

The BA334NG is a third generation field mounting rate totaliser housed in a compact IP66 GRP 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. International Ex nA and Ex tc certification permits worldwide installation in Zones 2 or 22 without Zener barriers or galvanic isolators which significantly reduces installation cost.

The main application of the BA334NG is to process the pulse output from a hazardous area flowmeter, such as a turbine meter, and simultaneously display the rate and total flow in engineering units within a Zone 2 or 22 hazardous area. The BA334NG can compensate for flowmeter nonlinearity using up to sixteen flowmeter K-factors which can be entered on-site.

International Ex nA and Ex tc certification allows the BA334NG rate totaliser to be installed in gas and dust hazardous areas worldwide. BEKA Application Guide AG310 contains Ex nA installation recommendations.

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 protection is provided by the robust GRP enclosure which has stainless steel fittings, a silicone gasket and an 8mm thick armoured glass window. Ingress and impact protection have been independently assessed by Intertek.

The scale card which shows the Rate Totaliser's units of measurement and tag information, slides into an internal slot and can easily be changed on-site. New instruments are supplied with a printed scale card showing customer specified information, if this information is not specified a blank card is fitted which can easily be marked on-site. For applications requiring external marking an optional stainless steel legend plate is available.

The isolated open collector pulse output may be configured to synchronously retransmit the pulse input, or a scaled pulse when the least significant digit of the total display is incremented.

An isolated 4/20mA current sink output is available as a factory fitted option. It may be configured to represent any part of the rate or total display.

Optional dual alarms can switch hazardous or safe area loads such as a sounder or a 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 BA334NG display show the status of both alarm outputs.

Other field mounting rate totalisers include the two input BA384NG which also has Ex nA and Ex tc certification and can display the sum or difference of two flowmeter outputs. Intrinsically safe and general purpose field and panel mounting models are also available.

BA334NG

Ex nA one input rate totaliser

Can be installed in Zones 2 or 22 without Zener barriers or galvanic isolators

- ◆ Configurable input: magnetic pick-off, switch contact, proximity detector, open collector or voltage pulse.
- ◆ Separate displays
- ◆ Ex nA & Ex tc certified
- ◆ IP66 GRP enclosure
- ◆ Lineariser
- ◆ Isolated pulse output
- ◆ Simple on-site scale card installation.
- ◆ Optional: Backlight
Dual alarms
4/20mA output
- ◆ 3 year guarantee



BEKA

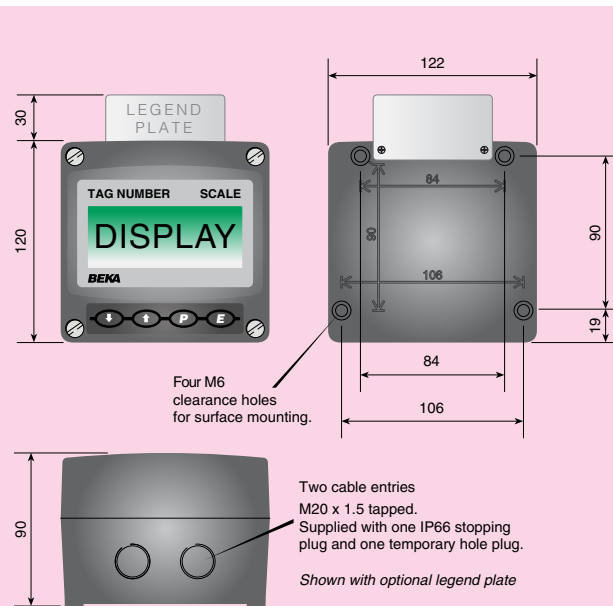
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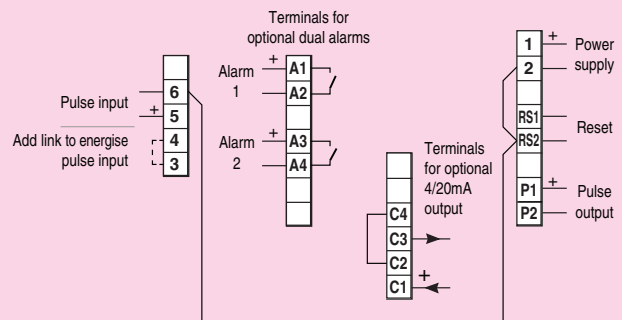
SPECIFICATION

