

Fieldbus Indicators & Displays

INDICATORS

One variable displayed at a time

FISCO & FNICO compliant



DISPLAYS

Up to eight variables may be displayed at a time
FISCO compliant

An extensive range of bus powered, single and eight variable Displays, Indicators and Listeners for use with FOUNDATION fieldbus and Profibus PA systems in hazardous or safe areas.

FIELDBUS INDICATORS

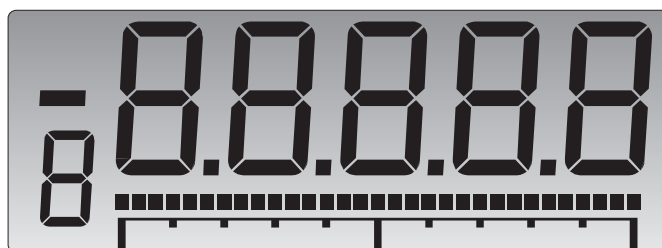
5 digit 20mm high LCD digits with a 31 segment bargraph

- > Single variable FOUNDATION fieldbus models
- > 8 variable FOUNDATION fieldbus models which can be nodes or listeners.
- > 8 variable Profibus PA models which can be nodes or listeners.
- > Ex ia and Ex ic certification permits use with higher voltages in Zone 2.

FIELDBUS DISPLAYS

Graphical display which can show up to 8 variables

- > Models for FOUNDATION fieldbus or Profibus PA applications.
- > Choice of 11 standard display screen formats, some with bargraphs.
- > Backlight
- > 6 optional outputs

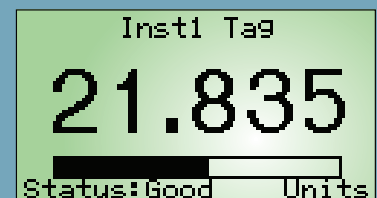


Fieldbus indicator digits shown full size

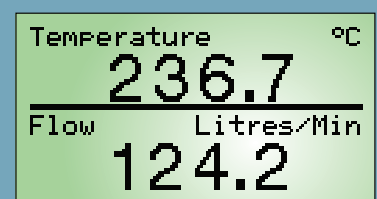
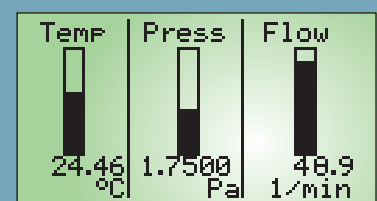
Intrinsically safe

Ex nA

General purpose



In_1	Ta9	10.000	Units
In_2	Ta9	20.000	Units
In_3	Ta9	30.000	Units
In_4	Ta9	40.000	Units
In_5	Ta9	50.000	Units
In_6	Ta9	60.000	Units
In_7	Ta9	70.000	Units
In_8	Ta9	80.000	Units





Fieldbus Indicators and Displays available

Model No.	Mounting	Variables	Protocol	Certification					
				Europe ATEX		International IECEx		USA & Canada	
				Gas	Dust	Gas	Dust	Gas	Dust

Ex ia & Ex ic intrinsically safe - for use in Zones 0, 1 & 2 and 20, 21 & 22 where certified

INDICATORS

BA414DF	Field	1	FF ITK 6 compliant	✓	✓	✓	✓	✓	✓
BA444DF Node or Listener	Field	8	FF or Profibus PA	✓	✓	✓	✓	✓	✓
BA418CF	Panel	1	FF ITK 6 compliant	✓	—	✓	—	✓	—
BA448CF Node or Listener	Panel	8	FF or Profibus PA	✓	—	✓	—	✓	—

Ex ia intrinsically safe - for use in Zones 0, 1 & 2 and 20, 21 & 22 where certified

DISPLAYS

BA484DF *	Field	8	} FF ITK 6 compliant or Profibus PA	✓	✓	✓	✓	✓	✓
BA488CF *	Panel	8		✓	—	✓	—	✓	—

*Not Canada

Ex nL & Ex tD - for use in Zones 2 and 22 without Zener barriers or galvanic isolators. Only for legacy applications

INDICATORS

BA414NDF	Field	1	FF ITK 6 compliant	✓	✓	✓	✓	—	—
BA444NDF Node or Listener	Field	8	FF or Profibus PA	✓	✓	✓	✓	—	—

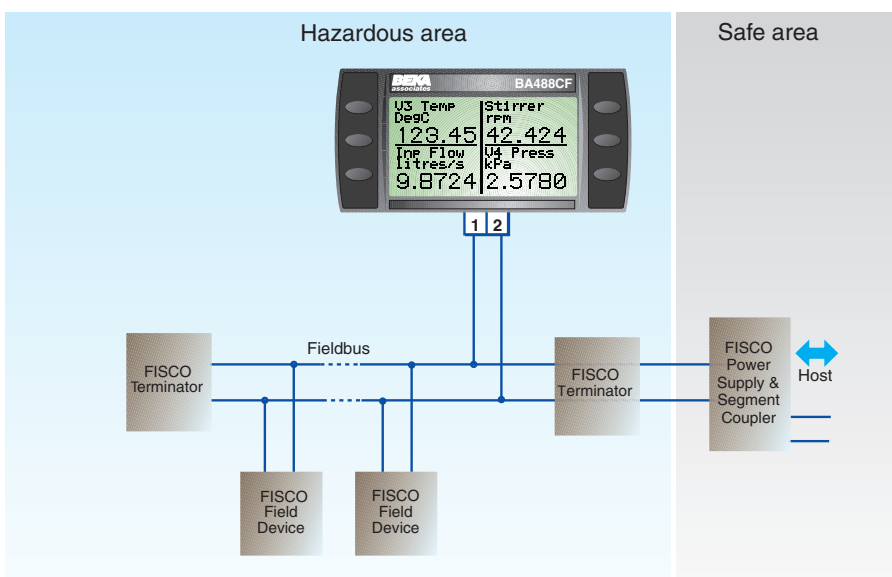
General Purpose - for use in safe areas

INDICATORS

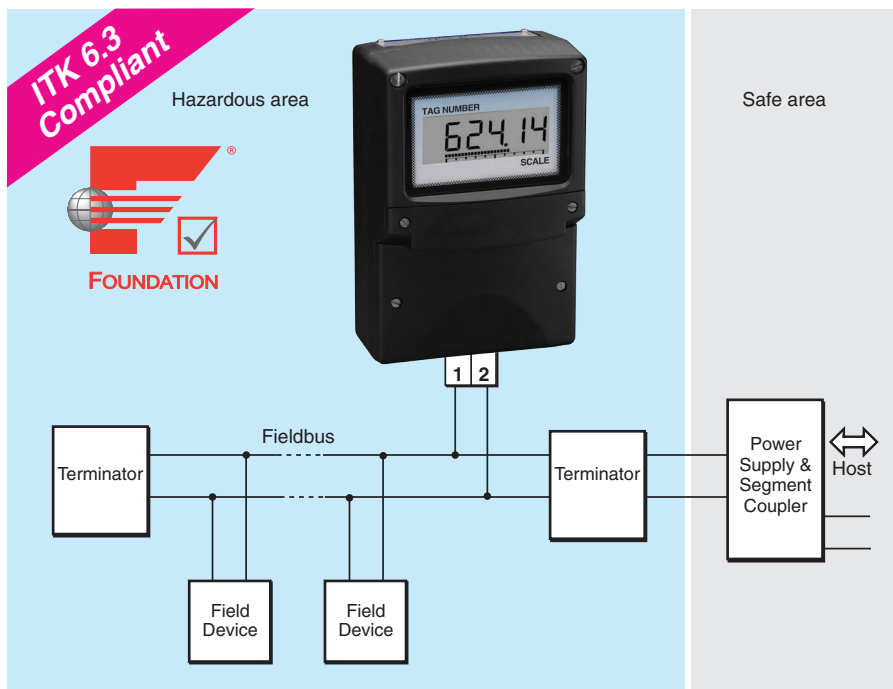
BA614DF	Field	1	FF ITK 6 compliant
BA644DF Node or Listener	Field	8	FF or Profibus PA
BA618CF	Panel	1	FF ITK 6 compliant
BA648CF Node or Listener	Panel	8	FF or Profibus PA

DISPLAYS

BA684DF	Field	8	} FF ITK 6 compliant or Profibus PA
BA688CF	Panel	8	



A Display or Indicator for every application - delivered ready for installation



The **BA414DF-F Fieldbus Indicator** is a cost-effective intrinsically safe field mounting instrument that displays a single fieldbus process variable in a hazardous area. Housed in a robust IP66 GRP enclosure, the instrument has a large, high contrast five digit display, plus a horizontal bargraph. The BA414DF-F indicator uses the same technology and compliments the well established BEKA eight variable fieldbus displays that are now in worldwide use.

