4 bar (58 psi) • Supply air pressure 6 bar (87 psi) 	5.22 Nm ³ /h (3.25 scfm) 9.28 Nm ³ /h (5.78 scfm) 15 Nm ³ /h (9.35 scfm)
Vent actuator <ul style="list-style-type: none"> • Signal pressure 2 bar (29 psi) • Signal pressure 4 bar (58 psi) • Signal pressure 6 bar (87 psi) 	6.89 Nm ³ /h (4.29 scfm) 12.18 Nm ³ /h (7.59 scfm) 17.63 Nm ³ /h (10.98 scfm)
Air consumption in controlled condition	≤ 0.01 Nm ³ /h (0.01 scfm) (at 25 °C)
Mounting position	Any, restriction: air connections and silencers not upwards
Weight	0,7 kg

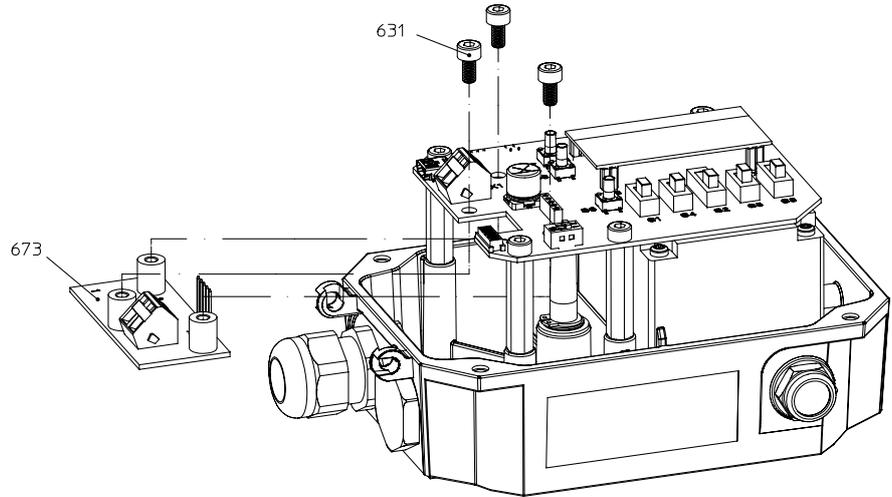
¹⁾ F.S.: full scale (20 mA)

Accessories

NPT-air connection (optional)	1/4-18 NPT (with NPT-Adapter)
NPT-cable gland (optional)	Adapter M20x1,5 x 1/2-14 NPT Cable gland 1/2-14NPT
Analog output card	4...20 mA passive for current loop 9...32 V galvanically isolated max. conductor cross-section for connection terminal: 2,5 mm ²
Manometer	2 pieces: 0 - 10 bar / 0 - 140 psi for supply air and working pressure

