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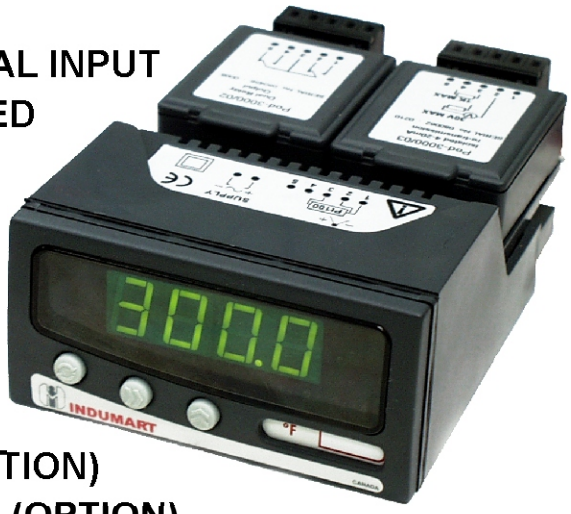
Smart Digital Indicator

SERIES: D3000



- TEMPERATURE, PROCESS OR UNIVERSAL INPUT
- 0.56" (14.2 mm) HIGH LED; GREEN OR RED
- MENU AND/OR PC CONFIGURABLE
- FRONT PANEL SEALED TO IP-65
- CUSTOM LINEARISATION AND OFFSET
- MODULAR OPTION BOXES
- 4 ALARM STATUS INDICATORS
- UP TO 4 RELAY OUTPUTS (OPTION)
- MODBUS RS-485 COMMUNICATIONS (OPTION)
- ISOLATED CURRENT RE-TRANSMISSION (OPTION)

INTRODUCTION

The *Series D3000* Smart Digital Indicators are highly accurate and stable panel meters. Model D3000U is a universal input meter, Model D3000T accepts all common thermocouple and RTD inputs and displays the temperature digitally. Model D3000P accepts all common current and voltage process signals and displays the signals in engineering units on a high efficiency, red or green LED display that provides daylight readability. An internal power supply provides excitation for field transmitters.

The unique and highly innovative case of the D*3000 series* indicators allows addition of option cards without the need for dismantling the instrument. Option cards are housed in compact boxes that can be plugged in to the top of the indicator. This results in greater operational flexibility and lower stock holdings.

The case has a moulded-in rubber gasket enabling it to seal to the panel maintaining the IP65 rating, ideal for installing the unit in dusty areas or where water is used to wash down the meter.

Using the latest tension clamp technology for the two part terminals, connections are made in half the time taken to wire conventional screw terminals. These terminals are maintenance-free and the tension clamp ensures that the contact is permanently under tension eliminating any potential problem of loosening due to temperature fluctuations or vibration.

Configuration of the D*3000 Series* indicator can be performed via its front panel keys or a personal computer. A choice of short or full menu is available for configuration via the front panel key. Short menu is only for the major parameter selection, while full menu has additional features that enables a more comprehensive setup.

Alternatively, using a PC, a simple Windows☺ based software program and the RS-485 communication option box, the D*3000 Series* indicators can be configured for their input type, range, resolution, burnout option, noise filter factor, linearisation scheme, offset value, alarm type and set points, hysterisis, communication baud rate, retransmission parameters and the device tag number. Using the software, special sensor "X" can be accommodated allowing any custom characterization and linearisation.

OUTPUT OPTIONS

Plug and Play Option Pods

- Simply plug it in

-No dismanteling

- Configure via the indicator

SPECIFICATIONS @ 20˚C

General

Display	Four-digit LED
Digit Height	14.2 mm / high intensity
Alarm Indicators	Four numeric 2.5 mm LEDs
Display Range	-999 to 9999
Case Material	ABS
Update Time	0.25 second maximum
Power Supply	90 to 253 VAC 50/60 Hz 20 to 35 VDC (option)
Front Panel Sealing	IP-65
Ambient	-30...+60°C; 10 to 90% RH