Powered by the fieldbus the BA414DF-F only requires a 2-wire connection to the intrinsically safe fieldbus segment, no additional power supply is required. Compatibility with most FOUNDATION™ fieldbus hosts is ensured by the use of a single *Input Selector* function block, which is supported by nearly all systems. Please contact the BEKA sales office for the latest compatibility information. The instrument has ITK 6.3 Fieldbus Foundation registration and device description files may be downloaded from their website or from www.beka.co.uk

The **liquid crystal display** has large characters and is designed to provide maximum contrast and a wide viewing angle which enables the BA414DF-F indicator to be easily read in most lighting conditions. Five digits, with four decimal points and a negative sign, may be configured to display any value between -99999 and 99999. The 31 segment horizontal bargraph, which provides a bold analogue indication of the fieldbus variable, may be conditioned to any starting and 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 - report available. A separate terminal compartment allows the instrument to be installed and terminated

without exposing the indicator electronics. To further simplify field wiring and subsequent inspection, the terminal cable entries and clamping screws are both 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 BA414DF-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 and Ex ic entity input safety parameters also allow connection to most non-FISCO intrinsically safe systems. A BA414DF-F indicator may therefore be connected to almost any intrinsically safe fieldbus segment, provided the segment can supply 13mA to power the instrument.

FM, cFM and IECEx approvals allow installation in the USA, Canada, plus the growing number of countries accepting IECEx certificates. All approvals incorporate FISCO certification. Details of the versions available are shown in the How to Order section on the reverse side of this datasheet.

The **FOUNDATION™ fieldbus Interface Guide** contains commissioning information for the BA414DF-F indicator. A copy may be requested from the BEKA sales office or from the BEKA web site at www.beka.co.uk

Units of measurement, tag or application information specified by the customer can be printed onto the instrument escutcheon that surrounds the display for no additional charge. For users who require a stainless steel identification label, the indicator can be supplied with a laser engraved stainless steel legend plate mounted on the front of the instrument.

For panel mounting applications see the BA418CF-F datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

BA414DF-F

FOUNDATION™

fieldbus

Fieldbus indicator

Single variable

Intrinsically safe for use in gas and dust hazardous areas

- ◆ 20mm high easy to read 5 digit display.
- ◆ 31 segment bargraph
- ◆ FOUNDATION™ fieldbus protocol, ITK 6.3 compliant.
- ◆ Compatible with most system hosts.
- ◆ Intrinsically safe
ATEX gas
or ATEX gas & dust
or FM, cFM & ATEX gas
All models have IECEx certification.
- ◆ Entity Ex ia & Ex ic parameters, FISCO compliant.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba414df-f



BEKA

associates

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SPECIFICATION

Display

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

Fieldbus communication

Voltage	9 to 32V (Limited by intrinsic safety parameters)
Current	13mA
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode Clauses 11 and 22
Protocol	FOUNDATION™ fieldbus, ITK 6.3 compliant
Function block	1 x IS (input selector)

Intrinsic safety

Europe ATEX

Code	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 Ta = -40°C to 70°C
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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. 1D Ex ia IIC T100°C IP66 Da
Group II Cat. 3D Ex ic IIC 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 20, 21 or 22

Cert. No.	ITS06ATEX25313X
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USA FM

Code	CL I, II, III: Div 1 GP A, B, C, D, E, F & G T4 @ 70°C
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Standard	3611 Nonincendive
Code	CL I, II, III: Div 2 GP A, B, C, D, E, F & G T4 @ 70°C

File	3027031
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Canada cFM

File	3027031C
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International IECEx

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

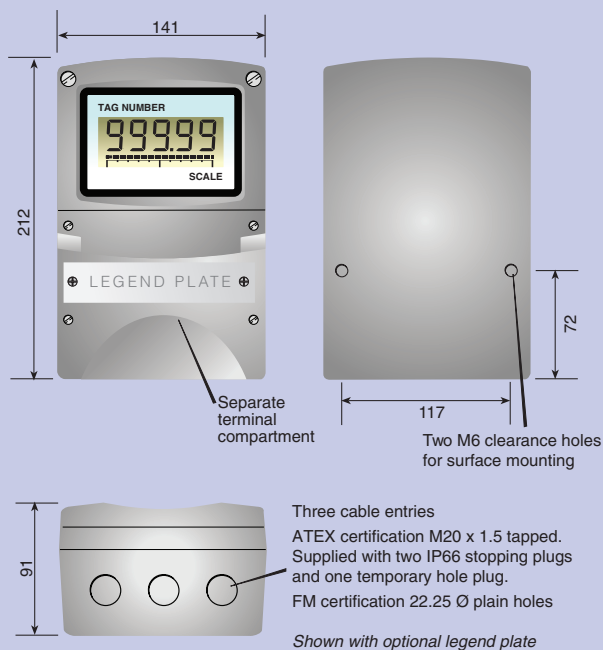
Environmental

Operating temp	-20 to 70°C ATEX & IECEx certification gas -40°C to 70°C dust -20°C to 60°C
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	IP66
EMC	In accordance with EU Directive 2014/30/EU

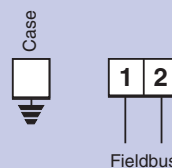
Mechanical

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS

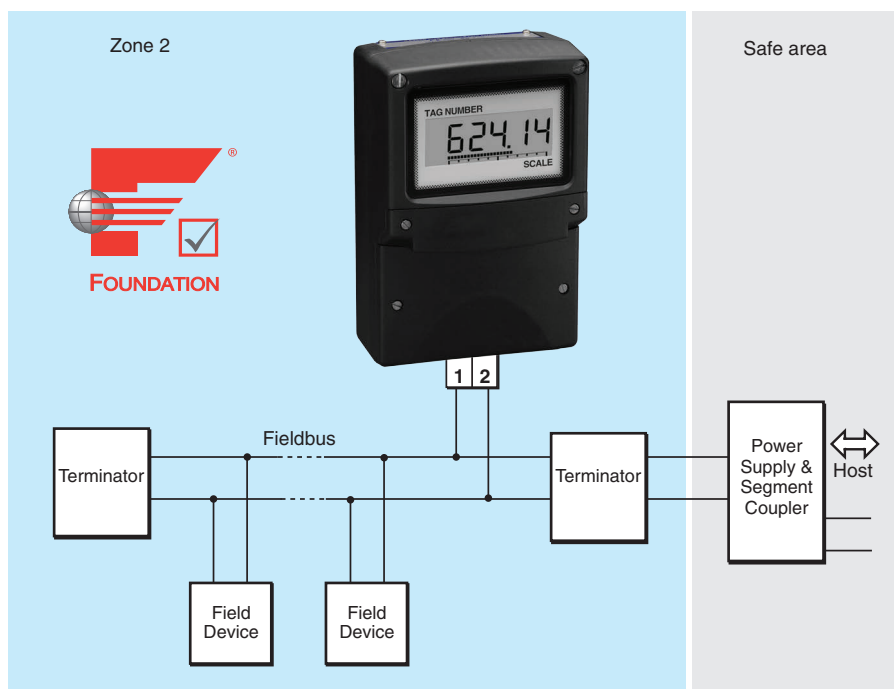


Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or applicational information marked onto display escutcheon.
Stainless legend plate.	Stainless steel plate etched with tagging or applicational information secured to the front of the instrument.
Pipe mounting kit	BA392D or BA393
FOUNDATION™ Fieldbus interface guide.	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	Please specify BA414DF-F	<i>All versions have IECEx certification. Note: Cable entries differ for FM & ATEX versions.</i>
Certification	ATEX gas	
	or ATEX gas & dust	
	or FM, cFM & ATEX gas	
Accessories	Please specify if required	
Escutcheon markings		
Scale	Scale legend	
Tag	Tag legend	
Stainless legend plate	Legend	
Pipe mounting kit	BA392D or BA393	



The **BA414NDF-F Fieldbus Display** is a new cost-effective Type nL field mounting instrument that can display a single fieldbus process variables in a Zone 2 or Zone 22 hazardous area. Housed in a robust IP66 GRP enclosure, the instrument has a large, high contrast five digit display, plus a horizontal bargraph. The BA414NDF-F uses the same technology and compliments the well established BEKA eight variable fieldbus displays that are now in worldwide use.

Powered by the fieldbus the BA414NDF-F only requires a 2-wire connection to the Type nL fieldbus segment, no additional power supply is required. Compatibility with most FOUNDATION™ fieldbus hosts is ensured by the use of a single *Input Selector* function block which is supported by nearly all systems. Please contact the BEKA sales office for the latest compatibility information. The instrument has been registered by The Fieldbus Foundation and Device Description Files may be downloaded from their web site or from www.beka.co.uk.

The **liquid crystal display** has large characters and is designed to provide maximum contrast and a wide viewing angle which enables the BA414NDF-F indicator to be easily read in most lighting conditions. Five digits, with four decimal points and a negative sign may be configured to display any value between -99999 and 99999. The 31 segment horizontal bargraph, which provides a bold analogue indication of the fieldbus variable, may be conditioned to any starting and 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 approved by Intertek Testing Services - report available. A separate terminal compartment

allows the instrument to be installed and terminated without exposing the indicator electronics. To further simplify field wiring and subsequent inspection, the terminal cable entries and clamping screws are both forward facing. The indicator may also be mounted onto a vertical or horizontal pipe using one of the accessory kits.

ATEX Type nL certification allows the BA414NDF-F to be installed in Zone 2 gas 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 nL systems. A BA414NDF-F indicator may therefore be connected to almost any Type nL fieldbus segment, provided the segment can supply 13mA to power the instrument.

IECEx approvals allow installation in the growing number of countries accepting IECEx certificates. The approval includes FNICO certification.

