

## P.I.D CONTROLLER



**TC - 307  
PANEL MOUNTING**



**TC - 307 - WP  
WEATHERPROOF**

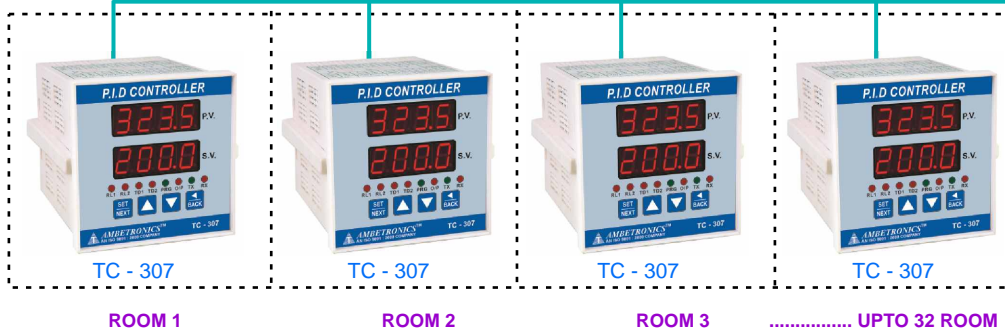


**TC - 307 - FLP  
FLAMEPROOF**

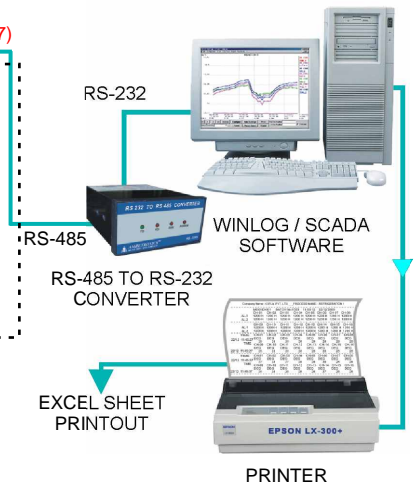
### ILLUSTRATION

#### Remote Area

MULTIDROP MODBUS RTU PROTOCOL RS - 485 PORT 1000 MTR. MAX. (UP TO 32 NOS. OF TC - 307)



#### Safe Area/Control Room



### FEATURES

- ◆ Based On State Of Art Latest Microcontroller Technology With Control action Modes 'ON / OFF' or 'PID'
- ◆ Easy Programming With Password Protection
- ◆ Software Calibration with Front Panel Push Buttons
- ◆ Dual L.E.D Display : Upper for 'Process Value' Display  
: Lower for 'Set Point Value' Display
- ◆ Input RTD (PT-100), J & K Type, 4-20 mA; factory settable
- ◆ Automatic Wire Length Compensation For 3 Wire RTD (PT-100)
- ◆ Automatic Cold Junction Compensation For Thermocouple
- ◆ One Set Point With Controller Relay Output & Hysteresis Programmable by user
- ◆ Set Point 2 For Relay 2 or 4-20 mA O/P; Programmable by user
- ◆ Adjustable Time Delay For Operation Of The Relays
- ◆ Modbus RTU Protocol with Isolated RS-485 Communication

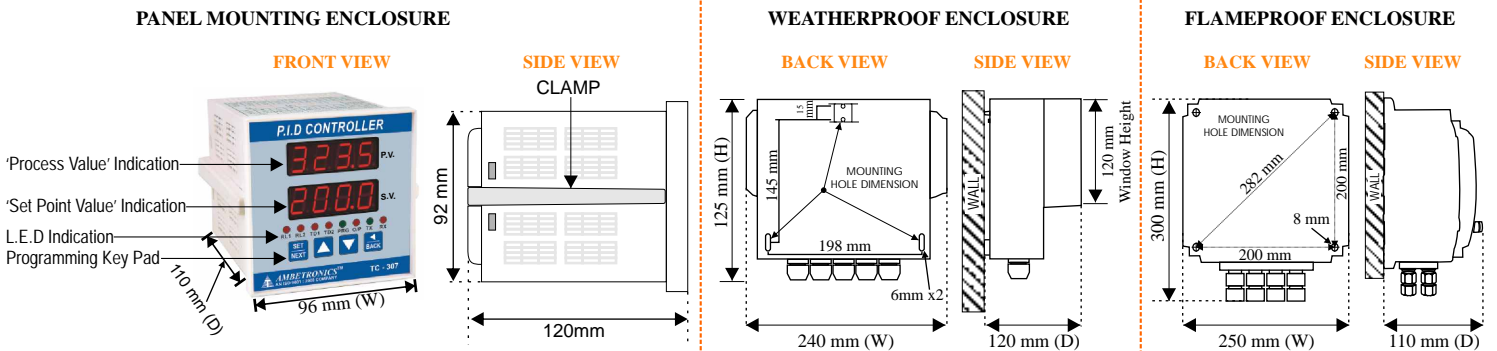
### APPLICATIONS

- ◆ Oven Control
- ◆ Food Processing
- ◆ Cold Storage & Chilling Plant
- ◆ Constant Temperature Bath & Environmental Chamber
- ◆ Plastic / Packaging / Rubber & Metal Industry
- ◆ Engineering Industry like tiles, Machine Tools, Automobile parts, stone cutting tools manufacturing
- ◆ Petroleum Industry for Viscosity measurement bath control