Power supply		
Voltage	10 to 30V	
Current	16mA max plus 16mA for optional backlight	
Input		
Switch contact	Lower	Upper switching thresholds
Proximity detector (NAMUR)	100Ω	1kΩ
Open collector	1.2mA	2.1mA
Magnetic pick-off	2kΩ	10kΩ
Voltage pulse (low)	0	+40mV
Voltage pulse (high)	1V	3V 30V max
	3V	10V 30V max
Frequency		
Switch contact	150Hz typical	
Other inputs	100kHz max } <i>Depends upon pulse width and debounce setting.</i>	
All inputs	0.01Hz min	
Display		
Type	Liquid crystal	
Zero blanking	Blanked apart from 0 in front of decimal point	
Total #	8 digits 18mm high	
Decimal point	1 of 7 positions or absent	
Rate #	6 digits 12mm high	
Decimal point	1 of 5 positions or absent	
# Rate & Total can be shown on either 6 or 8 digit display		
Grand total	Maximum count 10 ¹⁵	
Remote reset		
	Contact closure with resistance less than 10kΩ	
Pulse output		
Frequency	Isolated open collector	
	5kHz max, synchronous with input pulse, or when least significant digit of total display is incremented. Divisible with selectable width.	
Divisible by	1, 10, 100, 1000 or 10000	
Pulse width	0.1, 0.5, 1, 2.5, 5, 10, 25, 50, 100, 250 or 500ms	
Ron	51Ω + 3V max	
Roff	1MΩ min	
Ui	30Vdc	
I max	10mA	
Configurable functions		
Rate scale factor	Adjustable between 0.0001 and 99999 pulses/unit vol.	
Flowmeter K-factor	16 K-factors may be entered	
Lineariser	Rate may be displayed per second, minute or hour	
Rate timebase	Adjustable digital filter	
Rate display filter	Adjustable between 0.0001 and 99999	
Total scale factor		
Certification		
Europe ATEX		
Code	Group II Category 3G Ex nA ic IIC T5 Gc	
	Group II Category 3D Ex ic tc IIIC T80°C Dc	
	-40 < Ta < 60°C	
Cert. No.	ITS16ATEX48409X	
International IECEx		
Code	Ex nA ic IIC T5 Gc	
	Ex ic tc IIIC T80°C Dc	
	-40 < Ta < 60°C	
Cert. No.	IECEx ITS 16.0005X	
ETL & cETL		
Code	Class I Zone 2 AEx nA ic IIC T5 Gc	
	Zone 22 AEx ic tc IIIC T80°C Dc	
	Ex nA ic IIC T5 Gc	
	Ex n IIC T5 Gc	
	Ex ic tc IIIC T80°C Dc	
	Class III Div 2, Class II Div 2, Gp F, G	
	-40°C ≤ Ta ≤ 60°C	
ETL Control No.	4008610	
Environmental		
Operating temp	-40 to +70°C display -20 to +70°C	
Certification temp	-40 to +60°C	
Storage temp	-40 to +85°C	
Humidity	to 95% at 40°C non condensing	
Vibration	Report available	
Enclosure		
Material	GRP	
Ingress	IP66	
EMC	Complies with 2014/30/EU	
Mechanical		
Terminals	Screw clamp for 0.5 to 1.5mm ²	
Weight	1.1kg	
Accessories		
Backlight	Green LED internally powered	
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	
Ui	30Vdc	
I max	10mA	
Scale card	Blank card fitted to all instruments. Can be supplied printed with specified units of measurement and tag information for no additional charge at time of purchase. #	

DIMENSIONS (mm)



TERMINAL CONNECTIONS



Legend plate	316 Stainless steel plate laser engraved with tag number or application information attached to rear of the instrument, visible from the front. #
Pipe mounting kit	BA393G 316 stainless steel #
Panel mounting kits	BA394G 316 stainless steel not sealing #

See accessory datasheet for details

HOW TO ORDER

Model number	Please specify BA334NG
Input	Type *
Rate scale factor	XXXXX * <i>If linearisation is required, up to 16 rate scale factors may be entered for different flow rates.</i>
Total scale factor	XXXXX *
Rate timebase	Seconds, minutes or hours*
Accessories	Please specify if required
Display backlight	Backlight
4/20mA output	4/20mA output
Dual alarms	Alarms
Scale card marking	
Units	Legend required
Tag	Legend required
	<i>No charge if ordered with totaliser</i>
Stainless legend plate	Legend required
Pipe mounting kit	BA393G
Panel mounting kit	BA394G

* 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.