

# Electric PID Valve Controllers and SSRs

8071D, 8072E and 47581L001/47581L002

## Typical Applications

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



**8072E 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, thermocouple, 0-10V 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

**amot**

[www.amot.com](http://www.amot.com)

# Electric PID Valve Controllers and SSRs - 8071D, 8072E, 47581L001/47581L002

## Operation

These products are designed for high performance, fully configurable operation and are easy to install/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).


### 8072E

The 8072E is a stand-alone panel incorporating the 8071D controller. The 8072E is comprised of the 8071D controller and two SSRs, pre-wired in a wall mounting with a splash-proof enclosure approved to IP65.

All connections to the 8072E 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 G valve datasheet), 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.

## Specification

<b>Controller type</b>	Fully configurable PID with digital filtering and selectable parameter sets	
<b>Input</b>	Universal sensor input	2 or 3 wire RTD, TC, 4-20mA selectable
<b>Input sensing range</b>	Selectable as required	Maximum -200 <sup>o</sup> to +850 <sup>o</sup> C (-328 <sup>o</sup> to 1562 <sup>o</sup> F) Typical setting 0 <sup>o</sup> to 120 <sup>o</sup> C
<b>Supply</b>	AC Versions—93 to 263VAC, 48 to 63Hz, 13 VA max DC Versions—20-30VDC, 13VA max	
<b>Input accuracy</b>	RTD within 0.05% TC within 0.25% 4-20mA & 0-10V within 0.1%	
<b>Input sampling</b>	50 to 250ms interval (user configurable)	Dynamic resolution up to 16 bit
<b>Environmental</b>	0 <sup>o</sup> to +55 <sup>o</sup> C operational	-30 <sup>o</sup> to +70 <sup>o</sup> C (-22 <sup>o</sup> -158 <sup>o</sup> F) storage RH<90% (non-condensing)
<b>EMC</b>	EN 61326-1 Class B	
<b>Solid state relays</b>	50A rated, opto-isolated, zero-cross switching (4758L001) 7A rated, opto-isolated (47581L002)	
<b>Alarm Outputs</b>	2 off 3A contacts, 250VAC max	
<b>Accreditation</b>		Complies with relevant EU directives
<b>Communication</b>	RS422/RS485 option	

# Electric PID Valve Controllers and SSRs - 8071D, 8072E, 47581L001/47581L002

## Panel-Mounted Controller (8071D)



**8071D PID Controller**

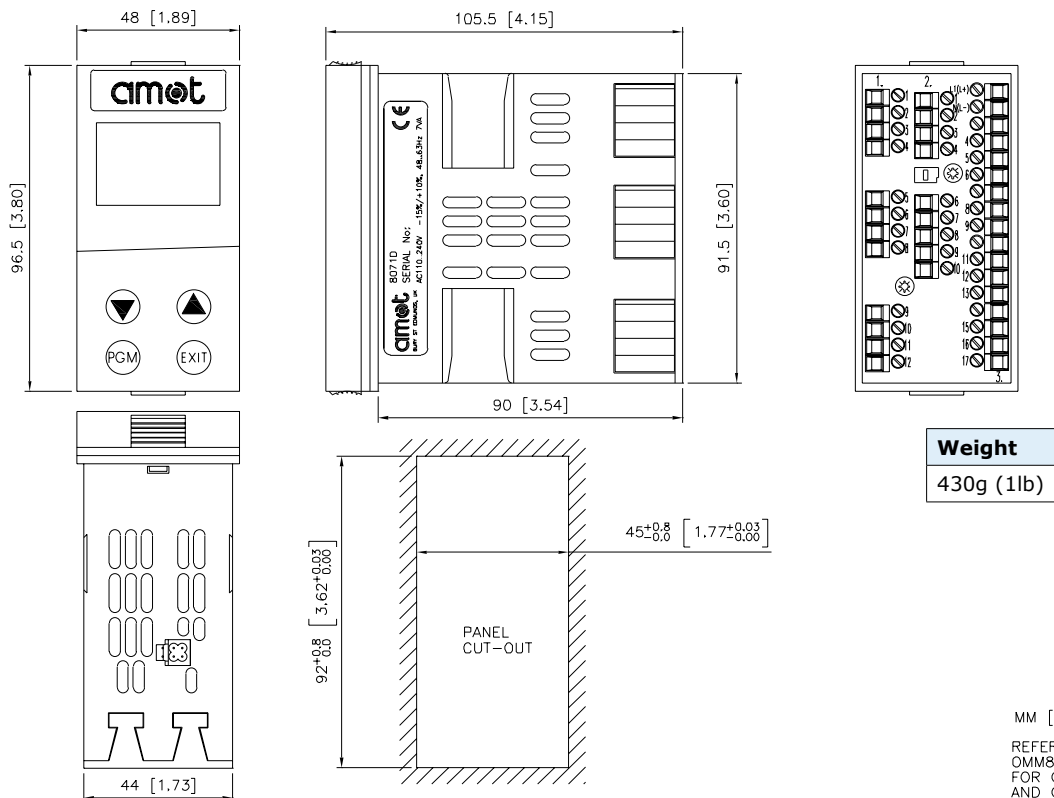
The 8071D is a powerful PID controller with digital filtering that is fully user-configurable to meet the needs of a wide range of systems.