The **FOUNDATION™ fieldbus Interface Guide** contains commissioning information for the BA414NDF-F indicator. A copy may be requested from the BEKA sales office or from the BEKA web site at www.beka.co.uk.

Units of measurement and the instrument 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 engraved stainless steel plate mounted on the front of the enclosure.

For nonincendive applications in the USA & Canada please see datasheets for the BA414DF-F and BA418CF-F. These field and panel mounting fieldbus indicators have FM and cFM nonincendive approval.

BA414NDF-F FOUNDATION™ fieldbus Fieldbus indicator Single variable

*Type nL certified for use
in Zones 2 and 22*

- ◆ 20mm high easy to read 5 digit display.
- ◆ 31 segment bargraph
- ◆ FOUNDATION™ fieldbus protocol.
- ◆ Type nL certification
ATEX & IECEx
gas & dust
- ◆ Entity parameters & FISCO compliant.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba414ndf-f



BEKA associates

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SPECIFICATION

Display

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

Fieldbus communication

Voltage	9 to 32V
Current	13mA
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode Clauses 11 and 22
Protocol	FOUNDATION™ fieldbus
Function block	1 x IS (input selector)

Type nL certification

Europe ATEX

Code	Group II Category 3G Ex nL IIC T4 FNICO Field Device Ex nL IIC T4
and	Group II Category 3D Ex tD A22 IP66 T100°C Tamb = -20 to 60°C

Input parameters

Entity	Ui = 36V
	Ii = 250mA
	Pi = 1.2W

FNICO	Ui = 17.5V
	Ii = 380mA
	Pi = 5.32W

Location

Gas	Zone 2
Dust	Zone 22

Type Examination ITS06ATEX45315
Certificate

International IECEx

Code	Ex nL IIC T4 FNICO Field Device Ex nL IIC T4
and	Ex tD IIIC T100°C Dc IP66 Ta = -20 to 60°C

Cert. No. IECEx ITS 06.0015

Environmental

Operating temp	
In flammable gas	-20 to 70°C
In combustible dust	-20 to 60°C

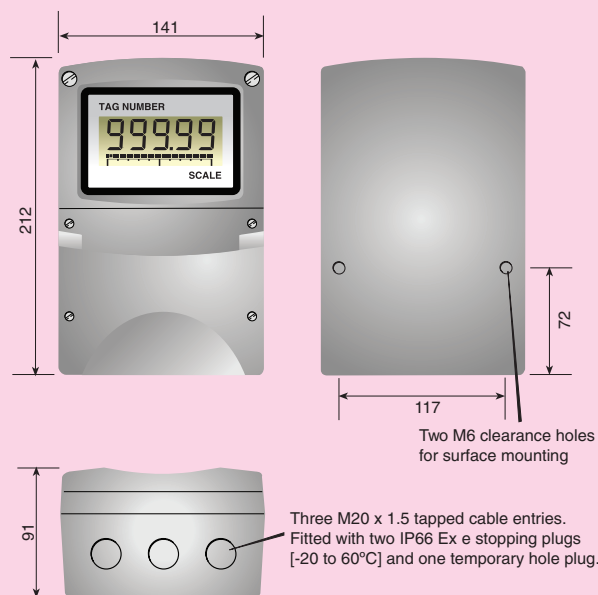
Storage temp -40 to 85°C

Humidity	To 95% @ 40°C
Enclosure	IP66
EMC	In accordance with EU Directive 2004/108/EC
Immunity	BS EN 61326:1998 Operates normally with conducted 3Vrms between 0.15kHz and 80MHz.radiated 10V/m between 80MHz and 1GHz.
Emissions	CISPR16-1/2 Class A

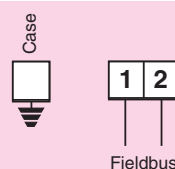
Mechanical

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS

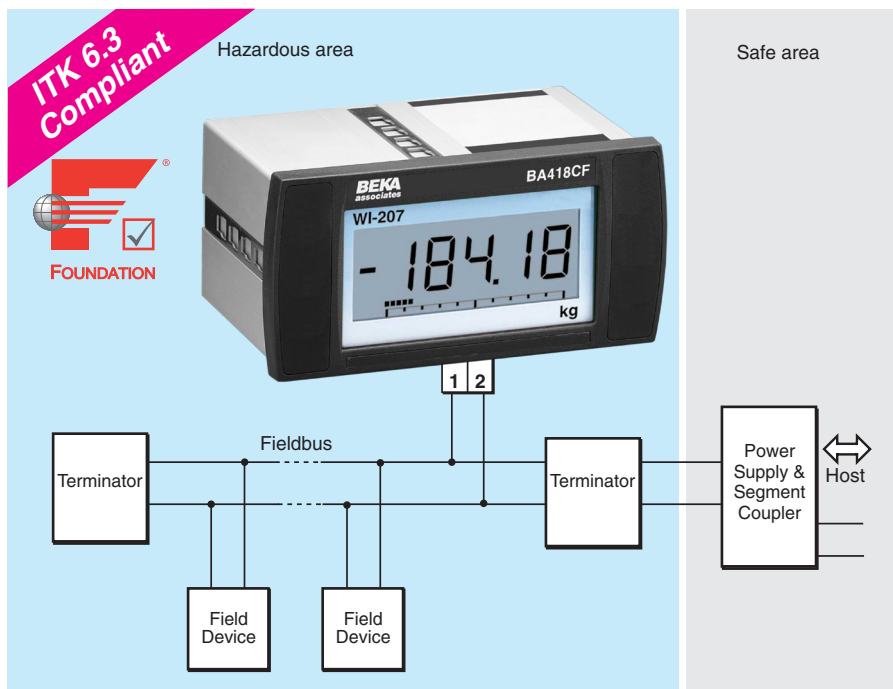


Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or applicational information marked onto display escutcheon.
Stainless legend tagging secured to the	Stainless steel plate engraved with plate or applicational information front of the instrument.
Pipe mounting kit	BA392D or BA393
Fieldbus interface guide	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	Please specify BA414NDF-F
Accessories	Please specify if required
Escutcheon markings	
Scale	Scale legend
Tag	Tag legend
Stainless legend plate	Legend
Pipe mounting kit	BA392D or BA393



The BA418CF-F Fieldbus Indicator is a cost-effective intrinsically safe panel mounting instrument that displays a single fieldbus process variable in a hazardous area. Housed in a robust panel mounting enclosure with an IP66 front, the instrument has a large, high contrast five digit display and a horizontal bargraph. The BA418CF-F indicator uses the same technology and compliments the well established BEKA eight variable fieldbus displays that are now in worldwide use.

Powered by the fieldbus the BA418CF-F only requires a 2-wire connection to the intrinsically safe fieldbus segment, no additional power supply is required. Compatibility with most FOUNDATION™ fieldbus hosts is ensured by the use of a single *Input Selector* function block, which is supported by nearly all systems. Please contact the BEKA sales office for the latest compatibility information. The instrument has ITK 6.3 Fieldbus Foundation registration and device description files may be downloaded from their website or from www.beka.co.uk

The liquid crystal display has large characters and is designed to provide maximum contrast and a wide viewing angle, thus enabling the BA418CF-F indicator to be easily read in most lighting conditions. Five digits, with four decimal points and a negative sign, may be configured to display any value between -99999 and 99999. The 31 segment horizontal bargraph, which provides a bold analogue indication of the fieldbus variable, may be conditioned to any starting and finishing values within the range of the fieldbus variable.

The instrument front panel provides IP66 protection and a neoprene gasket seals the joint between the fieldbus indicator and the panel, making it suitable for use in areas that will be cleaned with

a hose. To simplify installation and maintenance, the indicator has a removable terminal block that allows panel wiring to be completed before the BA418CF-F indicator is installed.

ATEX intrinsic safety certification allows the BA418CF-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 and Ex ic entity input safety parameters also allow connection to most non-FISCO intrinsically safe systems. A BA418CF-F indicator may therefore be connected to almost any intrinsically safe fieldbus segment, provided the segment can supply 13mA to power the instrument.

FM, cFM and IECEx approvals allow installation in the USA, Canada, plus the growing number of countries accepting IECEx certificates. All approvals incorporate FISCO certification.

The FOUNDATION™ fieldbus Interface Guide contains commissioning information for the BA418CF-F indicator. A copy may be requested from the BEKA sales office or from the BEKA web site at www.beka.co.uk

Units of measurement, tag or application information specified by the customer can be printed onto the instrument escutcheon that surrounds the display for no additional charge. Tag information can also be thermally printed onto the rear panel adjacent to the terminals.

For field mounting applications see the BA414DF-F datasheet. This instrument has a similar electrical specification but is housed in an IP66 field mounting enclosure.

