Manuals+ — User Manuals Simplified.

BEKA associates BA367E Counter Instruction Manual

Contents

BEKA associates BA367E Counter

Product Information

The BA367E Counter is a certified instrument designed for safe use in hazardous areas. It has IP66 front of panel protection and IP20 protection at the rear. The Counter is intrinsically safe and has special conditions for safe use indicated by the IECEx, ATEX, and UKEX certificates.

Installation
To install the BA367E Counter, follow these steps:

1. Align the foot and body of the panel mounting clamp by turning the screw anticlockwise.
2. Position the gasket behind the instrument bezel.
3. Insert the instrument into the panel from the front.
4. Insert the panel clamp into the recess and gently pull it onto the dovetail. Engage the screw and turn clockwise to tighten the clamp. Fit the other clamp(s). Recommended tightening torque is 22cNm (1.95lbf.in). Do not overtighten.

Refer to **Fig 2** for visual guidance on the installation procedure.

Product Usage

Cut-out Dimensions and Terminals
The Counter has specific cut-out dimensions and terminals for various optional features:

- Alarm Terminals: A1, A2, A3, A4 – For optional dual alarms
- Pulse Output Terminals: OR, P1, P2 – For optional pulse output
- 4/20mA Output Terminals: C1, C2, C3, C4 – For optional 4/20mA output
- Power Supply: + Power supply 10 to 28V dc
- Reset: RS1, RS2 – Terminals for reset and sensor input

Refer to **Fig 1** for a diagram illustrating the cut-out dimensions and terminals.

Use with Zener Barriers
The Counter can be used with Zener barriers for specified immunity. The wiring should be in screened twisted pairs with screens earthed at one point within the safe area. Refer to **Fig 3** for a visual representation of the

setup.

Scale Card

The Counter features a scale card that displays the units of measurement. The scale card is mounted on a flexible strip inserted into a slot at the rear of the instrument. The scale card can be easily changed without removing the Counter from the panel or opening the instrument enclosure.

To change the scale card:

1. Unclip the protruding end of the flexible strip by gently pushing it upwards and pulling it out of the enclosure.
2. Peel off the existing scale card from the flexible strip.
3. Replace it with a new printed card, aligning it correctly.

Do not fit a new scale card on top of an existing card. Refer to **Fig 4** for a visual representation of the scale card insertion process.

New Counters are supplied with a printed scale card, but if specific units of measurement are not provided during ordering, a blank card will be fitted. Self-adhesive scale cards with common units of measurement can be purchased as an accessory from BEKA associates. Custom printed scale cards are also available.

DESCRIPTION

- The BA367E is a panel mounting, intrinsically safe, one input Counter which will function with a wide variety of sensors.
- 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 BA367E Counter has IECEx, ATEX and UKEX intrinsic safety certification for use in flammable gas atmospheres. ETL and cETL approval permits installation in the USA and Canada. The certification information label, which is located on the top of the instrument enclosure, shows the certification number and codes. Other certifications may be shown.
- Copies of certificates may be down loaded from the BEKA website.

Typical certification information label

The label contains:

BEKA associates Hitchin, England. www.beka.co.uk

CE 2575 UKCA 0359

II 1 G, Ex ia IIC T5 Ga, -40°C ≤ Ta ≤ +70°C
ITS16ATEX28408X IECEx ITS16.0004X
ITS21UKEX0098X

Conforms to UL Std. 913, 61010-1,
UL Std. 121201 & UL Std.
60079-0, 60079-11 Certified to CSA Std.
C22.2 No. 25, 213, 60079-0,
60079-11, 61010-1

〈Ex〉 II 1 G

(CCC) 英国制造
警告：潜在静电电荷危险，
见使用说明书

Class I Div 1 Gp A,B,C,D T5
Class II Div 1 Gp E,F,G
Class III Div 1
Class I Zone 0 AEx ia IIC T5 Ga
Ex ia IIC T5 Ga, -40°C ≤ Ta ≤ +70°C
Entity per BEKA Dwg. CI330-52

ETL LISTED c US
Intertek
4008610

Class I Div 2 Gp A,B,C,D T5
Class II Div 2 Gp F, G
Class III Div 2
-40°C ≤ Ta ≤ +70°C
Nonincendive per BEKA Dwg. CI330-53

IP66 front of panel only. WARNING:
POTENTIAL ELECTROSTATIC CHARGING
HAZARD. CLEAN ONLY WITH A DAMP CLOTH.

