

## Dual Channel Programmable 4 Digit Process Indicator Model DPM-4015 AL



### DESCRIPTION

The Model DPM-4015 AL and the Model DPM-5015 AL are Dual Channel Process Indicators which 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 of the two input channels. The display as well as alarms, analogue out, peak hold can be selected using channel A, channel B or the above mentioned mathematical functions.

Options include linearisation, analog outputs and set-points up to a total of four relays. 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.

Model DPM-4015 AL is a 4 digit (-1999 to 9999) indicator, while Model DPM-5015 AL is a 5½ digit (-199999 to 199999) indicator.

### 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 available at no extra charge
- Meets European EMC directive 89/336/EEC & Low Voltage directive 73/23/EEC
- 3 year guarantee

### OPTIONS

DPM-3000 AL	Lineariser (square root / sphere / & more)	DPM-3010 AL	95-265V AC/DC isolated power supply
DPM-3001-P AL	Two setpoints (solid-state relays)	DPM-3012 AL	Peak / valley hold
DPM-3001-M AL	Two setpoints (electro-mechanical relays)	DPM-3013 AL	RS 232 serial interface
DPM-3002 AL	RS485 serial interface	DPM-3014 AL	Auto zero (with remote zero)
DPM-3003 AL	0 – 20mA / 4 – 20mA analogue output	DPM-3017-P AL	3-setpoints (solid-state relays)
DPM-3004-P AL	One setpoint (solid-state relay)	DPM-3017-M AL	3-setpoints (electro-mechanical)
DPM-3004-M AL	One setpoint (electro-mechanical relays)	DPM-3018-P AL	4-setpoints (solid-state relays)
DPM-3006 AL	Isolated outputs (order with 3002/3/7/13)	DPM-3018-M AL	4-setpoints (electro-mechanical)
DPM-3007 AL	0 – 10V analogue output	DPM-3020 AL	Ultra bright Red LED display
DPM-3008 AL	12 / 24V galvanic isolated DC supply	DPM-3025 AL	Keypad lockout
DPM-3009 AL	Parallel BCD output	DPM-3026 AL	Display hold

**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 DPM-3009 AL cannot be ordered with any alarm options, or with option DPM-3006 AL.

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**Dual Channel Programmable  
4 Digit Process Indicator  
Model DPM-4015 AL  
Model DPM-5015 AL**

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## 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

### ANALOGUE INPUT RANGES

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

### ANALOGUE PERFORMANCE

Accuracy & linearity	0.05% of full scale, $\pm 1$ display count
A/D Type & resolution	16 bit dual slope, 40000 internal counts
A/D conversion rate	Approximately 7 per second
Temperature coefficient	20ppm / °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:  
 24 VDC (17-26V), current limited. For 2-wire transmitters.  
 5VDC  $\pm 1\%$ . Maximum 25mA.  
 2.5 VDC precision reference, 2mA maximum for potentiometer (2k $\Omega$  pot minimum)  
 Option: 24 VDC (17-26V), increased current capacity 100mA with option DPM-3010 AL.

### ANALOGUE OUTPUT OPTION

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

### SET POINT OPTIONS

Adjustable settings:	Hysteresis, on delay, hi/lo, normally open/closed
Electro-mechanical relay:	
Rating	250V AC, 30V DC, 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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<b>E</b>	<b>Dual Channel Programmable          4 Digit Process Indicator          Model DPM-4015 AL          Model DPM-5015 AL</b>	<b>Andreas Lang GmbH</b> Industrievertretung & Service Bahnhofstraße 33 D - 61137 Schöneck Telefon: +49 (0) 6187 88 54 +49 (0) 6187 88 60 Telefax: +49 (0) 6187 88 71 WebSite: <a href="http://www.alanggmbh.de">www.alanggmbh.de</a> E-Mail: <a href="mailto:info@alanggmbh.de">info@alanggmbh.de</a>
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## SERIAL INTERFACE OPTIONS

Serial interface:	RS-232 or RS-485, 2400, 4800, 9600 & 19200 baud
Isolation to input:	Optional, 1500V isolation (order option DPM-3006 AL)
Capabilities – DIGIbus protocol	Full remote control, except for field setup
Capabilities – ASCIIbus protocol	- continuous output approximately 5 x second - output on demand via print button - output on demand via serial request

## ENVIRONMENTAL

Operating temperature range	-10°C to +50°C
Service temperature range	-15°C to +60°C
Storage temperature range	-40°C to +80°C
Humidity	< 85% non-condensing

