BA507E
2-wire 4/20mA
4 digit indicator

General purpose

◆ **Loop powered only 1.2V drop.**

◆ **4 digit 15mm high display.**

◆ **Optional backlight & alarms.**

◆ **Easy on-site scale card installation.**

◆ **IP66 front**

◆ **Root extractor and 16 segment lineariser.**

◆ **96 x 48mm DIN enclosure.**

◆ **3 year guarantee**

www.beka.co.uk/ba507e

The BA507E loop powered 4/20mA indicator is a fourth generation instrument that is electrically and mechanically compatible with the earlier industry standard BA507C, but has a much larger full 4 digit display providing maximum visibility from a 96 x 48mm instrument. The new model has guaranteed performance between -40 & 70°C and an even shorter enclosure depth than its predecessor. The scale card can easily be marked to show the units of measurement and can be installed on-site without dismantling the indicator enclosure or removing the indicator from the panel. If the units of measurement are not specified when the indicator is ordered, a blank scale card will be fitted.

The main application of the BA507E is to display a measured variable in meaningful engineering units within a process area. The zero and span of the display are independently adjustable allowing the indicator to be calibrated to display any linear variable represented by the 4/20mA signal. A root extractor and an adjustable sixteen segment lineariser enables the indicator to display flow and variables such as tank level in linear engineering units. For weighing applications a tare function is included.

The bold 15mm high liquid crystal display provides maximum contrast and has a very wide viewing angle, allowing the BA507E indicator to be read easily in most lighting conditions over a wide temperature range. An optional factory fitted backlight is available for applications in poorly illuminated areas. The four digits, with three decimal points and a negative sign, may be configured to display any variable between -9999 and 9999.

IP66 front panel protection and a neoprene gasket to seal the joint between the indicator and the panel make the instrument suitable for use in areas that will be cleaned with a hose. To simplify installation and maintenance, the indicator has a removable terminal block allowing panel wiring to be completed before the BA507E indicator is installed.

A backlight which may be loop or separately powered is available as a factory fitted option. It provides green background illumination allowing the display to be read at night or in poorly illuminated areas. When powered from the 4/20mA loop no additional field wiring is required. Powering from a separate supply produces a brighter backlight but requires additional field wiring.

Optional dual alarm outputs which can switch low power loads, such as sounders, beacons and solenoid valves, are available as a factory fitted option. The two galvanically isolated solid state alarm outputs may be independently conditioned as high or low alarms with normally open or closed outputs. Annunciators on the display show the status of both alarm outputs.

Reliability is ensured by component conformal coating, protection from incorrect connection and radio frequency interference. The indicator has been subjected to vibration testing and is supported by a three year guarantee.

Other models in this range include the BA527E which has a similar specification with five 11mm high digits and a 31 segment bargraph.

If flammable atmospheres are present the BA307E should be used. This has the same features as the BA507E but has been certified for use in hazardous areas.

SPECIFICATION

Input
Current	4 to 20mA
Voltage	Less than 1.2V at 20°C Less than 1.3V at -40°C Less than 5V with optional loop powered backlight.
Overrange	±200mA or ±30V will not damage indicator.

Display
Type	Liquid crystal, non-multiplexed 4 digit 15mm high.
Span	Adjustable between 0 & ±9999 for a 4/20mA input.
Zero	Adjustable between 0 & ±9999 with 4mA input.
Decimal point	1 of 3 positions or absent
Polarity	Automatic minus sign
Zero blanking	Blanked apart from 0 in front of decimal point.
Direction	Display may increase or decrease with increasing 4/20mA input.
Reading rate	2 per second
Overange	9999 or -9999 with all decimal points flashing.

Push buttons
(Function in display mode)
▼	Shows display with 4mA input
▲	Shows display with 20mA input
'P'	Displays input in mA or a % of span, has a modified function when alarms are fitted.
'E'	Used for tare function

Accuracy at 20°C
Linear	±0.02% of span ±1 digit.
Root extracting	±16µA at input ±1 digit.

Temperature effect on:
Zero	Less than 25ppm of span/°C
Span	Less than 50ppm of span/°C
Series mode rejection	Less than 0.05% of span error for 1mA pk to pk 50 or 60Hz interference.

