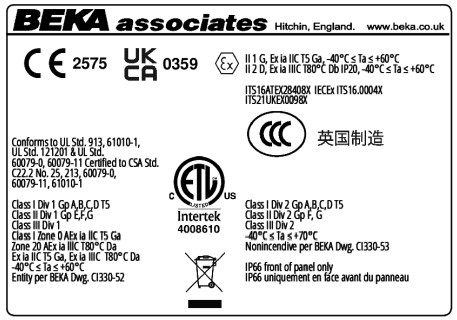
1. DESCRIPTION

The BA337E-SS is an intrinsically safe, one input rate totaliser housed in a rugged 316 stainless steel panel mounting enclosure, primarily intended for use with pulse output flowmeters.

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 BA337E-SS has IECEx, ATEX and UKEX intrinsic safety certification for use in flammable gas and dust 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 numbers and codes. Other certifications may be shown. Copies of certificates may be downloaded from the BEKA website.



Typical certification information label

Special conditions for safe use

The IECEx, ATEX and UKEX intrinsic safety certificate numbers have an 'X' suffix indicating that for some applications special conditions apply for safe use.

a. When installed in an Ex e, Ex p or Ex t panel enclosure all connections to the BA337E-SS must be made by appropriately rated Zener barriers or galvanic isolators.

This means that when installed in an Ex e, Ex p or Ex t panel enclosure the BA337E-SS remains an intrinsically safe instrument.

b. The front of the stainless steel enclosure complies with the requirements for Ex e, Ex p & Ex t type of protection.

Therefore when correctly installed the BA337E-SS Rate Totaliser will not invalidate the Ex e, Ex p or Ex t panel enclosure certification.

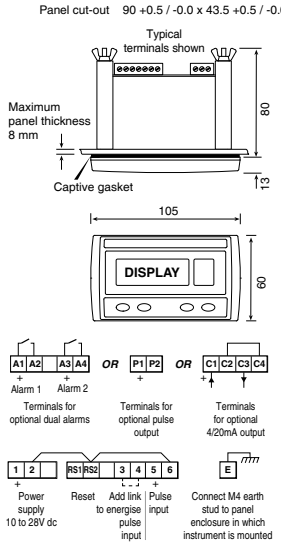
Use in combustible dust atmospheres

See full instruction manual for installation information requirements and special conditions for safe use in combustible dust atmospheres.

2. INSTALLATION

Cut-out dimensions

Mandatory to achieve an IP66 seal between instrument and panel and to maintain certification of panel enclosure in which it is mounted.

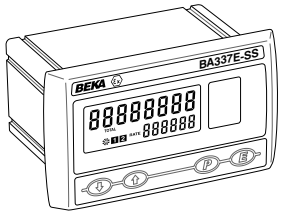


Support panel wiring to prevent vibration damage

Fig 1 Cut-out dimensions and terminals

Abbreviated instructions for

BA337E-SS Rugged one input intrinsically safe Rate Totaliser



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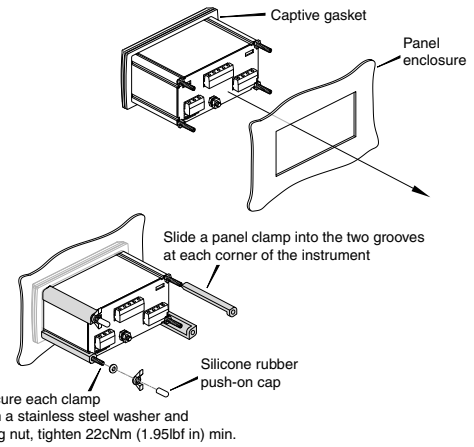


Fig 2 Installation procedure

EMC

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

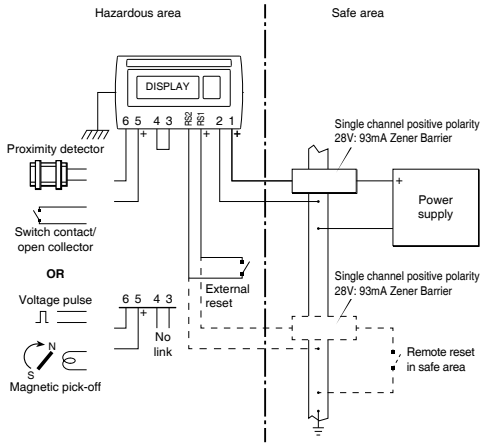


Fig 3 Use with Zener barriers

Scale card

The Rate Totaliser's 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

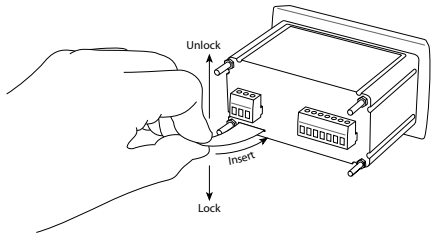
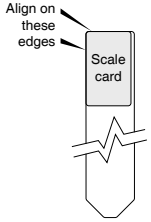


Fig 4 Inserting flexible strip carrying scale card into slot at the rear of Rate Totaliser.

