

# INTELLIGENT DIGITAL INDICATORS

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## DM3400 SERIES

- **DM3410 (Pt100, T/C)**

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- **DM3420 (CURRENT, VOLTAGE)**

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- **BUILT IN 24V PSU FOR TRANSMITTER EXCITATION (DM3420)**

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- **IP65 FRONT PANEL SEALING**

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- **PLUG & PLAY POD OPTIONS FOR RELAY / CURRENT OUTPUT**

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## ➤ INTRODUCTION



The DM3400 series uses proven technology to accept all commonly used temperature or process inputs. Engineering units are displayed on a high efficiency Red LED display that provides excellent readability.

The DM3410 takes inputs directly from Pt100 or Thermocouple sensors for Temperature indication. The DM3420 current and voltage for Process indication. The DM3420 also has a transmitter power supply built in for excitation of 2 wire (4 to 20) mA process transmitters.

The highly innovative case design enables output option 'Pods' to be easily installed without the need for dismantling or re-calibration. 'Plug and Play' Pods are available covering:

- POD-02 2 x Relay outputs
- POD-03 Active or Passive Isolated re-transmission ((0 to 10) mA, (0 to 20) mA, (4 to 20) mA)

A maximum of 2 POD outputs can be fitted to each indicator. The indicator provides a transmitter power supply on the output to excite the POD-03 current retransmission. Output combinations are

- Dual Relay Pod and Retransmission Pod
- Dual Relay Pod and Dual Relay Pod
- Dual Relay Pod
- Retransmission Pod

The front panel is sealed to IP65 and the case has a moulded in rubber gasket enabling it to seal to the panel maintaining the IP65 rating, ideal for installing it in 'dusty' areas or where low pressure jets of water are used to clean down equipment. The unit is programmed using the three push buttons on the front panel where the user is guided through the configuration process.

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## ➤ SPECIFICATIONS @ 20 °C

### ➤ DM3410 UNIVERSAL TEMP. INDICATOR

The DM3410 accepts all common thermocouple and RTD types and displays the temperature digitally.

#### RTD (Pt100)

Sensor Range	(-200 to 850) °C, (18 to 390) Ω
Linearisation	Standard BS EN 60751 (IEC-751) BS 1904 (DIN 43760), JISC 1604
Basic Measurement Accuracy	0.1 °C ± 0.05 % rdg
Thermal Drift	Zero 0.008 °C/ °C Span 0.01 %/ °C
Excitation Current	(300 to 550) µA
Lead Resistance Effect	0.002 °C/ Ω
Maximum Lead Resistance	50 Ω / leg

#### THERMOCOUPLE (K,J,T,R,S,E,L,N)

Basic Measurement Accuracy	± 0.04 % FRI ± 0.04 % rdg or 0.5 °C (whichever is greater) FRI = Full Range Input
Linearisation	Standard BS EN 60584-1 (IEC 584-1)
Cold Junction Error	± 0.5 °C
Cold Junction Tracking	0.05 °C/ °C
Cold Junction Range	(-30 to 60) °C
Thermal Drift	Zero 0.1 µV/ °C Span 0.01 %/ °C

#### DISPLAY

4 Digit RED LED Standard	14.2 mm high/high intensity
4 Alarm RED LED Indicators	2.5 mm high numeric (Only when Relay option is fitted.)

#### ENVIRONMENTAL

Sealing	PANEL IP65
Ambient Operating Range	(-30 to 60) °C
Ambient Storage Temperature	(-50 to 85) °C
Ambient Humidity Range	(10 to 90) % RH non condensing

#### APPROVALS

EMC Emissions	BS EN50081-1
Susceptibility	BS EN50082-2

#### ELECTRICAL SAFETY

BS EN61010-1
UL Approved

## ➤ OUTPUT OPTIONS

### ➤ DM3420 PROCESS INDICATOR

The DM3420 accepts all common process signals, current or voltage, and displays the signal digitally in engineering units. An internal power supply provides excitation for field transmitters.

#### PROCESS

Voltage	Range	(0 to 1) V (1 to 5) V (0 to 10) V
Accuracy		0.05 % FS
Thermal Drift	Zero	0.1 µV/ °C
	Span	0.01 %/ °C
Current	Range	(0 to 20) mA (4 to 20) mA (0 to 10) mA
Input Impedance		47 Ω (current) 1 MΩ (voltage)
Accuracy		0.05 % FS
Thermal Drift		0.01 %/ °C
Excitation		24 V ± 5 % @ 50 mA
Linearisation		Linear, Square Root or Custom

## ➤ GENERAL

Input/Output Isolation	500 VAC rms (Galvanically Isolated)
Update Time	250 ms maximum
Time Constant (Filter off)	< 1 s (to 63 % of final value)
Filter Factor Programmable	Off, 2 s, 10 s or Adaptive
Warm-up Time	120 s to full accuracy
Display Range	-999 to 9999
Power Supply	S1 (90 to 253) VAC, (50 to 60) Hz S2 (20 to 35) VDC
Power Consumption	6 VA maximum (options fitted)

#### PLUG AND PLAY OPTION PODS

Simple plug in pre-calibrated units, no dismantling or re- calibration.

#### POD-3000/02 DUAL RELAY ALARM

Two independent mains rated relay outputs (common connection).