Universal Input (Model U)

mA Input	4...20 mA, ±20 mA, ±10 mA
RTD Input	Pt100, Ni120, custom
T/C Input	K, J, T, R, S, E, N, L
mV Input	±100 mV
Voltage Ranges	1...5 V, ±1 V and ±10 V
Voltage Accuracy	±0.04% f.s., others see "P" & "T" types
Input Impedance (volt)	1 MΩ
Excitation Current	1 mA for D3000U model
Linearity	Linear, $X^{1/2}$, $X^{3/2}$, $X^{5/2}$, custom
Minimum Span	Any span within the range can be selected, but the recommended span is >10% of the range

Process Input (Model P)

Voltage Ranges		0...1 V; 1...5 V and 0...10 V
Accuracy		±0.05% f.s.
Thermal Drift	**Zero**	0.1 µV / °C
	Span	100 ppm / °C
Current Ranges		0...20, 4...20 and 0...10 mA
Accuracy		±0.05% f.s.
Excitation		24 V ± 5% @ 50 mA
Input Impedance		47 Ω (current) 1 MΩ (voltage)

RTD (Pt-100) Input (Model T)

Sensor Range		-200...850°C
Accuracy		±0.1°C ± 0.05% Rdg
Linearisation		Standard IEC-751 Custom for sensor 'X'
Thermal Drift	**Zero**	0.008°C / °C
	Span	100 ppm / °C
Excitation Current		300 µA to 550 µA
Max. Lead Resistance		50 Ω / leg
Lead Resist. Effect		0.002°C / Ω

Thermocouple Input (Model T)

Thermocouple Types		K, J, T, R, S, E, N, F, L
Accuracy		±0.04% f.s. ± 0.04% Rdg or 0.5°C (whichever is greater)
Linearisation		Standard IEC-584-1 Custom for sensor 'X'
Cold Junction Error		±0.5°C
Cold Junction Range		-10...+60°C
Thermal Drift	**Zero**	0.1 µV / °C
	Span	100 ppm / °C

The following Plug & Play option pods must be ordered separately. For Model "U", the RS485 communication will come as an integral part of meter.

Dual Relay Alarm (Part # 3000/02)

Contacts	2 x changeover relays; Common wiper	
Ratings	**AC**	**DC**
Maximum Load	5 A @ 250 V	5 A @ 30 V
Maximum Power	1250 VA	150 W
Maximum Switching	253 V	125 V
Termination	5 way tension clamp connector	

Isolated Re-transmission (Part # 3000/03)

Ranges	0...10, 0...20 and 4...20 mA (Active or Passive)
Maximum mA Output	23 mA
Accuracy	0.07% f.s.
Max. Output Load	Active: 1 kΩ Passive: [(Vsupply-2)/22] kΩ
Max. External Supply	30 V (Passive mode)
Voltage Effect	0.2 µA / V
Ripple Current	<3 µA
Isolation	500 VAC
Stability	1 µA / °C
Termination	5 way tension clamp connector

Communications (Part # 3000/05)

(PC communication for configuration and monitoring)

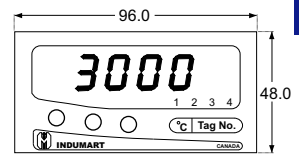
Physical Layer	4 wire or 2 wire half duplex RS-485
Baud Rate	19,200 or 9,600 switchable
Protocol	Modbus RTU format
Isolation	500 VAC
Maximum Fan Out	32 units
Termination	5 way tension clamp connector

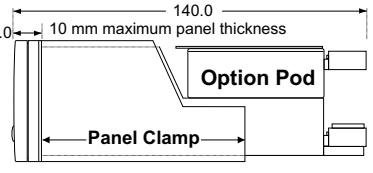
ORDER CODE

MODEL **D30** [ ] [ ] [ ]

Red LED Display	**0**
Green LED Display (not available for U model)	**1**
Power Supply 90-253 VAC 50/60 Hz	**0**
Power Supply 20-35 VDC	**1**
Universal Input	**U**
Process Input	**P**
Temperature Input	**T**
Universal Input + RS485 Communication	**U-C**

DIMENSIONS (mm)





Panel Cutout:
92 x 45 mm

Weight: 230 g (0.5 lb)

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