

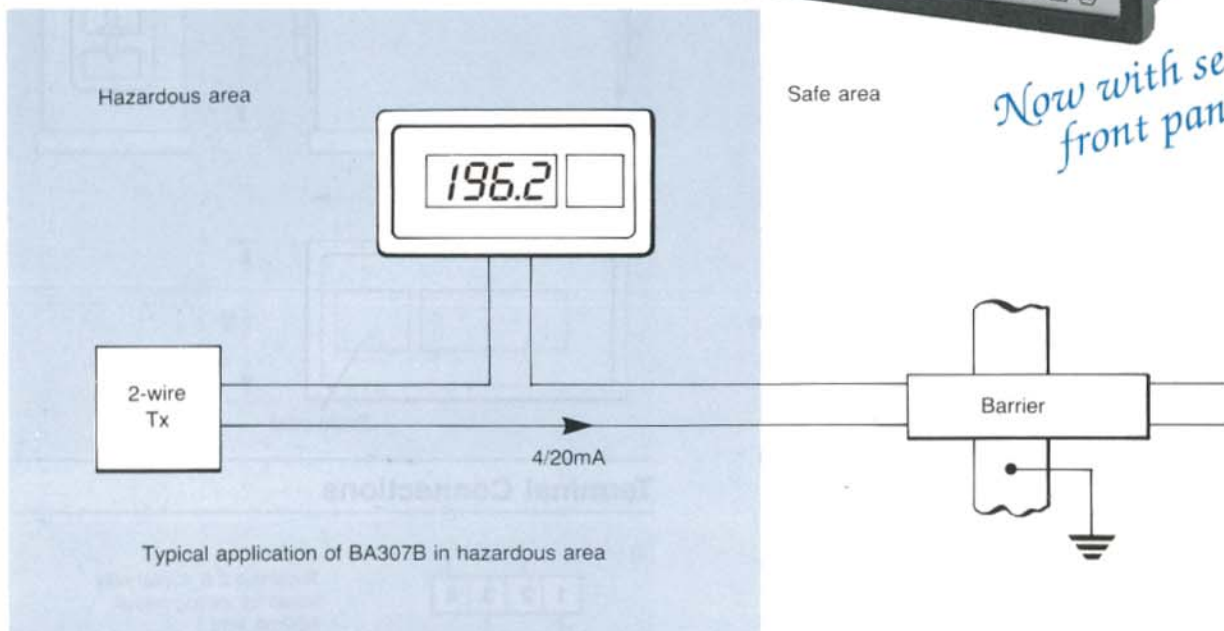
BEKA associates

BA307B 2-wire 4/20mA 3½ digit indicator Intrinsically safe for use in all hazardous areas

- Loop powered less than 1.1V drop
- Intrinsically safe, certified by BASEEFA, FM and SA
- 12.7mm high, ± 1999 liquid crystal display
- IP65 sealed front panel
- Panel mounting 96 × 48 DIN Case
- Three year guarantee



Now with sealed front panel



The BA307B 2-wire digital indicator displays the current flowing in a 4/20mA process loop in meaningful engineering units. It is powered from the live-zero signal, but only introduces a 1V drop which allows it to be installed into almost any 4/20mA current loop. No additional power supply or battery is required. The display has easy to read liquid crystal digits, and incorporates an automatic polarity indicator plus three decimal point positions which are selectable by an internal link.

Main application of the BA307B is to display a measured variable or control signal in the process area. The zero and span of the display are independently adjustable so that the indicator can be calibrated to display any linear variable represented by the 4/20mA signal, such as temperature, pressure, level or actuator position.

The intrinsic safety of the BA307B indicator allows it to be installed in hazardous areas without the need for a purged or flameproof enclosure. The BA307B indicator, which has been certified intrinsically safe by BASEEFA to the CENELEC standard, appears as a non energy-storing device and may therefore be connected to most intrinsically safe circuits without the need for additional certification. Full details of compatible Zener barriers are shown in Application Guide AG300 which is available from BEKA Associates. This flexible

certification, together with the very low voltage drop, make the BA307B indicator ideal for use with intrinsically safe transmitters.

The front panel is sealed by a scratch resistant IP65 polyester membrane, and the joint between the instrument and the panel by a neoprene gasket allowing the BA307B to be installed in process panels without the need for additional protection or covers. The instrument enclosure, which is moulded in glass filled Noryl, is inserted into the panel aperture from the front and secured by two removable clips. To simplify installation the BA307B has a removable terminal block so that panel wiring may be completed before the indicator is installed.

