



96 x 48mm

Features :

- ▶ 4+4 Digits, (White+Green) LED display
- ▶ Capacitive touch keypad
- ▶ Universal input/ output
- ▶ Retransmission analog output
- ▶ Adaptive - Auto - Self tune PID/ ON - OFF Control
- ▶ Heat cool PID
- ▶ Profile Controller up to 128 steps
- ▶ 24V DC inbuilt sensor supply
- ▶ RS485 MODBUS RTU Communication (optional)
- ▶ IDM applicable

Certifications:   , IP65

Technical specifications

Display specifications	
Display	4+4 digits 7 Segment LED dual display
Height of display	Upper display: 15.3 mm (White), Lower display: 8 mm (Green)
LED indication	1: Main output T: Tune 2: Alarm output M: Manual output 3: Alarm output A: Adaptive tune
Input specifications	
Contact rating	Thermocouple (J, K, T, R, S, C, E, B, N, L, U, W, Platinel II), RTD (PT100)
Signal input	- 5 to 56mV, 0 to 10V, 0 to 20mA DC (Programmable scale type)
Accuracy / Resolution	
Resolution (Decimal point position)	1/ 0.1 for TC/ RTD; 1/ 0.1/ 0.01/ 0.001 for analog input
Signal input	- 5 to 56mV, 0 to 10V, 0 to 20mA DC (Programmable scale type)
Indication accuracy	For TC inputs: 0.25% of F.S. ±1; For R & S type TC inputs: 0.5% of F. S. ±2 (20 min of warm up time for TC inputs); For RTD input: 0.1% of F. S. ±1; For Analog input: ±0.5%, ±1 digit (F. S. = Full scale)
Temperature unit	°C/°F selectable
Input filter (FTC)	1 to 99 sec, OFF
Sampling time	200 ms
Output specifications	
Contact rating	Relay 1, Relay 2: 7A@250 VAC or 28 VDC; Life expectancy: 100000 cycles at maximum load rating Relay 3: 10A@250 VAC or 28 VDC
SSR drive (Voltage pulse)	15 VDC
Sensor supply	24 VDC inbuilt
Voltage (Optional)	0-5 VDC, 0-10 VDC (load resistance : 10KΩ min)
Retransmission	
Current	0/ 4 to 20mA DC (loop impedance: 500Ω max)
Voltage (For PID500-U-0-1)	0 to 5/ 10 VDC (load resistance: 10KΩ min)
Update rate	100 msec
Functional specifications	
Control action	1: Adaptive - Auto - Self tune PID, 2: ON-OFF
Proportional band (P)	0.0 to 400.0°C
Integral time (I)	0 to 3600 sec
Derivative time (D)	0 to 200 sec
Cycle time	0.1 to 100.0 sec
Hysteresis width	0.1 to 99.9°
Manual reset value	- 19.9 to 19.9°
Heat-cool	
Control action	PID/ ON-OFF
Proportional band-cool	0.0 to 400.0°
Cycle time-cool	0.1 to 100 sec
Dead band	Programmable from set point low limit to set point high limit.

Settings for alarm output	
Modes	Deviation high/ low, Absolute high/ low, Band, Sensor break
Hysteresis	0.1 to 99.9°
No. of profile program	8
No. of steps in each program	16
Program other profile parameters	Link profiles, Programmable repeat cycles, Power down resume/ restart options, Deviation hold, Alarm at each step with configurable alarm duration
Auxiliary supply specifications	
Supply voltage	90 to 270 VAC/ DC (50/ 60Hz)
Power consumption	5 VA max @ 230 VAC
Environment specifications	
Temperature	Operating: 0°C to 50°C (32 to 122°F); Storage: 20°C to 75°C (-4 to 167°F)
Humidity (non - condensing)	85% RH
Mechanical specifications	
Mounting	Panel
Weight	170 gms
Optional specifications	
Serial communication	
Interface standard	RS485
Communication address	1 to 99, maximum of 32 units per line
Transmission mode	Half duplex
Transmission protocol	MODBUS RTU
Transmission distance	500m maximum
Transmission speed	115200, 57600, 38400, 9600, 4800, 2400, 1200 bits / sec
Parity	None, Odd, even
Stop bits	1 or 2
Response time	100 ms (Max and independent of boud rate)

Terminal connections

PID110-U-0-1			
L(+)	1	11	TC+/RTD1
N(-)	2	12	TC-/RTD2/V-/I-
NO1	3	13	RTD3
COM1	4	14	AI V+
NO2	5	15	AI I+
COM2	6	16	
NO3	7	17	AOI+/SSR+
COM3	8	18	AOI-/SSR-
24V SS +	9	19	AOV+
24V SS -	10	20	AOV-

PID110-U-C-1			
L(+)	1	11	TC+/RTD1
N(-)	2	12	TC-/RTD2/V-/I-
NO1	3	13	RTD3
COM1	4	14	AI V+
NO2	5	15	AI I+
COM2	6	16	
NO3	7	17	AOI+/SSR+
COM3	8	18	AOI-/SSR-
24V SS +	9	19	RS485 +
24V SS -	10	20	RS485 -

Dimensions (All are in mm)

MODELS	DIM	A	B	C	D	E	F	G
PID110-U		96	48	74.5	90	10	92	45

Compliance

Applicable EMI / EMC Standards		
Product Standard : IEC 61326-1		
Category		Standards Compliance
ESD Immunity	IEC 61000-4-2	Level III
Surge Immunity	IEC 61000-4-5	+/- 2 kV common mode, +/- 1 kV differential mode
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz Level II, 1.4GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility	IEC 61000-4-6	Level II

Applicable EMI / EMC Standards		
Product Standard : IEC 61326-1		
Category		Standards Compliance
Voltage Dips and Interruptions	IEC 61000-4-11	Dips : 0% residual voltage / 1 cycle (Criteria B), 40% residual voltage / 10 cycles 50Hz / 12 cycles 60Hz (Criteria C) 70% residual voltage / 25 cycles 50Hz / 30 cycles 60Hz (Criteria C) Interruptions : 0% residual voltage / 250 cycles 50Hz / 300 cycles 60Hz (Criteria C)
Conducted Emission	CISPR-11	Class A (150KHz to 30MHz)
Radiated Emission	CISPR-11	Class A (30MHz to 1GHz)
Electrical Fast Transient	IEC 61000-4-4	Level III

Ordering information

Product code	Input	Supply voltage	Communication (RS485)	Certification
PID110-U-0-1	Universal	90 - 270 VAC/ DC	- - -	CE
PID110-U-C-1	Universal	90 - 270 VAC/ DC	YES	CE