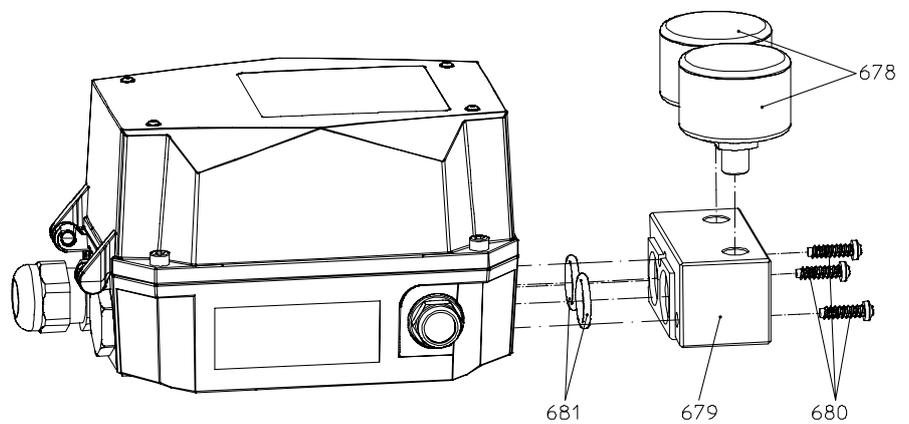
Analog output card

Pos.	Description
631	Cylinder screw M4 x 8 ISO 14579
673	Analog output card



Manometer

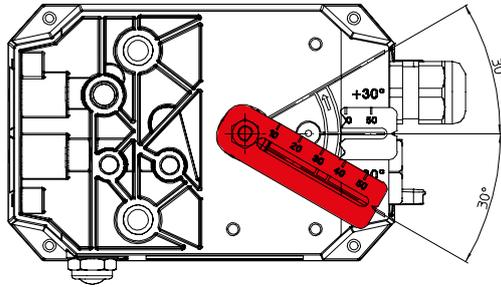
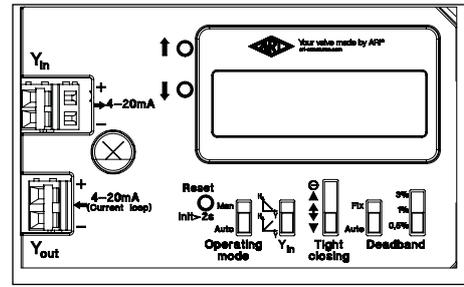
Pos.	Description
678	Manometer G1/8
679	Manometer block STEVI- POS®
680	PT screw 5 x 16 -T20
681	O-ring 14 x 3 - N



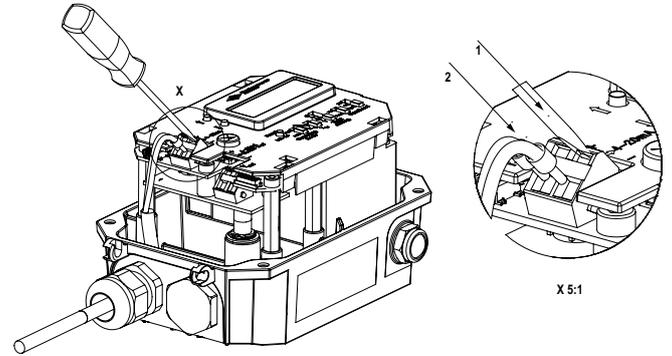
Direct operator panel

Features

- simple commissioning
- setting of the important operating parameters via handy slide switches
- automatic stroke adjustment
- Further settings and additional functions can be set via the display
- diagnostic data

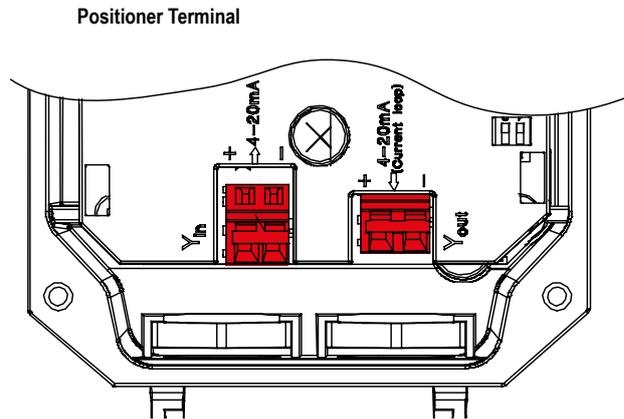
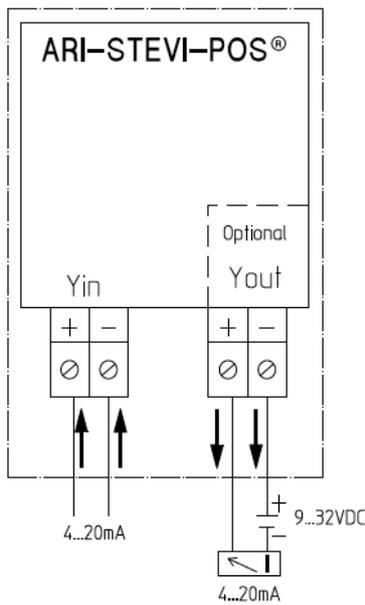