BA418CF-F

FOUNDATION™

fieldbus

Fieldbus indicator

Single variable

Intrinsically safe for use in all gas hazardous areas

- ◆ 20mm high easy to read 5 digit display.
- ◆ 31 segment bargraph
- ◆ FOUNDATION™ fieldbus protocol, ITK 6.3 compliant.
- ◆ Compatible with most system hosts.
- ◆ Intrinsically safe ATEX, FM, cFM & IECEx certification.
- ◆ Entity Ex ia & Ex ic parameters, FISCO compliant.
- ◆ 144 x 72mm DIN enclosure.
- ◆ IP66 front
- ◆ 3 year guarantee

www.beka.co.uk/ba418cf-f



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SPECIFICATION

Display

Type	Liquid crystal 5 digit 20mm high (-99999 to 99999) 31 segment bargraph
Variables	Single

Fieldbus communication

Voltage	9 to 32V (Limited by intrinsic safety parameters)
Current	13mA
Compliant with Protocol	IEC61158-2 31.25kbits/s Voltage Mode FOUNDATION™ fieldbus, ITK 6.3 compliant.
Function block	1 x IS (input selector)

Intrinsic safety

Europe ATEX

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
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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	Zone 0, 1 or 2
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Cert. No.	ITS06ATEX25314X
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USA FM

Standard Code	3610 Entity CL I: Div 1 GP A, B, C & D T4 @ 70°C
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Standard Code	3611 Nonincendive CL I: Div 2 GP A, B, C & D T4 @ 70°C
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File	3027031
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Canada cFM

File	3027031C
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International IECEx

Code	As ATEX code shown above
Cert. No	IECEx ITS 06 0013X

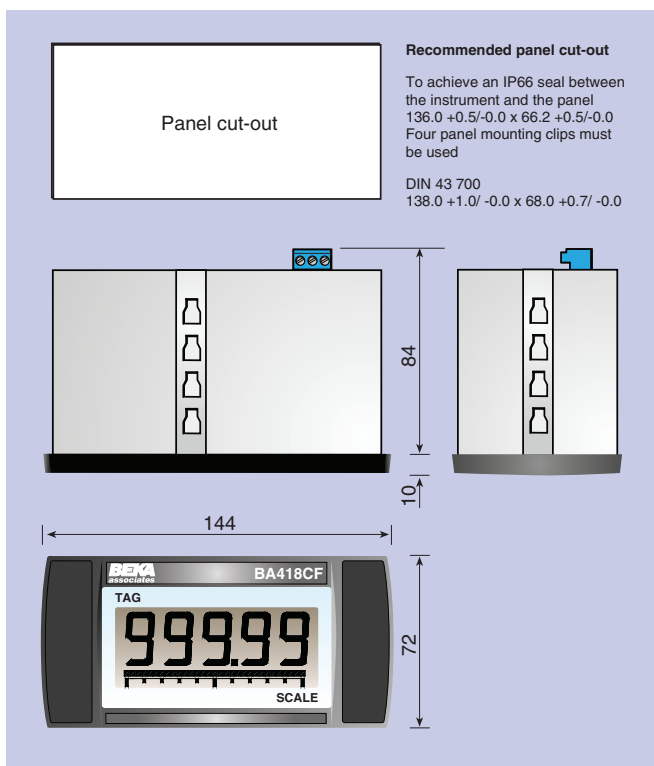
Environmental

Operating temp	-20 to 70°C (ATEX, FM & IECEx certification -40°C to 70°C)
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU

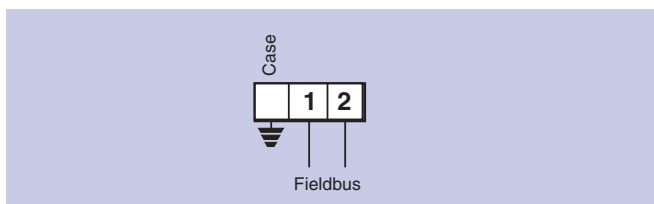
Mechanical

Terminals	Removable with screw clamp for 0.5 to 1.5mm ² cable.
Weight	0.7kg

DIMENSIONS (mm)



TERMINAL CONNECTIONS

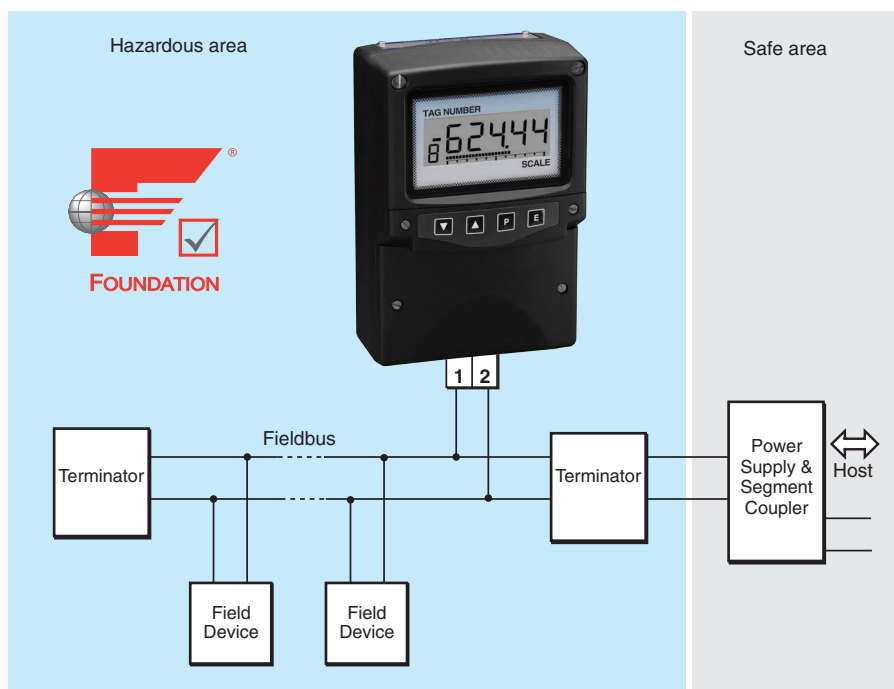


Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or application marked onto display escutcheon
Tag strip	Tag number or application thermally printed onto rear of instrument
FOUNDATION™ Fieldbus interface guide.	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	Please specify BA418CF-F
Accessories	Please specify if required
Escutcheon markings	
Scale	Legend
Tag	Legend
Tag strip	Legend



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 datasheet.

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 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.

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.

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.

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
ATEX gas
or ATEX gas & dust
or FM, cFM & ATEX gas
All versions have IECEx certification.
- ◆ Entity Ex ia & Ex ic parameters, FISCO compliant.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba444df-f



BEKA associates

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e-mail sales@beka.co.uk 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

Europe ATEX

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
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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. 1D Ex ia IIIC T100°C IP66 Da 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 20, 21 or 22
Cert. No.	ITS06ATEX25313X

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
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Canada cFM

File 3027031C

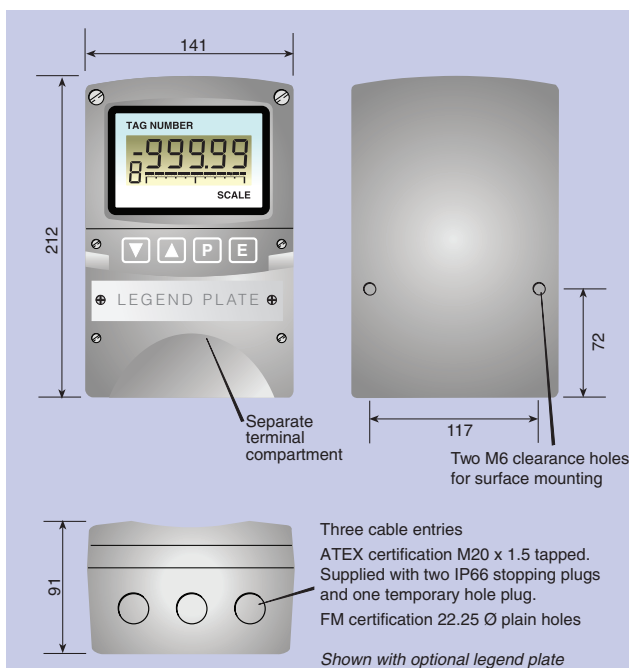
International IECEx

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

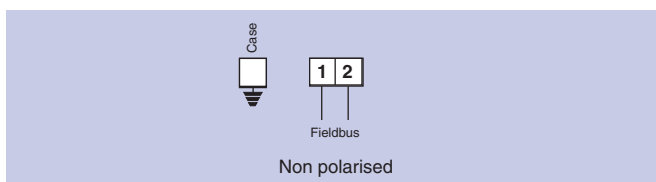
Environmental

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

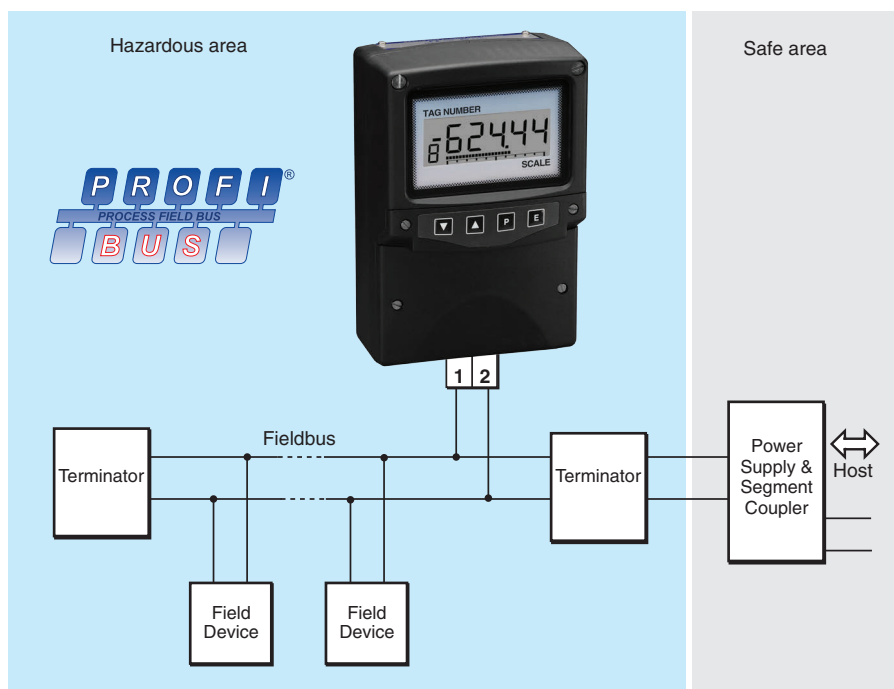
Terminals	Screw clamp for 0.5 to 1.5mm ² cable.
Weight	1.6kg

