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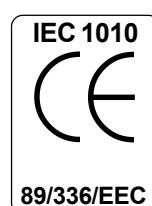
E-Mail [help@london-electronics.com](mailto:help@london-electronics.com)

<http://www.london-electronics.com>

## *Model BAR50x1*

Single Bargraph for Process Measurement

144 x 72 mm 50 segments



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## Important Warnings



**Carefully read all warnings and ONLY install the meter when you are sure that you have properly covered each point.**

- \* Connect the meter according to current IEE regulations and separate all wiring according to IEC1010.
- \* Power supplies to this equipment must have anti-surge (T) fuses at 125mA for 230V supply, 250mA for 110V supply or 1A for DC supplies in the range 11-30VDC.
- \* Check that the model number and supply voltage suit your application before you install the meter.
- \* Don't touch any circuitry after you have connected the meter, because there may be lethal voltages on the circuit board.
- \* We designed this meter for Installation class II service only. This means it has exposed electrical and power terminals, so you must install it in an enclosure to protect users from electric shock.
- \* We designed this meter for Pollution-Degree 2 environments only. This means you must install it in a clean, dry environment, unless it has extra protection from a splashproof cover, such as our SPC4
- \* Only adjust on-board switches or connections with the power turned off
- \* Make sure all screw terminals are tight before you switch the meter on.
- \* Only clean the meter with a soft damp cloth. Only lightly dampen with water. Do not use any other solvents.

***Safety First .....Don't assume anything..... Always double check. If in doubt, ask someone who is QUALIFIED to help you in the subject.***

## Introduction

Please contact us if you need help, if you have a complaint, or if you have suggestions to help us improve our products or services for you.

If you contact us about a product you already have, please tell us the full model number and serial number, so that we can give you accurate and fast help.

This product has a 2 year warranty. We will put right or replace any meter which is faulty because of bad workmanship or materials. This warranty does not cover damage caused by misuse or accident.

### ***IMPORTANT***

If this equipment is important to your process, you may want to buy a spare to cover possible failure or accidental damage in the future.

This is because at some times, for example during our factory shutdown periods, you may have to wait several weeks for an equivalent replacement. Or, we may have no stock at the time you urgently need it.

You may also need to pay extra carriage charges if you want a fast, guaranteed courier service. Warranty repairs or replacements are normally returned with a standard courier service.

We do not offer any compensation for losses caused by failure of this instrument.

If you do not agree with these conditions, please return this item now, in unused, clean condition, in its original packaging and we will refund the purchase price, excluding any carriage paid.

We thought you'd prefer to know about possible delays and extra charges now, rather than during a panic.

We always try to improve our products and services, so these may change over time. You should keep this manual safely, because future manuals, for new designs, may not describe this product accurately.

We believe these instructions are accurate, and that we have competently designed and manufactured the product, but please let us know if you find any errors.

# Specifications

## Input Signals

Ranges.....	4-20mA / 2.5 to 12.5 V DC
Input Resistance.....	22 Ohms / 1 Megohm
Sensor Excitation .....	24V DC , 30 mA max.
Resolution.....	1 in 50 (2%)
CMRR.....	70 dB DC at 450 Hz.
NMRR.....	56 dB 45 at 10000 Hz.
Open-circuit response.....	Lowest segment flashes
Response time.....	0.5 to 5.0 seconds, selectable at rear.
Accuracy.....	+/- 2 % of range
Thermal stability.....	100 ppm of range/C for Offset and Gain
Conversion A/D.....	Dual slope integrator

## Display

Type.....	LED
Size.....	50 segments, scale length 125 mm
Colour .....	Red

## Power

Voltage Range .....	95-265 VAC
Consumption.....	Up to 4VA

## Mechanical

Bezel area.....	72 mm wide x 144 mm high
Panel cutout.....	64 mm wide x 136 mm high, +1mm, -0mm
Depth behind panel.....	155 mm including cables
Weight.....	750 grams typically
Case material.....	Black Glass-Reinforced plastic (GRP)

## Environment

Operating temperature.....	-20 to +50 degrees C
Storage temperature.....	-40 to +85 degrees C
Humidity.....	90% rh max. at 40 C, non-condensing

# Connections



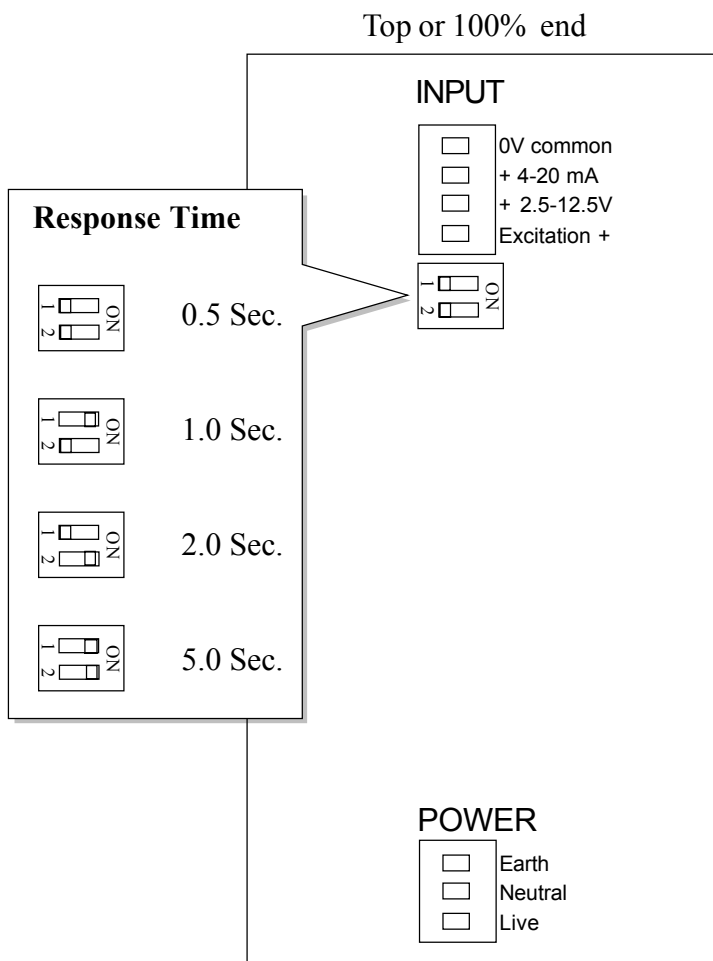
Use screened cable for the input signal and connect the screen to power earth at the meter end of the cable only.