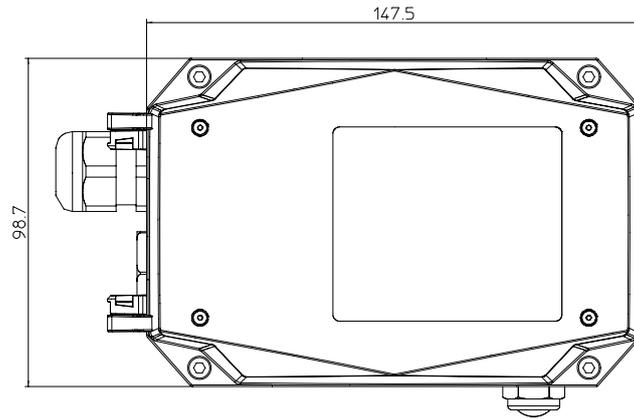
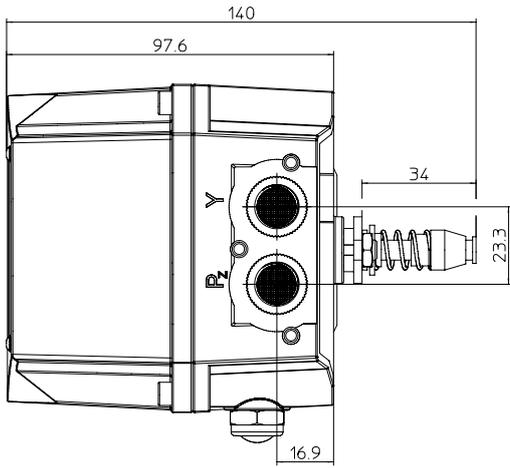
Fast and precise mounting of the position controller on linear valves due to the due to the printed permissible angle of rotation range.



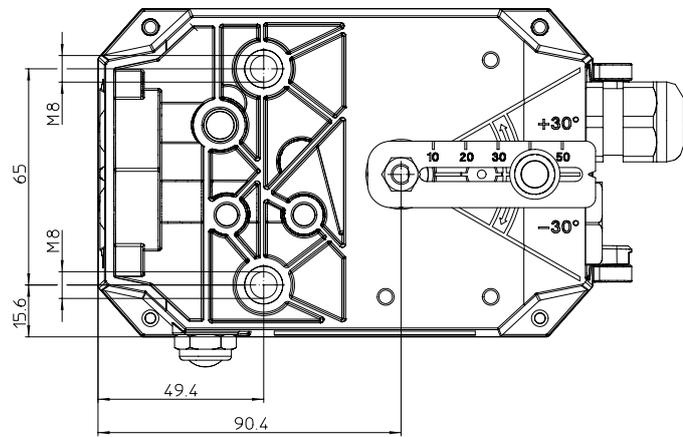
Cable connection via spring-loaded terminals.

Wiring diagram

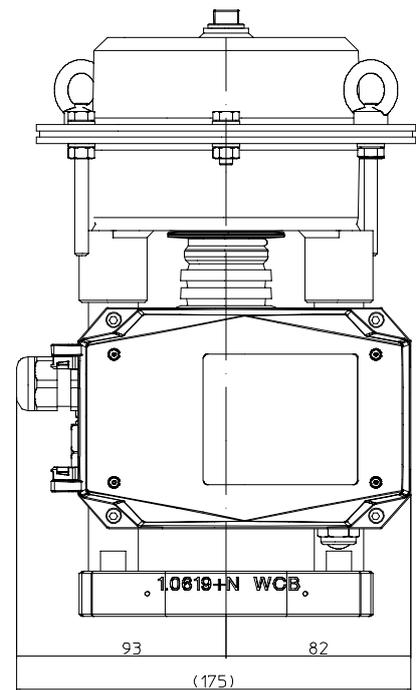
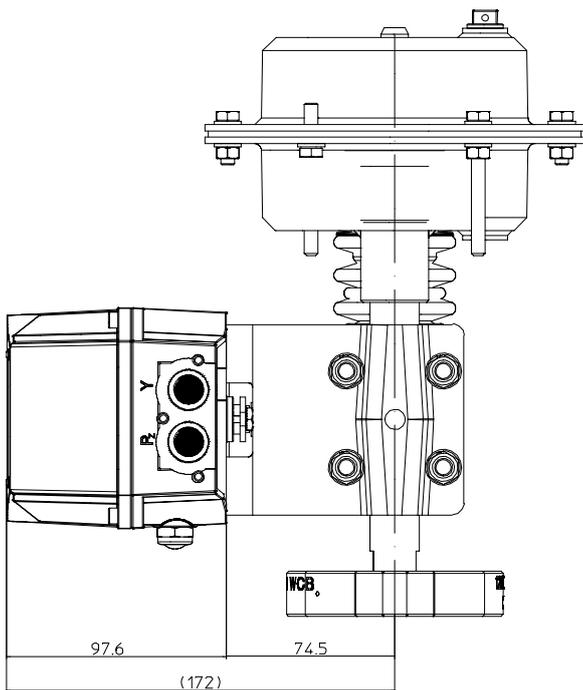


