



48 x 48mm

### Features :

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

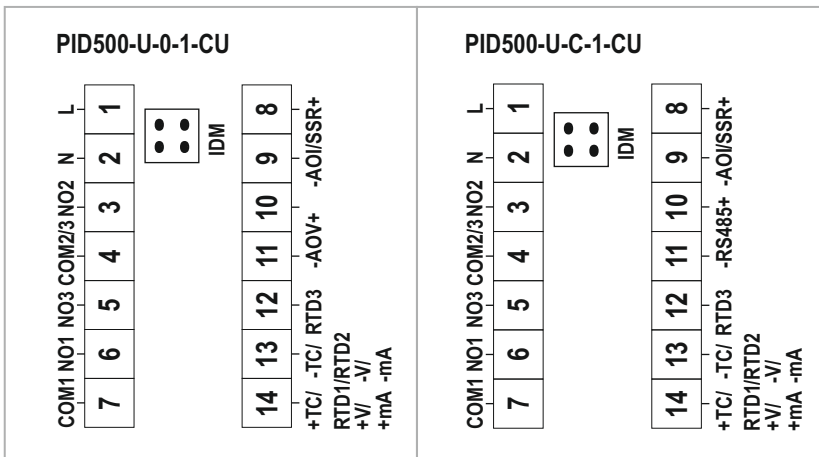
Certifications :   , IP65, 

## Technical specifications

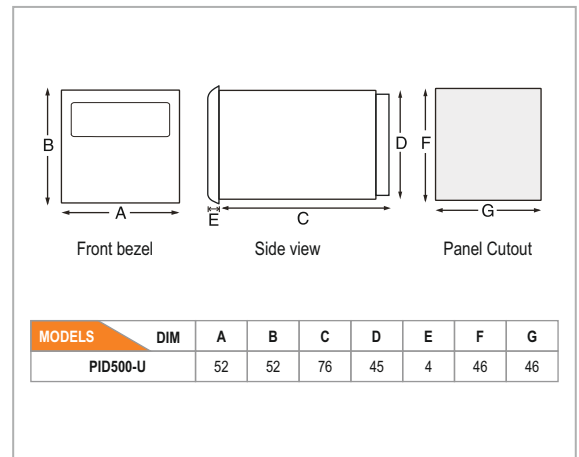
Display specifications	
Display	4+4 digits 7 Segment LED dual display
Height of display	Upper display : 15.3mm (White), Lower display : 8mm (Green)
LED indication	1 : Main output      T : Tune 2 : Alarm output    M : Manual output 3 : Alarm output    A : Adaptive tune
Input specifications	
Contact rating	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 99sec, OFF
Sampling time	200 ms
Output specifications	
Contact rating	Relay 1, Relay 2 : 7A@250V AC or 28V DC; Life expectancy : 100000 cycles at maximum load rating Relay 3 : 10A@250V AC or 28V DC
SSR drive (Voltage pulse)	15V DC
Current	0-20mA DC, 4-20mA DC (loop impedance : 500Ω max)
Voltage (Optional)	0-5V DC, 0-10V DC (load resistance : 10KΩ min)
Retransmission	
Current	0 / 4 to 20mA DC (loop impedance : 500Ω max)
Voltage (For PID500-U-0-1)	0 to 5 / 10V DC (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 270V AC / DC (50 / 60Hz)
Power consumption	5 VA max @ 230V AC
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	101 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	Non, Odd, even, Mark, Space
Stop bits	1 or 2
Response time	100 ms (Max and independent of baud rate)

## Terminal connections





## Dimensions (All are in mm)



## 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
Voltage Dips and Interruptions	IEC 61000-4-11	<b>Dips</b> : 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) <b>Interruptions</b> : 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
PID500-U-0-1-CU	Universal	90 - 270V AC / DC	- - -	 
PID500-U-C-1-CU	Universal	90 - 270V AC / DC	YES	