

The **BA444NDF-P PROFIBUS Indicator** is a Type n 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 BA444NDF-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 BA444NDF-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 variables using the indicator's front panel up and down buttons.

Powered by the fieldbus the BA444NDF-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 BA444NDF-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 Type n and tD certification allows the BA444NDF-P to be installed in Zone 2 gas and Zone 22 dust hazardous areas. The two fieldbus terminals comply with the Fieldbus Non-incendive Concept FNICO simplifying system design and documentation. Separate entity input safety parameters also allow connection to most non-FNICO Type n systems. A BA444NDF-P may therefore be connected to almost any Type n fieldbus segment that can supply an additional 13mA to power the instrument.

IECEX approval permits installation in the many countries already accepting international IECEX certificates. The approval incorporate FNICO certification and dust approval for use in Zone 22.

Operator acknowledgements may be returned to the fieldbus host when the BA444NDF-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 BA444NDF-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 nonincendive application in the USA and Canada please see datasheet for BA444DF-P PROFIBUS indicator which has FM and cFM nonincendive approval.

BA444NDF-P

PROFIBUS PA

Fieldbus Indicator

8 variables

Type n certified for use in Zones 2 and 22

- ◆ Large 5 digit display with bargraph.
- ◆ PROFIBUS PA protocol
- ◆ Displays up to 8 fieldbus variables.
- ◆ Selectable Node or Listener modes.
- ◆ Type n ATEX & IECEX certification for gas and dust.
- ◆ Entity parameters & FNICO compliant.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee



BEKA

associates

BEKA associates Ltd. Old Charlton Rd.
Hitchin, Hertfordshire, SG5 2DA, U.K.
Tel. (01462) 438301 Fax (01462) 453971
e-mail sales@beka.co.uk www.beka.co.uk

SPECIFICATION

Display

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

Voltage	9 to 32V
Current	13mA
Compliant with Protocol	IEC61158—2 Clauses 11 and 22 PROFIBUS PA
Profibus User Organisation.	Approval certificate Z01505
Function	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

Type n and tD certification

Europe ATEX

Code	Group II Category 3GD FNICO Field Device Ex nL IIC T4 Ex tD A22 IP66 T100°C Ta = -20 to +60°C
Location	
Gas	Zone 2
Dust	Zone 22
Cert. No.	ITS06ATEX45315

International IECEx

Code	Ex nL IIC T4 FNICO Field Device Ex nL IIC T4 Ex tD IIIC T100°C Dc IP66 Ta = -20 to +60°C
Cert. No.	IECEx ITS 06.0015

Environmental

Operating temp	-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
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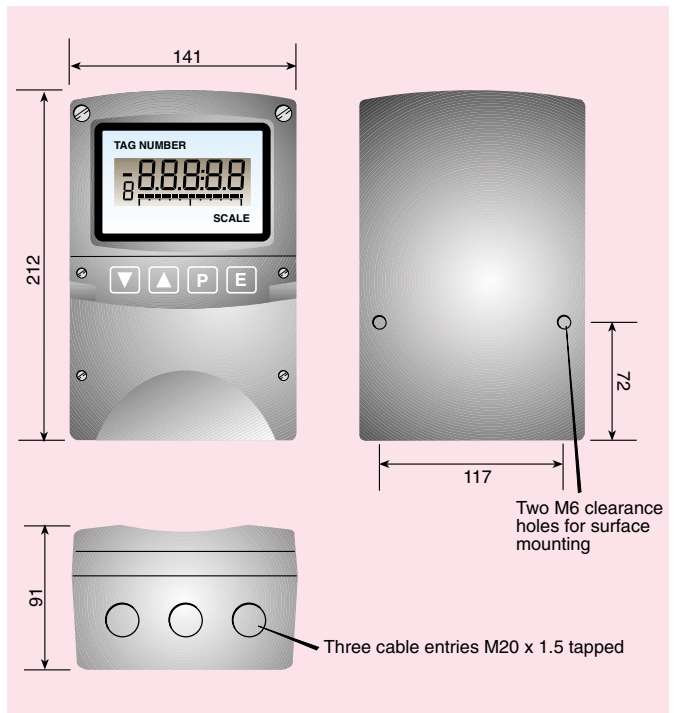
Mechanical

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

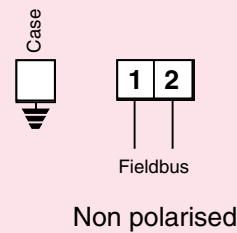
Accessories

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS



HOW TO ORDER

Model number	Please specify BA444NDF-P PROFIBUS
Accessories	Please specify if required
Escutcheon markings	
Scale	Scale legend
Tag	Tag legend
Stainless legend plate	Legend
Pipe mounting kit	BA392D or BA393