

The new **BA504D** is a third generation, general purpose field mounting indicator housed in a robust IP66 GRP enclosure incorporating a separate terminal compartment and dedicated access to the instrument controls. Retaining all the features of the popular BA504C, this new indicator provides improved display visibility, plus simplified installation, calibration and routine inspection facilities.

Like its predecessor, the BA504D displays the current flowing in a 4/20mA loop in accurate engineering units. The instrument is loop powered but only introduces a 1V drop allowing it to be installed in series with almost any 4/20mA loop.

**Main application** of the BA504D is to display a measured variable or control signal in a process area. The zero and span of the display are independently adjustable so that the indicator can be calibrated to display any variable represented by a 4/20mA current, such as temperature, pressure, level or actuator position. When used with a differential flow transmitter an optional square root extractor enables the BA504D to display flow in linear engineering units.

**The enclosure**, which is moulded in glass reinforced polyester (GRP), has stainless steel fittings, silicone gaskets and an armoured glass window. Its robust construction provides IP66 protection which has been independently assessed by ITS - report available. A separate terminal compartment allows the instrument to be installed and terminated without exposing the display electronics. To further simplify field wiring and subsequent inspection, the terminal cable entries and the clamping screws are both forward facing. Additional terminals are provided which may be used to link the return 4/20mA conductor and the cable screens. A separate sealed cover provides access to

the plug-in calibration links and potentiometers without exposing the display electronics or field terminals.

**Separately powered backlighting** is available as an option. The orange output enhances daylight contrast and enables the display to be read when the instrument is installed in a poorly illuminated area.

**An optional internal calibrator** simulates a 4 and 20mA input current so that the indicator may be recalibrated without the need for test equipment or disconnection from the 4/20mA loop. Although not providing independent verification, it is an effective way to quickly check performance or to recalibrate.

**Units of measurement** and the instrument application or tag number can be economically marked onto the display escutcheon prior to despatch or after installation on-site. Alternatively, for customers who prefer an etched stainless steel label, the indicator can be supplied with a custom etched stainless steel legend plate mounted on the terminal cover.

**Reliability is ensured** by an ISO9001 approved quality control system supported by a three year guarantee. The BA504D is protected from reverse connection and overrange input currents and incorporates extensive radio frequency filtering to comply with the European EMC Directive. The indicator assembly can be removed from the enclosure without disconnecting the field wiring or disturbing the 4/20mA loop, continuity being maintained by a diode within the terminal assembly.

**If flammable atmospheres are present** either the BA304D or BA304ND should be used. Both have the same features as the BA504D, and have been certified for use in hazardous areas.

# BA504D

2-wire 4/20mA  
3½ digit indicator

*General purpose*

- ◆ Loop powered only 1V drop
- ◆ ±1999 display 25.4mm high
- ◆ IP66 GRP enclosure with separate terminal compartment
- ◆ Optional:
  - Display backlight
  - Root extractor
  - Calibrator
- ◆ 3 year guarantee

**BEKA**  
associates

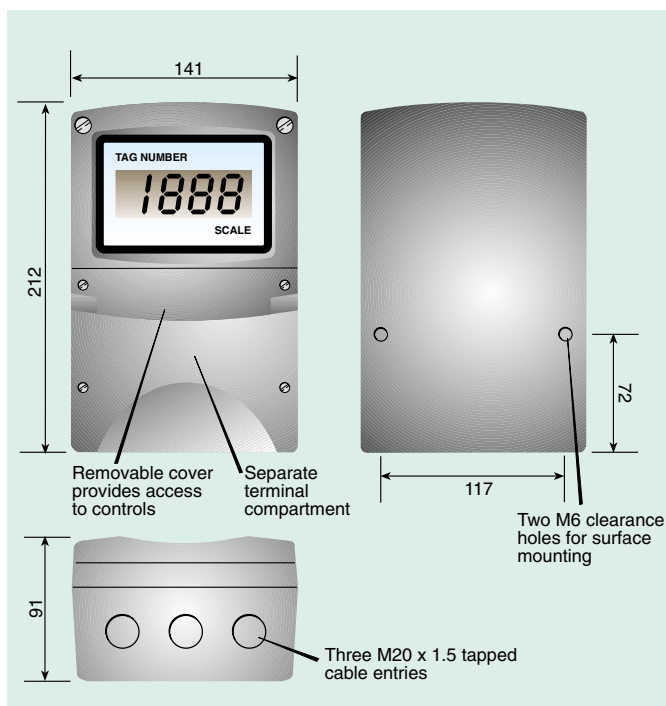
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## SPECIFICATION