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
FOUNDATION™ Fieldbus interface guide.	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	Please specify BA444DF-F FOUNDATION™ fieldbus.		
Certification		ATEX gas	<i>All versions have IECEx certification. Note: Cable entries differ for FM & ATEX versions</i>
	or	ATEX gas & dust	
	or	FM, cFM & ATEX gas	
Accessories	Please specify if required		
Escutcheon markings		Scale legend	
Scale		Tag legend	
Tag		Legend	
Stainless steel mounting plate		BA392D or BA393	
Pipe mounting kit			



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 Ex ia and Ex ic 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
 - or INMETRO
- ◆ All models have IECEx certification.
- ◆ Entity Ex ia & Ex ic parameters, FISCO compliant.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba444df-p



BEKA

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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 31.25kbits/s Voltage Mode 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

Intrinsic safety

Europe ATEX

Code	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 Ta = -40°C to 70°C
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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. 1D Ex ia IIIC T100°C IP66 Da Group II Cat. 3D Ex ic IIIC T100°C IP66 Dc Ta = -20°C to 60°C
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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 20, 21 or 22
Cert. No.	ITS06ATEX25313X

USA FM

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

File	3027031C
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International IECEx

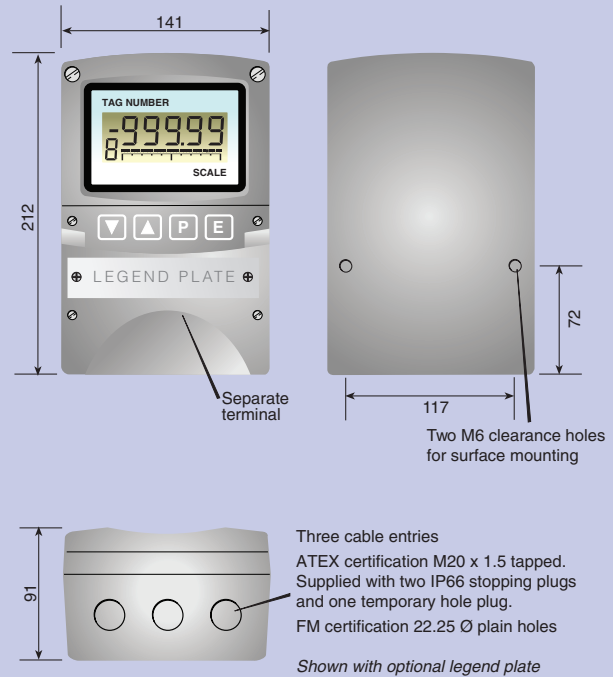
Code	As ATEX codes shown above
Cert. No.	IECEx ITS 06.0012X

Brazil INMETRO	NCC 12.0868
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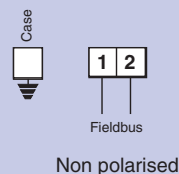
Environmental

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

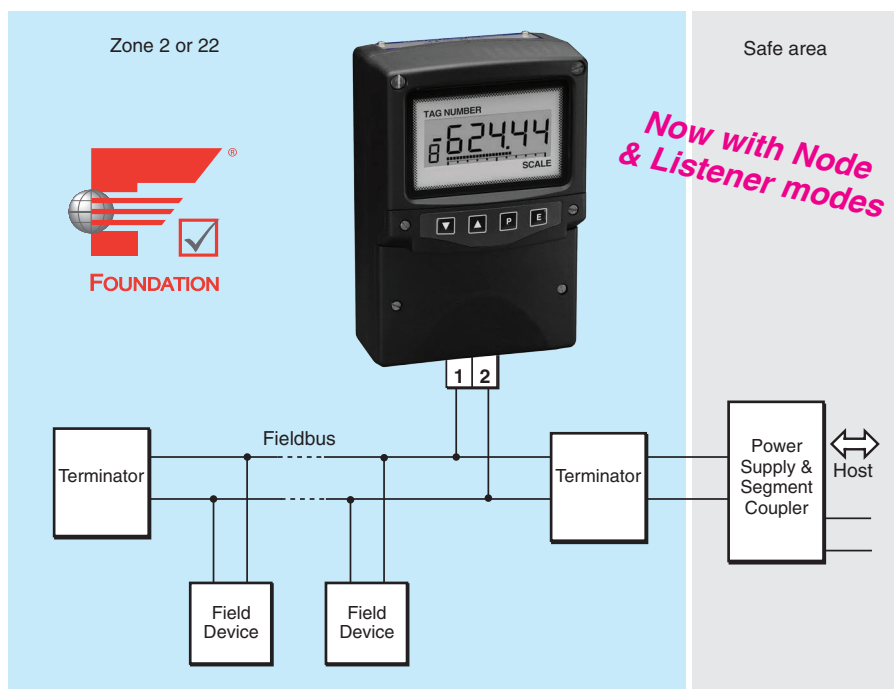
Accessories

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 or INMETRO gas or INMETRO gas and dust
Accessories	Please specify if required Escutcheon markings Scale Tag Stainless legend plate Pipe mounting kit

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



The **BA444NDF-F FOUNDATION™ fieldbus indicator** is a Type n instrument that can display up to eight fieldbus process variables within a Zone 2 or 22 hazardous area. A numeric annunciator on the left hand side of the screen shows which variable is being displayed. This version of the instrument supports FOUNDATION™ fieldbus protocol; for PROFIBUS PA systems an alternative version is available - please see the BA444NDF-P PROFIBUS datasheet.

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 BA444NDF-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's electronics. To further simplify wiring and subsequent inspection, the terminal cable entries and clamping screws are forward facing. The instrument 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-F 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-F 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.

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 applications in the USA and Canada please see datasheet for the BA444DF FOUNDATION™ fieldbus™ Listener which has FM and cFM nonincendive approval.

BA444NDF-F FOUNDATION™ fieldbus Fieldbus indicator 8 variable

*Type n certified for use in
Zones 2 and 22*

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

www.beka.co.uk/ba444ndf-f



BEKA associates

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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.
-------------	---

Fieldbus communication

Fieldbus communication

Voltage	9 to 32V
Current	13mA.
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode.
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.