## MECHANICAL SPECIFICATIONS

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

## POWER SUPPLY

### STANDARD

115 / 230 VAC  $\pm$  10% (standard), link selectable, 50/60 Hz, 5VA typical

### OPTIONAL

8V-30VDC isolated switch mode power supply option (Option DPM-3008 AL), 5VA typical

95V – 265V AC/DC switch mode power supply option (Option DPM-3010 AL), 5VA typical

10V-30VDC non-isolated DC power supply (Option DPM-3028), 5VA typical

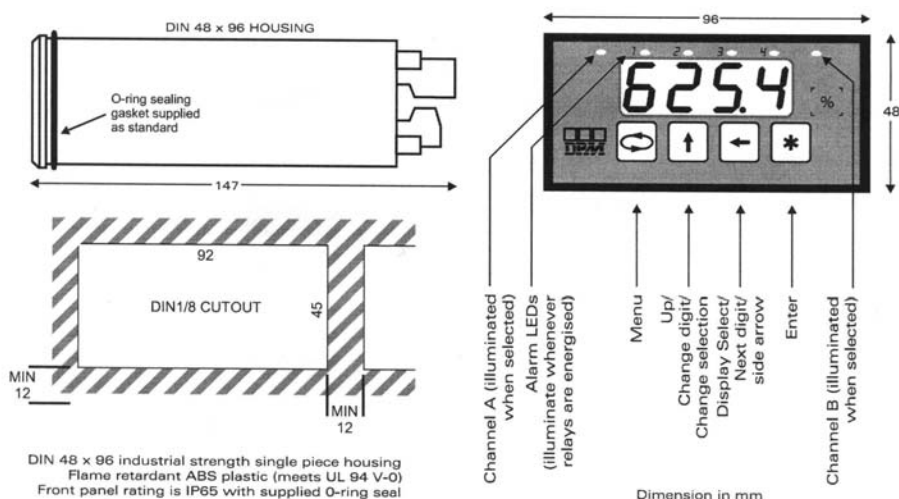
## ORDERING EXAMPLE

**MODEL DPM-4015 AL – DPM-3001-P AL – DPM-3003 AL**

Option modules (see page 1)

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

## FRONT PANEL DIMENSIONS & CUTOUT



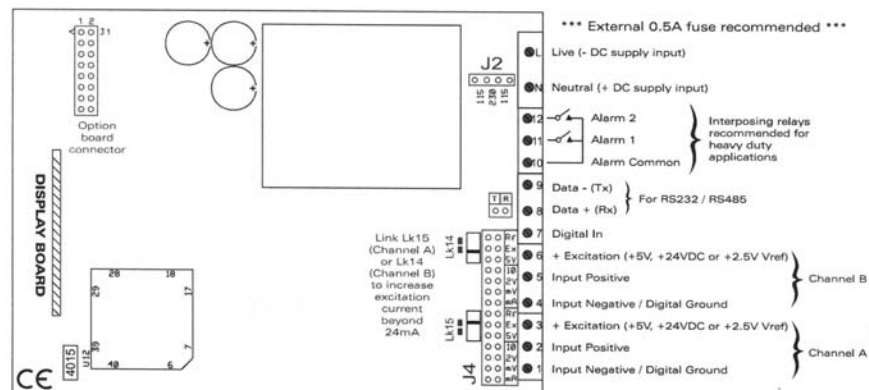
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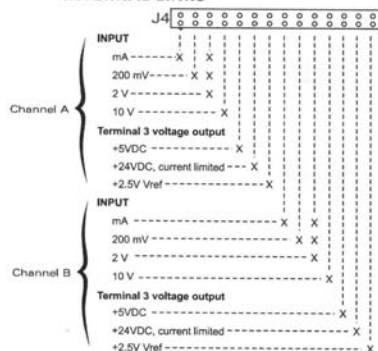
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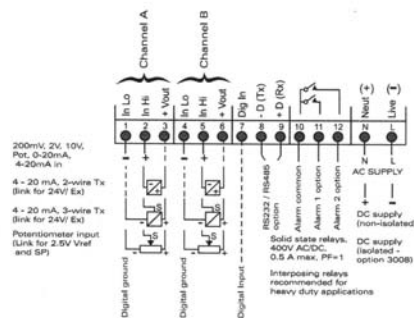
## PINOUT



### INTERNAL LINKS



### APPLICATION EXAMPLES



### POWER SUPPLY LINKS



## GUARANTEE

This product is guaranteed against faulty workmanship or defective material, for a period of 3 (three) years from date of delivery by Andreas Lang GmbH.

Andreas Lang GmbH 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. Andreas Lang GmbH reserves the right to alter any specification without notice.

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