

The **BA333B** and **BA334B** field mounting totalisers will count and display the number of input pulses received from a wide variety of input transducers, including switch contacts and 2-wire proximity detectors. Voltage pulses can also be counted. The totaliser display is incremented by one digit for each input pulse, and may be reset to zero by an external contact closure.

Main application of the BA333B and BA334B is to display a total within a process area. Apart from display size the two instruments are identical, the BA333B has four digits and the BA334B eight digits. Both instruments will count and display any variable which can be converted into a series of pulses. For example the output from a turbine flowmeter can be counted to show total flow, or the output from a proximity detector counted to indicate the total number of operations or revolutions.

Intrinsic safety of the totalisers allows installation within a hazardous area. The pulse input terminals have a safety description which allows most 2-wire certified proximity detectors to be directly connected without the need for further certification. The totalisers may be reset from a manually operated switch within the hazardous area, or from the safe area via a Zener barrier or galvanic isolator. Both instruments can

be supplied with a reset push-button fitted to the side of the enclosure.

Two types of enclosure are available. Both are fitted with a solvent resistant toughened glass window and sealed with a neoprene gasket to form an IP66 assembly. The sturdy glass reinforced polyester (GRP) enclosure provides maximum protection and is suitable for offshore applications. Where solvents may be present, the epoxy painted aluminium enclosure is recommended. To simplify installation the totalisers can be removed from the enclosure without disturbing the field wiring.

Reliability is ensured by an ISO9001 approved quality control system supported by a three year guarantee. The totalisers are protected from reverse connection and incorporate extensive radio frequency filtering to comply with the European EMC Directive.

For panel mounting totalisers see BA337B/BA338B/BA339B datasheet.



BA333B

BA333B and BA334B

4 and 8 digit field mounting totalisers

*Intrinsically safe for use
in all hazardous areas*

- *Intrinsically safe*
- *Proximity detector, switch or voltage input*
- *Display:*
 - BA333B
4 digit 25mm high*
 - BA334B
8 digit 12.7mm high*
- *IP66 GRP or aluminium enclosure*

● *3 year guarantee*



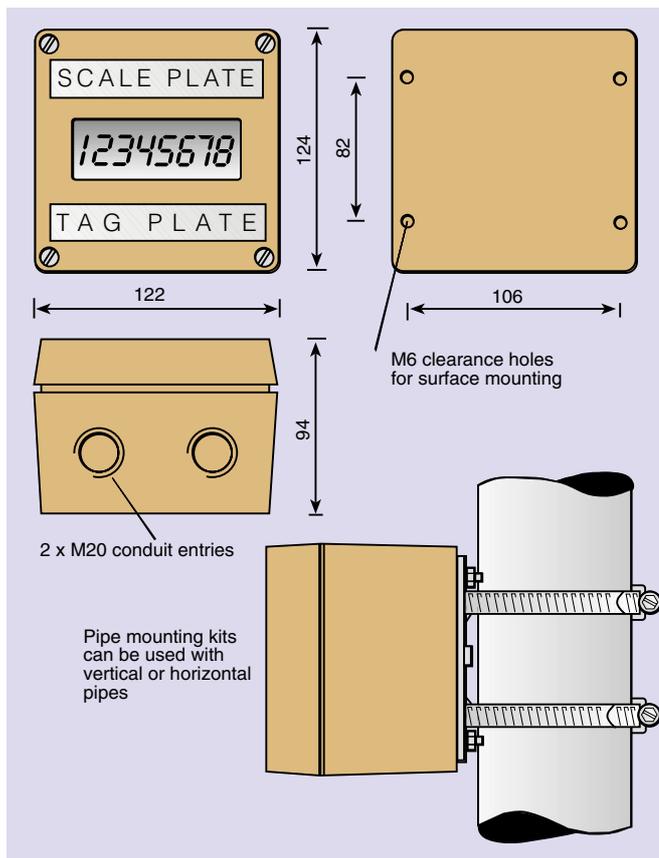
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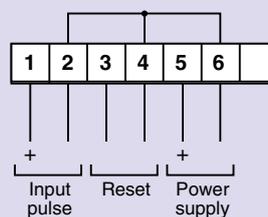
SPECIFICATION