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

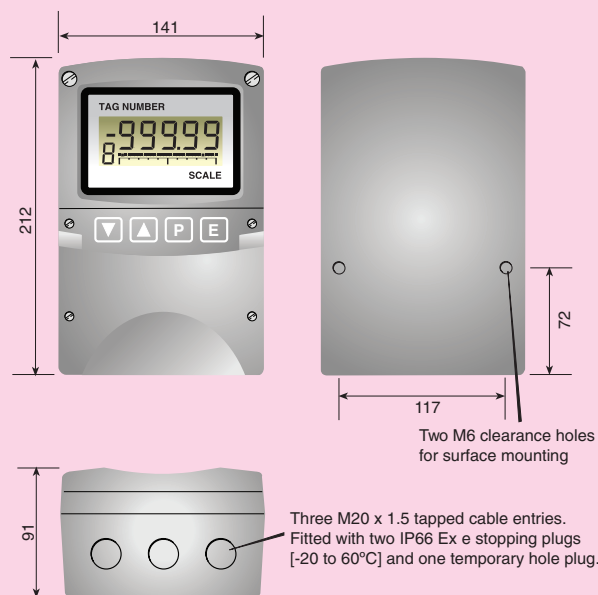
Mechanical

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

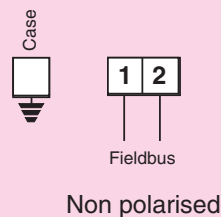
Accessories

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS



HOW TO ORDER

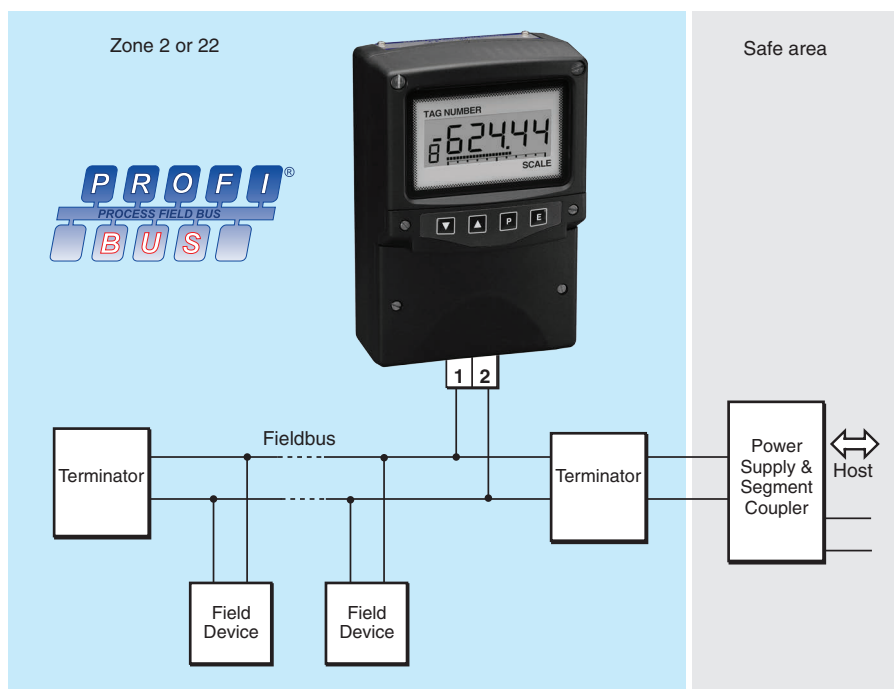
Please specify

Model number	BA444NDF-F FOUNDATION™ fieldbus
--------------	---------------------------------

Accessories

Please specify if required

Escutcheon markings	
Scale	Scale legend
Tag	Tag legend
Stainless legend plate	Legend
Pipe mounting kit	BA392D or BA393



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 variable

*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 & dust.
- ◆ Entity parameters & FNICO compliant.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba444ndf-p



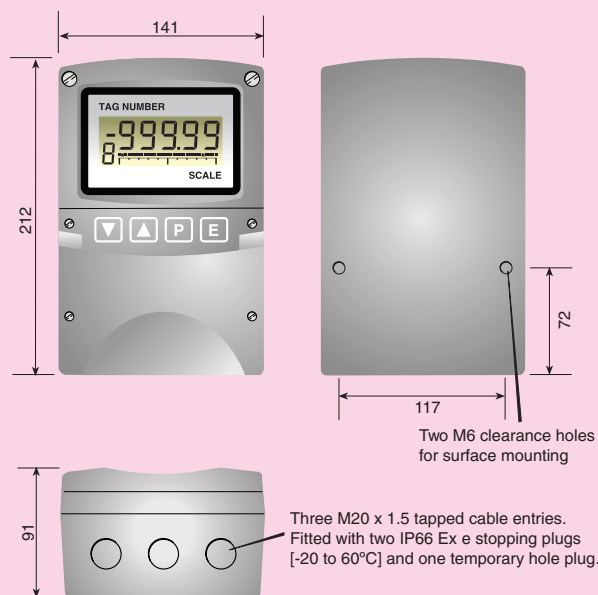
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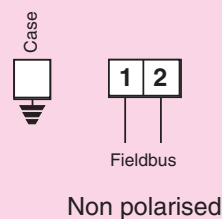
SPECIFICATION

Display	
Type	Liquid crystal 5 digit plus sign, 20mm high (-99999 to 99999) 31 segment bargraph 8
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
Current	13mA
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode.
Protocol	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
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)

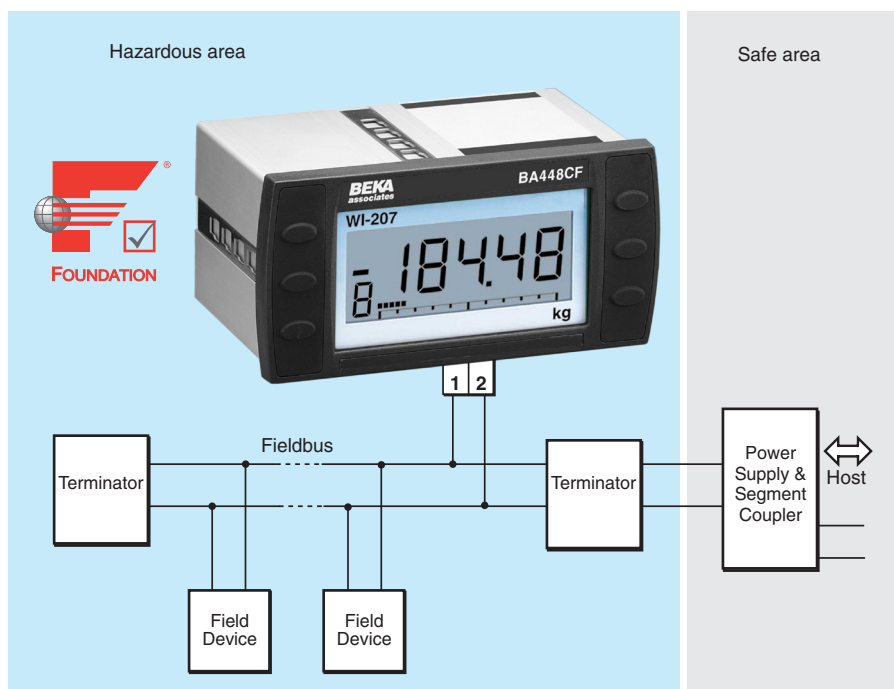


TERMINAL CONNECTIONS



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



The BA448CF-F 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 instrument supports FOUNDATION™ fieldbus protocol; for PROFIBUS PA systems an alternative version is available - please see the BA448CF-P PROFIBUS datasheet.

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 BA448CF-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 instrument front panel provides IP66 protection and a neoprene gasket seals the joint between the fieldbus indicator and the panel, making it suitable for use in areas that will be cleaned with a hose. To simplify installation and maintenance, the indicator has a removable terminal block that allows panel wiring to be completed before the BA448CF-F indicator is installed.

ATEX intrinsic safety certification allows the BA448CF-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 and Ex ic entity input safety parameters also allow connection to most non-FISCO intrinsically safe systems. A BA448CF-F indicator may therefore be connected to almost any intrinsically safe FOUNDATION™ fieldbus segment, provided the segment can supply 13mA to power the instrument.

FM, cFM and IECEx approvals allow installation in the USA, Canada plus the growing number of countries accepting IECEx certificates. All approvals incorporate FISCO certification.

Units of measurement can be marked onto the display escutcheon prior to despatch and the tag number or application thermally printed onto the rear panel adjacent to the terminals.

For field mounting applications see the BA444DF-F FOUNDATION™ fieldbus datasheet. This instrument has a similar electrical specification but is housed in an IP66 field mounting enclosure.

BA448CF-F

FOUNDATION™

fieldbus

Fieldbus Indicator

8 variables

Intrinsically safe for use in all gas hazardous areas

- ◆ Large 5 digit display with bargraph.
- ◆ FOUNDATION™ fieldbus protocol.
- ◆ Displays up to 8 fieldbus variables.
- ◆ Selectable Node or Listener modes.
- ◆ Intrinsically safe ATEX, FM, cFM & IECEx.
- ◆ Entity Ex ia & ic parameters, FISCO compliant.
- ◆ 144 x 72mm DIN enclosure.
- ◆ IP66 front
- ◆ 3 year guarantee

www.beka.co.uk/ba448cf-f



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 20mm high (-99999 to 99999)
Variables	31 segment bargraph 8

Fieldbus communication

Voltage	9 to 32V (Limited by intrinsic safety input safety parameters)
Current	13mA.
Compliant with Protocol	IEC61158-2 31.25kbits/s Voltage Mode. 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

Europe ATEX

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
------	--

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	Zone 0, 1 or 2
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Cert. No.	ITS06ATEX25314X
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USA FM

Standard Code	3610 Entity CL I: Div 1 GP A, B, C & D T4 @ 70°C
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Standard Code	3611 Nonincendive CL I: Div 2 GP A, B, C & D T4 @ 70°C
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File	3027031
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Canada cFM

File	3027031C
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International IECEx

Code	As ATEX code shown above
Cert. No	IECEx ITS 06 0013X

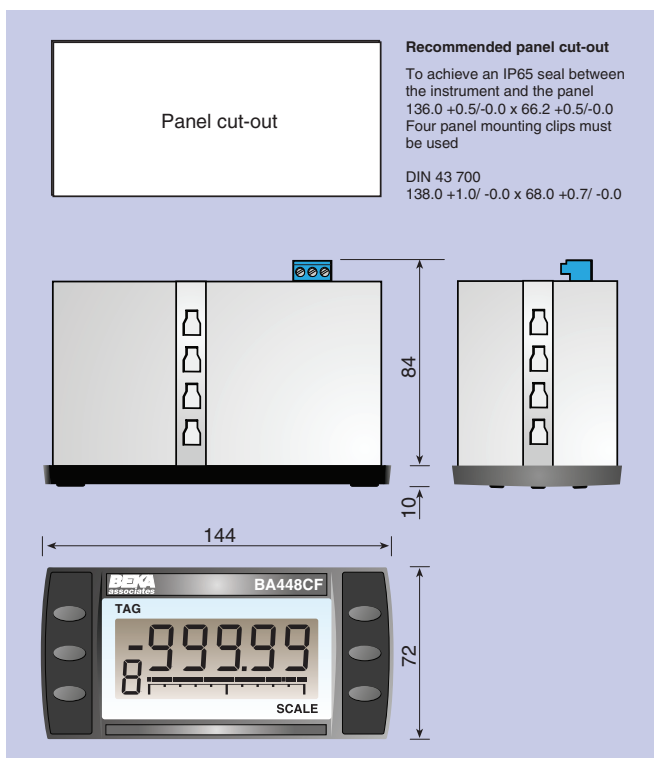
Environmental

Operating temp	-20 to 70°C (ATEX, FM & IECEx certification -40°C to 70°C)
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	Front IP66, rear IP20
EMC	In accordance with EU Complies with EMC Directive 2014/30/EU

