

1/16 DIN PID Controller

Temperature and Process



Features:

- Single loop temperature / process controller.
- 1/16 DIN (48 x 48mm) & 1/8 DIN (96 x 48mm).
- Profiler function – 2 programs x 16 segment.
- 70mm depth behind panel.
- Universal Input & 2 or 3 outputs.

The markets for industrial and scientific equipment demand that controllers not only provide a cost-effective and compact solution but also add-value to the overall competitive characteristics of the machine by offering improved aesthetic design or enhanced functions and diagnostics. The E6C economy controller has been designed to encompass these requirements by a global market leader in temperature and process control products.

Specifications

Features:

Control Types	: Full PID with Pre-tune, manual tuning, or on-off control, heat only or heat and cool
Output Configuration	: Output 1 & 2; Relay or SSR drive. Output 3; Relay, SSR drive, Linear DC (mA/V), RS485 Comms.
HMI	: 4 button operation, dual 4 digit 10mm & 8mm high LED displays, optional choice of colours (Red/Red, Red/Green), plus 3 LED output indicators. Function button: Profiler Control (Run, Hold, Stop, Reset) or auto/manual control (user defined).

Input:

Thermocouple	: J, K, B, C, D, L, N, R, S, T, PtRh 20%:40%.
RTD	: 3 wire PT100, 50 per lead maximum (balanced).
DC linear	: 0 to 20mA, 4 to 20mA, 0 to 50mV, 10 to 50mV, 0 to 5V, 1 to 5V, 0 to 10V, 2 to 10V.
	: Scaleable -1999 to 9999, with adjustable decimal point to 3 places with 4 display digits.
Impedance	: >10M resistive, except DC mA (5) and V (47k).
Accuracy	: 0.1% of full range, 1LSD (thermocouple 1°C for internal CJC).
Sampling	: 4 per second, 250ms.
Sensor break detection	: Thermocouple & RTD - Control goes to off. High alarms activate. Linear (4 to 20mA, 2 to 10V and 1 to 5V only) - Control goes to off. Low alarms activate.

1/16 DIN PID Controller

Temperature and Process



Specifications

Control:

Tuning types	: Automatic pre-tune and manual tuning.
Proportional bands	: 0.5% to 999.9% of input span in range units, or On/Off control.
Automatic reset	: Integral time constant, 1s to 99 minutes 59 seconds and off.
Rate	: Derivative Time Constant, 1s to 99 minutes 59 seconds and off.
Manual reset	: Proportional output power Bias 0 to 100%. (-100 to 100).
Differential	: ON/OFF switching differential 0.1% to 10.0% of input span.
Cycle time	: Selectable from 0.1 to 512 seconds (SSR output).
	: Selectable from 0.5 to 512 seconds (relay output).

Profile:

Number of programs	: 2, each with 16 free-form segments (Ramp/dwell/Step/End) maximum segment length 99 hours 59 minutes.
Delayed start	: Maximum 99 hours 59 minutes delay from initiation to program start.
Guaranteed soak	: Holds program if PV out of specified hold band during dwell segments.
Program cycles	: 1 to 9999 or infinite (continuously restarts program at end).
Ramp rate definition	: Either ramp rate or time to target setpoint.
Power loss recovery	: Continue profile from point of power fail or end profile and return to controller mode.

Alarms:

Alarm types	: Process High, Process Low, Band and Deviation. Band and Deviation (high or low) alarm values are relative to the current setpoint value. Hysteresis; A dead-band from 1 LSD to full span (in display units) before deactivation of the alarm.
-------------	---

Outputs:

Control & alarm relays	: Contacts SPST 2 Amp resistive at 120/240V AC, >300,000 operations (Out 3 >500,000 operations).
	: Out 1 & 2 Basic safety from universal input and SSR drive.
	: Out 3 Reinforced safety from universal input and SSR drive.
SSR driver outputs	: Drive capability >10V DC in 500 minimum, non-isolated.
DC linear outputs	: 0 to 20mA, 4 to 20mA into 500 maximum, 0 to 10V, 2 to 10V, 0 to 5V into 500 minimum.
	: Accuracy 0.25% at 250 (Degrades linearly to 0.5% for increasing burden to specified units).
	: Basic safety from universal input and SSR drive.
	: Reinforced safety isolation from mains and relay circuits.

Serial Communications:

Physical	: RS485 at 1200, 2400, 4800, 9600, 19200 or 38400bps.
Protocol	: Modbus RTU.
Isolation	: Basic safety from universal input and SSR drive.
	: Reinforced safety isolation from mains and relay circuits.

Operating and environmental:

Temperature & RH	: 0 to 55°C (-20 to 80°C storage), 20% to 95% RH non-condensing.
Power supply	: 100 to 240V 50/60Hz ±10% 7.5VA or optional 20 to 48VAC 50/60Hz or 22 to 65VDC 5W (low voltage version).
Front panel protection	: IP66 (IP20 behind panel).

1/16 DIN PID Controller

Temperature and Process



Specifications

Conformance:

Standards : CE.
EMI : Complies with EN61326.
Safety considerations : Complies with EN61010-1. Pollution Degree 2, Installation Category II.

Weights & Dimensions:

Weight: : 0.21kg maximum.
Dimensions : 1/ 16 DIN , 48 x 48mm ; 1/8 DIN 96 x 48mm ; 70mm (Depth Behind Panel).

Output 3 (Option)	RS485	RLY	SSR/LIN								
	B	NO	+	6	7	L			Power		
	COM	COM		5	8	N					
Universal Input	A	NC	-	4	9	NO	-	Out 1			
		-	+	3	10	COM	+				
		+	-	2	11	NO	-	Out 2			
				1	12	COM	+				
	RTD	mA	TC/mw/V					RLY	SSR		

Part Number Table

Description	Part Number
Controller, Pid, 2 Relay O/P	E6C0RR002
Controller, Pid, 2 Relay O/P	E6C0RR022
Controller, Pid, SSR Relay, OP	E6C0SR002
Controller, Pid, SSR Relay, OP	E6C0SR022
Controller, Pid, 3 Relay O/P	E6C0RRR02
Controller, Pid, 3 Relay O/P	E6C0RRR22
Controller, Pid, 2 Rly Ssr OP	E6C0SRR02
Controller, Pid, 2 Rly Ssr OP	E6C0SRR22
Controller, Pid, 2 Ssr Rly OP	E6C0SSR02
Controller, Pid, 2 Rly Ang OP	E6C0RRL02

Disclaimer This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2009.

<http://www.farnell.com>
<http://www.newark.com>
<http://www.cpc.co.uk>



Ordering Code

[illegible]