

5-Digit Advanced Universal Process Indicator

UPI-5D Plus

Universal Input Plus Support for RTD Pt1000 & E Type Thermocouple
Supports Bipolar Signals ($\pm 5/10$ V, ± 20 mA, ± 80 mV, ± 160 mV)
Higher Resolution (18 Bit) for DC mA/V Analog Input
1/8 DIN (48x96) Size

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Salient Features

- 5 Digits, 7 Segment, 0.56" Height, Bright Red LED Display
- Universal Input : Thermocouples, RTD Pt100, RTD Pt1000, DC Linear mA/mV/V
- Programmable 1/0.1/0.01/0.001 Resolution & Scaling for mA/mV/V Inputs
- °C/°F Units for Thermocouples/RTD (Pt100 & Pt1000) Inputs
- Programmable Digital Filter
- 32 Point User Defined Linearization for mA/mV/V Inputs
- Square Root Extraction for Flow Rate Indication
- Facility to View & Store Min/Max Process Values
- Isolated 0/4-20 mA Retransmission Output (0-5/10 VDC Optional)
- 2 Programmable Alarms with Front Panel / Remote 'ACK' & Independent Relay Outputs
- MODBUS RTU RS485 Serial Communication Port
- 24 VDC @ 30 mA Excitation Voltage for Transmitter Supply
- DIN Standard Dimensions (mm) : 48(H) X 96(W) X 82(D)

General Information

Product Type 5-Digit Advanced Universal Process Indicator

Ordering Code UPI-5D Plus-
Retransmission Output
1 : 0/4-20 mA 2 : 0-5/10 VDC

Example Code : UPI-5D Plus-1
Retransmission Output : 0/4-20 mA

Quantity 1 Unit

Accessories (Optional) USB to RS485 Converter

Similar Modules UPI-4D

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Operator Interface

Display	5 Digits, 0.56" Bright Red, 7 Segment LED
Status Indicators	2 Red LEDs (3mm Round) for Alarm Status
Keys	4 Tactile Switches PAGE, DOWN, UP, ENTER/ACK

Channel Specifications

Sensor/Signal (User Configurable)	Thermocouples : J, K, T, R, S, B, N, E RTD : 2 / 3-Wire Pt100, Pt1000 DC mV : -80 to 80 mV, -160 to 160 mV DC Volts : -5 to 5 V, -10 to 10 V, 1 to 5 V DC mA : -20 to 20 mA, 4 to 20 mA
Accuracy	Thermocouples : ± 0.2% of Reading for J, K, T, E (Excluding CJC) ± 0.4% of Reading for R, S, B, N (Excluding CJC) CJC : ± 1.5 °C (Specified over 18 to 37 °C) RTDs : ± 0.2% of Reading Lead Resistance Compensation : Max. 5Ω per Lead for 3-wire RTD DC mV/V/mA : ± 0.1% of Reading
Display Resolution	Thermocouples / RTDs : 0.1 / 1°C (Selectable) DC mV/V/mA : 0.001 / 0.01 / 0.1 / 1 Counts (Selectable)
Range	Refer Table-1 for Thermocouples & RTDs Inputs Adjustable from -19999 to 99999 Counts with Settable Resolution for DC mA/V -19999 to 30000 Counts with Settable Resolution for DC mV
Zero Offset	User Adjustable over Full Range
ADC	18 Bit, Sigma-Delta ($\Sigma\Delta$)
Sampling Time	300mS (3.3 Samples per Second)
Input Resistance	> 8 MΩ for Thermocouples, RTDs & mV Inputs > 47 KΩ for Voltage Input 249 Ω Precision Shunt for mA Input
Input Protection	ESD : 8KV EFT : 2KV Surge : 1KV
Input Conditioning	First Order Analog R-C Low-Pass Filter & Settable Digital Low-Pass Filter

Excitation Voltage

Ratings	24 V @ 30 mA
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Alarms

Numbers	2, Independent			
Programmable Parameters	Type	: Process Low, Process High	Inhibit	: No, Yes
	Logic	: Normal, Reverse	Latch	: No, Yes
	Hysteresis	: 1 to 99999 Unit/Counts		
Outputs	Independent SPDT (Form C) Relays for Alarm-1 & Alarm-2			

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Retransmission

Signal Type	Isolated Current : 0-20 mA, 4-20 mA (into 500Ω Maximum) Resolution : 2 μA OR Isolated Voltage : 0-5 V, 0-10 V (into 1KΩ Minimum) Resolution : 1 mV Thermal Drift : 120 ppm (specified over 18 to 37 °C) for Current & Voltage
Isolation	<ul style="list-style-type: none">• Isolated from Analog Input, Supply Voltage, Relays, RS485 & 24 V Excitation• 1500 VAC for 1 Second or 250 VAC Continuous
PV Range	User Settable Through 'Range Low' and 'Range High' Parameters

