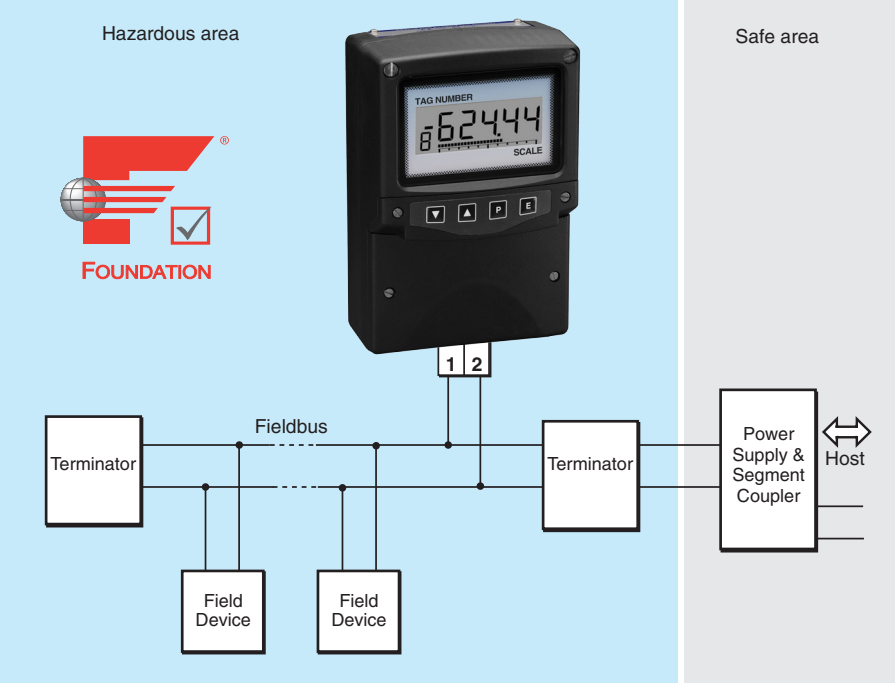

BA444DF-F

FOUNDATION™ fieldbus Fieldbus Indicator 8 variables

Intrinsically safe for use in gas and dust hazardous areas

- **Large 5 digit display with bargraph.**
- **FOUNDATION™ fieldbus protocol.**
- **Displays up to 8 fieldbus variables.**
- **Selectable Node or Listener modes.**
- **Intrinsically safe**
- **Entity Ex ia & Ex ic parameters, FISCO compliant.**
- **IP66 field mounting GRP enclosure.**
- **3 year guarantee**

www.beka.co.uk/ba444df-f

The BA444DF-F FOUNDATION™ fieldbus Indicator is an intrinsically safe instrument that can display up to eight fieldbus process variables within a hazardous area. A numeric annunciator on the left hand side of the screen shows which variable is being displayed. This version of the indicator supports FOUNDATION™ fieldbus protocol; for PROFIBUS PA systems an alternative version is available - please see the BA444DF-P PROFIBUS data-sheet.

Configuration as a fieldbus Node or Listener allows the indicator to be tailored to suit local requirements. As a FOUNDATION™ fieldbus Node the indicator is configured by the fieldbus host and the displayed variable is selected from the eight pre-configured fieldbus variables using the indicator's push buttons.

When configured as a Listener, the indicator is not visible to the fieldbus host; may not be subject to a Node Licence Fee and is configured and controlled by the indicator's push buttons.

The liquid crystal display has large 20mm high digits providing maximum contrast and a wide viewing angle, allowing the BA444DF-F indicator to be read easily in most lighting conditions. The five digits, with four decimal points and a negative sign, may be configured to display any variable between -99999 and 99999. The 31 segment bargraph, which provides a bold analogue indication of the fieldbus variable, may be conditioned to any starting or finishing values within the fieldbus variable's range.

The enclosure which is moulded in glass reinforced Polyester (GRP) has stainless steel fittings, silicone gaskets and an armoured glass window. Its robust construction provides IP66 protection which has been independently assessed by Intertek Testing Services. A separate terminal compartment allows the instrument to be installed and terminated without exposing the indicator electronics. To further simplify wiring and subsequent inspection, the terminal cable entries and clamping screws are forward facing. The indicator may also be mounted onto a vertical or horizontal pipe using one of the accessory kits.

ATEX and UKEX intrinsic safety certification allows the BA444DF-F to be installed in all gas hazardous areas. The two fieldbus terminals comply with the Fieldbus Intrinsic Safety Concept FISCO simplifying system design and documentation. Separate Ex ia & Ex ic entity input safety parameters also allow connection to most non-FISCO intrinsically safe systems. A BA444DF-F may therefore be connected to almost any intrinsically safe fieldbus segment that can supply an additional 13mA to power the instrument.

International approvals approvals allow installation in the USA, Canada plus the many countries accepting international IECEx certificates. All approvals incorporate FISCO certification. Details of the versions available are shown in the How to Order section on the reverse of this datasheet.

