

Series 3724

Type 3724 Electropneumatic Positioner



Application

Single-acting positioner combined with Type 3379 Pneumatic Actuator. Self-calibrating, automatic adaptation to valve and actuator.

Reference variable	4 to 20 mA
Travel	4 to 16 mm

The positioner is combined with the Type 3379 Pneumatic Actuator and ensures a predetermined assignment of the valve position (controlled variable x) to the input signal (reference variable w). It compares the input signal received from a control system to the travel of the control valve and issues a corresponding output signal pressure (output variable y).

Special features

- Easy operation with intuitive navigation menu using three pushbuttons
- Compact design due to integration into the Type 3379 Pneumatic Actuator
- LCD easy to read in any mounted position due to selectable reading direction ¹⁾
- Variable, automatic start-up
- Preset parameters (only values deviating from the standard need to be adjusted)
- Permanent storage of all parameters (protected against power failure)
- Two adjustable software limit contacts
- Activable tight-closing function
- Continuous monitoring of zero point possible
- Non-contact position sensing

Version

- **Type 3724** · Electropneumatic positioner with local operation and LCD

¹⁾ An upright or horizontal mounting position is only permissible depending on the valve



Fig. 1: Type 3724 Positioner (cover removed)



Fig. 2: Type 3724 Positioner combined with Type 3379 Pneumatic Actuator and Type 3347 Angle Valve

Principle of operation

The positioner is used to assign the valve position (controlled variable x) to the input signal (reference variable w). The positioner compares the electric input signal of a control system to the travel of the control valve and issues a signal pressure (output variable y) for the pneumatic actuator.

The positioner consists of a magnetoresistive sensor (2), an analog i/p converter (6) with a downstream booster (7) and the electronics unit with microcontroller (4).

The travel is measured by an internal pick-up rod, which is connected to a magnet, as well as a non-contact magnetoresistive sensor and the downstream electronics.

When a system deviation occurs, the actuator is either vented or filled with air. If necessary, the signal pressure change can be slowed down by a volume restriction.

The i/p module (6) is supplied with a constant upstream pressure by the pressure regulator (8) to compensate for any fluctuations in supply pressure.

Operation

The top and bottom pushbuttons are used to select parameters and the selected settings are confirmed by pressing the middle pushbutton. The menu is structured with all parameters listed one after the other on the same level. This allows users to read and change parameters at the device.

All values are displayed on the LCD. The reading direction of the LCD can be rotated by 180° .