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 2.5mm.

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)



MM [INCHES]  
REFER TO MANUAL  
OMM8071D00043  
FOR CONNECTIONS  
AND OPERATION

# Electric PID Valve Controllers and SSRs - 8071D, 8072E, 47581L001/47581L002

## Wall-Mounted Controller (8072E)



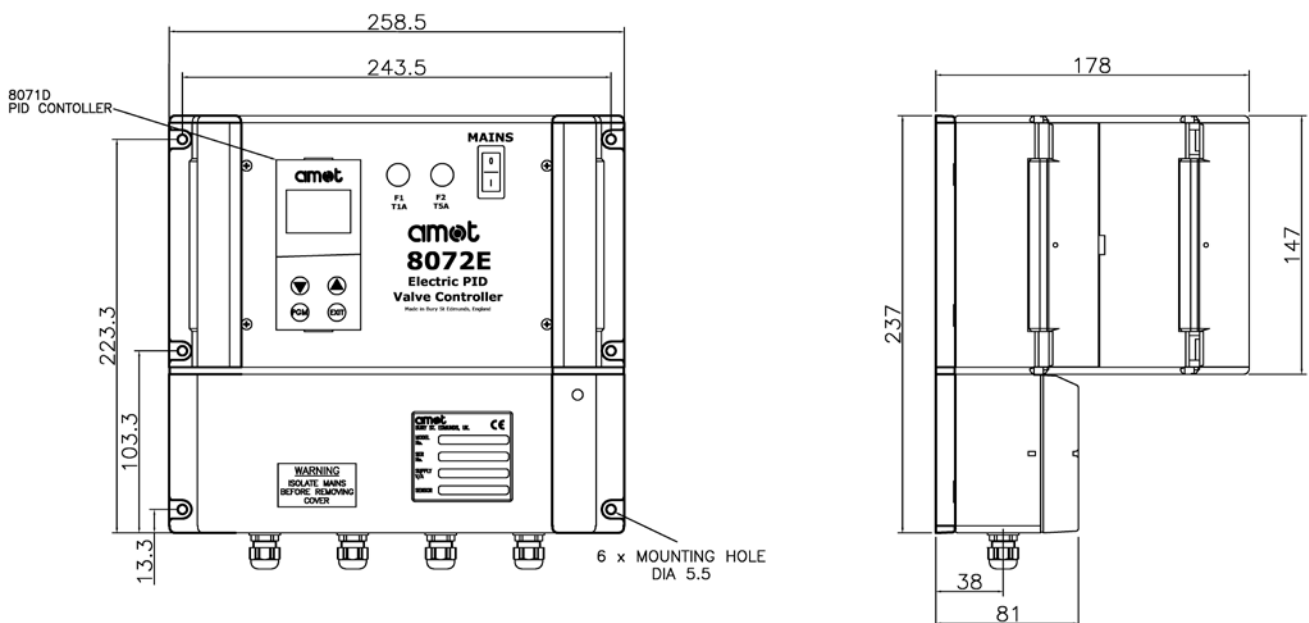
**8072E Electric PID Valve Controller Panel**

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 IP65 and is suitable for wall mounting.

