

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**

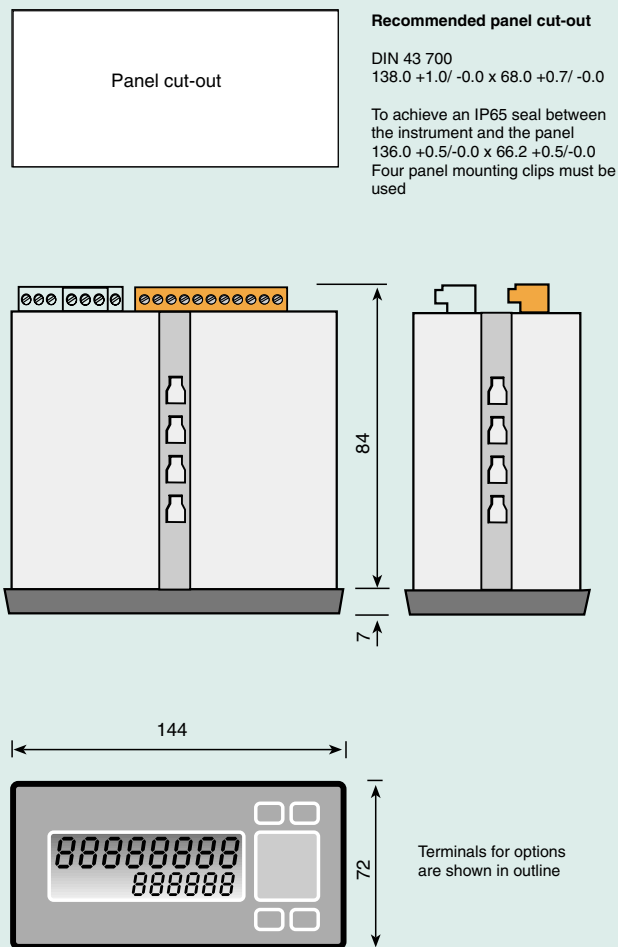
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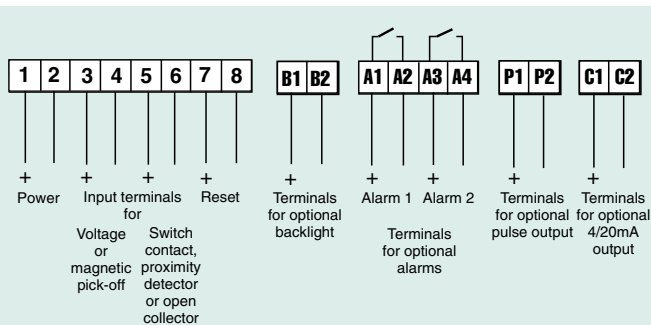
SPECIFICATION

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
Input
Rate scaling factor
Total scaling factor
Rate timebase

please specify
BA538C
Type
XXXXXXX #
XXXXXXX #
Seconds, minutes or hours #

Accessories
Alarms
Display backlight
Re-transmitted pulse output
4/20mA output
Scale card
Tag number

please specify
Alarms
Backlight
Pulse output
4/20mA output
Legend required
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