Electric PID Valve Controllers and SSRs

8071D, 8072D and 47581L001

Typical applications

- Position control of electrically or electro-pneumatically actuated valves
- For use with AMOT type G Temperature Control Valve - see datasheet ref: Datasheet_G_Temp_Control_Valve
- For engines, turbines, gear boxes and heat exchangers:
  - charge air cooling
  - secondary cooling systems
  - fuel and lube oil preheating
  - co-generation
  - engine jacket water

8072D Electric PID Valve Controller Panel

8071D PID Controller

47581L001 Solid State Relays

Key benefits

- Fully programmable PID-based control - allows easy system configuration
- Universal inputs - RTD's, thermocouple, or standard 4-20mA signal gives maximum system design flexibility
- Can be operated in manual mode - easy maintenance and set up

Key features

- Max. two programmable analogue outputs
- Two programmable setpoints, two parameter sets
- Four limit comparators
- Two timer functions
- Two self-optimization procedures
- RS485 interface available as an option

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Electric PID Valve Controllers and SSRs - 8071D, 8072D, 47581L001

Operation

These products are designed for high performance, fully configurable operation, and are easy to install and set up. The controller is available in two options.

8071D

The 8071D is a universal PID controller for use with the AMOT electrically actuated G Valve range.

The 8071D is a panel mount stand-alone controller, designed to be used with separate Solid State Relays (SSRs).

8072D

The 8072D is a stand-alone panel incorporating the 8071D controller. The 8072D comprises of the 8071D controller and two SSRs, pre-wired in a wall mounting, splash-proof enclosure approved to IP67 (NEMA 6).

All connections to the 8072D are via DIN rail mounted terminals for ease of installation.

The choice of logic level, SSR and 4-20mA outputs allows a variety of valves to be connected. The SSR option (see page 5) is used for an electric actuator, such as the EB series, as used on the AMOT G temperature control valve (see Datasheet_G_Temp_Control_Valve), and the 4-20mA output can control either a pneumatic valve such as the AMOT G valve, or an electric valve fitted with a positioner.

The logic level outputs are used to control the SSRs, but can also be used to control other interface devices such as model 8073C (see Datasheet_8073C), which has the advantage over SSRs of being housed in a sealed enclosure.

Specification

Controller type	Fully configurable PID with digital filtering and selectable parameter sets	
Input	Universal sensor input	2 or 3 wire RTD, TC, 4-20mA selectable
Input sensing range	Selectable as required	Maximum -200^0 to +850^{0}C (-328^0 to 1562^{0}F) Typical setting 0^0 to 120^{0}C
Supply	93 to 263 VAC, 48 to 63Hz @8VA Quiescent	
Input accuracy	RTD within 0.05%	
	TC within 0.25%	
	4-20mA within 0.1%	
Input sampling	50 to 250ms interval (user configurable)	Dynamic resolution up to 16 bit
Environmental	0^0 to +50^{0}C operational	-40^0 to +70^{0}C (40^0 - 158^{0}F) storage RH<90% (non condensing)
EMC	EN 61326 Class B	
Solid state relays	50A rated, opto-isolated, zero-cross switching 600V pk-pk	
Alarm Outputs	2 off 3A contacts, 250VAC max	
Accreditation	CE	Complies with relevant EU directives
Communication	RS422/RS485 option	8071D only

Electric PID Valve Controllers and SSRs - 8071D, 8072D, 47581L001

Panel Mounted Controller (8071D)

8071D PID Controller

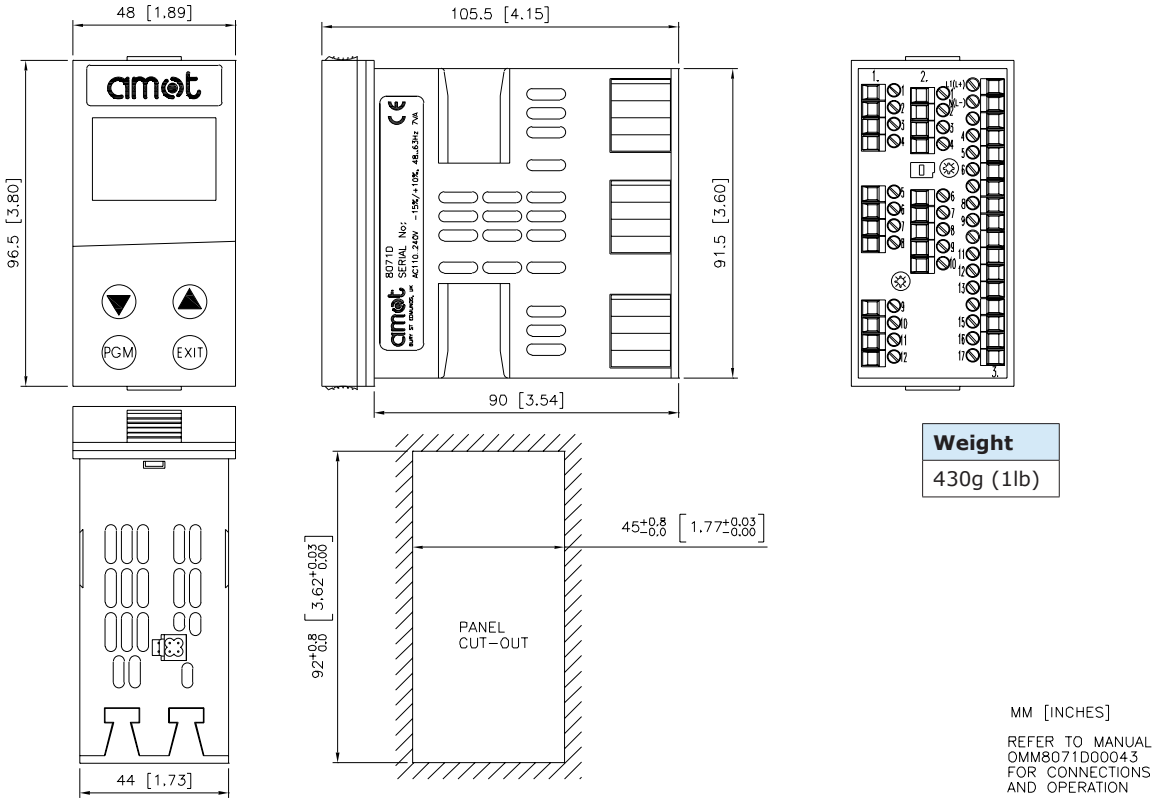
The 8071D is a powerful PID controller with digital filtering that is fully user-configurable to meet the needs of a wide range of systems.