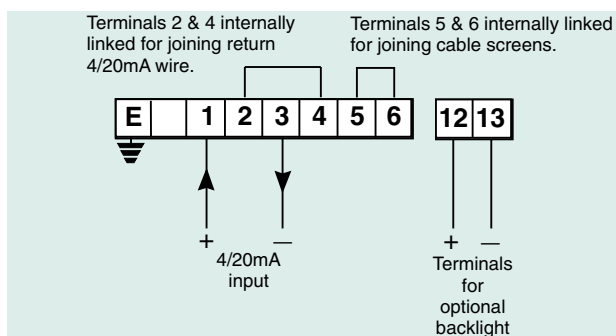
<b>Input</b>	
Current	4 to 20mA
Voltage	Less than 1V at 20°C Less than 1.1V at -20°C
Overrange	±200mA will not cause damage
<b>Display</b>	
Type	Liquid crystal 25.4mm high 3½ digit (-1999 to 1999)
Zero	Adjustable between ±1000 with 4mA input.
Span	Adjustable between 0 & 1999 for a 4 to 20mA input.
Decimal point	1 of 3 positions or absent
Polarity	Automatic minus sign
Direction	Display may increase or decrease with increasing current. Factory set option.
Reading rate	2.5 per second
Over & underrange	3 least significant digits are blanked
<b>Accuracy</b>	
At 20°C	± 1 digit
Temp. effect	
Zero	Typ ±0.05 digit ± 100ppm/°C Max ±0.1 digit ± 200ppm/°C
Span	Typ ±50ppm/°C: Max ±100ppm/°C
Series mode	Typ 1 digit error for 1mA pk to pk 50Hz or 60Hz signal.
<b>Environmental</b>	
Operating temp	-20 to +60°C
Storage temp	-40 to +85°C
Humidity	To 95% at 40°C
Enclosure	IP66 see ITS report 87IV0383A
EMC	In accordance with EU Directive 89/336/EEC, full report available.
Immunity	Less than 1% of span error for 10V/m field strength between 27MHz and 1GHz.
Emissions	Undetectable above background noise Class B equipment.
<b>Mechanical</b>	
Terminals	Screw clamps for 0.5 to 1.5mm² cables
Weight	1.6kg
<b>Accessories</b>	
Display backlight	LED backlight
Vin	18 to 30V dc, may be dimmed by reducing voltage below 18V.
Iin	40mA typical
Root extractor	
Accuracy	±16µA at input ±1 digit for inputs between 4.16 and 20mA (10 to 100% flow). Selectable by plug-in link. Operates at 4.04mA (5% flow). <i>Not available with calibrator</i>
Clip-off	
Calibrator	Simulates 4 and 20mA input, selected by plug-in link. <i>Not available with root extractor</i>
Scale legend	Units of measurement marked on display escutcheon.
Tag legend	Tag number or applicational information marked on display escutcheon.
Stainless legend plate	Stainless steel plate secured to terminal cover, etched with tagging or applicational information. *
Pipe mounting kit	2 kits are available BA392D and BA393 *

\* See accessory datasheet for details

## DIMENSIONS (mm)



## TERMINAL CONNECTIONS



## HOW TO ORDER

	<b>please specify</b>
Model number	BA504D
Display at 4mA	XXXX ] Include position of decimal
Display at 20mA	XXXX ] point & sign if negative #

	<b>please specify if required</b>
Display backlight	Separately powered backlight
Root extractor	Root extractor ] Only one
Calibrator	Calibrator ] can be fitted

Escutcheon marking	
Scale	Scale legend
Tag	Tag legend

Stainless legend plate	Legend
Pipe mounting kit	BA392D or BA393

# Will be set to display 00.0 at 4mA and 100.0 at 20mA if calibration information is not supplied.