## Dimensions (8072E)



### Weight

2.4kg (5.29lb)

# Electric PID Valve Controllers and SSRs - 8071D, 8072E, 47581L001/47581L002

## SSRs (47581L001)



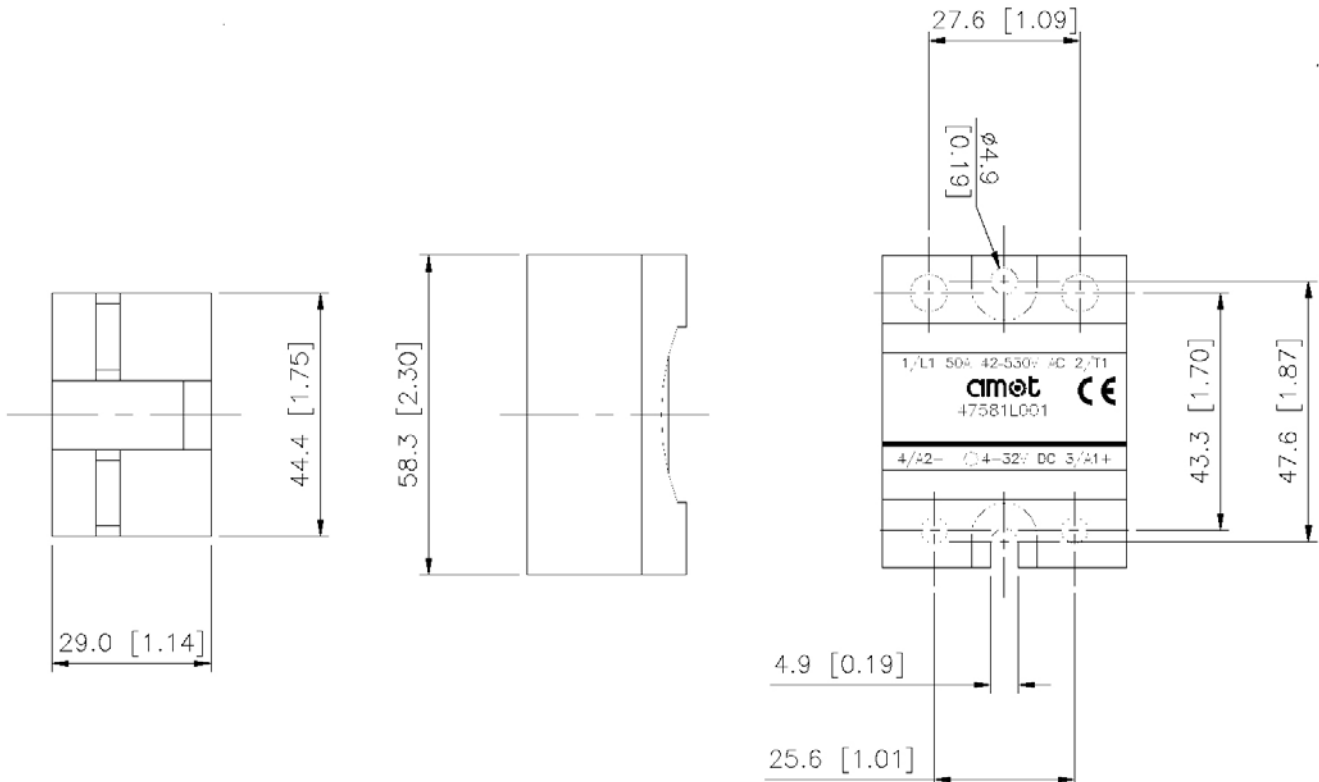
**47581L001 Solid State Relays**

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

The SSRs are extremely robust and provide high current switching to actuator motors. The SSRs have significantly higher performance than standard relays, providing excellent switching life.