It incorporates two large high brightness, high contrast displays, which indicate process and set point values. The controller features a universal input and two logic level valve control outputs. Two alarm outputs are supplied as standard. Two set points and two complete parameter sets may be programmed and selected internally or externally using electrical links.

The unit is simple to configure using a structured menu system operated by four buttons on the front panel. Mounting is to DIN 43700, and electrical connections are via cage clamp terminals for wires up to 1.5mm

The 8071D is designed to interface directly to two solid state relays (SSRs), available separately. The SSRs provide a high power, robust interface between the controller and the valve's actuator.

Dimensions (8071D)



Weight
430g (1lb)

Electric PID Valve Controllers and SSRs - 8071D, 8072D, 47581L001

Wall Mounted Controller (8072D)

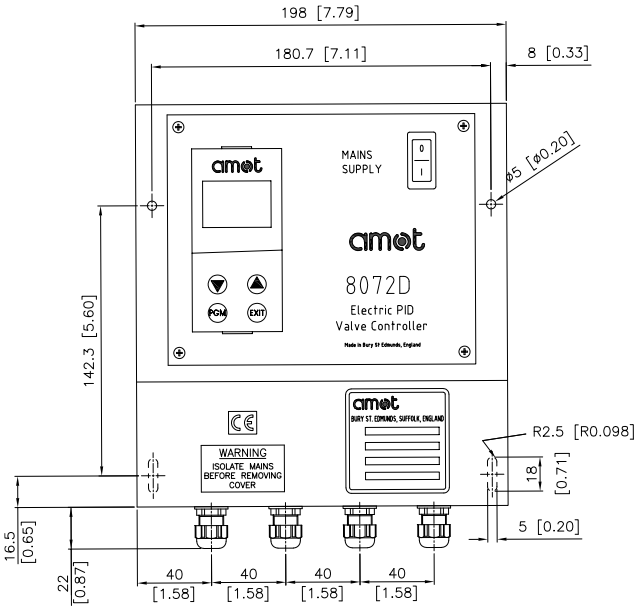
8072D Electric PID Valve Controller Panel

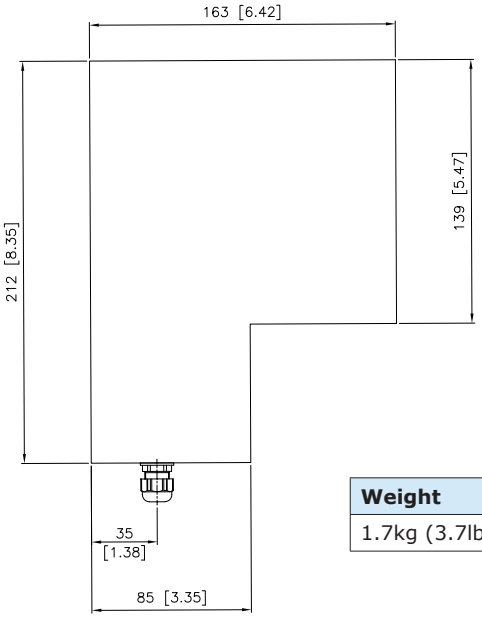
This compact, robust panel incorporates the 8071D controller and two SSRs.

The panel is pre-wired; all external connections are made using standard DIN rail mounted terminal connections.

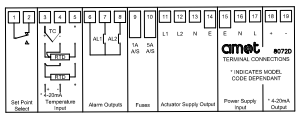
The unit enclosure is approved to IP67 and is suitable for wall mounting.

