

PRODUCT INFORMATION

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The PB0040124 Valve Actuator is designed to open and close a heating circuit on the Polypipe underfloor heating smart plus manifold based on whether the circuit is calling for heat

The valve actuator helps improve the energy-efficiency of the system by allowing individual room temperature control.



Features & Benefits

- Modern design
- Stroke 4.0mm
- Normally closed (NC)
- Power consumption: 1 watt
- Complete compatibility to valve-adapter-system
- Simple snap-on installation
- 360° Installation position
- Patented 100% protection against leaky valves
- First-open function (NC type only)
- Adaptation check on valve
- Alignment aid on the valve
- Compact design
- All around function indicator
- Minimal operational noise & maintenance free
- High functional safety
- Surge protection
- Certified by TUV

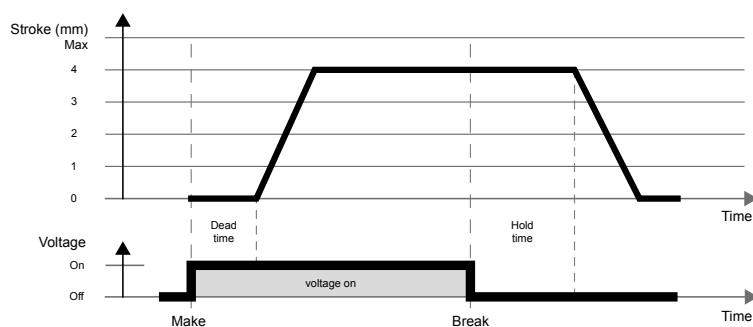
Versions

Version	Stroke	Actuating Force	De-energised state	Closing and opening time	First-open function	Scope of supply
PB0040124	4.0mm	100 N	NC	~3.5 min	yes	• Actuator 24 V • 1 meter connecting cable, grey PVC H03VV 2 x 0.75mm² • Installation manual

Functions

The UFCH Valve Actuator mechanism uses a PTC resistor-heated wax element and compression spring. The wax element is heated by apply the operating voltage which in turn, moves the integrated ram. The force generated by the movement is transferred to the valve motor which opens and closes the valve.

Normally Closed (valve closed)



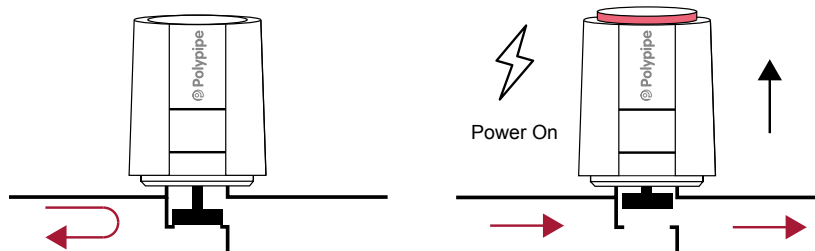
In case of the normally closed version, the valve is opened steadily by the plunger motion upon switching on the operating voltage and after expiry of the dead time.

After the operating voltage is cut and after expiry of the hold time the valve is closed evenly by the closing force of the compression spring.

The closing force of the compression spring is matched to the closing force of commercially available valves and keeps the valve closed when de-energised.

Function Display

The PB00401 has a built in indicator which identify whether or not the unit is powered on or off and whether the valve is opened or closed.



- For the NC version (Normally Closed): the function display shows only when the valve is open. (red indicator)