IP66 uniquement en face avant du panneau
AVERTISSEMENT: RISQUE POTENTIEL DE CHARGE
ELECTROSTATIQUE. NETTOYER UNIQUEMENT
AVEC UN CHIFFON HUMIDE.

S/No: 020521 / 04 / 020   Manufactured: 2022

BA367E 1 INPUT COUNTER

Special conditions for safe use

The IECEx, ATEX and UKEX certificates have an 'X' suffix indicating that special conditions apply for safe use.

WARNING

To avoid an electrostatic charge being generated instrument enclosure should only be cleaned with a damp cloth.
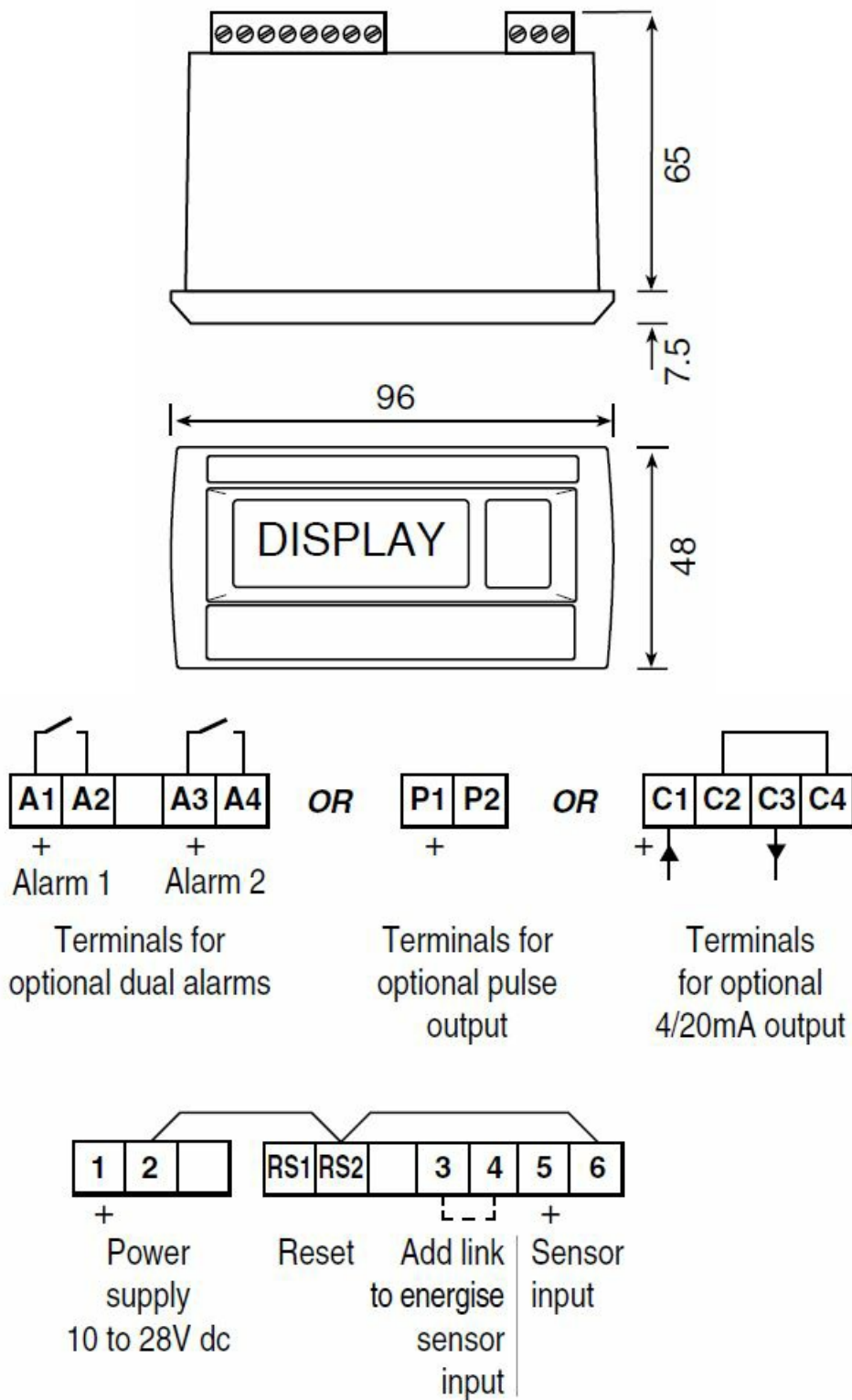
INSTALLATION

The BA367E Counter has IP66 front of panel protection but it should be shielded from direct sunlight and severe weather conditions. The rear of the instrument has IP20 protection.

