

The **BA364NG** is a third generation field mounting two input counter housed in a compact IP66 GRP enclosure. The counter is easy to use and each input can be individually configured on-site to operate with sensors 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.

**Any display application** requiring the sum or difference of pulse outputs from two sensors can be performed by the BA364NG, such as counting the number of strokes performed by two reciprocating pumps and displaying total volume and rate of pumping in engineering units. The counter's quadrature decoder also enables the position of a shaft or a cable to be displayed together with its speed and direction of movement.

**International Ex nA and Ex tc certification** allows the BA364NG counter to be installed in gas and dust hazardous areas worldwide. BEKA Application Guide AG310 contains Ex nA installation recommendations.

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

**Display backlighting** which is internally powered from the counter 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.

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

**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.

**An optional isolated 4/20mA current sink** output may be configured to produce an output proportional to any part of the rate or total display.

**Optional dual alarms** with galvanically isolated solid state outputs can switch hazardous or safe area loads such as a sounder or solenoid valve. Both may be independently configured as a rate or a total alarm monitoring either input, or the sum or difference of the two inputs. Annunciators on the BA364NG display show the status of both alarm outputs.

**Other field mounting counters** include the intrinsically safe BA364E and BA364G which have the same functions as the BA364NG. The BA564G is a general purpose model for use in safe areas.

# BA364NG

## Ex nA two input counter

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

◆ **Configurable input:** magnetic pick-off, switch contact, proximity detector, open collector, voltage pulse or quadrature decoder.

◆ **Separate displays**

◆ **Ex nA & Ex tc certified**

◆ **IP66 GRP enclosure**

◆ **Isolated pulse output**

◆ **Simple on-site scale card installation.**

◆ **Optional:**  
Backlight  
Dual alarms  
4/20mA output

◆ **3 year guarantee**

[www.beka.co.uk/ba364ng](http://www.beka.co.uk/ba364ng)



# BEKA

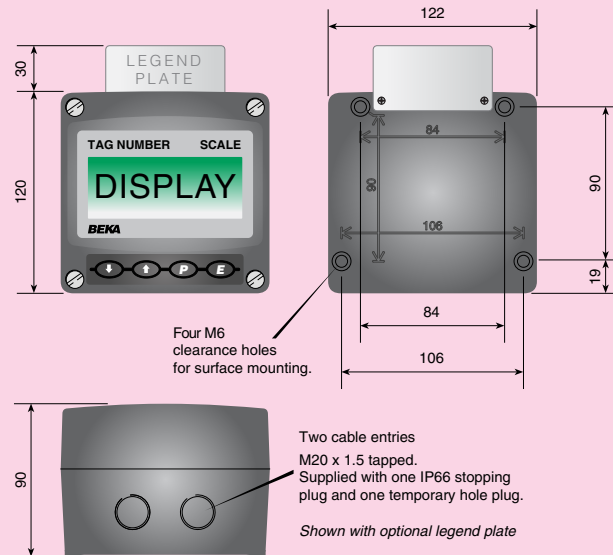
## associates

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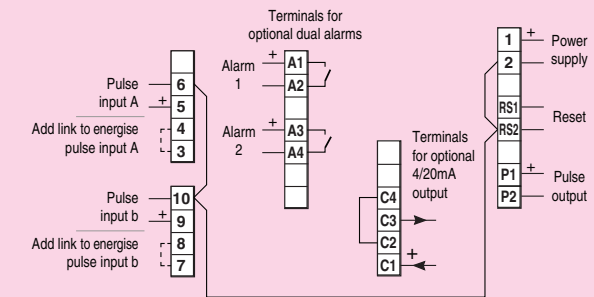
## SPECIFICATION

<b>Power supply</b>	
Voltage	10 to 30Vdc
Current	16mA max plus 16mA for optional backlight
<b>Input</b>	
Switch contact	<b>Lower</b> 100Ω <b>Upper</b> 1kΩ      switching thresholds
Proximity detector (NAMUR)	1.2mA      2.1mA
Open collector	2kΩ      10kΩ
Magnetic pick-off	0      +40mV
Voltage pulse (low)	1V      3V      30V max
Voltage pulse (high)	3V      10V      30V max
Frequency	
Switch contact	150Hz typical
Other inputs	100kHz max
All inputs	0.01Hz min
<b>Display</b>	
Type	Liquid crystal
Zero blanking	Blanked apart from 0 in front of decimal point.
Total #	8 digits 18mm high
Decimal point	1 of 5 positions or absent
Rate #	6 digits 12mm 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 <sup>16</sup>
<b>Remote reset</b>	
	Contact closure with resistance less than 10kΩ
<b>Pulse output</b>	
Source and output	Isolated open collector
	Either input synchronous pulse output 5kHz max or
	Least significant digit of total display pulse 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
Ui	30Vdc
I max	10mA
<b>Configurable functions</b>	
Each input individually configurable	
Input function	Input A + b: Input A – b: Input A direction controlled by input b or quadrature input (Inputs 90° out of phase).
Total scale factor	Adjustable between 0.0001 and 99999
Rate scale factor	Adjustable between 0.0001 and 99999
Rate timebase	Rate may be displayed per second, minute or hour
Rate display filter	Adjustable digital filter
<b>Certification</b>	
<b>Europe ATEX</b>	
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
<b>International IECEx</b>	
Code	Ex nA ic IIC T5 Gc
	Ex ic tc IIIC T80°C Dc
	-40 ≤ Ta ≤ 60°C
Cert. No	IECEx ITS 16.0005X
<b>ETL &amp; cETL</b>	
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
<b>Environmental</b>	
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
<b>Mechanical</b>	
Terminals	Screw clamp for 0.5 to 1.5mm <sup>2</sup>
Weight	1.1kg
<b>Accessories</b>	
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.
	Isolated single pole, voltage free solid state switch
Outputs	5Ω + 0.7V max
Ron	IMΩ min
Roff	30V dc
Ui	200mA
Ii	

## DIMENSIONS (mm)



## TERMINAL CONNECTIONS



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. #
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	BA364NG
Input function	Input A + b: Input A – b: Input A direction controlled by input b or quadrature input (Inputs 90° out of phase). *
Input	Type *
Total scale factor	XXXXX *
Rate scale factor	XXXXX *
Rate timebase	Seconds, minutes or hours*
<b>Accessories</b>	
Display backlight	Backlight
4/20mA output	4/20mA output
Dual alarms	Alarms
Scale card marking	Legend required
Units	Legend required
Tag	No charge if ordered with counter
Stainless legend plate	Legend required
Pipe mounting kit	BA393G
Panel mounting kit	BA394G

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