

The **BA537E** is a third generation general purpose rate totaliser that has similar functions as the BA538E, but is housed in a smaller 96 x 48mm DIN enclosure. The totaliser is easy to use and can be configured on-site to operate with flowmeters having a magnetic pick-off, switch contact, proximity detector, open collector or a voltage pulse output. A slide-in scale card shows the units of measurement and simplifies identification.

The main application of the BA537E is to process the pulse output from a process area flowmeter such as a turbine meter and simultaneously display the rate and total flow in engineering units. The BA537E will compensate for flowmeter nonlinearity using up to sixteen flowmeter K-factors which can easily be entered on-site.

The display has high contrast and a wide viewing angle, enabling the rate totaliser to be read in most lighting conditions over a wide temperature range. Rate of flow may be displayed in almost any units of measurement per second, minute or hour. Total flow may be shown in the same or in different units and the total display may be reset using the front panel push buttons or an external contact closure.

Display backlighting which is internally powered from the totaliser is available as a factory fitted option. It provides green background illumination enhancing daylight viewing and allowing the display to be easily read at night or when installed in a poorly illuminated area.

IP66 front panel protection with a neoprene gasket to seal the joint between the totaliser and the instrument panel allow the BA537E to be installed in areas that will be washed down. To simplify installation and maintenance, the totaliser

has removable terminal blocks allowing panel wiring to be completed before the instrument is installed.

One of the following three isolated outputs may be fitted to a BA537E rate totaliser. All are factory fitted options.

Optional open collector pulse output will synchronously retransmit the rate totaliser input pulse, or a pulse when the least significant digit of the total display is incremented.

Optional 4/20mA current sink output may be configured to produce an analogue output proportional to any part of the rate or total display,

Optional dual alarms can switch loads such as a sounder or solenoid valve. The two galvanically isolated, solid state voltage free outputs may be independently conditioned as rate or total alarms with normally open or closed outputs. Annunciators on the BA537E display show the status of both alarm outputs.

Rugged version and a larger display are available in other models within the range. The BA537E-SS is identical to the BA537E but is housed in a rugged stainless steel enclosure with a 10mm thick window that is ideal for applications in hostile environments where the front of the instrument may be impacted. If a larger display is required, the BA538E offers similar features as the BA537E in a 144 x 72mm enclosure.

For applications in flammable atmospheres the BA337E, which is identical to the BA537E, has international intrinsic safety certification. For applications in Zone 2 or 22 the rugged stainless steel BA337NE has Ex nA and Ex tc certification allowing installation without Zener barriers or galvanic isolators.

BA537E

One input rate totaliser

General purpose

- ◆ Configurable input: magnetic pick-off, switch contact, proximity detector, open collector or voltage pulse.
- ◆ Separate rate and total displays.
- ◆ 96 x 48mm DIN enclosure with IP66 front protection.
- ◆ Lineariser
- ◆ Simple on-site scale card installation.
- ◆ Optional: Backlight dual alarms or 4/20mA output or pulse output
- ◆ 3 year guarantee