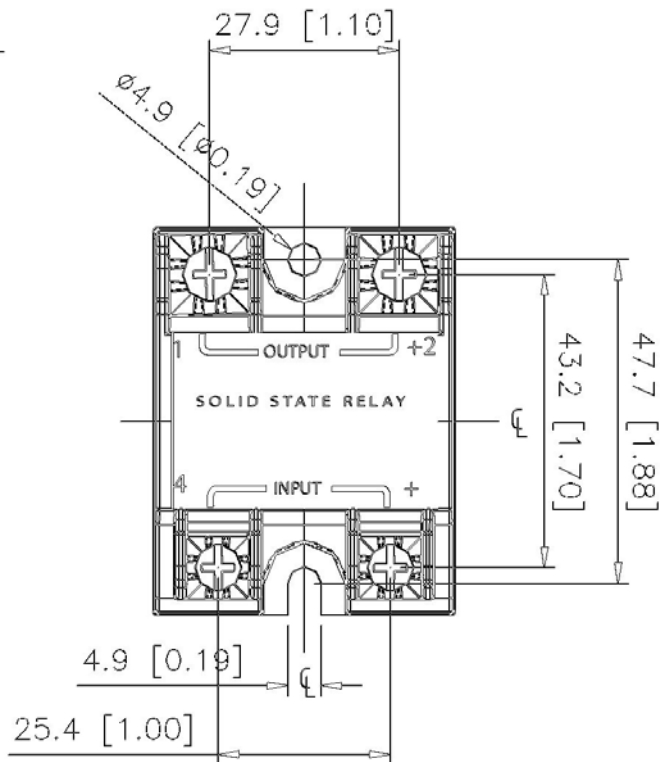
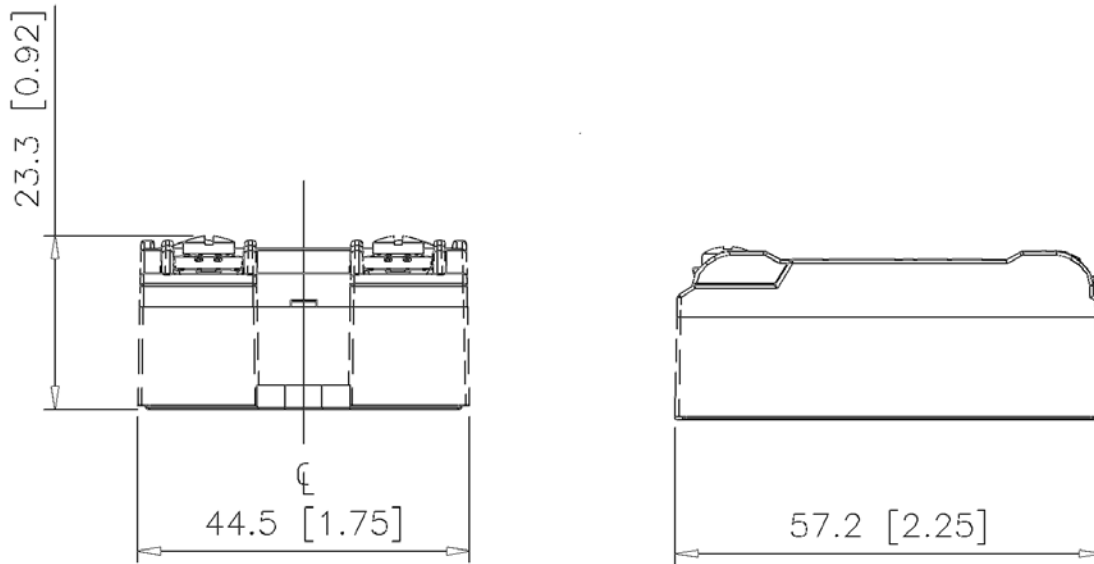
For 47581L001 used on AC actuators, the arcing associated with traditional relays is completely eliminated due to zero cross voltage switching. Two SSRs are required per 8071D controller. To order, request part number 47581L001 for AC actuators or 47581L002 for DC actuators.