Environmental
Operating temp	-40 to 70°C
Storage temp	-40 to 85°C
Humidity	to 95% at 40°C noncondensing.
Vibration	Report available
Enclosure	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU

Mechanical
Terminals	Screw clamp for 0.5 to 1.5mm^2 cable, removable.
Weight	0.2kg

Accessories
|	
Backlight	Green, may be loop or separately powered.
Loop powered	Indicator input voltage 5V
Separately powered	
V supply	9 to 30V dc
I in	22.5mA
Alarms	Two alarm outputs each of which may be independently configured as a high or low alarm contact with a NO or NC output.
Output	Isolated solid state switch
Vmax	40V dc
Imax	200mA
Ron	5Ω + 0.7V max
Roff	1MΩ min

DIMENSIONS (mm)

Recommended panel cut-out

To achieve an IP66 seal between the instrument and the panel
90 +0.5 / -0.0 x 43.5 +0.5 / -0.0

DIN 43 700
92.0 +0.8 / -0.0 x 45 +0.6 / -0.0

Terminals for optional backlight and alarms are shown in outline
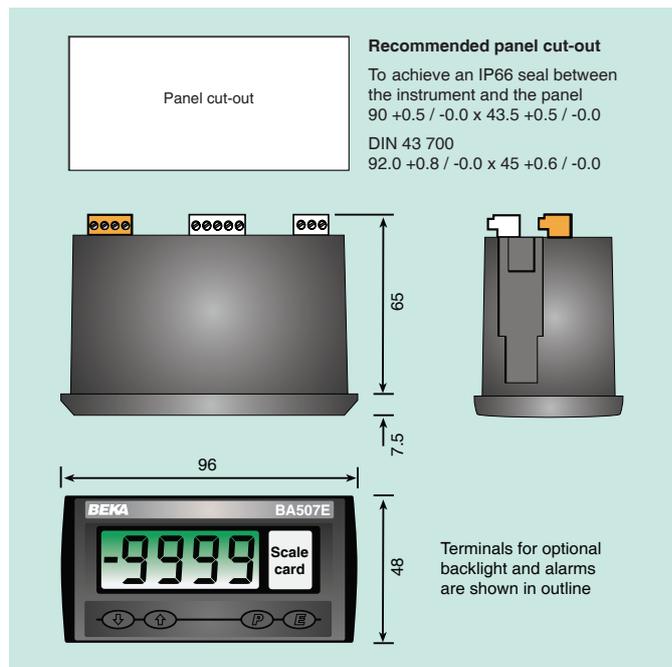
TERMINAL CONNECTIONS
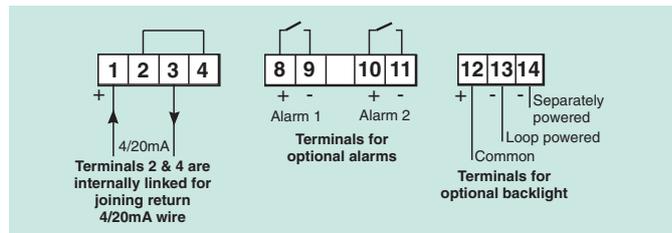
Printed scale card	Blank card fitted to each Indicator can be supplied printed with specified units of measurement.
Pack of printed scale cards.	Contains 26 common units of measurement and four blanks.
Tag legend	Specified tag number or application thermally printed onto rear of the instrument.
BA495 rear cover and sealing kit	Provides impact and IP66 protection for rear of instrument. #

See accessory datasheet for details

HOW TO ORDER

	Please specify
Model number	BA507E
Display mode	Linear, root or lineariser*
Display at:	
4.000mA	XXXX
20.000mA	XXXX

Include position of decimal point,* sign if negative & intermediate points if lineariser is required.

Accessories	Please specify if required
Display backlight	Backlight
Dual alarms	Alarms
Scale card	Legend required
Tag	Legend required
Rear cover and sealing kit	BA495

*Will be set to display 0.0 at 4mA and 100.0 at 20mA with a linear display if calibration information is not supplied. Can easily be recalibrated on-site.