1. DESCRIPTION

The BA364G is a field mounting intrinsically safe, two input Counter which will function with a wide variety of sensors. The instrument can display rate and total of the two inputs and their sum or difference.

This abbreviated instruction sheet is intended to assist with installation, a comprehensive instruction manual describing safety certification, system design and configuration may be downloaded from the BEKA website or may be requested from the BEKA sales office.

The BA364G Counter has IECEx, ATEX, ETL and cETL intrinsic safety certification for use in flammable gas and dust atmospheres. The certification information label, which is located on the top of the instrument assembly, shows the certification numbers and codes. Other certifications may be shown. Copies of certificates may be downloaded from the BEKA website.



Typical certification information label

2. INSTALLATION

The BA364G Counter has a robust IP66 glass reinforced polyester (GRP) carbon loaded enclosure incorporating an armoured glass window & stainless steel fittings. It is suitable for exterior surface mounting in most industrial environments, or pipe mounting using an accessory kit.

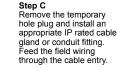
If the enclosure is not bolted to an earthed post or structure, the earth terminal on the cable entry bonding plate, which may be assembled on the inside or outside of the enclosure, should be connected to local earthed metalwork or to the plant's potential equalising conductor.

Terminals A1, A2, A3 and A4 are only fitted when the Counter includes optional alarms. Similarly terminals C1, C2, C3 and C4 are only fitted when the instrument has an optional 4/20mA output. See full manual for details.

DISPLAY A Step A Unscrew the four captive 'A' screws and separate the indicator assembly and the back-box.

Step B





Secure the enclosure

back-box to a flat surface

the four 'B' holes. Alternatively

with M6 screws through

use a pipe mounting kit.



Terminate field wiring on the instrument assembly. Replace the assembly on the enclosure back-box and tighten the four 'A' screws.

Fig 1 BA364G installation procedure

Abbreviated Instruction for

BA364G intrinsically safe

two input field mounting Counter

SCALE

Ø

TAG NUMBER

BEKA

888888888

* **107**AL ****8888888

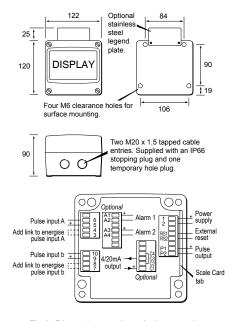


Fig 2 Dimensions and terminal connections

EMC

For specified immunity all wiring should be in screened twisted pairs with screens earthed at one point within the safe area.

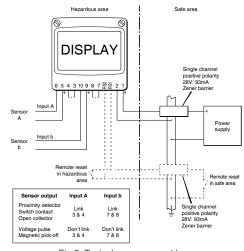


Fig 3 Typical measurement loop

Scale card

The instrument's units of measurement and tag information are shown above the display on a slide-in scale card. New instruments are fitted with a scale card showing the information specified when the instrument was ordered, if this was not provided a blank scale card will be fitted which can easily be marked on-site. Custom printed scale cards are available from BEKA associates. To remove the scale card carefully pull the tab perpendicularly away from the instrument assembly. See Fig 2 for the location of the scale card tab.

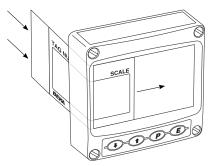


Fig 4 Inserting scale card into instrument assembly

To replace the scale card carefully insert it into the slot shown in Fig 2. Force should be applied evenly to both sides of the scale card to prevent it twisting. The card should be inserted until about 2mm of the transparent tab remains protruding.

3. OPERATION

The BA364G is controlled and configured via four front panel push buttons. In the display mode i.e. when the instrument is counting the push button functions are:

- + Grand total shows the least significant 8 digits of a 16 digit counter.
- E + A Grand total shows the most significant 8 digits of a 16 digit counter. If buttons are pressed for longer than 10 seconds the grand total will be reset to zero if the grand total reset function [Lr [LoL] is enabled.

To reset the grand total to zero from the operating mode press the \mathbb{E} and \mathbb{A} buttons for ten seconds until [Lr. no is displayed. Using the \mathbb{T} or \mathbb{A} button change the display to [Lr. JE5 and press \mathbb{E} which will reset the grand total and restore the original display.

- + If the local total reset function LLr LoL is enabled in the configuration menu, simultaneously pressing the T and D buttons for more than three seconds allows total R, total b or both totals to be selected by operating the T or D button. Operating the E button will then reset the selected total and clear any stored output pulses.
- +
 Shows each for 2 seconds: Firmware and version number Function of instrument: 2[H[nbr Options fitted:
 - -R Alarms
 - -P Pulse output (always fitted)
 - -E 4/20mA output
- **P** + Provides direct access to the alarm setpoints when the Counter is fitted with optional alarms and the RESP setpoints function has been enabled.

The BA364G is CE marked to show compliance with the ATEX Directive 2014/34/EU and the EMC Directive 2014/30/EU.

