



The Model 4015 4 digit (-1999 to 9999) LED Dual Channel Process Indicator can be applied to many applications which require a dual input and a single display eg. Temperature and humidity monitoring. Each channel is individually setup for zero , span, input type and more. The unit boasts a number of useful mathematical functions such as addition, subtraction, multiplication and division. The display as well as alarms, analogue out, peak hold can be selected using channel A, Channel B and the above mentioned mathematical functions.

Options include linearisation, analog output and set-points up to a total of four. Excitation is standard and is link selectable for 2-wire / 3-wire transmitters and a potentiometer input.

Selected options now feature 'Plug & Play' technology, allowing option boards to be ordered separately & field fitted when required.

FEATURES

- ❑ 1/8 DIN enclosure (45 x 92 cut-out), UL 94 V-0 flame retardant, 147mm depth
- ❑ Front panel IP 65 / NEMA 4 / UL Type 4 rating, bezel 48 x 96 mm
- ❑ -1999 to 9999 display counts, 14.2mm bright red LED display
- ❑ Dual channel process inputs of 0 - 20mA, 4 - 20mA and Volt input
- ❑ Dual 24Vdc supply for 2 / 3 wire transmitters
- ❑ Low cost - high performance design
- ❑ Built in mathematical features such as adding (summing) / subtracting (differential), multiplication and division of both inputs
- ❑ Keypad lockout standard
- ❑ Meets European EMC directive 89/336/EEC & Low Voltage directive 73/23/EEC
- ❑ 1 year guarantee

OPTIONS

3000	Lineariser (square root / sphere / & more)	3010	95-265V ac/dc isolated SMPS
3001-P	2 set points (solid-state relays)	3012	Peak / valley hold
3001-M	2 set points (electro-mechanical relays)	3013	RS 232 serial interface
3002	RS 485 serial interface	3014	Auto zero (with remote zero)
3003	0 - 20mA / 4 - 20mA / 0 - 10Vdc analogue output	3017-P	3 set points (solid-state relays)
3004-P	1 set point (solid-state relay)	3017-M	3 set points (electro-mechanical)
3004-M	1 set point (electro-mechanical relay)	3018-P	4 set points (solid-state relays)
3006	Isolated outputs (order with 3002/3/13)	3018-M	4 set points (electro-mechanical)
3008	10 - 30V galvanic isolated DC supply	3020	Ultra bright Red LED display
3009	Parallel BCD output	3025	Keypad lock
		3026	Display hold
		3028	8 - 30Vdc non isolated supply

NOTE : Most of the above options are factory fitted. Customer / field fitted options are available as 'plug-&-play' boards & software activated options. Contact factory for more information.

NOTE : Option 3009 cannot be ordered with any alarm options, or with option 3006.

SPECIFICATIONS

DISPLAY & OPERATION

Specification	4 digit (-1999 to 9999) bright red LED, 14.2mm high
Setup and calibration	Full digital with visual prompting in plain messages
Memory retention	Full non-volatile operation

ANALOG INPUT RANGES

0 - 20 mA	Input impedance 100 Ω	Other ranges on request
4 - 20 mA	Input impedance 100 Ω	
0 - 200 mV	Input impedance 100 k Ω	These inputs are all standard and are link selectable, with programmable zero, span and decimal point.
0 - 2 V	Input impedance 100 k Ω	
0 - 10 V	Input impedance 500 k Ω	
Potentiometer	Input impedance 100 k Ω	

ANALOG PERFORMANCE

Accuracy & linearity	0.05% of full scale, ± 1 display count
A/D Type & resolution	16 bit dual slope, 40 000 internal counts
A/D conversion rate	Approximately 7 per second
Temperature coefficient	20 ppm/ $^{\circ}$ C typically
Settling time (process inputs)	0.5 seconds
Settling time (frequency input)	5 msec (no averaging)
Power-up / self test time	1 - 3 seconds
Warm up time	None required

EXCITATION

(FOR EXTERNAL TRANSMITTERS & POTS)

Link selectable for:
24Vdc (17-26V), current limited. (For 2-wire transmitters).
5Vdc \pm 1%. Maximum 25mA.
2.5Vdc precision reference, 2mA maximum for potentiometer (2k Ω pot minimum).

