

Valve Controller

Control V

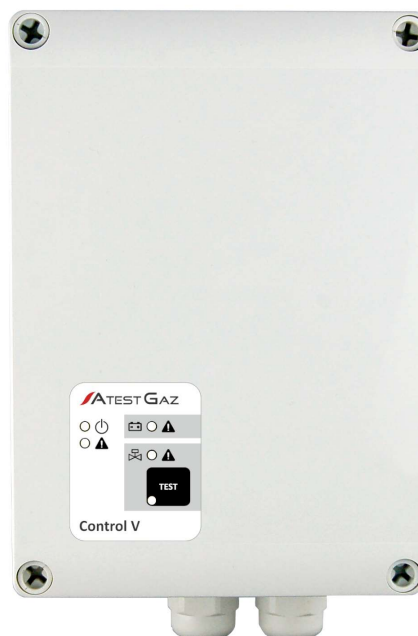
Product code: PW-121-X



Reliability



Valve control

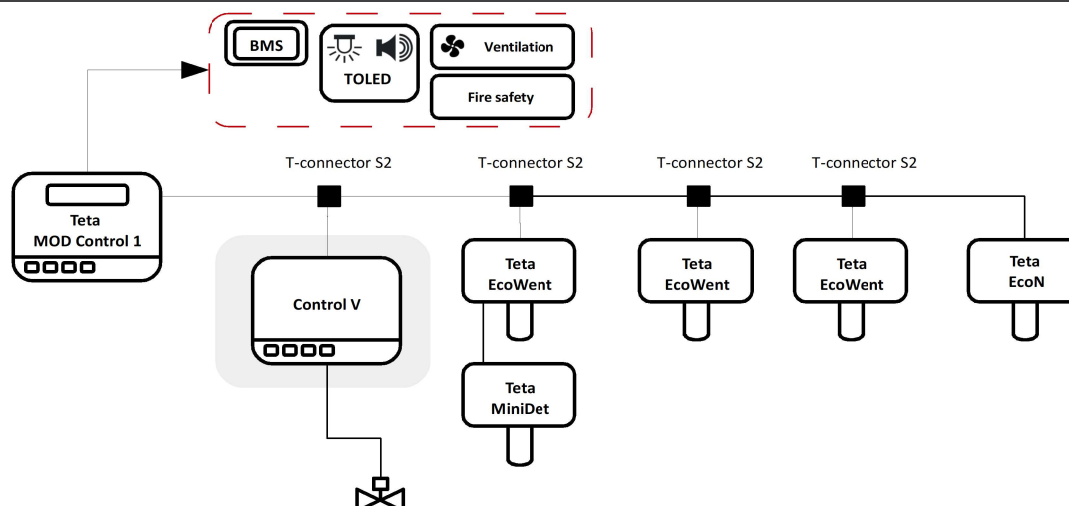


About the product

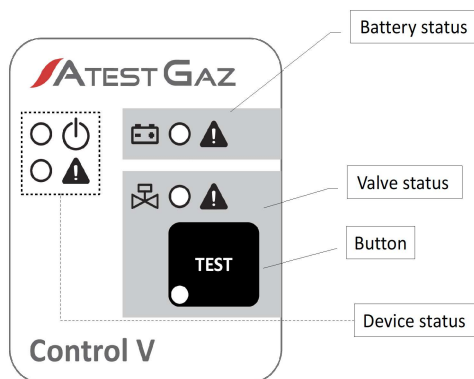
The valve controller of the Control V type is designed for incorporation within Systems for Gas Detection and Safety, in particular for the Teta Gas system, to extend functionalities of such systems with control of gas shutoff valves, where the valve is connected to the Control Unit Teta MOD Control 1. The Control V device has an own power source (a rechargeable battery) and can be installed within direct vicinity of the valve, which eliminates frequent problems associated with voltage drops down long electric connections from remote controllers.

The valve can be controlled via the Teta communication interface, a binary signal (DI) or via the SigmaGas (RS-485) interface (the solution shall be available soon). The valve is shut off after the third level of gas hazard (alarm level) is detected by collaborating gas detectors. Relevant information about such an event is received by a control unit and it sends, in turn, a signal to the valve controller to shut the valve off.