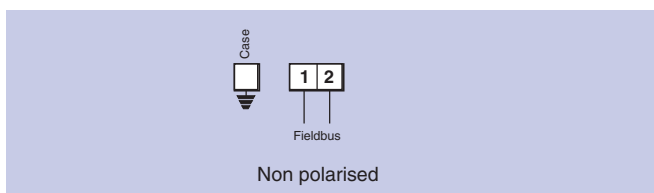
Mechanical

Terminals	Removable with screw clamp for 0.5 to 1.5mm ² cable.
Weight	0.7kg

DIMENSIONS (mm)



TERMINAL CONNECTIONS



Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or application marked onto display escutcheon.
Tag strip	Tag number or application thermally printed onto rear of the instrument.
FOUNDATION™ Fieldbus interface guide.	May be downloaded from www.beka.co.uk

HOW TO ORDER

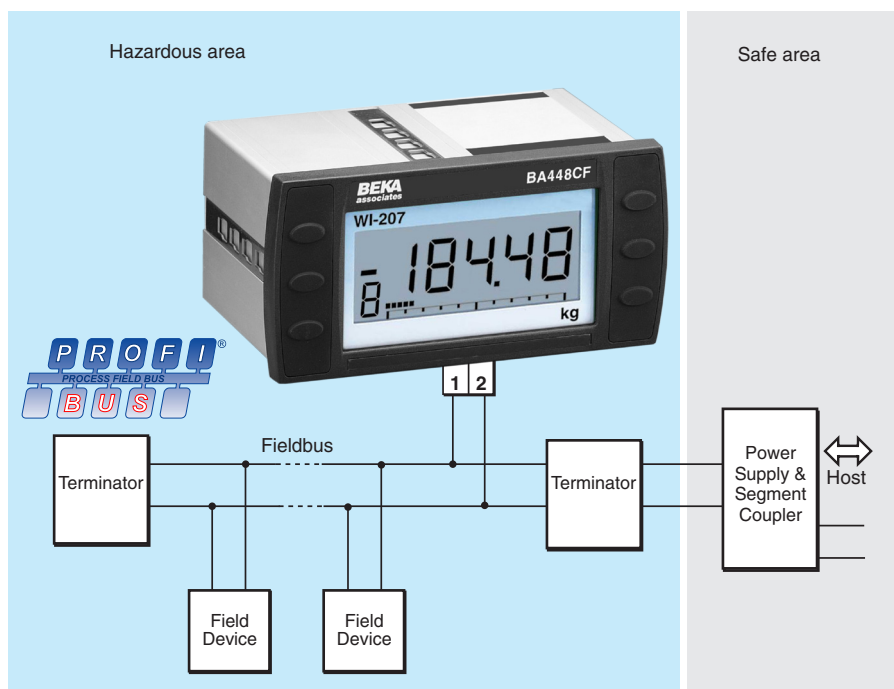
Please specify

Model number	BA448CF-F FOUNDATION™ fieldbus
--------------	--------------------------------

Accessories

Please specify if required

Escutcheon markings	
Scale	Legend
Tag	Legend
Tag strip	Legend



The **BA448CF-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 BA448CF-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 BA448CF-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 BA448CF-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 BA448CF-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 instrument front panel provides IP66 protection and a neoprene gasket seals the

joint between the fieldbus indicator and the panel, making it suitable for use in areas that will be cleaned with a hose. To simplify installation and maintenance, the indicator has a removable terminal block that allows panel wiring to be completed before the BA448CF-P indicator is installed.

ATEX intrinsic safety certification allows the BA448CF-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 Ex ia and Ex ic entity input safety parameters also allow connection to most non-FISCO intrinsically safe systems. A BA448CF-P indicator may therefore be connected to almost any intrinsically safe fieldbus segment, provided the segment can supply 13mA to power the instrument.

FM, cFM and IECEx approvals allow installation in the USA, Canada plus the growing number of countries accepting IECEx certificates. All approvals incorporate FISCO certification.

Operator acknowledgements may be returned to the fieldbus host when the BA448CF-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 front panel push buttons to be read.

A Comprehensive PROFIBUS interface guide contains commissioning information for the BA448CF-P. Copies may be requested from the BEKA sales office or downloaded from www.beka.co.uk

Units of measurement can be marked onto the display escutcheon prior to despatch and the tag number or application thermally printed onto the rear panel adjacent to the terminals.

For field mounting applications see the BA444DF-P PROFIBUS datasheet. This instrument has a similar electrical specification but is housed in an IP66 field mounting enclosure.

BA448CF-P PROFIBUS PA Fieldbus Indicator 8 variables

*Intrinsically safe for use
in all gas 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, FM, cFM, INMETRO & IECEx.
- ◆ Entity Ex ia & ic parameters & FISCO compliant.
- ◆ 144 x 72mm DIN enclosure.
- ◆ IP66 front
- ◆ 3 year guarantee

www.beka.co.uk/ba448cf-p



BEKA associates

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SPECIFICATION

Display

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

Fieldbus communication

Voltage	9 to 32V (Limited by intrinsic safety parameters)
Current	13mA
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode Clauses 11 and 22
Protocol	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 date in DS-33 format

Intrinsic safety

Europe ATEX

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
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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	Zone 0, 1 or 2
----------	----------------

Cert. No.	ITS06ATEX25314X
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USA FM

Standard Code	3610 Entity CL I: Div 1 GP A, B, C & D T4 @ 70°C
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Standard Code	3611 Nonincendive CL I: Div 2 GP A, B, C & D T4 @ 70°C
---------------	---

File	3027031
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Canada cFM

File	3027031C
------	----------

International IECEx

Code	As ATEX code shown above
Cert. No	IECEx ITS 06 0013X

Brazil INMETRO

NCC 12.0873X

Environmental

Operating temp	-20 to 70°C (ATEX, FM & IECEx certification -40°C to 70°C)
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	Front IP66, rear IP20
EMC	In accordance with EU Complies with EMC Directive 2014/30/EU

Mechanical

Terminals	Removable with screw clamp for 0.5 to 1.5mm ² cable.
Weight	0.7kg

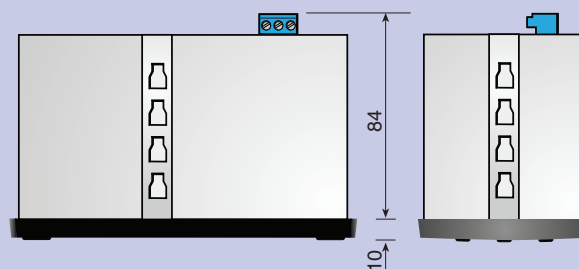
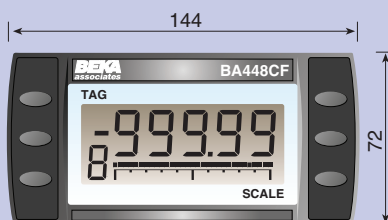
DIMENSIONS (mm)



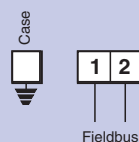
Recommended panel cut-out

To achieve an IP65 seal between the instrument and the panel 136.0 +0.5/-0.0 x 66.2 +0.5/-0.0 Four panel mounting clips must be used

DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0



TERMINAL CONNECTIONS



Non polarised

Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or application marked onto display escutcheon.
PROFIBUS interface guide.	May be downloaded from www.beka.co.uk

