



Model 4004

Model 5004



The Model 4004 or 5004 LED load cell indicator is an easy-to-use precision programmable digital indicator for load cell and strain gauge applications. Inputs to the instrument include load cell input (6 wire) and two digital inputs for remote tare and remote peak hold reset (optional). The excitation includes sense feedback to compensate for cable loss. Digital filtering for better stability and tare function is included as standard. Options include programmable analog output, set-points up to four alarms, peak or valley hold, RS232/485 serial interfaces and more.

The Model 5004 has additional features. It has a 20-bit analog to digital converter for ultra-high resolution, and the excitation is user selectable for normal or barriered applications. Display increment (steps) is standard. A switching power supply is standard to power four load cells.

A feature of these programmable indicators is the calibration method. The instrument can be pre-calibrated without load cell connections for zero and full scale values, & then on-site calibration can be done for deadweight offset and span calibration (single point test weight trim).

## FEATURES

- ❑ Model 4004: -1999 to 9999 display counts, 14.2 mm height bright red LED display
- ❑ Model 5004: -199999 to 199999 display counts, 14.2 mm height bright red LED display
- ❑ Model 5004 only: User selectable excitation for normal or barriered applications
- ❑ Model 5004 only: 95-265V AC/DC power supply to power up to 8 load cells
- ❑ 1/8 DIN enclosure (Bezel 48 x 96 mm with 45 x 92 cut-out), UL 94 V-0 flame retardant
- ❑ Front panel IP 65 / NEMA 4 / UL Type 4 rating with o-ring seal provided.
- ❑ Simple on-site calibration for deadweight & single point span calibration
- ❑ 4-wire bipolar excitation (6 wires total)
- ❑ Meets European EMC directive 89/336/EEC & Low Voltage directive 73/23/EEC
- ❑ 2 year guarantee

## OPTIONS

- |  |  |
|--|--|
| 3001-P 2 set points (solid-state relays)             | 3012 Peak or valley hold (min or max hold)     |
| 3001-M Two setpoints (electro-mechanical relays)     | 3013 RS 232 serial interfaces)                 |
| 3002 RS 485 serial interface                         | 3017-P 3 setpoints (solid-state relays)        |
| 3003 0 - 20mA / 4 - 20mA / 0 - 10Vdc analogue output | 3017-M 3 setpoints (electro-mechanical relays) |
| 3004-P 1 set point (solid-state relay)               | 3018-P 4 setpoints (solid state relays)        |
| 3004-M 1 set point (electro-mechanical relay)        | 3018-M 4 setpoints (electro-mechanical relays) |
| 3006 Isolation (order with 3002/3/13)                | 3020 Ultra bright red LED display              |
| 3008 8 -30Vdc Galvanic isolated DC supply            | 3022 Vertical bar graph display (4004 only)    |
| 3009 Parallel BCD output                             | 3025 Key pad lock (Standard)                   |
|  | 3026 Display hold                              |

# SPECIFICATIONS

## DISPLAY

Display on Model 4004  
Display on Model 5004

4 digit (-1999 to 9999) bright red LED, 14.2mm high  
5½ digit (-199999 to 199999) bright red LED, 14.2mm high

## OPERATION

Setup and calibration  
Memory retention  
Digital filter

Full digital with visual prompting in plain messages  
Full non-volatile operation  
Low pass with user selectable values

## INPUT AMPLIFIER

Sensitivity adjust (Model 4004)  
Sensitivity adjust (Model 5004)  
Zero drift  
Span drift  
Input impedance  
Accuracy & linearity  
Warm up time

1 mV/V, 2 mV/V, 3 mV/V and 10 mV/V (2 mV/V default)  
Up to 3.00 mV/V full scale (2.00 mV/V default)  
0.1µV / °C typically  
20 ppm / °C typically  
20 Mohms  
0.05% of full scale, ± 1 display count  
20 minutes

## EXCITATION - MODEL 4004

10V  
10V  
Load cell connection

4 x 350 ohm load cell  
4 x 1000 ohm load cells  
6 wire + shields (sense included)

## EXCITATION - MODEL 5004

(LINK SELECTABLE)

10V  
applications) 10V  
5V  
5V  
3.3V  
Load cell connection

Up to 4 x 350 ohm load cells (default for most  
Up to 8 x 1000 ohm load cells  
Up to 8 x 350 ohm load cells  
For barriered applications up to 2 load cells  
For barriered applications up to 4 load cells  
6 wire + shields (sense included)