Cut-out dimensions
Recommended for all installations. Mandatory to achieve IP66 seal between instrument and panel.
90 +0.5/-0.0 x 43.5 +0.5/-0.0

	65
96	
DISPLAY	48
	7.5

A1 | A2 | | A3 | A4   **OR**   P1 | P2   **OR**   C1 | C2 | C3 | C4
+ | | + | | + | | + |
Alarm 1   Alarm 2

Terminals for
optional dual alarms

Terminals for
optional pulse
output

Terminals
for optional
4/20mA output

1 | 2 | | RS1 | RS2 | | 3 | 4 | 5 | 6
+ | | | | | | | + |
Power   Reset   Add link | Sensor
supply   to energise | input
10 to 28V dc   sensor
input

Support panel wiring to prevent vibration damage
Fig 1 Cut-out dimensions and terminals

Abbreviated instructions for
BA367E One input Intrinsically safe Counter
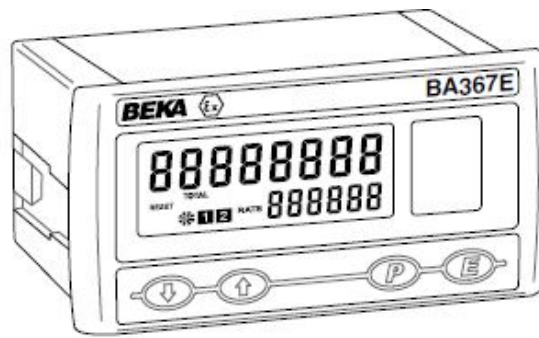
1. Align foot and body of panel mounting clamp by turning screw anticlockwise
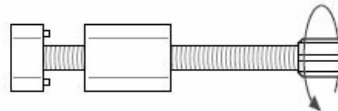
2. Position gasket behind instrument bezel

3. Insert instrument into the panel from the front

4. Insert panel clamp into recess and gently pull it onto the dovetail. Engage screw & turn clockwise to tighten the clamp, fit the other clamp(s). Recommended tightening torque 22cNm (1.95lbf.in) Equivalent to finger tight plus one half turn. DO NOT OVERTIGHTEN
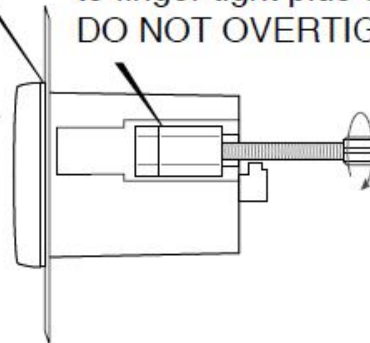
Fig 2 Installation procedure

EMC
For specified immunity all wiring should be in screened twisted pairs with screens earthed at one point within the safe area.
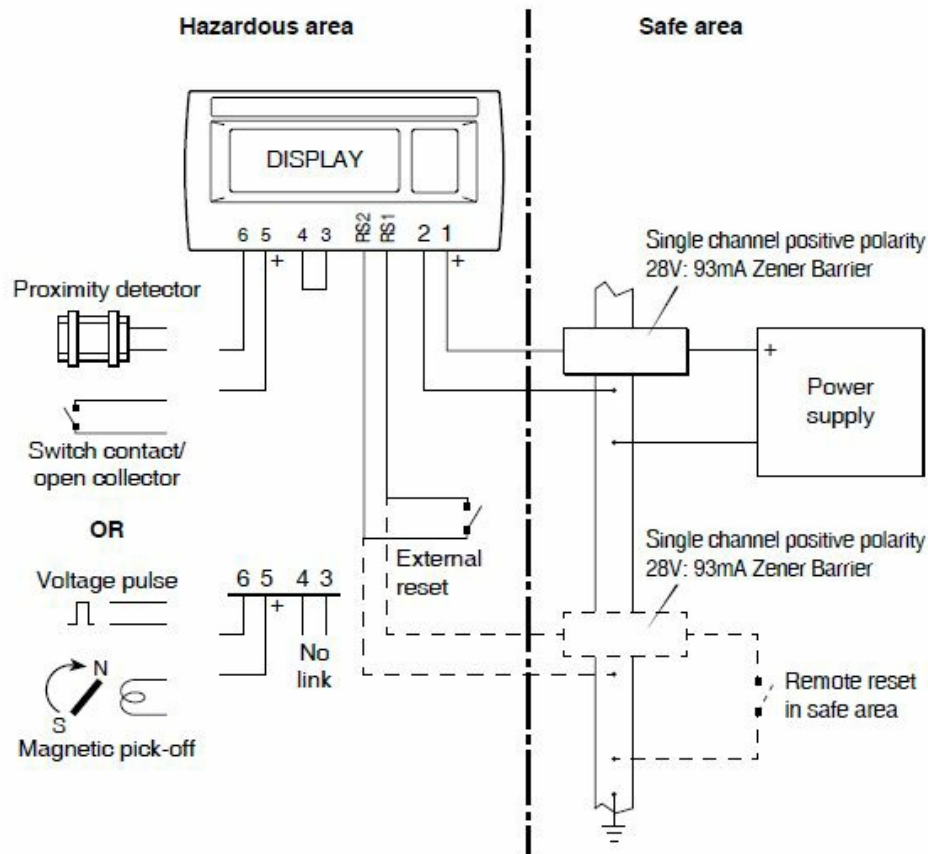
Fig 3 Use with Zener barriers