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
Electrical Life	10 <sup>5</sup> operations at rated load	
Mechanical Life	50 million operations	
Termination	Screw terminals	

#### POD-3000/03 ISOLATED RE-TRANSMISSION

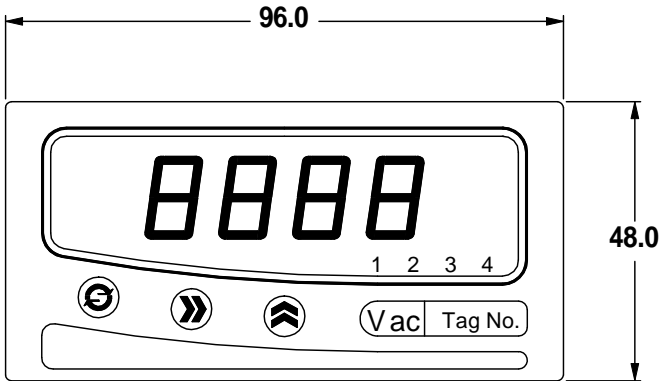
Ranges	(0 to 10) mA (Active or Passive) (0 to 20) mA (Active or Passive) (4 to 20) mA (Active or Passive)
Minimum Current Output	0 mA
Maximum Current Output	23 mA
Accuracy	0.07 % F.S.
Max. Output Load	Active 1 KΩ Passive [(Vsupply-2)/22] KΩ
Max. External Supply Voltage	30 V (Passive mode)
Voltage Effect	0.2 µA/ V
Ripple Current	< 3 µA
Breakdown Isolation	500 VAC
Stability	1 µA/ °C
Termination	Screw terminals

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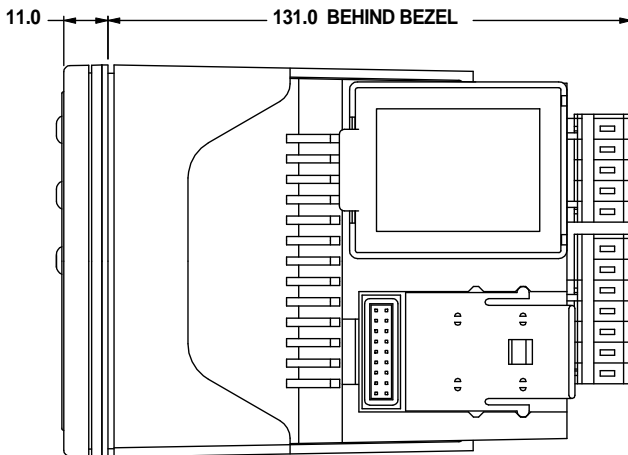
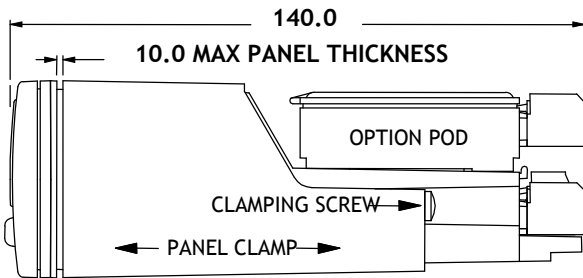
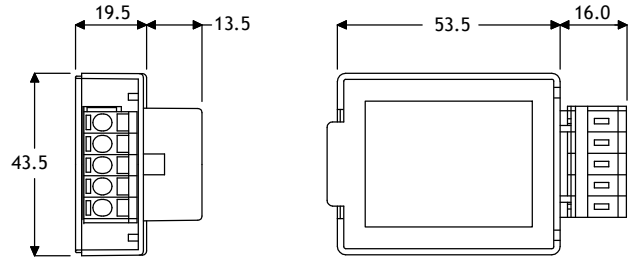
## MECHANICAL

Material ABS/PC  
 Flammability IEC707 FV0  
 UL 94V0  
 Weight 230 g  
 Panel cut out (92 x 45) mm

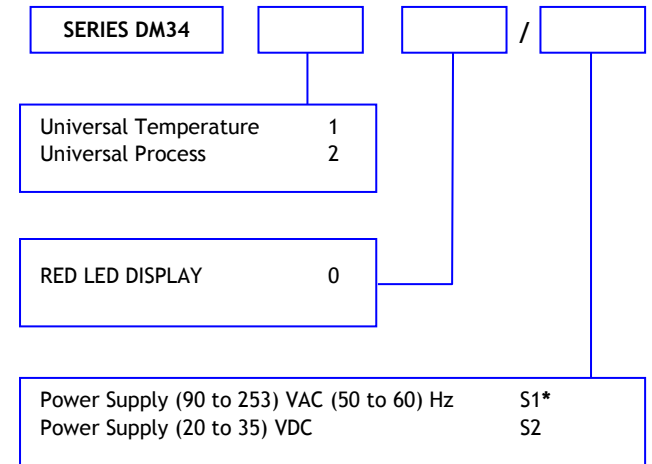
ALL DIMENSION IN mm



### OPTIONAL POD



### ORDER CODE



\* Note: Supplied as standard unless otherwise specified

### OPTIONS

POD -3000/02 Dual Relay Output (2 per unit max)  
 POD -3000/03 Isolated (4 to 20) mA re-transmission (1 per unit max)