

The **BA534D** 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 BA534D is to process the pulse output from a flowmeter 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 of the BA534D is performed via four push-buttons which are protected from damage and tampering behind a sealed cover. For applications requiring frequent adjustment, the instrument can be supplied with a robust external membrane keypad. All the programme functions are contained in easy to understand menus which may be protected by a user definable security code. To simplify calibration the rate and total

scaling factors employ floating decimal points.

The enclosure, which is moulded in glass reinforced polyester (GRP), has stainless steel fittings, silicone gaskets and an armoured glass window. Its robust construction provides IP66 protection. A separate terminal compartment allows the BA534D 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.

Backlighting is available as an option to improve readability when the BA534D is installed in a poorly illuminated area. High efficiency amber LEDs provide an even glow to enhance the 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.

If flammable atmospheres are present the BA334D should be used. This has the same features as the BA534D, but has been certified intrinsically safe for use in hazardous areas.

BA534D

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**

- ◆ **IP66 enclosure for surface or pipe mounting**

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

- ◆ **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
Enclosure	IP66 see ITS test report C87IV0383A
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

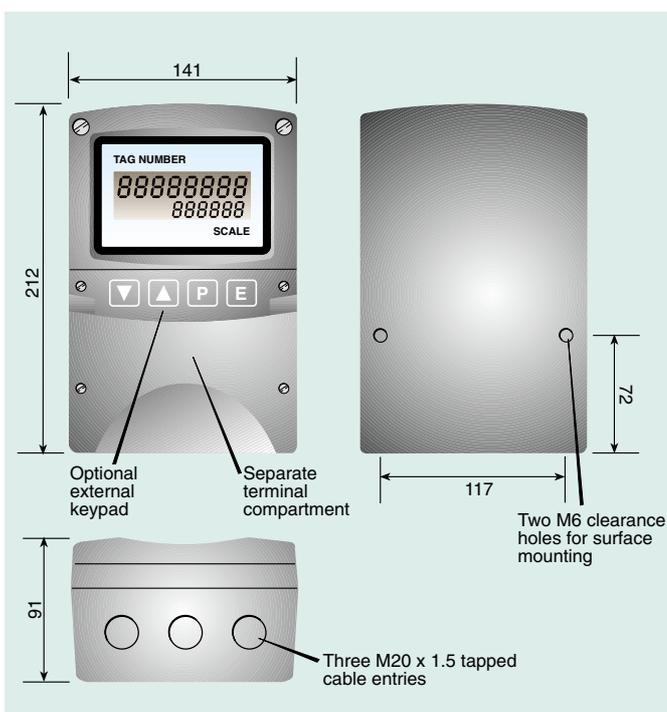
Mechanical

Terminals	Screw clamp for 0.5 to 2.5mm ² cables.
Weight	1.6kg

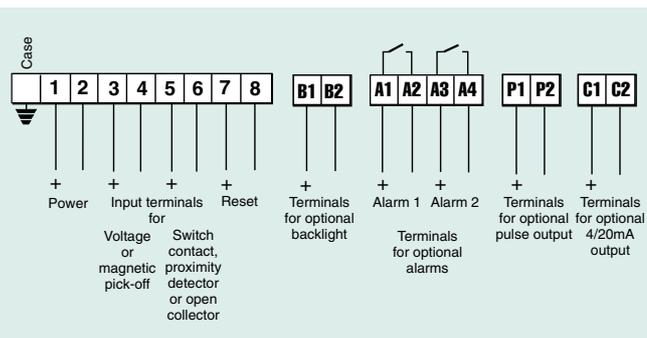
Accessories

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 backlighting	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 +3V
Off	Greater than 1MΩ
Rating	30Vdc: 10mA
4/20mA output	Galvanically isolated current sink
Voltage drop	5V max
External keypad	Membrane keypad enables instrument to be adjusted without removing the control cover.
Scale legend	Units of measurement marked onto display escutcheon. *
Tag legend	Tag number or applicational information marked onto display escutcheon. *
Stainless legend plate	Stainless steel plate secured to front of the instrument, etched with tagging or applicational information. *
Pipe mounting kit	2 kits are available BA392D and BA393. *

DIMENSIONS (mm)



TERMINAL CONNECTIONS



HOW TO ORDER

Model number	please specify BA534D
Input	Type XXXXXXXX #
Rate scaling factor	XXXXXXXX #
Total scaling factor	XXXXXXXX #
Rate timebase	Seconds, minutes or hours #
Accessories	please specify
Display backlight	Backlight
Alarms	Alarms
Re-transmitted pulse output	Pulse output
4/20mA output	4/20mA output
External keypad	External keypad
Escutcheon marking	
Scale	Scale legend required
Tag	Tag legend required
Stainless legend plate	Legend required
Pipe mounting kit	BA392D or BA393

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