

The **BA444DF-P PROFIBUS 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 PROFIBUS PA protocol; for FOUNDATION™ fieldbus systems an alternative version is available – please see BA444DF-F FOUNDATION™ fieldbus datasheet.

Configuration as a fieldbus Node or Listener using the indicator's front panel push buttons allows the instrument to be tailored to suit local requirements. When configured as a Listener the BA444DF-P is not visible to the fieldbus host; may not be subject to a Node Licence Fee and is configured and controlled via the instrument's front panel push buttons. As a 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 front panel up and down buttons.

Powered by the fieldbus the BA444DF-P only requires a 2-wire connection to the fieldbus segment, no additional power supply is required. Compatibility with most PROFIBUS hosts is assured by the use of eight Analogue Output and six Digital Input function blocks.

The liquid crystal display has large 20mm high digits providing maximum contrast and a wide viewing angle, allowing the BA444DF-P PROFIBUS 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 intrinsic safety certification allows the BA444DF-P 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 entity input safety parameters also allow connection to most non-FISCO intrinsically safe systems. A BA444DF-P may therefore be connected to almost any intrinsically safe fieldbus segment that can supply an additional 13mA to power the instrument.

FM, cFM and IECEx 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.

Operator acknowledgements may be returned to the fieldbus host when the BA444DF-P is configured as a fieldbus Node. Six digital Input function blocks in the indicator which are supported by most PROFIBUS hosts enable the status of the four front panel push buttons to be read.

A Comprehensive PROFIBUS interface guide contains commissioning information for the BA444DF-P. Copies may be requested from the BEKA sales office or downloaded from www.beka.co.uk

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-P PROFIBUS datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

BA444DF-P

PROFIBUS PA

Fieldbus Indicator

8 variables

Intrinsically safe for use in gas and dust hazardous areas

- ◆ Large 5 digit display with bargraph
- ◆ PROFIBUS PA protocol
- ◆ Displays up to 8 fieldbus variables
- ◆ Selectable Node or Listener modes
- ◆ Intrinsically safe ATEX gas or ATEX gas & dust or FM, cFM & ATEX gas

All versions have IECEx certification

- ◆ Entity parameters & FISCO compliant
- ◆ IP66 field mounting GRP enclosure
- ◆ 3 year guarantee



BEKA

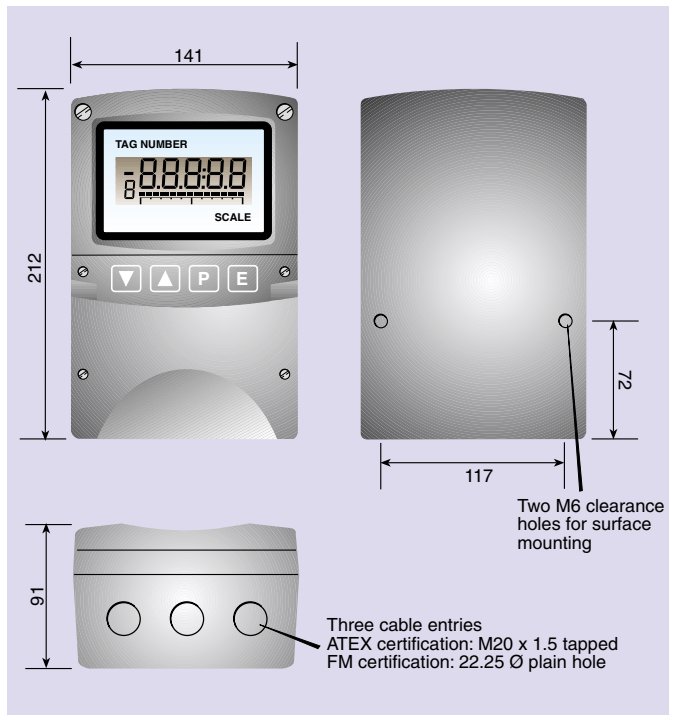
associates

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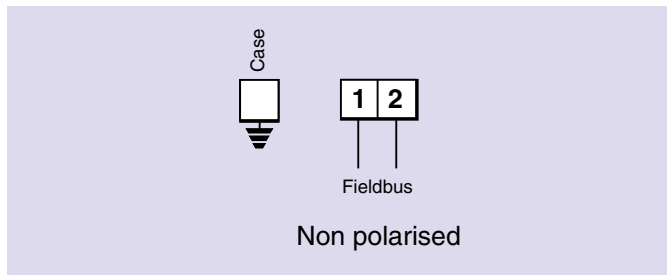
SPECIFICATION

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. May be used for returning operator acknowledgements when configured as a fieldbus node.
Fieldbus communication	
Voltage	9 to 32V (Limited by intrinsic safety input safety parameters)
Current	13mA
Compliant with Protocol	IEC61158—2 Clauses 11 and 22
Profibus User Organisation.	PROFIBUS PA
Function	Approval certificate Z01505 Fieldbus Node or Listener selected via front panel push buttons.
Function blocks	
Profibus-PA node	8 x AO; 6 x DI
Listener	Captures data in DS-33 format
Intrinsic safety	
Europe ATEX	
Code	Group II Category 1G Ga Ex ia IIC T4 FISCO Field Device Ex ia IIC T4 Ta = -40 to +70°C
or	Group II Category 1GD Ga Ex ia IIC T4 FISCO Field Device Ex ia IIC T4 Ex iaD 20 T100°C IP66 Ta = -20 to +60°C
Location	
Gas	Zone 0, 1 or 2
Dust	Zone 20, 21 or 22
Cert. No.	ITS06ATEX25313
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
International IECEx	
Code	Ex ia IIC T4 Ga FISCO Field Device Ex ia IIC T4 Ta = -40 to +70°C
or	Ex ia IIC T4 Ga FISCO Field Device Ex ia IIC T4 Ex ia IIIC T100°C Da IP66 Ta = -20 to +60°C
Cert. No.	IECEx ITS 06.0012
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	In accordance with EU Directive 2004/108/EC

DIMENSIONS (mm)



TERMINAL CONNECTIONS



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	BA392D or BA393
Profibus interface guide.	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	Please specify BA444DF-P PROFIBUS
Certification	ATEX gas or ATEX gas and dust or FM, cFM and ATEX gas

*All versions have IECEx certification.
Note: Cable entries differ for FM & ATEX versions*

Accessories

Please specify if required	
Escutcheon markings	
Scale	Scale legend
Tag	Tag legend
Stainless legend plate	Legend
Pipe mounting kit	BA392D or BA393