

**The BA524E loop powered 4/20mA indicator** is a fourth generation field mounting instrument that is electrically and mechanically compatible with the earlier BA524D. It has a much larger full 5 digit display and guaranteed performance between -40 and 70°C. Like its predecessor, the BA524E is housed in a robust IP66 enclosure with a separate terminal compartment.

**Main application** of the BA524E 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 enable 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 29mm high 5 digit display and 31 segment bargraph** provide maximum contrast and have a very wide viewing angle, allowing the BA524E indicator to be easily read in most lighting conditions over a wide temperature range. An optional factory fitted backlight is available for installations in poorly illuminated areas. The five digits, with four decimal points and a negative sign, may be configured to display any variable between -99999 and 99999.

**The robust GRP enclosure** has stainless steel fittings, silicone gaskets and an armoured glass window providing IP66 protection between -40 and 70°C. Ingress and impact protection have been independently assessed by Intertek. 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 clamping screws are forward facing. Additional terminals are provided which may be used for linking the return 4/20mA conductor and the cable screens.

**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 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 extensive vibration testing and is supported by a three year guarantee.

**Other field mounting models** in this range include the BA504E which has a similar specification and an even larger four digit 34mm high display.

**If flammable atmospheres are present** either the BA324E or BA324NE should be used. Both have the same features as the BA524E but have been certified for use in hazardous area.

# BA524E

## 2-wire 4/20mA

## 5 digit indicator

*General purpose*

- ◆ Loop powered only  
1.2V drop.
- ◆ 5 digit 29mm high display & 31 segment bargraph.
- ◆ IP66 GRP enclosure with separate terminal compartment.
- ◆ Root extractor and 16 segment lineariser.
- ◆ Optional backlight, alarms & external keypad.
- ◆ 3 year guarantee

[www.beka.co.uk/ba524e](http://www.beka.co.uk/ba524e)

# BEKA

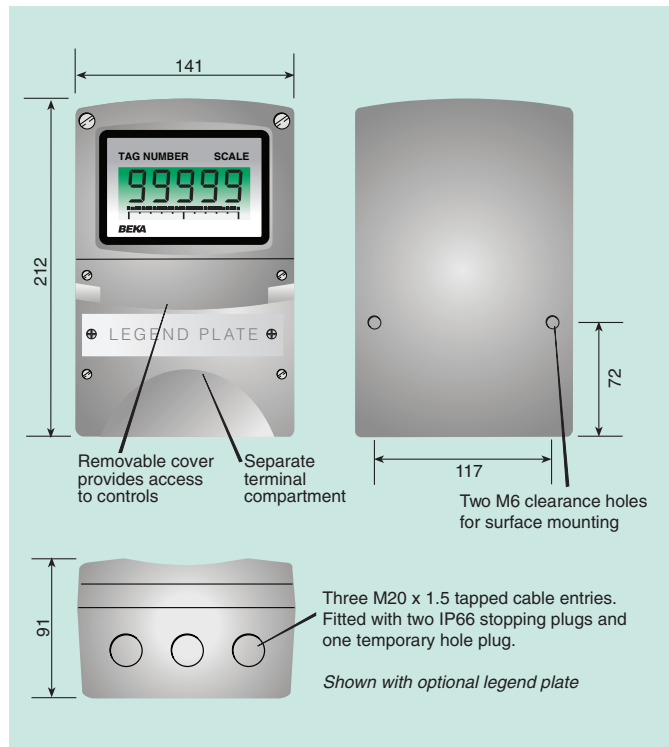
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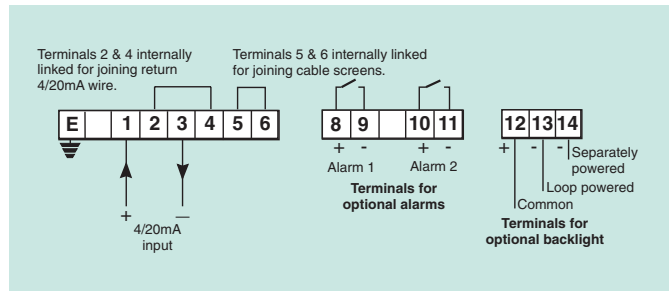
## SPECIFICATION

|                               |  |
|-------------------------------|--|
| <b>Input</b>                  |  |
| Current                       | 4 to 20mA  |
| Voltage                       | Less than 1.2V at 20°C<br>Less than 1.3V at -40°C<br>Less than 5V with optional loop powered backlight.                |
| Overrange                     | ±200mA or ±30V will not damage the indicator.  |
| <b>Display</b>                |  |
| Type                          | Liquid crystal, non-multiplexed 5 digits<br>29mm high & 31 segment bargraph.   |
| Span                          | Adjustable between 0 & ±99999 for a 4/20mA input.  |
| Zero                          | Adjustable between 0 & ±99999 with 4mA input.  |
| Decimal point                 | 1 of 4 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   |
| Bargraph                      | 31 segment 80mm long   |
| Overrange                     | 99999 or -99999 with all decimal points flashing.  |
| <b>Push buttons</b>           |  |
| ▼                             | (Function in display mode)<br>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   |
| <b>Accuracy at 20°C</b>       |  |
| Linear                        | ±0.02% of span ±1digit   |
| 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.  |
| <b>Environmental</b>          |  |
| Operating temp                | -40 to 70°C  |
| Storage temp                  | -40 to 85°C  |
| Humidity                      | to 95% at 40°C noncondensing   |
| Vibration                     | Report available   |
| Enclosure                     | IP66   |
| EMC                           | Complies with EMC Directive 2004/108/EC.   |
| <b>Mechanical</b>             |  |
| Terminals                     | Screw clamp for 0.5 to 1.5mm <sup>2</sup> cable  |
| Weight                        | 1.7kg  |
| <b>Accessories</b>            |  |
| Backlight                     | Green, may be loop or separately powered.  |
| Loop powered                  | Indicator input voltage 5V   |
| Separately powered            |  |
| V supply                      | 11V to 30V dc  |
| I in                          | 35mA   |
| 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  |
| External keypad               | Membrane keypad enables indicator to be controlled without removing cover.   |
| Scale legend                  | Units of measurement marked onto display escutcheon. #   |
| Tag legend                    | Tag number or application marked onto display escutcheon. #  |
| Stainless steel legend plate. | Stainless steel plate etched with tag number or application attached to front of the instrument. #                     |
| Pipe mounting kit             | BA392D or BA393 #  |

## DIMENSIONS (mm)



## TERMINAL CONNECTIONS



## HOW TO ORDER

Model number  
Display mode  
Display at:  
4.000mA  
20.000mA

### Please specify

BA524E  
Linear, root or lineariser\*

XXXX } Include position of decimal point & sign  
XXXX } if negative, plus intermediate points if  
XXXX } linearisation is required.\*

### Accessories

External keypad  
Display backlight  
Dual alarms  
Escutcheon marking  
Scale  
Tag  
Stainless legend plate  
Pipe mounting kit

### Please specify if required

External keypad  
Backlight  
Alarms  
  
Legend required  
Legend required  
Legend required  
BA393D or BA393

\* Will be set to display 0.00 at 4mA and 100.00 at 20mA with a linear display if calibration information is not supplied. Can easily be recalibrated on-site.