## A/D CONVERTER - MODEL 4004

A/D Type  
Resolution  
A/D conversion rate

16 bit dual slope  
40 000 internal counts  
Approximately 5 per second

## A/D CONVERTER - MODEL 5004

A/D Type  
Resolution  
A/D conversion rate

20 bit sigma delta  
1 000 000 internal counts  
Approximately 5 per second

## DIGITAL INPUTS

Digital input no. 1  
Digital input no. 2 (optional)

Remote input for tare  
Remote input for peak / valley reset

## ANALOGUE OUTPUT OPTION

Analog output isolation  
Analog output accuracy  
Analog output resolution  
Analog output temp. coefficient  
Current analog output load  
Voltage analog output load

Optional, 1500V input/output isolation (order option 3006)  
0.1% of full scale  
12 bits  
20 ppm / °C typically  
500 ohm maximum (current is source, not sink)  
1 kohm 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)

## SERIAL INTERFACE OPTIONS

Serial interface	RS-232 or RS-485, 2400, 4800, 9600 & 19200 baud
Isolation to input	Optional, 1500V isolation (order option 3006)
Capabilities - Digibus protocol	Full remote control, except for field setup
Capabilities - Ascibus protocol	- continuous output approximately 5 x second - output on demand via print button - output on demand via serial request - Optional on 5004: Time & date stamping (contact factory)

## ENVIRONMENTAL

Operating temperature range	-10 to +50°C
Service temperature range	-15 to +60°C
Storage temperature range	-40 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

## REGULATORY COMPLIANCE

Regulatory requirements	Complies with EC Directives 89/336/EEC & 73/23/EEC
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## POWER SUPPLY OPTIONS

Standard power supply on Model 4004:  
95V - 265 V AC / DC Isolated supply, 10 VA max, powers 4 load cells.

Standard power supply on Model 5004:  
95V - 255V AC / DC Isolated supply, 10 VA max, powers 4 load cells.

Optional power supplies:  
Option 3008 : Internal 8 - 30 V DC Isolated supply, 10 VA typ, powers 4 load cells.

## ORDERING EXAMPLE

When ordering, please specify :

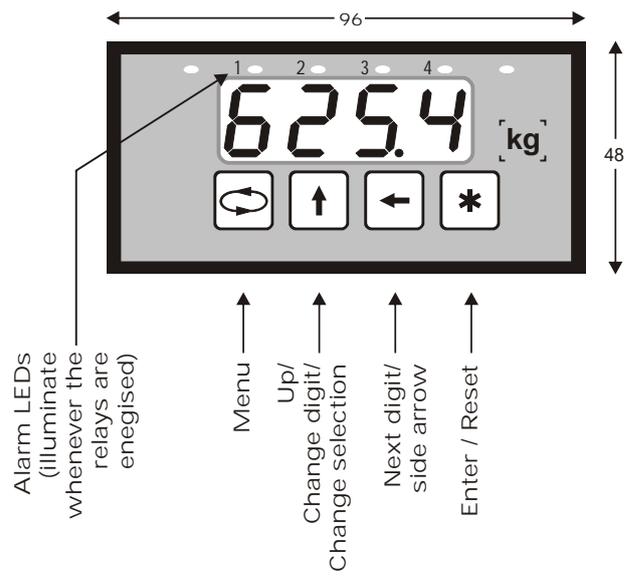
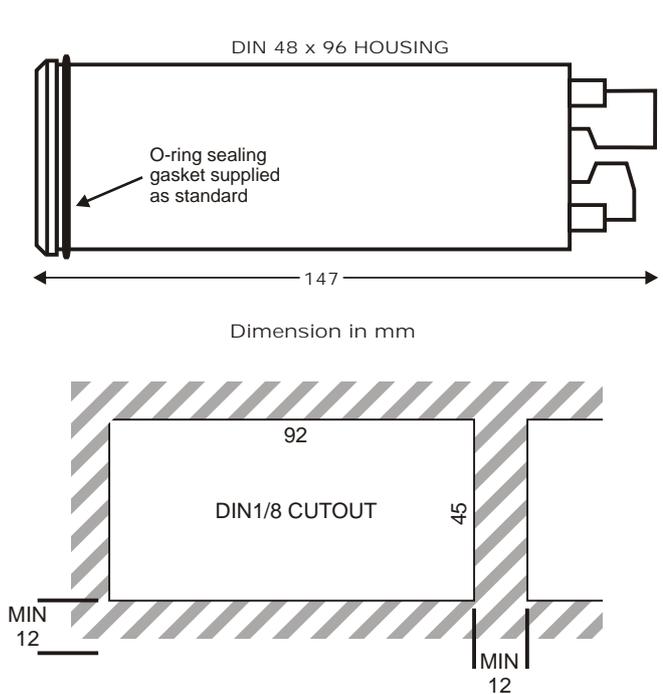
- Supply voltage
- Load cell sensitivity in mV/V
- Load cell capacity (rating)
- Number of load cells in parallel
- Analog output range if applicable