Option: 24Vdc (17-26V), increased current capacity 100mA with option 3010.

ANALOG OUTPUT OPTION

Analog output isolation	Optional, 1500V input/output isolation (order option 3006)
Analog output accuracy	0.1% of full scale, 12-bits
Analog output temp. coefficient	20 ppm / $^{\circ}$ C typically
Current analog output load	500 Ω maximum (current is source, not sink)
Voltage analog output load	1 k Ω minimum

SET POINT OPTIONS

Adjustable settings:	Hysteresis, on delay, hi/lo, normally open/closed
Electro-mechanical relay:	
Rating	250Vac, 30Vdc, 2A, power factor 1
Form type	Form C (change-over contact)
Solid-state relay:	
Rating	400V ac/dc, 0.5A, power factor 1
Form type	Form A (normally open contact)

REGULATORY COMPLIANCE

Regulatory requirements	Complies with EC Directives 89/336/EEC & 73/23/EEC
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SERIAL INTERFACE OPTIONS

Serial interface
Isolation to input
Capabilities - Digibus protocol
Capabilities - Ascibus protocol

RS-232 or RS-485, 2400, 4800, 9600 & 19200 baud
Optional, 1500 V isolation (order option 3006)
Full remote control, except for field setup
- continuous output approximately 5 x second
- output on demand via print button
- output on demand via serial request

ENVIRONMENTAL

Operating temperature range
Service temperature range
Storage temperature range
Humidity

-10 to +50 °C
-15 to +60 °C
-40 to +80 °C
< 85% non-condensing

MECHANICAL SPECIFICATIONS

Dimensions
Protection
Front panel rating

DIN 1/8, 96 mm wide x 48 mm high x 147 mm deep
Industrial strength, UL 94 V-0 flame retardant ABS plastic
IP 65 / NEMA 4 / UL Type 4 with supplied o-ring seal

POWER SUPPLY

STANDARD

115 / 230Vac ± 10% (standard), link selectable, 50/60Hz, 5VA typical

OPTIONAL

10V-30Vdc isolated switch mode power supply option (Option 3008), 5VA typical

95V-265V ac/dc switch mode power supply option (Option 3010), 5VA typical

8V-30Vdc non-isolated dc power supply (Option 3028), 5VA typical

ORDERING EXAMPLE

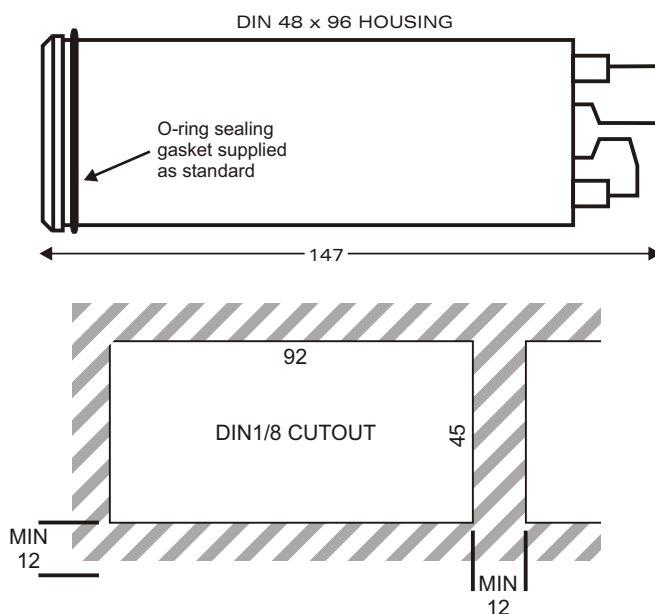
Option modules (see page 1)