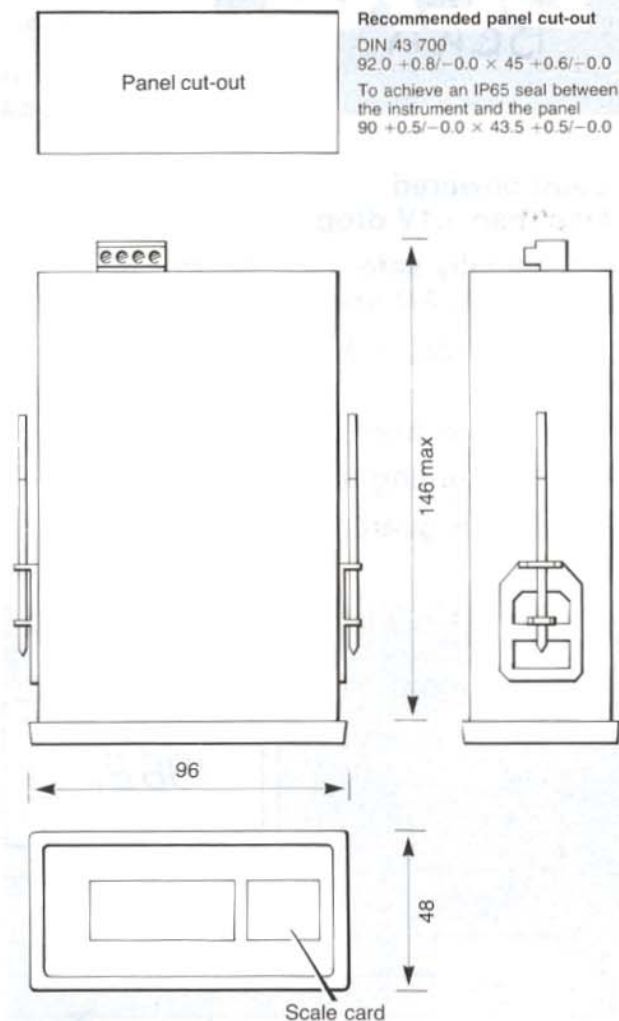
Reliability is ensured by BEKA Associates BS750 approved quality control system. An 'instrument quality' liquid crystal display is used, and the printed circuit boards are coated to minimise the effect of high humidity. The BA307B is protected from input overrange currents and incorporates radio frequency filtering to reduce interference from portable transceivers operating to within a few feet of the indicator. All BEKA indicators are guaranteed for three years.

Complementary indicators for use in safe and hazardous areas are available. Please refer to BEKA Associates catalogue or datasheets for the full range.

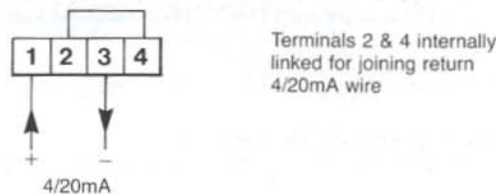
SPECIFICATION

| | |
|-------------------------|---|
| Input | |
| Current | 4 to 20mA |
| Voltage drop at 20mA | Less than 1V @ 20°C Less than 1.1V @ -20°C |
| Overrange | ±300mA will not cause damage |
| Display | |
| Type | 3½ digits (-1999 to 1999) Liquid crystal 12.7mm high |
| Span | Adjustable between: 050 & 1000 for 4 to 20mA input |
| Zero | Adjustable between: -1000 & 1000 with 4mA input |
| Polarity | Automatic minus sign |
| Decimal point | 1 of 3 positions, selected by link |
| Reading rate | 2.5 per second |
| Overrange | 3 least significant digits are blanked |
| Accuracy | |
| @ 20°C | ±1 digit |
| Temperature effect on: | |
| Span | Typ 50ppm, max 100ppm/°C |
| Zero | Typ 0.05 digit + 100ppm/°C Max 0.1 digit + 200ppm/°C |
| Series mode rejection | Typ 1 digit error for 1mA pk to pk 50Hz signal |
| Intrinsic safety | |
| Europe (BASEEFA) | |
| Standard | BS5501:Part 7:1977:EN50.020 |
| Code | EEx ia IIC T4 |
| Certificate No. | BAS Ex832399 |
| Output parameters | |
| U _{max} : out | 1.2V |
| I _{max} : out | 75mA |
| W _{max} : out | 20mW |
| C _{eq} | 15nF |
| L _{eq} | 2µH |
| Location | Zone 0, 1 or 2 |
| Installation | The BA307B may be connected to any certified intrinsically safe circuit whose output parameters do not exceed: I _{max} : out 215mA W _{max} : out 1.1W See certificate and AG300 for full details |
| Australia (SA) | |
| Standard | AS1829-1981 |
| Code | Ex ia IIC T4 |
| Certificate No. | Ex 1083 |
| USA (FM) | |
| Standard | 3610 Entity |
| Code | CL. 1, Div. 1, GP. A, B, C & D |
| File No. | OQ2A9.AX |
| Standard | 3611 Non-incendive |
| Code | CL. 1, Div. 2, GP. A, B, C & D |
| File No. | OQ2A9.AX |
| Environmental | |
| Operating temperature | -20 to +60°C |
| Humidity | To 95% @ 40°C |
| Case | Rear IP20 Front IP65. ERA test report due in July 1994 |
| Mechanical | |
| Terminals | Screw clamp for 0.5 to 1.5mm cables. Terminal block removable |
| Weight | 0.3kg |
| Accessories | |
| Typeset scale card | Specify legend required (Note: blank scale card supplied if typesetting is not requested) |
| Tag plate | Thermally printed tag strip screwed to rear of indicator |

DIMENSIONS (mm)



Terminal Connections



HOW TO ORDER: please specify

| | |
|-------------------------|--------|
| Model number | BA307B |
| Display reading at 4mA | XXXX |
| Display reading at 20mA | XXXX |

include position of decimal point if required, and sign if negative*

Accessory items:

| | |
|------------|--|
| Scale card | Specify legend required (Note: blank scale card supplied if typesetting is not requested) |
| Tag plate | Specify legend required |

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

Example:

| | |
|-------------------------|----------------|
| Model number | BA307B |
| Display reading at 4mA | 30.0 |
| Display reading at 20mA | 125.0 |
| Scale card | BAR G |
| Tagging plate | Outlet stack A |