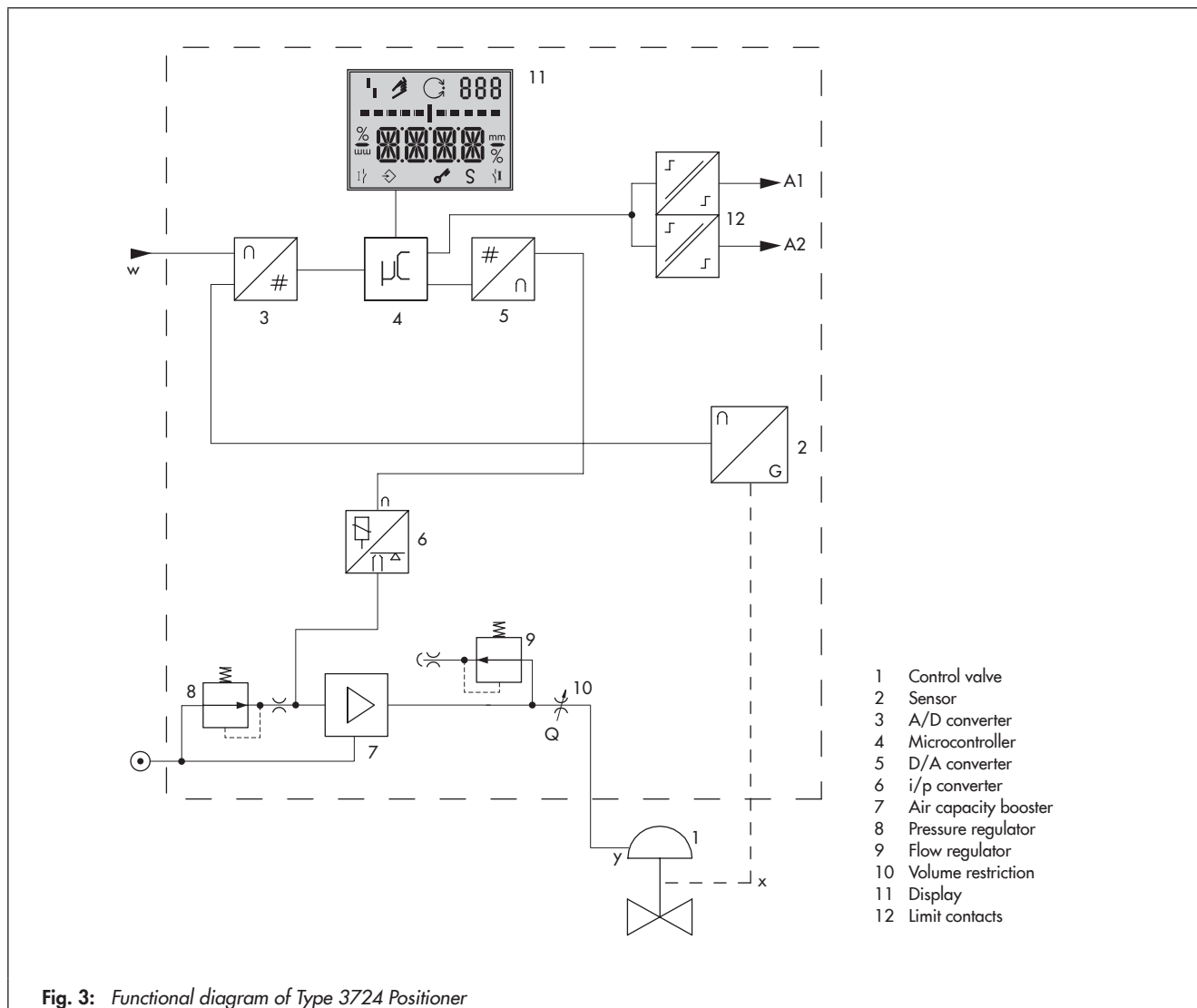


Table 1: Technical data

Positioner	
Attachment	Type 3379 with piston Ø: 63 mm · Effective area: 31 cm ² Type 3379 with piston Ø: 90 mm · Effective area: 63 cm ²
Travel	4 to 16 mm, adjustable in steps of 0.5 mm
Reference variable w (reverse polarity protection)	Signal range 4 to 20 mA · Two-wire device Split-range operation 4 to 11.9 mA and 12.1 to 20 mA
Static destruction limit	± 32 V
Minimum current	3.8 mA
Load impedance	Max. 6.3 V
Supply air Air quality acc. to ISO 8573-1	1.4 to 7 bar (20 to 105 psi) Max. particle size and density: Class 4 · Oil content: Class 3 · Pressure dew point: Class 3 or at least 10 K below the lowest ambient temperature to be expected
Signal pressure (output)	0 bar up to the capacity of the supply pressure minus 0.4 bar · Can be limited to approx. 2.3 bar by software
Characteristic	Three selectable characteristics: Linear · Equal percentage · Reverse equal percentage
Transit time	Only for actuators with initialization time > 0.4 s
Direction of action	w/x reversible
Permissible ambient temperature	-20 to +80 °C
Electromagnetic compatibility	Complying with EN 61000-6-2, EN 61000-6-3 and NAMUR Recommendation NE 21
Degree of protection	IP 65 ¹⁾ (only applies in combination with Type 3379 Pneumatic Actuator)
Materials	
Housing	1.4409
Cover	1.4404
Dome (visual indicator)	Polycarbonate
Weight (without actuator)	Approx. 1.2 kg