Scale card

The Counters units of measurement are shown on a printed scale card visible through a window at the right hand side of the display. The scale card is mounted on a flexible strip that is inserted into a slot at the rear of the instrument as shown below
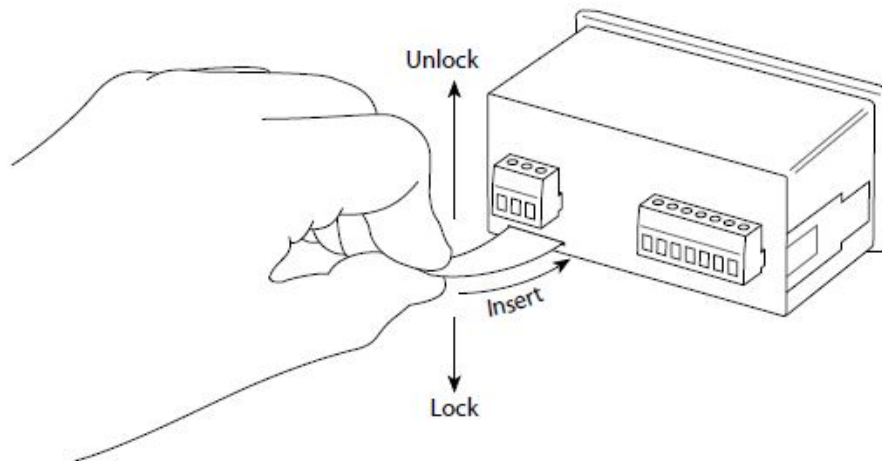

Fig:4 Inserting flexible strip carrying scale card into slot at the rear of Counter.

- Thus the scale card can easily be changed without removing the Counter from the panel or opening the instrument enclosure.
- New Counters are supplied with a printed scale card showing the requested units of measurement, if this information is not supplied when the Counter is ordered a blank card will be fitted.
- A pack of self-adhesive scale cards printed with common units of measurement is available as an accessory from BEKA associates. Custom printed scale cards can also be supplied.
- To change a scale card, unclip the protruding end of the flexible strip by gently pushing it upwards and pulling it out of the enclosure. Peel the existing scale card from the flexible strip and replace it with a new printed card,

which should be aligned as shown below. Do not fit a new scale card on top of an existing card.

- Align the self-adhesive printed scale card onto the flexible strip and insert the strip into the Counter as shown.
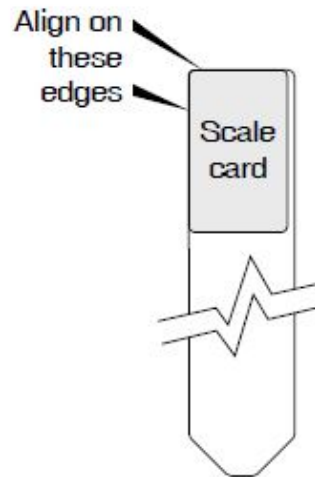

Fig 5 Fitting scale card to flexible strip

OPERATION

The Counter is controlled by four front panel push buttons. When in operating mode they have the following functions:

- ([P] + [E]) Access to configuration menu.

- [▼] + [▲] If Local Total Reset CLr tot in the instrument configuration menu has been activated, operating the [▼] and [▲] buttons simultaneously for three seconds will reset the total display to zero and clear any pulses stored in the optional pulse output.

- [E] + [▼] Grand total – shows Lo followed by least significant 8 digits of the 16 digit grand total.