Location and role of the device in Gas Safety System



User interface



Device status

Indicator	Status / colour	Information
	/ green	Regular operation of device
		No internal failures are reported
	/ yellow	Internal failure of the device

Battery status

Indicator	Status / colour	Information
		Regular operation of battery
	/ yellow	Failure of the battery

Valve status

Indicator	Status / colour	Information
		Regular operation of valve
	/ yellow	Valve failure (e.g. valve is missing, control line for the valve is shorted)

TEST button

Indicator	Status / colour	Information
		No need to test the valve
	/ green	Slow blinking of the LED indicator – test of the valve is needed
	/ green	Test of the valve is in progress

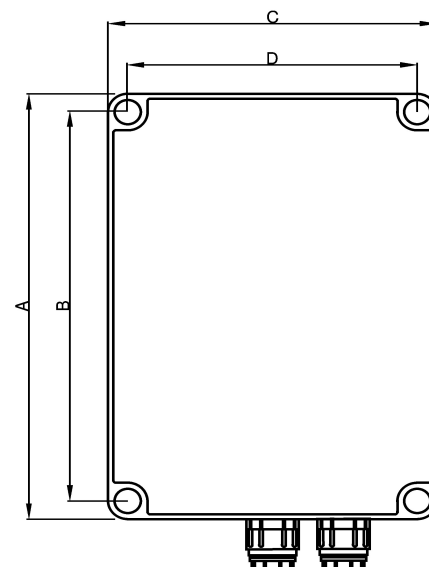
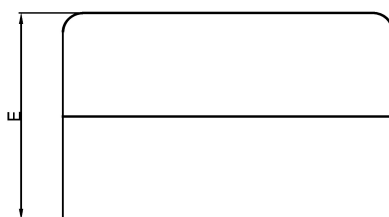
Electric interface

-	+	COM	NC	NO	DI1	DI2	-	+
		INV. FAULT			DI		TETA BUS	

Name	Terminal	Description
		Valve power supply port
	-	Negative
	+	Positive
INV. FAULT		Relay output of the fault signal (inverted)
	COM	Common terminal of relay
	NC	Normally closed contact of relay
	NO	Normally open contact of relay

Name	Terminal	Description
DI		Binary input
	DI1	Input DI1
	DI2	Input DI2
TETA BUS		System communication port designed to connect devices of the Teta series
	-	Power supply and control line for Teta bus / negative
	+	Power supply and control line for Teta bus / positive

Dimension



Product code	Dimensions [mm]				
	A	B	C	D	E
PW-121-H-T	175	160	125	110	100
PW-121-L-T	125	110	125	110	75

Technical specification

Power supply	15 – 50 V DC
• Voltage V_{cc}	
• Power	3 W
Environment	
• Ambient temperatures	-20 – 40°C
• Humidity	10 – 90% long term 0 – 99% short term
• Pressure	1013 ± 10% hPa
IP	IP65
Two-state outputs parameters	
• Relay	Floating contacts, NO/NC: 24 V $\overline{\text{DC}}$ / 0.1 A, not protected against overloading
Control output for the shutoff valve	
• Range of load resistance / power	PW-121-L-X: $\geq 4 \Omega$ / $\leq 36 \text{ W}$ PW-121-H-X: $\geq 2 \Omega$ / $\leq 72 \text{ W}$
• Guaranteed limit of the shutoff voltage	10.5 V
• Maximum resistance of the power supply line	See User Manual
• Duration of the shutoff pulse	0.5 s
Parameters of the input for an external alarm signal	Connection via a potential-free contact Inactive for resistance below 10 Ω Active for resistance above 3300 Ω Minimum duration of the switchover pulse > 1s

Digital communication parameters	
• Teta BUS port	
• Communication protocol	Teta BUS
Integrated signalling equipment (visual)	LED controls
Protection class	III
Cable glands	
• Cable diameter range	5 – 10 mm
Cross-section of wires for clamping terminals	
• Relay outputs, DI, TETA	0.08 – 2.5 mm ² (use sleeves 2 x 1 mm ² or 2 x 0,75 mm ² for twin conductors)
• Power voltage	1 – 4 mm ² (use sleeves 2 x 1.5 mm ² or 2 x 1 mm ² for twin conductors)
Enclosure material	ABS
Weight	PW-121-L-X: 1.0 kg PW-121-H-X: 2.5 kg
Mounting	4 screw holes 4 mm, hole spacing: PW-121-L-X: 160 x 110 mm PW-121-H-X: 110 x 110 mm

Product marking

V	Valve type	L	Coil resistance $\geq 4 \Omega$, power consumption $\leq 36 \text{ W}$
		H	Coil resistance $\geq 2 \Omega$, power consumption $\leq 72 \text{ W}$
DI	Digital interface	T	Teta Bus
		T.485	Teta Bus + RS-485

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