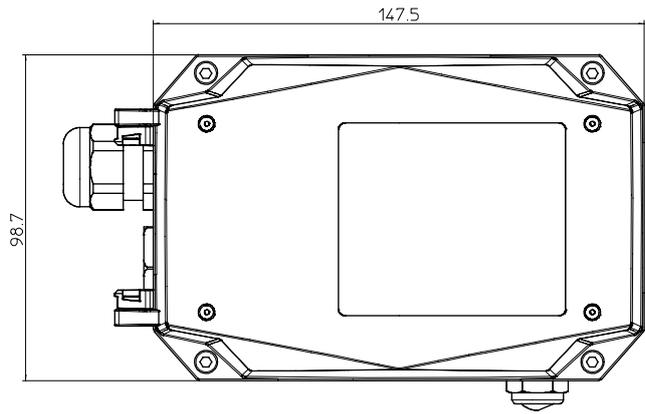
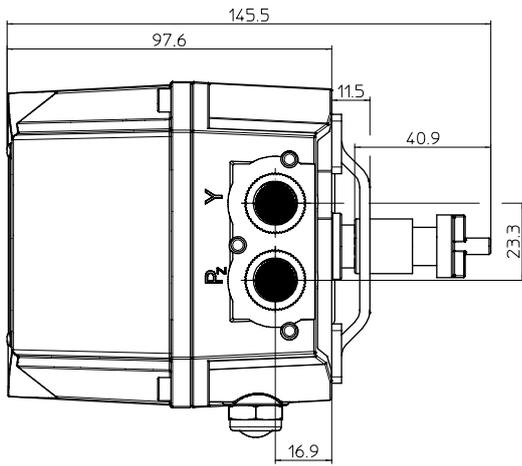


Backside

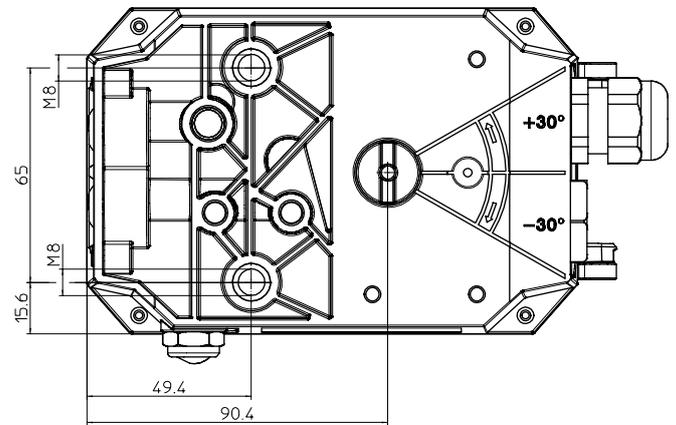


ARI-STEVI-POS® mounted on linear actuator:

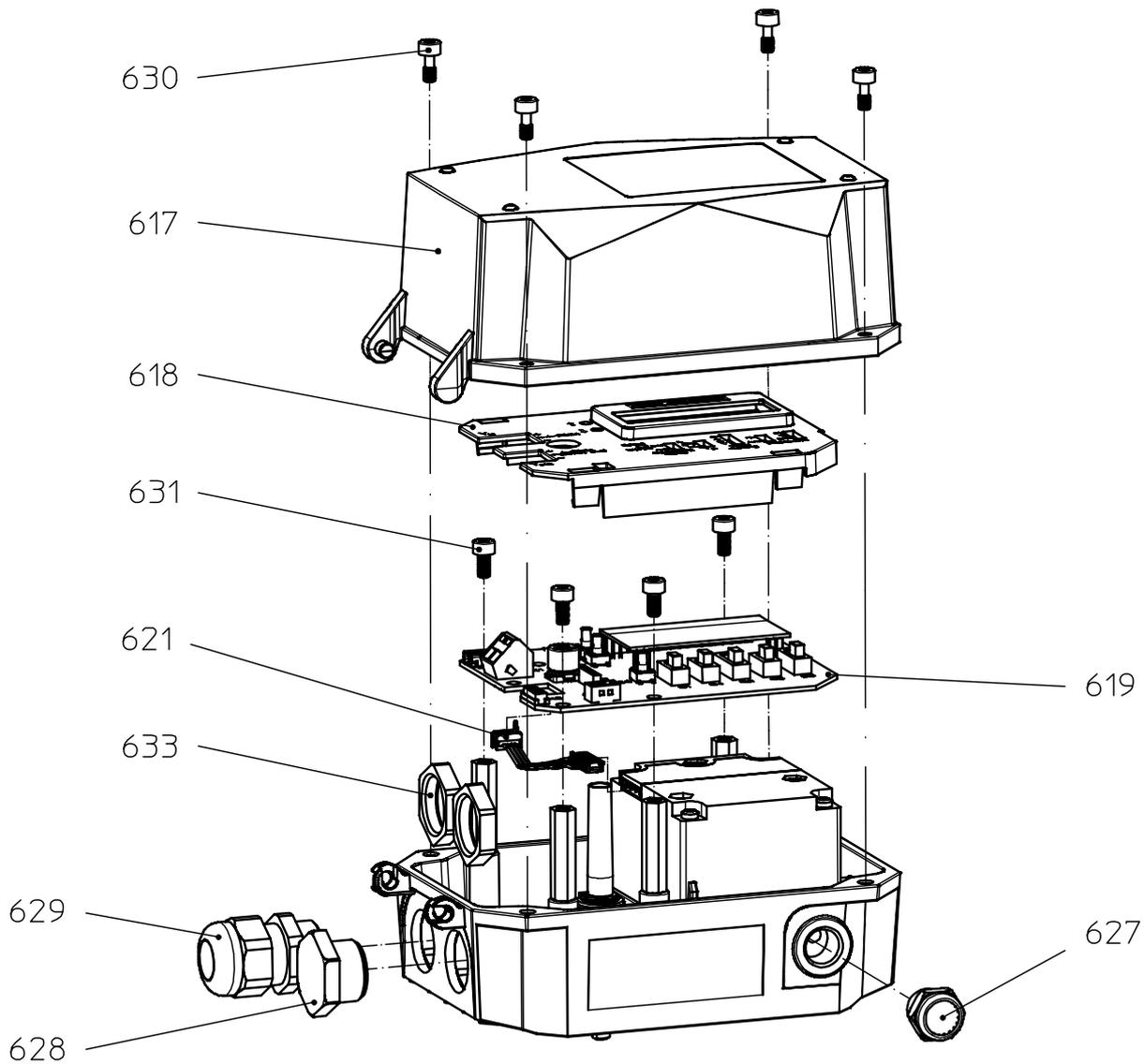




Backside



Electro-pneumatic digital positioner



Pos.	Description
617	Hood STEVI- POS®
618	Protective cover STEVI- POS®
619	Circuit board STEVI- POS®
621	Cable loop
627	Silencer

Pos.	Description
628	Screw plug with seal
629	Cable gland
630	Cylinder screw M4 x 10 DIN 7964
631	Cylinder screw M4 x 8 ISO 14579
633	Hexagon nut M20 x 1,5