MODEL 4015 - 3001P - 3003

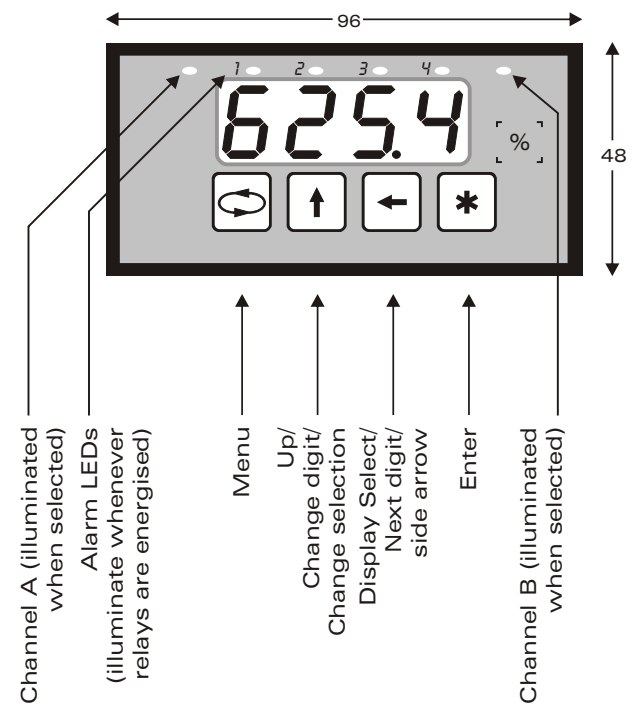
Input : 4 - 20 mA
Display : 0 - 100.0 %
Aux Supply : 230 Vac
Analog output : 4 - 20 mA = 0 - 100.0 %
Setpoints : 2 setpoints with solid state relays