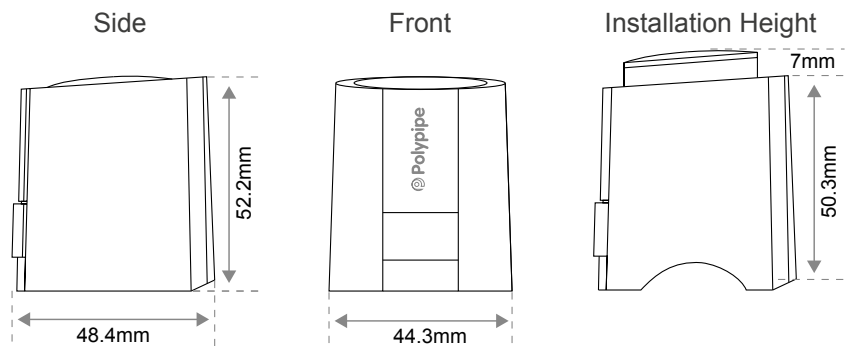
First-Open Function

Upon delivery, the PB0040124 valve will be open (de-energised) due to the first-open function. This allows for heating operation during the construction phase even when there is no live electricity feed available. The first-open function will be unlocked once the unit receives a live electricity feed for more than 6 minutes. The unit will now be fully operable.

Technical Information

Operating voltage	24 V AC/DC +/-20%	1. Measured with precision reference instrument LMG95 2. Independent of the adapter 3. In all installation positions
Maximum inrush current	< 300 mA during max. 2 minutes	
Operating power	1 W ¹⁾	
Stroke (actuator travel)	4.0mm	
Actuating force	100 N +10%	
Fluid Temperature	0°C to +100°C ²⁾	
Storage temperature	-25°C to +60°C	
Ambient temperature	0°C to +60°C	
Degree of protection	III	
Type of protection	IP 54 ³⁾	
CE conformity according to	EN 60730	
Housing material/housing colour	Polyamide Light grey (RAL 7035)	
Connecting cable/colour	2 x 0.75mm ² PVC Light grey (RAL 7035)	
Cable length	1 Meter	
Weight with connecting cable (1 meter)	100 g	
Surge protection according to EN 60730-1	1 kV	

Dimensions



Certificates

The actuator is certified by TÜV Süd.



Installation with Valve Adapter

The valve adaptor allows the actuator to connect to Polypipe Underfloor Heatings Smart plus manifold. The actuator is simply 'snapped' onto the adaptor which is screwed onto the manifold.



First, the valve adaptor is screwed onto the manifold valve

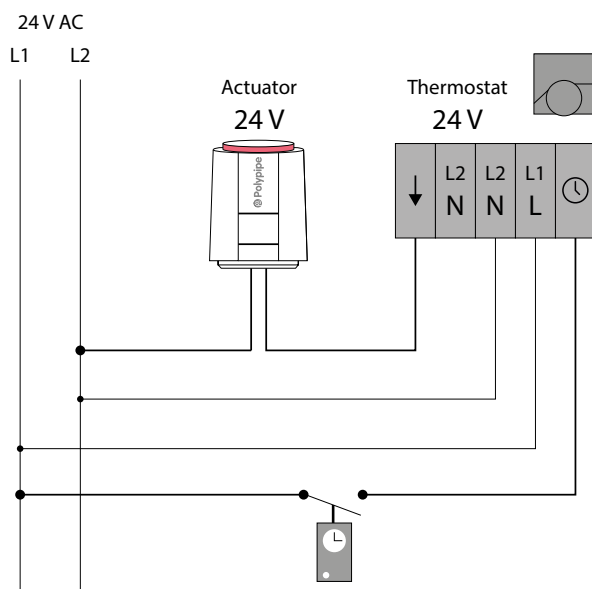


The actuator is placed vertically on the valve adaptor



The actuator snaps onto the valve adaptor. You will hear a "click" when the adaptor is pressed down

Electrical Installation



We recommend usage of the following cables during installation of our PB0040124 Valve Actuator.

Cable	Section/Diameter	Length
J-Y(ST)Y	0.8mm	45m
NYM /NYIF	1.5mm	136m

Transformer/power supply (unknown power supply)

A safety isolating transformer according to EN 61558-2-16 (for the AC variant) or a switching power supply according to EN 61558-2-16 (for DC variant) must always be used.

The dimensioning of the transformer or the switching power supply results from the making capacity of the Actuators:

Rule-of-thumb formula: $P_{\text{transformer}} = 6 \text{ W} \times n$
 $n = \text{number of Actuators}$

When used in a control system, the specifications of the base station apply to the maximum permissible number of actuator.