

Shown with optional backlight

The **BA538C** is an externally powered rate totaliser with separate rate and total displays which will operate from a switch contact, voltage pulse, magnetic pick-off, open collector or a proximity detector input. A novel adaptive measuring technique plus an adjustable digital filter ensure that optimum rate display stability and step response can be achieved over a wide input frequency range.

Main application of the BA538C is to process the pulse output from a flow meter and to display the rate of flow and the total flow in the same or different engineering units. The instrument may be used with any flowmeter having a pulse output proportional to flow rate, such as a turbine flowmeter. When fitted with optional alarms, the instrument can perform simple flow batching applications. Optional pulse and 4/20mA outputs enable the rate totaliser to operate remote counters and analogue instruments.

Control and programming is performed via the front panel tactile push-buttons which 'click' when operated. All the programme functions are contained in easy to understand menus which may be protected by a user definable security code. Display scaling factors employ floating decimal points to simplify calibration.

The front panel is a robust, easy to clean Noryl moulding sealed with a non-reflective, scratch resistant polyester membrane. A captive neoprene

gasket provides an IP65 seal between the enclosure and the panel.

Backlighting is available as an option to improve readability when the BA538C is installed in a poorly illuminated area. High efficiency amber LEDs provide an even glow to enhance display contrast.

Optional alarms provide two galvanically isolated solid state outputs which may be independently programmed for high or low operation on either the rate or total displays. Each output will switch a dc load such as a solenoid valve or sounder, and the status of each alarm is indicated by a display annunciator.

The optional 4/20mA output is isolated and may be programmed to produce an analogue output proportional to any part of the rate display, thus making the BA538C an effective pulse to 4/20mA converter.

Reliability is ensured by an ISO9001 approved quality control system supported by a three year guarantee. The instrument is protected from overrange and reverse connection and incorporates extensive radio frequency filtering.

If flammable atmospheres are present the BA338C should be used. This has the same features as the BA538C, but has been certified intrinsically safe for use in hazardous areas.

BA538C

Externally powered pulse input rate totaliser

General purpose for use with pulse output flowmeters

◆ **Magnetic pick-off, switch contact, proximity detector, open collector or voltage pulse input**

◆ **Separate rate and total displays**

◆ **144 x 72 DIN enclosure with IP65 front**

◆ **Optional: Display backlight Alarms Pulse and 4/20mA outputs**

◆ **3 year guarantee**

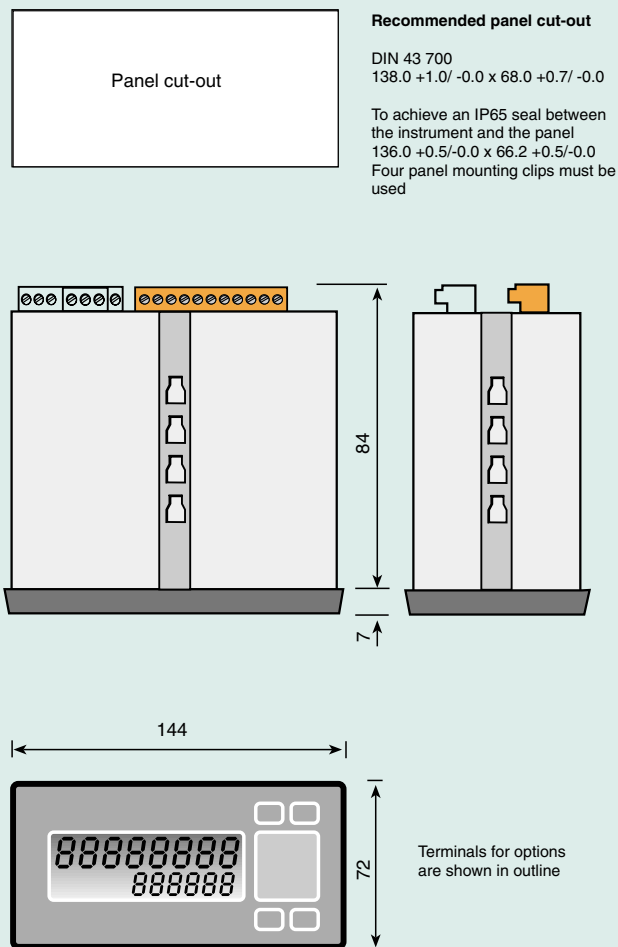
BEKA
associates

BEKA associates Ltd. Old Charlton Rd.
Hitchin, Hertfordshire, SG5 2DA, U.K.
Tel. (01462) 438301 Fax (01462) 453971
e-mail sales@beka.co.uk www.beka.co.uk