FRONT PANEL

DIMENSIONS & CUTOUT

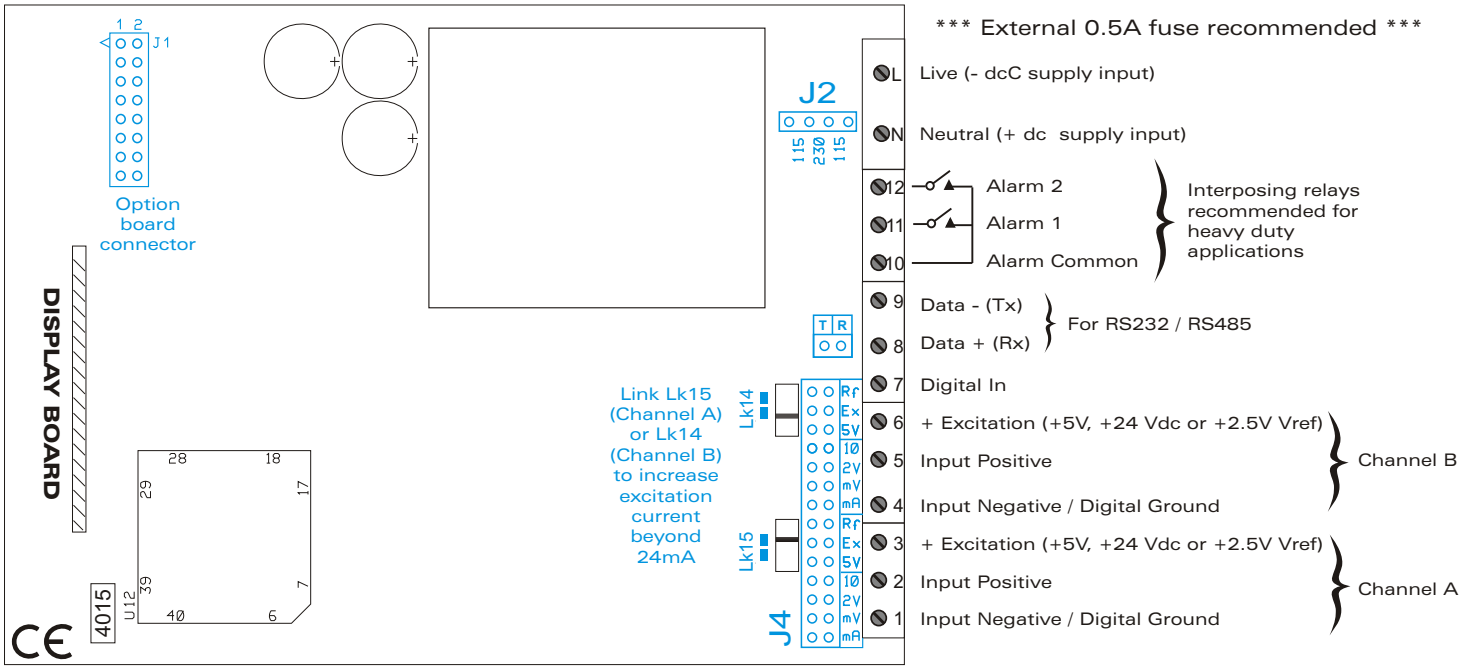


DIN 48 x 96 industrial strength single piece housing
Flame retardant ABS plastic (meets UL 94 V-0)
Front panel rating is IP65 with supplied O-ring seal



Dimension in mm

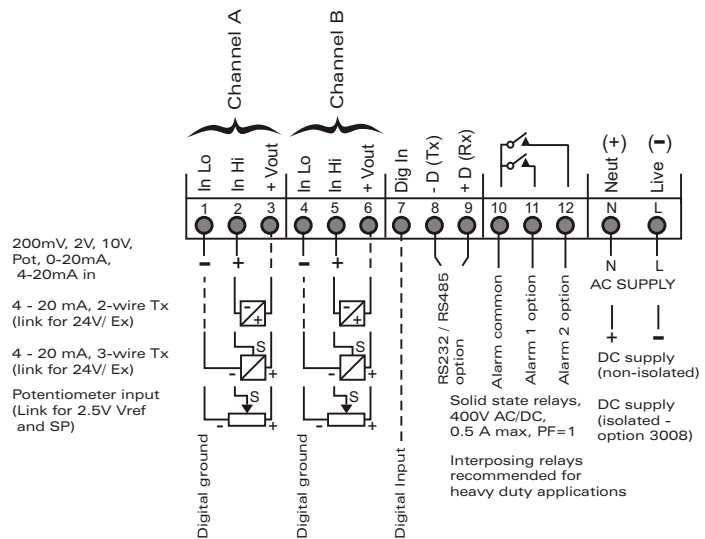
PINOUT



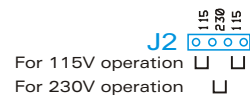
INTERNAL LINKS

Channel	Terminal	mA	200 mV	2 V	10 V	+5Vdc	+24Vdc, current limited	+2.5V Vref
Channel A	INPUT							
	mA	X	X					
	200 mV		X	X				
	2 V			X				
	10 V				X			
	Terminal 3 voltage output					X		
	+5Vdc					X		
	+24Vdc, current limited						X	
	+2.5V Vref							X
Channel B	INPUT							
	mA				X	X		
	200 mV				X	X		
	2 V				X			
	10 V					X		
	Terminal 3 voltage output					X		
	+5Vdc					X		
	+24Vdc, current limited						X	
	+2.5V Vref							X

APPLICATION EXAMPLES



POWER SUPPLY LINKS



GUARANTEE

This product is guaranteed against faulty workmanship or defective material, for a period of 2 (two) years from date of delivery by the Manufacture.

The Manufacture undertakes to replace without charge all defective equipment which is returned to it (transportation costs prepaid) during the period of guarantee, provided there is no evidence that the equipment has been abused or mishandled in any way.

The Manufacture reserves the right to alter any specification without notice.