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4. CONFIGURATION

Display

mode

DISPLA

LodE

É

Security Code

Enter code by pressing 🔺 or 💌 & 🖻

to move to next

digit. Code 0000

Counters are supplied configured as requested at time of ordering, if not specified default configuration will be supplied but can easily be changed on-site. Fig 5 shows the location of each function within the configuration menu with a brief summary of the function. Please refer to the full instruction manual for detailed configuration information and for description of optional outputs. Access to the configuration menu is obtained by pressing the 🕑 and 🗉 buttons simultaneously. If the Counter's security code is set to default DDD the first parameter _ nPut-R will be displayed. If the instrument is protected by a security code, LodE will be displayed. The four digit code must be entered to gain access to the menu.

Unless otherwise specified menu functions are shown on the upper display

EodE	digit. Code allows dire	ect	Unless	otherwise spe	ecified menu f	unctions are	shown on the	e upper displa	ау										
	access t the men													Alarms fur	nctions appear	here 4	1/20mA output fun	ctions appear h	ere
		È	Ē	, te		+ E	Ē	Ě	É	, te	Ē	Ě	È				 <u>+</u>	••••••••••••••••••••••••••••••••••••••	
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	dEbounEE	E 90E 1	Ţ <u>T</u> [0.5]	T R:b	F T EoERL	Ŧ Ţ				F T [EB-01]	∓ <u>⊤</u> [24]	T L				Ţ	ELr.no		∓ ⊤ [0000]
																	↓ ↓		
oP.CoL	dEFRULE													↓ FF	٥FF				
Input-A	Debounce	Counting edge input-A	Update	Count	Upper Display	Lower Display	Decimal point	Total scale factor	Rate scale factor	Timebase	Filter input	Direction of count	Reset value	Local total reset	Local grand total reset	וון	Grand total reset	Define Security Code	Reset configuration
▼ or ▲ to select	▼ or ▲ to select	To toggle	▼ or ▲ to select	▼ or ▲ to select	▼ or ▲ to select	▼ or ▲ to turn	▼ or ▲ to select	Dividing factor which defines	Dividing factor which defines	▼ or ▲ to select	▼ or ▲ to adjust value	To to toggle	or adjust value	To turn the	To turn the		press	Enter by	to factory defaults
Input type	level of debounce.	between EdGE (interval between display	Input type Я:ь	display whether LotRL or rRLE	lower display on Of oFF	position of decimal point and	total display. To adjust value	rate display. or to adjust value	rate display timebase.	of each digit and P to	between uP and do	of each digit and P to	local total reset function on or oFF.	local grand total reset function		to select ELr.3E5 to reset grand	pressing	Confirm instruction by
oP.EoL Open Collector	dEFRult	volts rising edge and	updates, may be set to	Input A + Input b	is shown on upper		to toggle between rate	and P to move to	and P to move to	٤٥-۵۱ for pulses/sec	transfer control to the next digit.		transfer control to the next digit	When on, total display may be	on Or oFF. When on,		total to zero.	and P to move to next digit.	entering Sur É. Press
UoLES L Pulse	HERUY L, GHE	EdGE2 volts falling edge	0.5, 1, 2, 3, 4 or 5 seconds	Я:-ь Input A -	display		and total displays	next digit or decimal point	next digit or decimal point	եե-60 for pulses/min	First digit:			reset when	grand total display may be reset when		Confirm instruction by entering Sur E.	Default code	or to adjust each
<1V >3V			J	Input b			L	J	J	ь-3600	filter magnitude Second digit:			are pressed simultaneously for more than 3	E and A		Press	0000 allows direct access to configuration	digit and P to move to next digit
Pulse <3V >10V				A count direction						for pulses/hour	step response			seconds in the display mode	simultaneously for more than 10	,	to adjust each digit and P	menu	
Eo, L Magnetic				controlled by b							Note: While making adjustments				seconds in the display mode		to move to next digit		
pick-off Pr.dEt				R r EL b Quadrature							the filtered rate display is	L	J	J	IL		L]	
Proximity detector				counting mode							shown on lower display so stability can						Ē	É	Ē
EonEREE Switch contact											be assessed				-	EnbL			
Contact					J											P E	P E	₽ Ė	P E
																oFF	SERLEd	1000	0.1
																Alarm Enable	e Source or output pulse	Divides scaled output pulse	Duration of each pulse
																to toggle	🔺 or 💌	🔺 or 💌	▲ or ▼ to select
																between on and oFF	to select pulse source. SERLEd	to select frequency dividing factor	duration of scaled output
* Followed by	identical fun	nction for inr	put b														Input pulse frequency may	for scaled output pulse	pulse in ms
Unless otherw				hown on the	upper displa	ay											be divided and duration extended.	1 10	0.5 I
																	OR	100 1000 10000	2.5 5
]													di r EEE R Retransmission of input A	10000	25 50
	Manuals	s and data	sheets														OR		100 250 500
2567		downloade		10													di rEEE b Retransmission of input b		s only appear in
	nttp://wv	ww.beka.c	o.uk/ba36	4g				_	ia E Confi										hen SERLEd is SourEE function