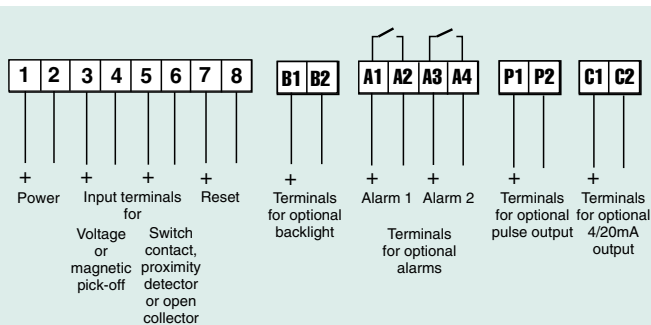
SPECIFICATION

| | |
|---|--|
| Power supply | |
| Voltage | 10 to 30V dc |
| Current | 12mA max., plus proximity detector current when used. |
| Input | |
| Switch contact | |
| Closed | Less than 100Ω |
| Open | Greater than 1kΩ |
| Proximity detector | 2-wire NAMUR |
| Magnetic pick-off | 40mV peak to peak typical |
| Voltage pulse | |
| Low | Less than 1V |
| High | Greater than 3V; 30V max |
| Open collector | |
| Closed | Less than 2kΩ |
| Open | Greater than 10kΩ |
| Frequency | |
| switch contact | 0.01Hz to 100Hz |
| other inputs | 0.01Hz to 5kHz max |
| Display | |
| Type | Liquid crystal |
| Rate ~ | 6 digits 9.5mm high |
| Decimal point | 1 of 5 positions or absent |
| Total ~ | 8 digits 14mm high |
| Decimal point | 1 of 7 positions or absent |
| Grand total | Max count 10 ¹⁶ |
| -Rate or total can be shown on either display | |
| Remote reset | Contact closure with resistance less than 1kΩ. |
| Programmable functions | |
| Total dividing scale factor | Adjustable between 0.001 & 99999999 |
| Rate dividing scale factor | Adjustable between 0.001 & 99999999 |
| Rate timebase | Rate may be displayed per second, minute or hour. |
| Rate display filter | Adjustable digital filter |
| Environmental | |
| Operating temperature | -20 to 60°C |
| Storage temp | -40° to 85°C |
| EMC | In accordance with EU Directive 89/336/EEC. |
| Immunity | Less than 1% of rate span error at 10V/m |
| Emissions | Undetectable above background noise. Class B equipment |
| Mechanical | |
| Terminals | Screw clamp for 0.5 to 1.5mm ² cables. |
| Weight | 0.6kg |
| Accessories | |
| Alarms | Two independent alarms each of which may be programmed for high or low operation with NC or NO output. |
| Outputs | Isolated solid state switch |
| On | Less than 5Ω +0.6V |
| Off | Greater than 180kΩ |
| Rating | 30Vdc: 250mA |
| Display backlight | LED backlight |
| Vin | 18 to 30V dc May be dimmed by reducing voltage below 18V. |
| Iin | 40mA typical |
| Re-transmitted pulse | Isolated pulse sink |
| Width | Adjustable 0.5 to 50ms |
| On | Less than 60Ω |
| Off | Greater than 1MΩ |
| Rating | 30Vdc: 10mA |
| 4/20mA output | Galvanically isolated current sink |
| Voltage drop | 5V max. |
| Typeset scale card | Blank scale card fitted to each instrument, can be supplied typeset with units of measurement. * |
| Tag number | Thermally printed number or applicational information on rear of instrument.* |

DIMENSIONS (mm)



TERMINAL CONNECTIONS



HOW TO ORDER

| | |
|-----------------------------|-----------------------------|
| Model number | BA538C |
| Input | Type |
| Rate scaling factor | XXXXXXX # |
| Total scaling factor | XXXXXXX # |
| Rate timebase | Seconds, minutes or hours # |
| Accessories | |
| Alarms | Alarms |
| Display backlight | Backlight |
| Re-transmitted pulse output | Pulse output |
| 4/20mA output | 4/20mA output |
| Scale card | Legend required |
| Tag number | Legend required |

If calibration information is not supplied, instrument will be set for open collector input with rate timebase of seconds, rate scaling factor of 1 and total scaling factor of 1.

* See accessory datasheet for details