Keep the signal cable away from the power and alarm cables, because these could carry electrical noise which may interfere with your measurements.

Case depth is 125mm. The cables don't add any extra depth. Detachable screw terminal connectors allow rapid installation and servicing.

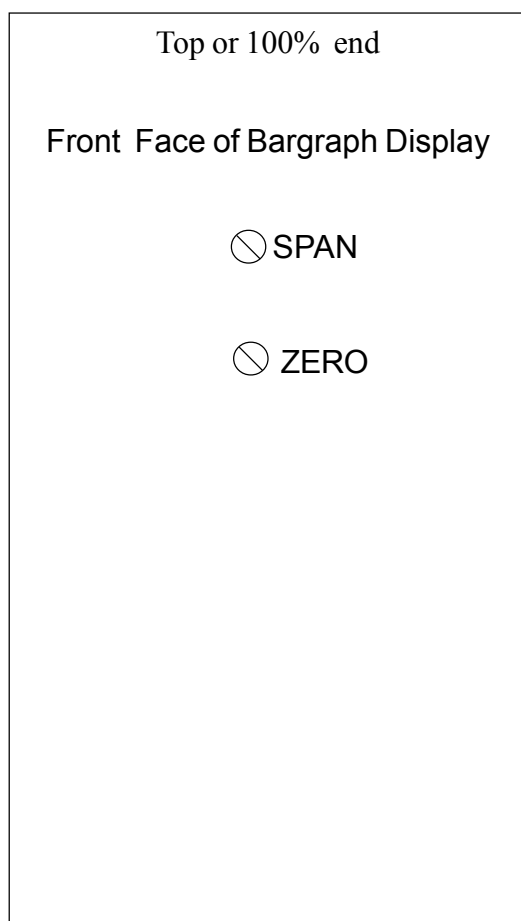
Use multistrand insulated wire, with ferrules to DIN46228/1.

You can use stripped wire with cross sectional area from 0.5 to 2.5mm<sup>2</sup>. Strip back the insulation 7mm.



# Calibration

- 1) Check that the correct power voltage is available and switch on the bargraph.
- 2) Connect a signal source to the input, to adjust or check calibration. To adjust calibration, you'll need to remove the front lens to expose the ZERO and SPAN pots. You'll need to unclip the front bezel to do this. Keep the scale sheet and lenses in a safe place, to prevent damage or loss.
- 3) Apply 2% of input range and adjust the ZERO pot, if necessary, so that the lowest segment is permanently lit (not flashing)
- 4) Apply 98% of input range and adjust the SPAN pot, if necessary, so that only the upper segment is unlit.
- 5) Repeat until you don't need to make any more adjustments.
- 6) Apply in turn 25% , then 50%, then 75% of input and check that the bargraph level corresponds correctly to the scale.
- 7) Replace the scale sheet and lens, and secure with the bezel clip.



# Declaration of Conformity

Declaration Number : EMC-BAR50 Iss. 1  
Issue Date : 2 September 1997  
Products Covered : BAR50  
Title : 50 segment 144x36mm bargraph

This is to confirm that the Product covered by this declaration has been designed and manufactured to meet the following specifications :

EN55022:1987 Conducted Emissions: Class B  
EN55022:1987 Radiated Emissions : Class B  
IEC801-2:1984 Electro-Static Discharge Immunity: 8kV Air  
IEC801-3:1984 Radiated ElectroMagnetic field Immunity: 3V/m

Thus the product conforms with the applicable sections of the following standards:

EN50081-1:1992 (normative)  
EN50082-1:1992 (normative)

and complies with the requirements of Council Directive 89/336/EEC relating to Electro-Magnetic Compatibility, & is designed to meet 72/23/EEC safety directive.

## Conditions

The meters are permitted a worst case error of 2% of A/D range during electro-magnetic disturbance, and must recover automatically when disturbance ceases without the need for human intervention, such as resetting, power-down etc.

The meters covered by this certificate must be installed in adherence to the following conditions :-

Signal cabling shall be routed separately to power carrying cabling.

All signal cabling shall be screened. The screen shall only be terminated to the power earth terminal

This certificate applies only to meters carrying Serial Numbers 701001 or higher.

Signed as true and correct, for and on behalf of London Electronics Ltd.

Warren Court, Beds.UK

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J.R.Lees Director