Units of measurement and the instrument's application or tag number can be economically marked onto the display escutcheon prior to despatch or after installation on-site. Alternatively, for customers who prefer a stainless steel label, the indicator can be supplied with a removable blank or custom etched stainless steel plate mounted on the front of the enclosure.

For panel mounting applications see the BA448CF-F FOUNDATION™ fieldbus indicator datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

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website: www.beka.co.uk

SPECIFICATION

Display

Type	Liquid crystal 5 digit plus sign, 20mm high (-99999 to 99999) 31 segment bargraph
Variables	8

Controls

Front panel	Four push buttons for selecting displayed variable and configuration.

Fieldbus communication

Voltage	9 to 32V (Limited by intrinsic safety input safety parameters)
Current	13mA.
Compliant with Mode.	IEC61158-2 31.25kbits/s Voltage
Protocol	FOUNDATION™ fieldbus
Function blocks	2 x IS (input selector) 6 x DI (digital input)
Function	Fieldbus Node or Listener selected by front panel push buttons.

Intrinsic safety

International IECEx

Code	As ATEX codes shown below
Cert. No	IECEx ITS 06.0012X

Europe ATEX & UKEX

Code	Group II Category 1G Ex ia IIC T4 Ga FISCO field device Ex ia IIC T4 Ga Group II Category 3G Ex ic IIC T4 Gc Ta = -40°C to 70°C
or	Group II Cat. 1G Ex ia IIC T4 Ga FISCO field device Ex ia IIC T4 Ga Group II Cat. 3G Ex ic IIC T4 Gc Group II Cat. 2D Ex ia IIIC T100°C IP66 Db Group II Cat. 3D Ex ic IIIC T100°C IP66 Dc Ta = -20°C to 60°C

Dust option, see How to order

Input parameters	FISCO	Ex ia entity	Ex ic entity
Ui	17.5V	22.0V	32V
Ii	380mA	250mA	125mA
Pi	5.32W	1.2W	1W

Location	
Gas	Zone 0, 1 or 2
Dust	Zone 21 or 22
Cert. No.	ITS06ATEX25313X & ITS21UKEX0084X

USA FM

Standard	3610 Entity
Code	CL I, II, III: Div 1 GP A, B, C, D, E, F & G T4 at 70˚C
Standard	3611 Nonincendive
Code	CL I, II, III: Div 2 GP A, B, C, D, E, F & G T4 at 70˚C
File	3027031

Canada cFM

File	3027031C

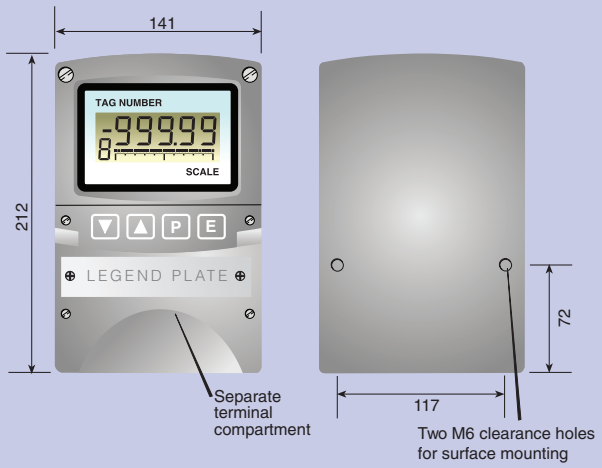
China CCC As IECEx - see certificate

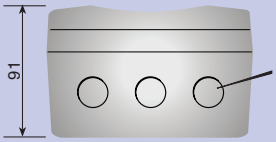
India CCOE/PESO As IECEx - see certificate

Environmental

Operating temp	-20 to 60°C ATEX & IECEx certification Gas -40 to 70°C Dust -20 to 60°C
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	IP66
EMC	Complies with EU & UK EMC Directives

DIMENSIONS (mm)

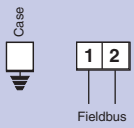




Three cable entries
ATEX certification M20 x 1.5 tapped.
Supplied with two IP66 stopping plugs and one temporary hole plug.
FM & cFM certification 22.25 Ø plain holes

Shown with optional legend plate

TERMINAL CONNECTIONS



Non polarised

Mechanical

Terminals	Screw clamp for 0.5 to 1.5mm^2 cable.
Weight	1.6kg

Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or application marked onto display escutcheon.
Stainless legend Plate.	Stainless steel plate etched with tag number or application attached to front of the instrument.
Pipe mounting kit	BA393
Interface guide	May be downloaded from www.beka.co.uk

HOW TO ORDER

	Please specify
Model number	BA444DF-F FOUNDATION™ fieldbus.
Certification	IECEx, ATEX, UKEX, CCC & CCOE/PESO gas
or	IECEx, ATEX, UKEX, CCC & CCOE/PESO gas & dust
or	IECEx, ATEX, UKEX, FM & cFM gas*

**** Note:** Cable entries differ for FM & cFM*

Accessories	**Please specify if required**
Escutcheon markings	
Scale	Scale legend
Tag	Tag legend
Stainless legend plate	Legend
Pipe mounting kit	BA393