- [E] + [▲] Grand total – shows Hi followed by the most significant 8 digits of the 16 digit grand total. If Local Grand Total Reset Clr Gtot in the instrument configuration menu has been activated, operating the) [E] and [▲] buttons simultaneously for ten seconds will result in Clr . no being displayed with the no flashing. Operating the or [▲] & [▼] button will change the display to Clr . YE5, [E] the button will then reset the grand total to zero which will be confirmed by a brief display of Gt Clrd.

- [P] + [▼] Shows in succession, firmware version number, instrument function counter and any output accessories that are fitted:
  - A Dual Alarm Outputs
  - P Pulse output
  - C 4/20mA output.

- [P] + [▲] When optional alarms are fitted provides direct access to the alarm setpoints if A5CP (access to setpoints) has been enabled in the configuration menu.

CONFIGURATION

- 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 6 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 (**P** and **E**) buttons simultaneously. If the Counter's security code is set to default 0000 the first parameter input will be displayed. If the instrument is protected by a security code, code will be displayed. The four digit code must be entered to gain access to the menu.
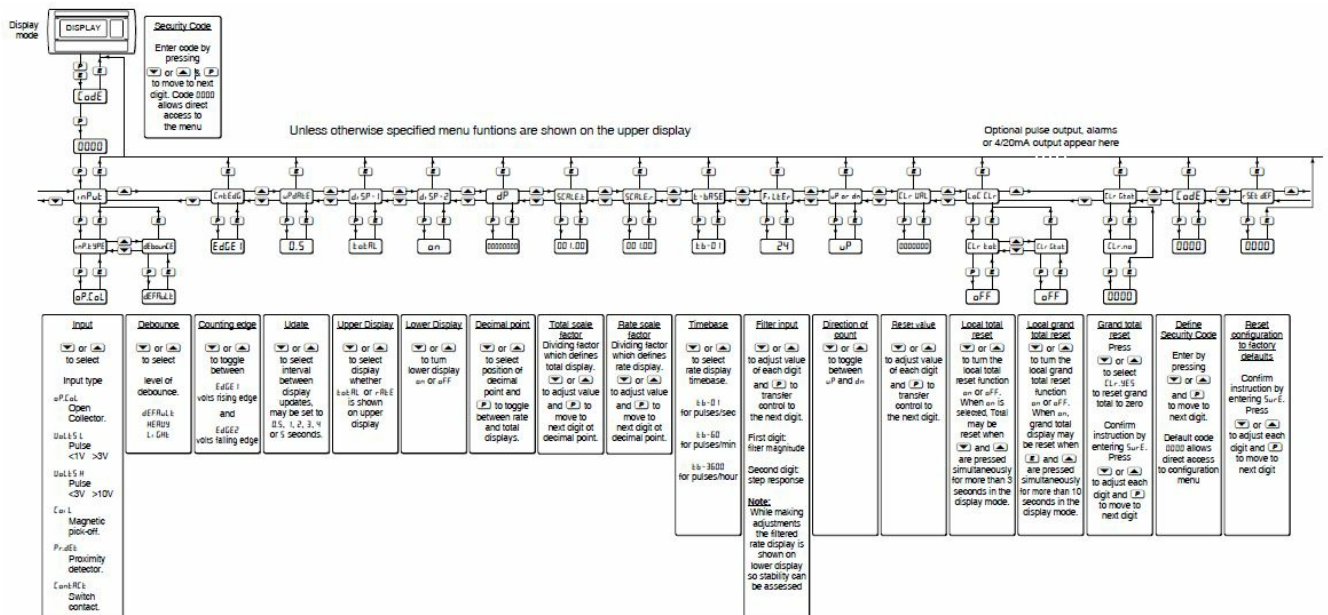

Fig 6 Configuration menu

Manuals, certificates and data-sheets can be downloaded from **http://www.beka.co.uk/ba367e**

- The BA67E is CE marked to show compliance with the European Explosive Atmospheres Directive 2014/34/EU and the European EMC Directive 2014/30/EU.
- It is also UKCA marked to show compliance with UK statutory requirements Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations UKSI 2016:1107 (as amended) and with the Electromagnetic Compatibility Regulations UKSI 2016:1091 (as amended).
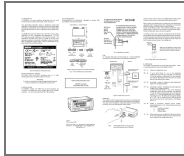
Documents / Resources

	BEKA associates BA367E Counter [pdf] Instruction Manual BA367E, BA367E Counter, Counter

References

- 𝓑 **BEKA associates Ltd.**
- 𝓑 **BA367E, BA368E and BA367E-SS Counters, Intrinsically safe**
- 𝓑 **BA367E, BA368E and BA367E-SS Counters, Intrinsically safe**