Option modules (see page 1)

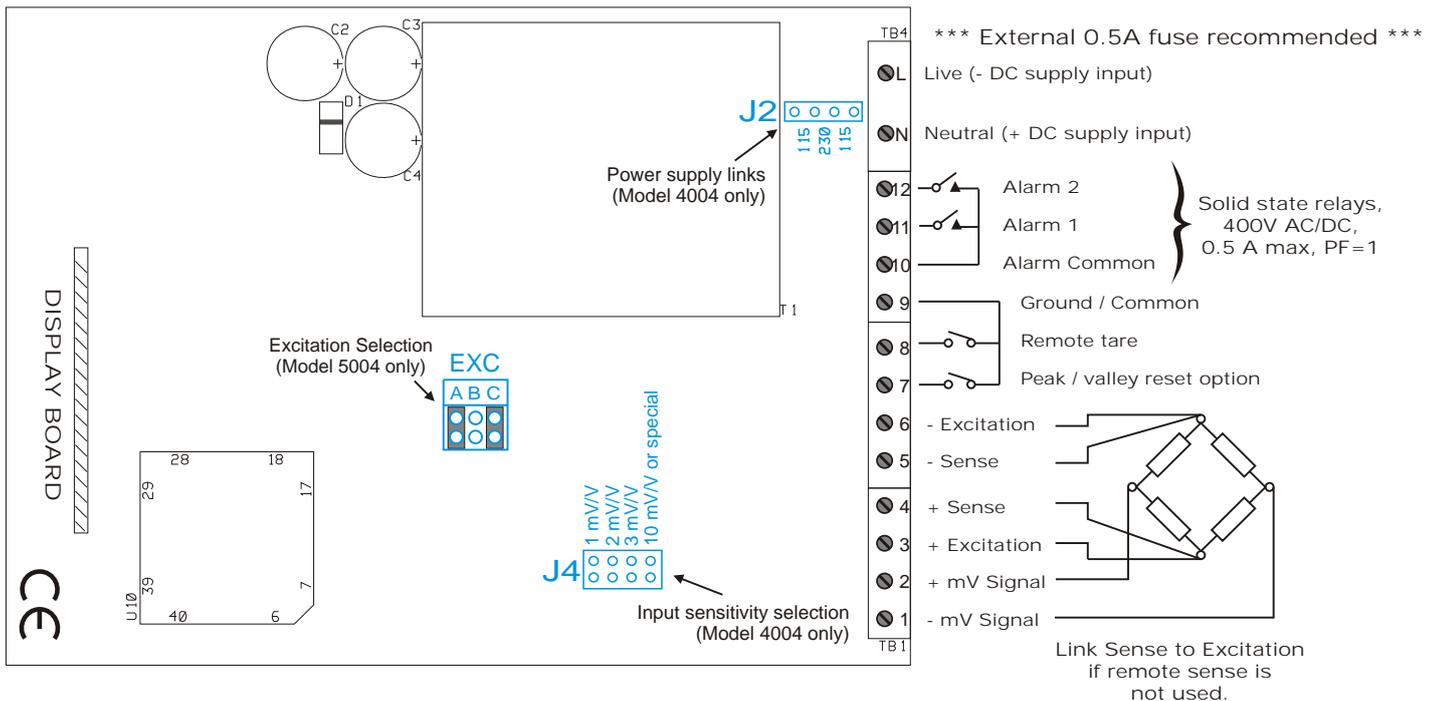
MODEL 5004 - 3001P - 2 mV/V

"5½ digit loadcell indicator with  
dual alarm, 2mV/V sensitivity"

# DIMENSIONS, CUTOUT & WIRING



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



## GUARANTEE

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

The Manufacturer 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 Manufacturer reserves the right to amend any specification without notice.