Power supply	
Voltage between terminals 5 & 6	10 to 24V Totaliser must be powered via a Zener barrier or galvanic isolator.
Current	Typ 30mA with 24V supply via 28V 300Ω barrier.
Input	Type selected by internal plug-in links Complies with NAMUR standard
2-wire proximity detector	low <1.2mA; high >2.1mA
Switch contact	Closed <100Ω ; open >1k
Voltage pulse	Low <1V; high >3V 10V max
Counting edge	Counter is incremented on positive or negative edge of input pulse selected by internal plug-in link.
Frequency	100Hz max, special versions up to 5kHz
Reset	Contact closure with resistance less than 1k for 1sec. Display resets to zero at power on
Display	
Type	Liquid crystal
BA333B	4 digits 25.4mm high
BA334B	8 digits 12.7mm high
Decimal point	Between 3 least significant digits, or absent, selected by internal plug-in link.
Overtime	Colons and unselected decimal points activated.
Leading zero blanking	Selected by internal plug-in link
Intrinsic safety	
Standard	BS 5501:Part 7:1977 EN50 020
Code	EEx ia IIC T4
Certificate numbers	
apparatus	BAS Ex90C2408
system	BAS Ex902410
IS supply to totaliser	
Umax:in	30V
Imax:in	0.5A
Wmax:in	1.2W
Safety description	
Pulse input terminals 1 & 2	11.86V, 16.5mA, 49mW
Reset terminals 3 & 4	5.4V, 5.7mA, 7.7mW
Installation	See certificates and Application Guide AG330 for full details.
Location	Zone 0; 1 or 2
Environmental	
Operating temp	-20 to +60°C
Humidity	To 95% at 40°C
Enclosure	IP66
EMC	In accordance with EU Directive 89/336/EEC, full report available. No degradation for 10V/m field strength between 27MHz & 1GHz.
Immunity	Undetectable above background noise. Class B equipment.
Emissions	
Mechanical	
Terminals	Screw clamp for 0.5 to 2.5mm ² cables
Weight	
GRP	1kg
aluminium	1.3kg
Accessories	
Engraved scale plate	Removable blank stainless steel plate fitted to each totaliser, can be supplied engraved with units of measurement. See accessory datasheet for details of legend sizes.
Engraved tag plate	Removable blank stainless steel plate fitted to each totaliser, can be supplied engraved with tagging information. See accessory data sheet for details of legend sizes.
Pipe mounting kits	Mount totaliser onto any vertical or horizontal pipe, see accessory datasheet for dimensions. BA391 zinc plated using worm drive hose clips. BA392 stainless steel using worm drive hose clips. BA393 heavy duty stainless steel using 'V' bolt.
Panel mounting kit	BA394 stainless steel brackets mount totaliser in panel aperture.

DIMENSIONS (mm)



TERMINAL CONNECTIONS



Terminals 2, 4 and 6 are connected together within the totaliser.

Right hand terminal unused in GRP version; connected to case in aluminium version.

HOW TO ORDER

Model number	Please specify BA333B (4 digits) or BA334B (8 digits)
Enclosure	GRP or Aluminium
Input type*	Proximity detector or Switch contact or Voltage pulse
Leading zero blanking*	Specify on or off
Decimal point*	Specify position required, or absent.
Accessories	Please specify if required
Engraved scale plate	Legend
Engraved tag plate	Legend
Reset push-button	Reset push-button
Pipe mounting kit	BA391, BA392 or BA393
Panel mounting kit	BA394
<i>*Will be set for proximity detector input with no leading zero blanking or decimal point if conditioning information is not supplied.</i>	
Example	
Model number	BA334B (8 digits)
Enclosure	GRP
Input type	Switch contact
Leading zero blanking	Off
Decimal point	Absent
Scale plate engraved	Litres
Tag plate engraved	FI-1298