BEKA
associates

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SPECIFICATION

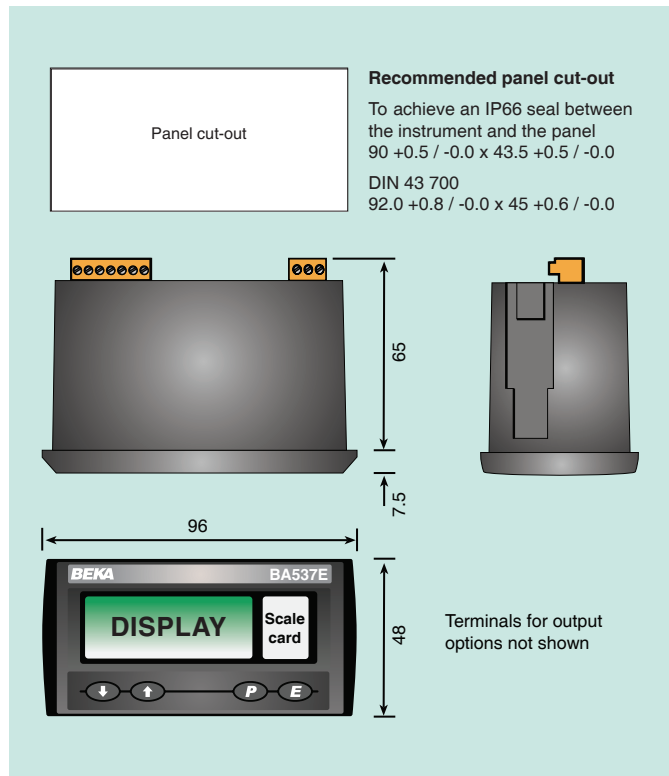
Power supply			
Voltage	10 to 30V dc		
Current	16mA max plus 22.5mA for optional backlight		
Input			
	Lower	Upper	switching thresholds
Switch contact	100Ω	1kΩ	
Proximity detector (NAMUR)	1.2mA	2.1mA	
Open collector	2kΩ	10kΩ	
Magnetic pick-off	0mV	+40mV	
Voltage pulse (low)	1V	3V	30V max
Voltage pulse (high)	3V	10V	30V max
Frequency	150Hz typical } <i>Depends upon pulse width and debounce setting.</i>		
Switch contact	100kHz max		
Other inputs	0.01Hz min		
All inputs			
Display			
Type	Liquid crystal		
Zero blanking	Blanked apart from 0 in front of decimal point		
Total ‡	8 digits 9mm high		
Decimal point	1 of 7 positions or absent		
Rate ‡	6 digits 6mm high		
Decimal point	1 of 4 positions or absent		
‡ Rate & Total can be shown on either 6 or 8 digit display			
Grand total	Maximum count 10 ¹⁶		
Remote reset			
	Contact closure with resistance less than 10kΩ		
Configurable functions			
Rate scale factor (<i>K-factor</i>)	Adjustable between 0.0001 and 99999 pulses/unit volume		
Lineariser	Up to 16 K-factors may be entered		
Rate timebase	Rate may be displayed per second, minute or hour		
Rate display filter	Adjustable digital filter		
Total scale factor	Adjustable between 0.0001 and 99999.		
Environmental			
Operating temp	-40 to +70°C display -20 to +70°C		
Storage temp	-40 to +85°C		
Humidity	To 95% at 40°C non condensing		
Vibration	Report available		
Enclosure	Noryl SE1GFN3. Front IP66, rear IP20		
EMC	Complies with EMC Directive 2014/30/EU		
Mechanical			
Terminals	Screw clamp for 0.5 to 1.5mm ² cable, removable		
Weight	0.15kg		
Accessories			
Backlight	Green LED internally powered		
Scale card	Blank card fitted to all instruments. Can be supplied typeset with specified units of measurement for no additional charge at time of purchase. #		
Tag legend	Specified tag number or application printed onto rear of instrument. #		
BA495 rear cover and sealing kit	Provides impact and IP66 protection for rear of instrument. #		

One of the following three isolated output accessories may be factory fitted to each rate totaliser.

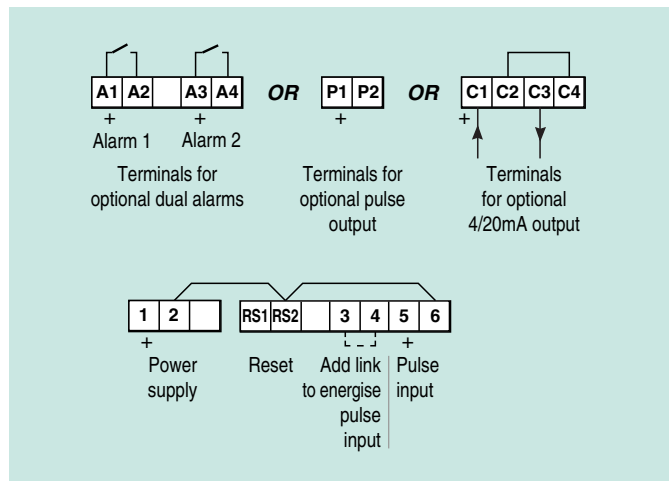
Pulse output	Isolated open collector
Source & output	Totaliser input: synchronous pulse output, 5kHz max.
	or
	Least significant digit of total display output: divisible by 1, 10, 100, 1000 or 10000; pulse width definable as 0.1, 0.5, 1, 2.5, 5, 10, 25, 50, 100, 250 or 500ms
Ron	51Ω + 3V max
Roff	1MΩ min
I max	10mA
4/20mA output	Isolated current sink.
Voltage drop	5 to 30V
Dual alarms	Two alarms each of which may be independently configured as a rate or total, high or low alarm with a NO or NC output.
Outputs	Isolated single pole, voltage free solid state switch
Ron	5Ω + 0.7V max
Roff	1MΩ min
V max	30V dc
I max	200mA

See accessory datasheet for details

DIMENSIONS (mm)



TERMINAL CONNECTIONS



HOW TO ORDER

Model number	Please specify BA537E
Input	Type *
Rate scale factor	XXXXX * If linearisation is required, up to 16 rate scale factors may be entered for different flow rates.
Rate timebase	Seconds, minutes or hours*
Total scale factor	XXXXX *
Accessories	Please specify if required
Display backlight	Backlight
Scale card	Legend required
	<i>No charge if ordered with totaliser</i>
Tag	Legend required
Rear cover and sealing kit	BA495
One of following three output options:	
Pulse output	Direct retransmission or scaled *
or 4/20mA output	4/20mA output
or Dual alarms	Alarms

* Totaliser can be supplied configured as required for no additional charge. If configuration information is not supplied, instrument will be configured for open collector input with rate and total scaling factors of 1.0 and a timebase of seconds with direct pulse retransmission. Can easily be reconfigured on-site.