Thus the scale card can easily be changed without removing the Rate Totaliser from the panel or opening the instrument enclosure.

New Rate Totalisers are supplied with a printed scale card showing the requested units of measurement, if this information is not supplied when the instrument 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 Rate Totaliser as shown.

Fig 5 Fitting scale card to flexible strip

3. OPERATION

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

P + E — Access to configuration menu.

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 Total Reset CLr tot in the configuration menu has been activated, operating the ▼ + ▲ buttons for three seconds will reset the total display to zero and clear any pulses stored in the optional pulse output. The Grand Total is not reset.

P + ▼ — Shows in succession, firmware version number, instrument function totALSE 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 ASCP (access setpoints) in the configuration menu has been enabled.

4. CONFIGURATION

Rate Totalisers 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 the linearisers and optional outputs.

Access to the configuration menu is obtained by pressing the P and E buttons simultaneously. If the Rate Totaliser's security code is set to default 0000 the first parameter FunCti on 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.

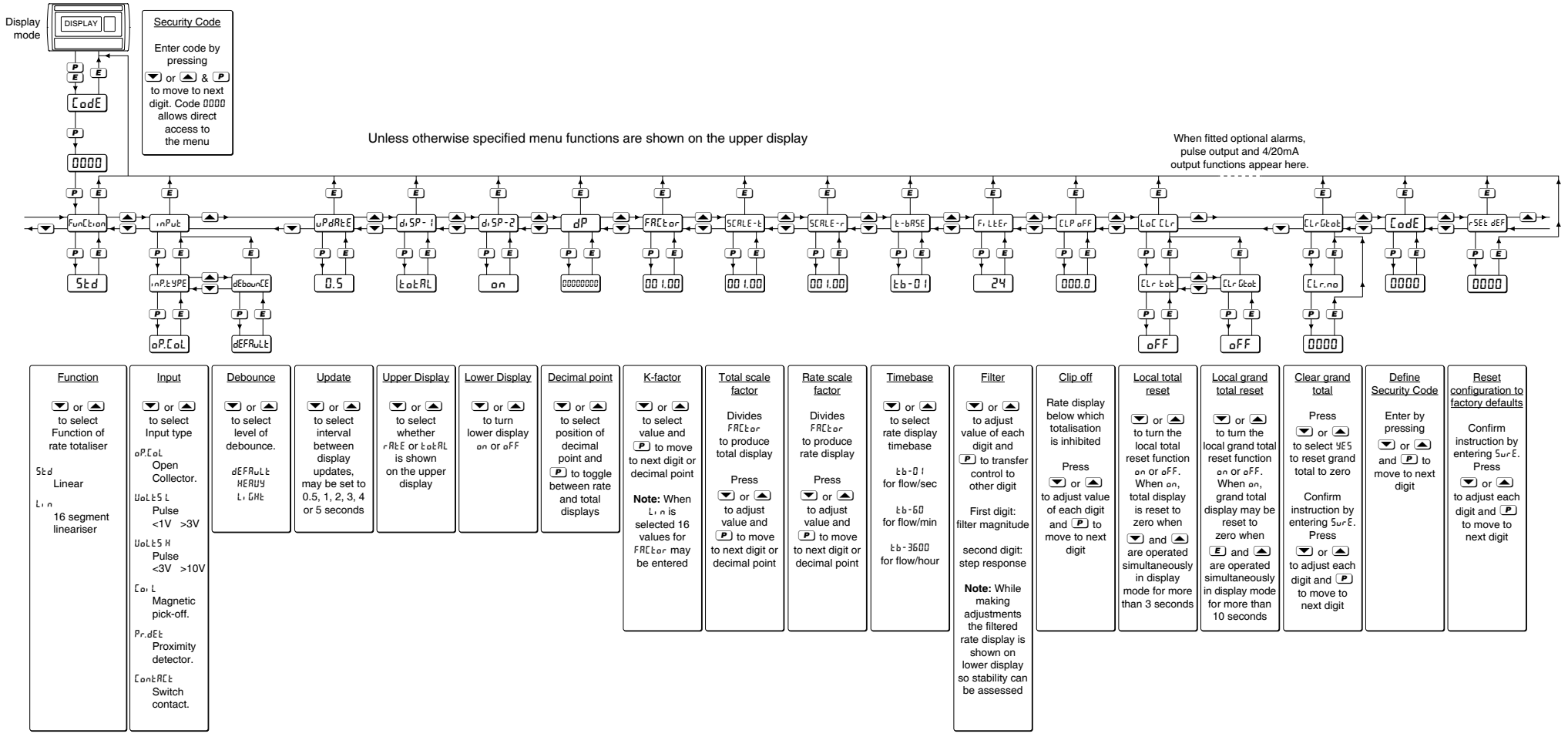


Fig 6 Configuration menu

Manuals, certificates and data-sheets can be downloaded from http://www.beka.co.uk/ba337e-ss

The BA337E-SS 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).*