# TECHNICAL SPECIFICATIONS

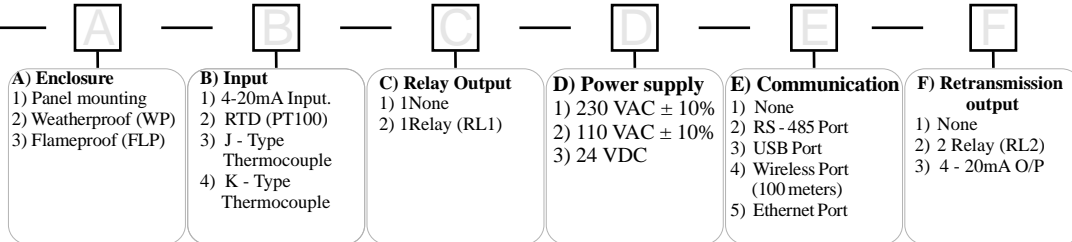
<b>Input</b>	4 - 20mA Input	RTD (PT - 100)	K - Type	J - Type
<b>Range</b>	-999 To 9999	-50 To 400 °C	0 To 1200 °C	0 To 750 °C
<b>Resolution</b>	0.001, 0.01, 0.1, 1	0.1 °C	1 °C	1 °C
<b>Accuracy</b>	± 0.25 % of Full Scale	± 0.25 % of Full Scale	± 0.25% of Full Scale	± 0.25% of Full Scale
<b>Compensation</b>	Automatic wire length compensation for Long wire RTD (PT - 100) sensor Automatic Cold Junction Compensation for Thermocouple (J or K type)			
<b>Display</b>	Upper : 4 digit, 0.56" (13 mm), 7 - Segment RED L.E.D display for 'Process Value' indication Lower : 4 digit, 0.56" (13 mm), 7 - Segment RED L.E.D display for 'Set Point Value' indication of RL1			
<b>L.E.D. Indication</b>	RL1 & RL2 for Relays, TX & RX for communication PRG to show 'User' in Programming mode & O/P to show 4 - 20 mA O/P is selected instead of the Relay 2			
<b>Set point</b>	Independent set points setting for RL1 & RL2			
<b>Hysteresis</b>	1 To 100 counts, Independent setting for RL1 & RL2			
<b>Control action</b>	LO-HI, HI-LO, LO- Very LO, HI - Very HI control action for relay; programmable by user			
<b>Time delay</b>	0 To 9999 sec, Common setting for RL1 & RL2 to operate after the 'Process Value' crosses the 'Set Point Value'			
<b>Relay contact type</b>	1 NO - C - NC Relay Contact Rated 230 VAC/5A for RL1 & RL2			
<b>Configuration of relay</b>	RL1 operates for Set point 1, RL2 operates for Set point 2 (RL2 is optional)			
<b>Fault condition</b>	In 'Under', 'Over' OR 'Open' condition i.e. fault condition, Relay can be made OFF or ON; programmable by user			
<b>Setting</b>	Setting by 4 keys on front panel i.e. 'SET/NEXT', 'UP', 'DOWN' & 'BACK'			
<b>Monitoring : Sensor Open / Under / Over</b>	i) By Display : Sensor 'Break/ Open' shows 'oPEn', 'Under' range shows 'Undr' & 'Over' range shows 'ouEr' ii) By Retransmission current O/P : Up scale current : 21 mA, Down scale current : 3 mA; programmable by user			
<b>Retransmission output (Optional)</b>	i) 1 No. 4 - 20 mA output with MAX Load 750 ohms ii) Range: As per the Input type, Low range / High range: Anywhere in the range (High range > Low range)			
<b>Communication</b>	Modbus RTU Protocol with Isolated RS-485 Communication			
<b>Supply Voltage</b>	230 VAC ± 10% OR 110 VAC ± 10% OR 24 VDC			
<b>Operating Temp.</b>	- 40 To 85 °C			
<b>Relative Humidity</b>	Below 95% non condensing			
<b>Enclosure Detail</b>	<b>PANEL MOUNTING (PM)</b>	<b>WEATHERPROOF (WP)</b>	<b>FLAMEPROOF (FLP)</b>	
<b>Protection Class</b>	IP - 40	IP - 65	IP-65, CMRI for IIA & IIB Gas group	
<b>Cabinet Material</b>	ABS Plastic, White Colour	Polycarbonate, Grey colour	Cast Alluminium alloy, LM-6 / C.I. Enclosure	
<b>Cable Entry</b>	Terminal connector for connection	Thermoplastic cable gland (IP - 68)	Double compression cable gland (Ex-Proof), 3/4" ET-type	
<b>Dimension</b>	96 (H) X 96 (W) X 120 (D) in mm	215 (H) X 240 (W) X 120 (D) in mm	300 (H) X 250 (W) X 110 (D) in mm	
<b>Cutout</b>	92 (H) X 92 (W) in mm	----	----	
<b>Mounting</b>	Panel mounting	Wall Mounting / Stand Mounting	Wall Mounting / Stand Mounting	
<b>Weight</b>	Approx. 1.0 Kg	Approx. 2.5 Kg	Approx. 4.0 Kg	

## DIMENSIONS



## ORDERING INFORMATION

TC - 307



NOTE : For any customize requirement contact factory

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DEALERS :