Electrical Specifications for Outputs

Relay	2 SPDT (Form C) Relays; 5A for 250 VAC / 5A for 30 VDC (Resistive Load)
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Serial Communication

Port	RS485, 2-wire, Half Duplex, Start-Stop Synchronized
Protocol	MODBUS RTU
Baud Rate	Settable : 4800, 9600, 19200 bps
Parity	Settable : None (1 or 2 Stop Bits), Even, Odd
Max. Units per Loop	31
Max. Distance	1200 Meters

Power Supply

Type	Switch Mode (SMPS)
Line Voltage	85~264 VAC, 50/60Hz
Consumption	5 VA Max

Physical

Mounting	Plug-in with Panel Mounting Clamps
Overall Dimensions	48(H) X 96(W) X 82(D), mm
Panel Cutout	45(H) X 92(W), mm
Terminals	Screw Type, Pluggable
Weight	220 gm, Approx.

Environmental

Operating Ambient	0 to 55°C & 5 to 90%RH Non-condensing
Storage Temperature	-10 to +70°C
Atmospheres	Not Suitable for use in Corrosive or Explosive Atmospheres. The Panel in which the Instrument is Mounted must be free of Electrically Conductive Pollution.

Terminations

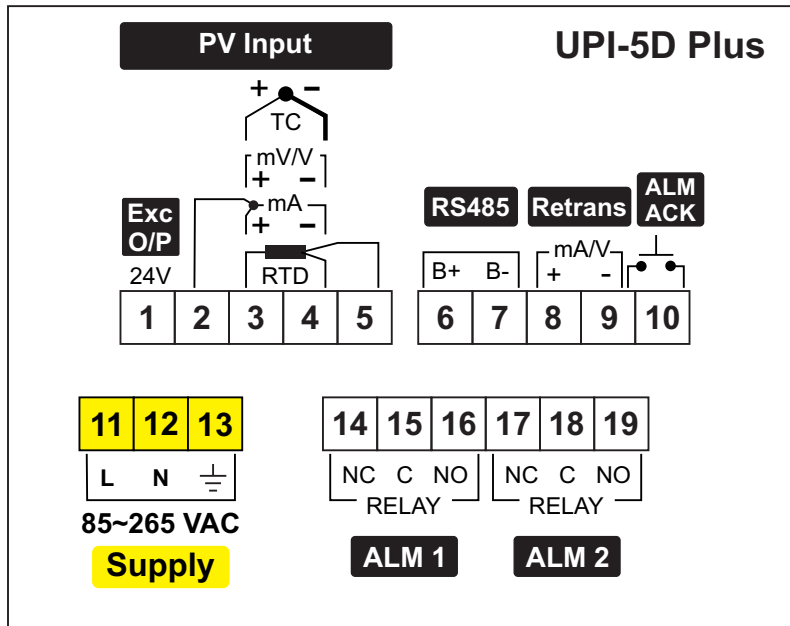


TABLE 1

Input Type	Range (Min. to Max.)
2 / 3-wire, RTD Pt100	-199.9 to +850.0 °C / -328.0 to +1562.0 °F
2 / 3-wire, RTD Pt1000	-199.9 to +850.0 °C / -328.0 to +1562.0 °F
Type J Thermocouple (Fe-K)	0.0 to +960.0°C / +32.0 to +1760.0°F
Type K Thermocouple (Cr-Al)	-200.0 to +1376.0°C / -328.0 to +2508.0°F
Type T Thermocouple (Cu-Con)	-200.0 to +387.0°C / -328.0 to +728.0°F
Type R Thermocouple (Pt / Pt-Rh13%)	0.0 to +1771.0°C / +32.0 to +3219.0°F
Type S Thermocouple (Pt / Pt-Rh10%)	0.0 to +1768.0°C / +32.0 to +3214.0°F
Type B Thermocouple (Pt-Rh6% / Pt-Rh30%)	0.0 to +1826.0°C / +32.0 to +3318.0°F
Type N Thermocouple (NiCrSi / NiSi)	0.0 to +1314.0°C / +32.0 to +2397.0°F
Type E Thermocouple (NiCr / Con)	-200.0 to +1000.0°C / -328.0 to +1832.0°F

Process Precision Instruments (An ISO 9001 : 2008 Company)

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