Dimensions (8072D)





Weight
1.7kg (3.7lb)



ELECTRICAL CONNECTIONS (UNDER FRONT FLAP)

MM [INCHES]

ELECTRICAL SUPPLY: 93–263 VAC, 48–63 Hz, 7VA

SSRs (47581L001)

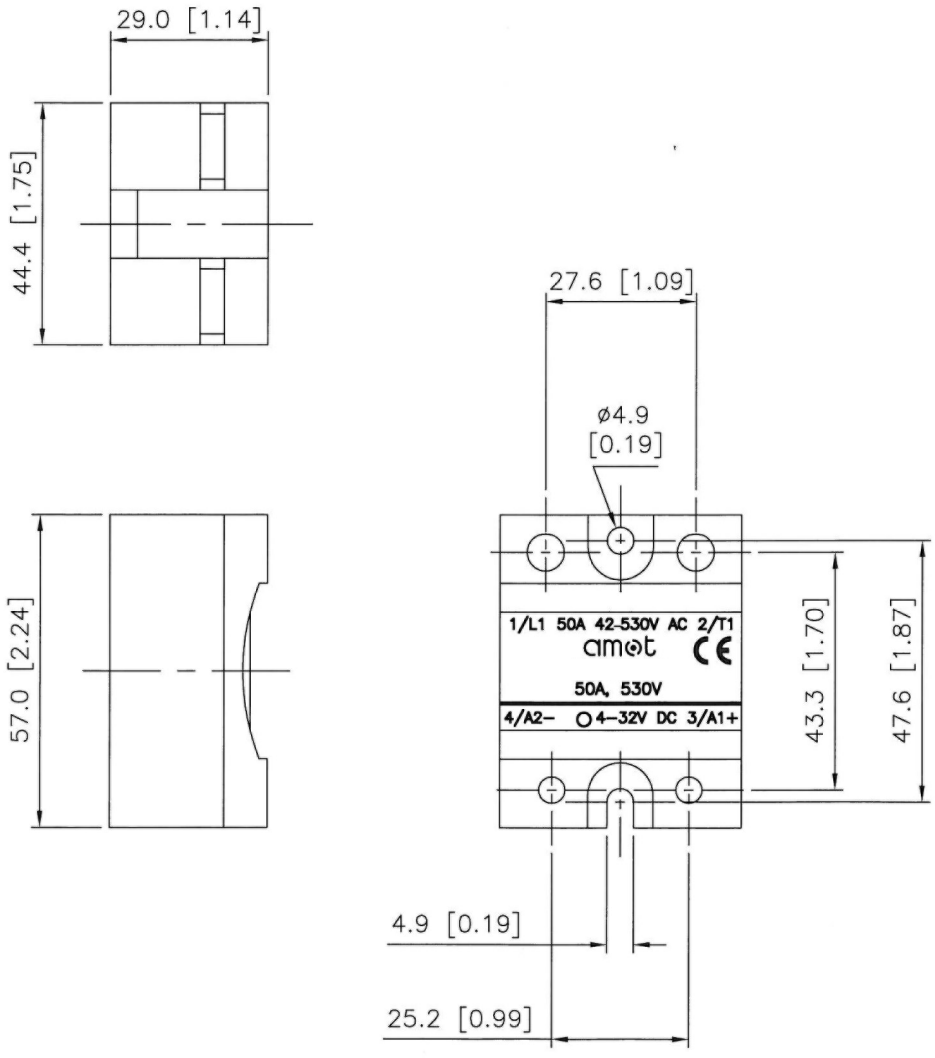
47581L001 Solid State Relays

The SSRs used within the 8072D are available separately for use with the 8071D controller.

The SSRs are extremely robust, and provide high current switching to actuator motors with a switching current capacity of up to 50A. The SSRs have significantly higher performance than standard relays, providing excellent transient protection and switching life.

The arcing associated with traditional relays is completely eliminated due to zero voltage switching. Two SSRs are required per 8071D controller. To order, request part number: 47581L001.

Dimensions (47581L001)



How to order

Use the tables below to select the unique specification of your 8071 valve controller.

Example	8071D	1	2	1	R	AA	**Comments**	
							Model	
Basic Model	8071D						Panel mounted PID controller	
	8072D						Wall mounted PID controller	
							Process Value	**Set Point**
Inputs		0					PT 100	Set from keypad
		1					PT 100	4 - 20 mA (8071D only)
		2					4 - 20 mA	Set from keypad
		3					4 - 20 mA	4 - 20 mA (8071D only)
							Actuator Position Control	**Process Value Re-transmit**
Outputs			0				SSR	-
			1				4 - 20 mA	-
			2				4 - 20 mA	4 - 20 mA (8071D only and not 8071D3)
							Comms	
Communications				0			Comms not fitted	
				1			Comms fitted (8071D only and not 8071D121, 221 and 311)	
							Direction	
Direction					D		Direct action	
					R		Reverse action	
							Special Requirements	
Special requirements						AA	Standard controller	
							Please contact us for any special requirements	

To order SSRs

2 x SSRS are required for each 8071D controller.
To order, quote part number: 47581L001,
quantity 2.

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