## Dimensions (47581L001)



# Electric PID Valve Controllers and SSRs - 8071D, 8072E, 47581L001/47581L002

## Dimensions (47581L002)



# Electric PID Valve Controllers and SSRs - 8071D, 8072E, 47581L001/47581L002

## How to Order

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

Example	8071D	1	2	1	R	AA	Comments		
Basic Model	8071D						Panel-mounted PID controller		
							<b>Supply</b>	<b>Process Value</b>	<b>Set Point</b>
Inputs	0						AC	PT 100	Set from keypad
	1						AC	PT 100	4-20 mA
	2						AC	4-20 mA	set from keypad
	3						AC	4-20 mA	4-20 mA
	4						AC	0-10V	Set from keypad
	5						DC	PT100	Set from keypad
	6						DC	PT100	4-20 mA
	7						DC	4-20 mA	Set from keypad
	8						DC	4-20 mA	4-20 mA
	9						DC	0-10V	Set from keypad
							<b>Actuator Position Control</b>		<b>Process Value Re-Transmit</b>
Outputs	0						SSR		-
	1						4-20 mA		-
	2						4-20 mA		4-20 mA (not 8071D3 and 8071D8)
Communications	0						Comms not fitted		
	1						Comms fitted (not 8071D121, 321, 621, and 821)		
Direction						D	Direct action		
						R	Reverse action		
Special Requirements						AA	Standard controller		
							Contact us for special requirements.		

# Electric PID Valve Controllers and SSRs - 8071D, 8072E, 47581L001/47581L002

## How to Order

Use the table below to select the unique specification of your 8072E valve controller.

Example	8072E	0	0	0	0	4	D	-AA	
Supply voltage & temperature input	0								85~265V ac, PT100 RTD
	1								85~265V ac, 4-20mA
	2								85~265V ac, T/C (Type K)
	3								85~265V ac, 0-10V
	4								85~265V ac, 4-20mA Powered by 8072E
	5								24V dc, PT100 RTD
	6								24V dc, 4-20mA
	7								24V dc, T/C (Type K)
	8								24V dc, 0-10V
	9								24V dc, 4-20mA Powered by 8072E
Setpoint	0								Setpoint from keypad
	1								Setpoint from 4-20mA
Actuator control and temperature re-transmit	0								Switched actuator, no temperature output
	1								4-20mA actuator, no temperature output
	2								Switched actuator, 4-20mA output
	3								4-20mA actuator, 4-20mA temperature output
Communications	0								No communications
	1								With communications
Cable Glands	3								3 x M20 cable glands
	4								4 x M20 cable glands
	5								5 x M20 cable glands
	6								6 x M20 cable glands
	7								3 x M25 cable glands
	8								4 x M25 cable glands
	9								5 x M25 cable glands
Director of operation	D								Direct acting
	R								Reverse acting
Special requirements								-AA	No additional requirements

## To Order SSRs

Two (2) SSRs are required for each 8071D controller. To order, quote part number: 47581L001 for AC actuators or 4758L002 for DC actuators, quantity 2.



## **Americas**

---

AMOT USA  
8824 Fallbrook Dr  
Houston, TX 77064  
USA

Tel +1 (281) 940 1800  
Fax +1 (713) 559 9419  
Email [customer.service@amot.com](mailto:customer.service@amot.com)

## **Asia Pacific**

---

AMOT Shanghai  
Bd. 7A No 568  
Longpan Rd, Malu Jiading  
Shanghai 201801  
China

Tel +86 (0) 21 5910 4052  
Fax +86 (0) 21 5237 8560  
Email [shanghai@amot.com](mailto:shanghai@amot.com)

## **Europe and Africa**

---

AMOT  
Western Way  
Bury St Edmunds  
Suffolk, IP33 3SZ  
England

Tel +44 (0) 1284 762222  
Fax +44 (0) 1284 760256  
Email [info@amot.com](mailto:info@amot.com)

AMOT Controls GmbH  
Rondenbarg 25  
22525 Hamburg  
Germany

Tel +49 (0) 40 8537 1298  
Fax +49 (0) 40 8537 1331  
Email [germany@amot.com](mailto:germany@amot.com)