¹⁾ In preparation

Table 2: Limit contacts

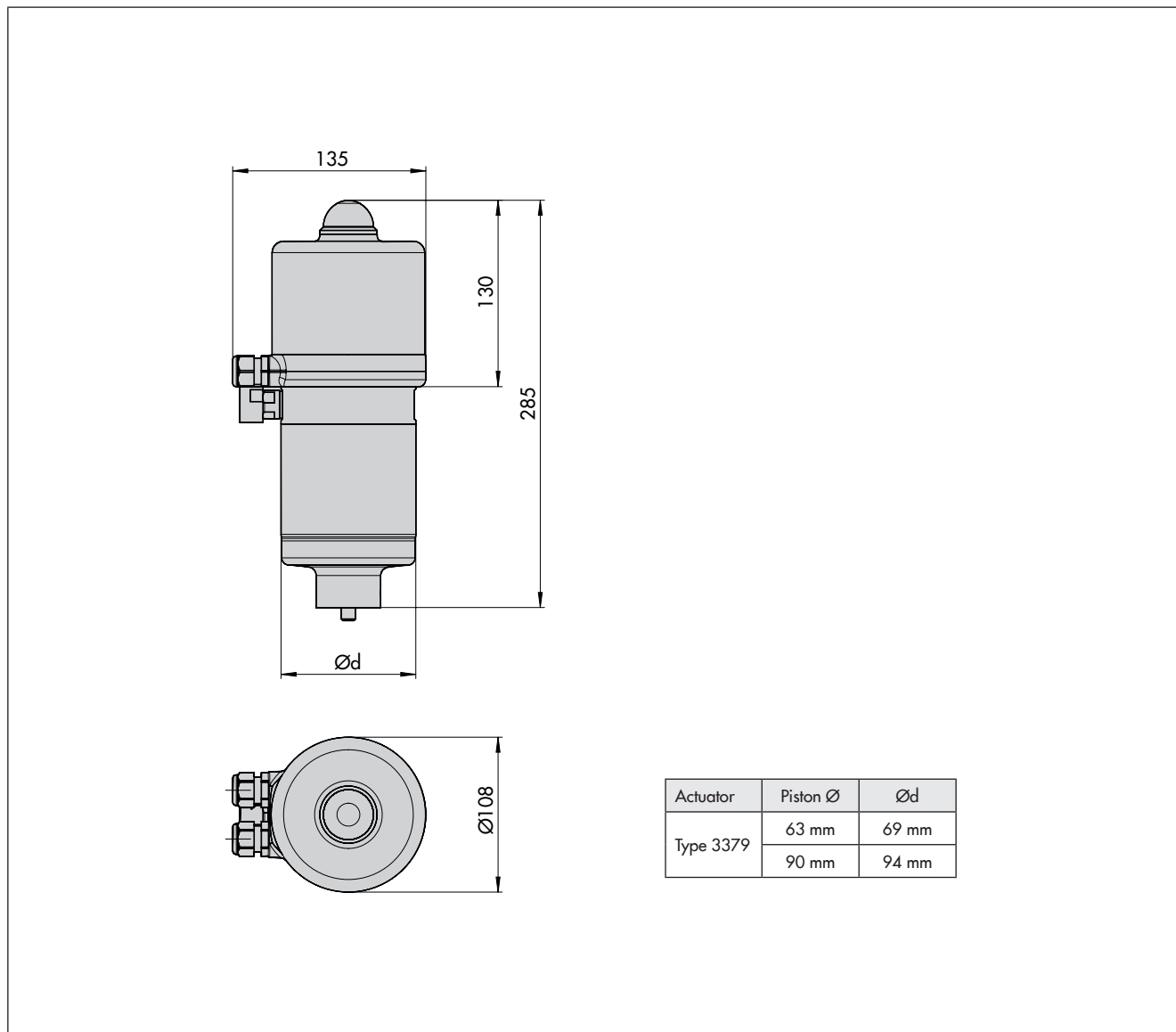
Binary contacts		Two software (min. and max.) limit contacts
Version		Reverse polarity protection, galvanic isolation
Adjustment range		0 to 100 %
Step size		0.5 %
Static destruction limit		± 32 V
Signal state	No response	Non-conducting (highly resistive), I < 100 µA
	Response	Conducting (R = 330 Ω)
For connection to		- Binary input of a PLC acc. to IEC 61131-2 - P _{max} = 400 mW

Article code

Positioner	Type 3724- 0 0 0 0 0 0 0 x 0 0 0 0 0									
Housing material										
Housing: 1.4409 · Cover: 1.4404	0									
Surface finish										
Micro-bead blasted	1									
Polished ($R_a \leq 0.6 \mu\text{m}$)	2									
Permissible ambient temperature										
-20 to +80 °C	0									
Degree of protection										
IP 65 ¹⁾ (only applies in combination with Type 3379 Pneumatic Actuator)	0									

¹⁾ In preparation

Dimensions in mm



Specifications subject to change without notice



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