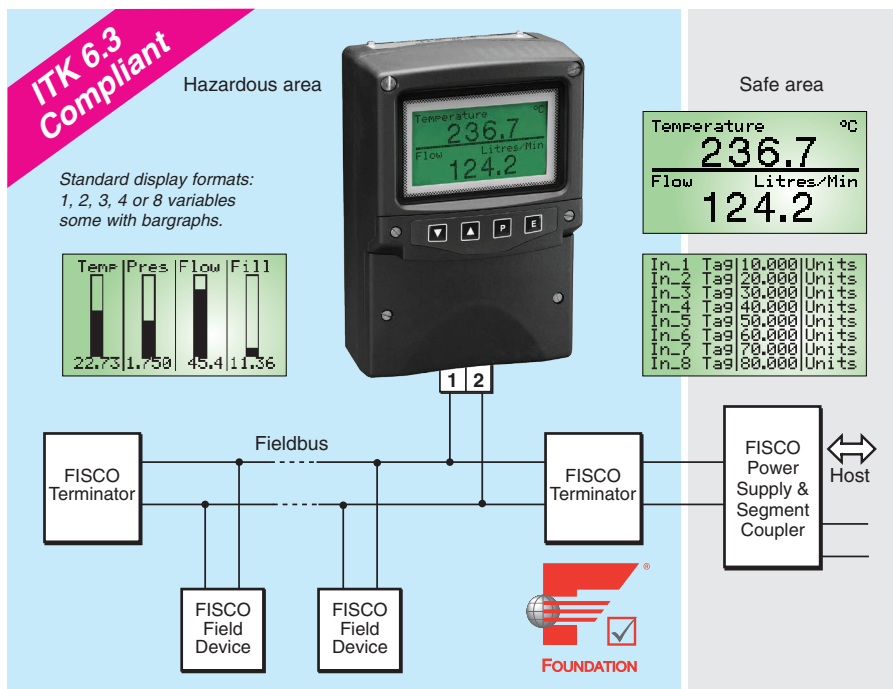
HOW TO ORDER

Please specify

Model number	BA448CF-P PROFIBUS
--------------	--------------------

Accessories

Certification	Please specify if required INMETRO
Escutcheon markings	
Scale	Legend
Tag	Legend
Tag strip	Legend



The **BA484DF-F Fieldbus Display** is an intrinsically safe instrument that can display up to eight fieldbus process variables. Eleven selectable standard screen formats contain one, two, three, four or eight variables, with units of measurement, tag descriptions and bargraphs on some screens.

Selectable function blocks allow the BA484DF-F fieldbus display to be used with all common system hosts. Configuration files may be downloaded from the Fieldbus Foundation or the BEKA websites

Powered by the fieldbus the BA484DF-F only requires a 2-wire connection, no additional power supply Zener barriers or galvanic isolators are required. The high contrast 86 x 45mm liquid crystal display incorporates a green backlight enabling the display to be read in all lighting conditions from full sunlight to total darkness.

Simple commissioning results from the use of standard display formats. Apart from loading the BA484DF-F configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is required. Configuration of the BA484DF-F Fieldbus Display is performed via the fieldbus and the instrument front panel push buttons.

Comprehensive documentation includes a FOUNDATION™ fieldbus Interface Guide.

ATEX, FM and IECEx intrinsic safety certification allows the BA484DF-F to be installed in gas and dust hazardous areas. The two fieldbus terminals comply with the Fieldbus Intrinsic Safety Concept (FISCO) simplifying system design and documentation, although connection to non-FISCO intrinsically safe systems is possible using the entity concept. This allows a BA484DF-F display to be directly connected to almost any hazardous fieldbus segment, provided that the segment can supply the 25mA consumed by the display.

Six optional local alarm outputs may be linked to any of the displayed variables. Each isolated single pole solid state output may be conditioned as a combined high and low alarm, or as just a high or low alarm. All the outputs comply with the requirements for *simple apparatus* allowing them to switch any certified intrinsically safe load such as a sounder, lamp or solenoid valve. Alarm configuration and the alarm set point adjustment is performed via the BA484DF-F front panel push buttons, as the local alarms are not accessible from the fieldbus system host.

For panel mounting applications see the BA488CF-F datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

BA484DF-F

FOUNDATION™

fieldbus

Fieldbus display

8 variables

Intrinsically safe for use in gas and dust hazardous areas

- ◆ FOUNDATION™ fieldbus protocol, ITK 6.3 compliant.
- ◆ Compatible with most system hosts.
- ◆ High contrast display with backlight.
- ◆ Intrinsically safe
ATEX gas
or ATEX gas & dust
or FM & ATEX gas
All models have IECEx certification.
FISCO compliant.
- ◆ Six optional local alarm outputs.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba484df-f



BEKA

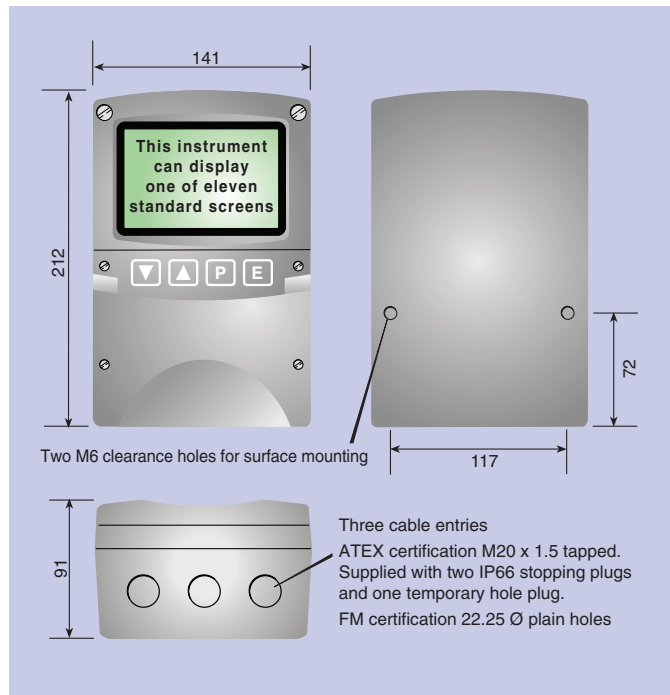
associates

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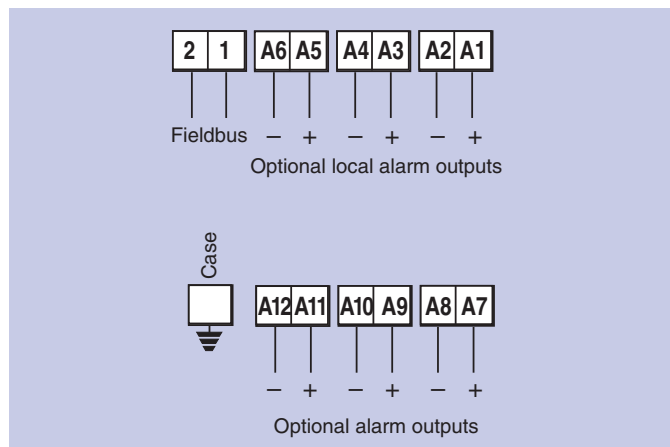
SPECIFICATION

Display					
Type	120 x 64 pixel liquid crystal				
Size	86.5mm x 45mm				
Backlight	Powered from fieldbus				
Screens					
Standard format	1, 2, 3, 4 or 8 variables plus bargraph can include: units of measurement tag information				
Controls					
Front panel	Four push buttons scroll the indicator display between screens when the BA484DF-F is configured to display more variables than fit onto a single screen. Also used to configure optional local alarms.				
Fieldbus communication					
Voltage	9 to 32V (Limited by intrinsic safety parameters)				
Current	25mA				
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode				
Protocol	FOUNDATION™ fieldbus, ITK 6.3 compliant				
Function blocks					
FOUNDATION™ fieldbus	1 x MAO (Multiple Analogue Output) } <i>Selectable on-site</i>				
or	2 x IS (Input Selector)				
Intrinsic safety					
Europe ATEX					
Code	Group II Category 1G Ex ia IIC T5 Ga (Tamb = -40 to 60°C)				
or	Group II Category 1D Ex ia IIIC T80°C Da (Tamb = -40 to 60°C) IP66 } <i>Dust option, see How to order</i>				
Cert. No.	ITS04ATEX22778				
Intrinsic safety parameters	<table> <tr> <td>U_i = 17.5V</td><td rowspan="3">} FISCO compliant</td></tr> <tr> <td>I_i = 380mA</td></tr> <tr> <td>P_i = 5.32W</td></tr> </table>	U _i = 17.5V	} FISCO compliant	I _i = 380mA	P _i = 5.32W
U _i = 17.5V	} FISCO compliant				
I _i = 380mA					
P _i = 5.32W					
Location	Gas Zone 0, 1 or 2: Dust Zone 20, 21 or 22				
USA FM					
Standard	<i>Option, see How to order</i>				
Code	3610 Entity				
File	CL I, II, III: Div 1: GP A, B, C, D, E, F & G				
	T4 @ 60°C				
File	3022546				
Standard	3611 Nonincendive				
Code	CL I: Div 2: GP A, B, C & D, T4 @ 60°C				
File	CL II, III: Div 2: GP F & G, T4 @ 60°C				
File	3022546				
International IECEx					
Code	Group II Category 1G Ex ia IIC T5 Ga (Tamb = -40 to 60°C)				
or	Group II Category 1D Ex ia IIIC T80°C Da (Tamb = -40 to 60°C) IP66 } <i>Dust option, see How to order</i>				
Cert. No.	IECEx ITS 05.0006				
Environmental					
Operating temp	-20 to 60°C (ATEX gas certification -40 to 60°C)				
Storage temp	-40 to 85°C				
Humidity	To 95% @ 40°C				
Enclosure	IP66				
EMC	In accordance with EU Directive 2014/30/EU				
Mechanical					
Terminals	Screw clamp for 0.5 to 1.5mm ² cable.				
Weight	1.6kg				
Accessories					
Alarms	Six galvanically isolated outputs which may be linked to displayed variables. Each alarm is configurable from instrument push buttons as: combined high and low alarm high or low alarm				
	Note: Alarms are not accessible from the fieldbus system host				

DIMENSIONS (mm)



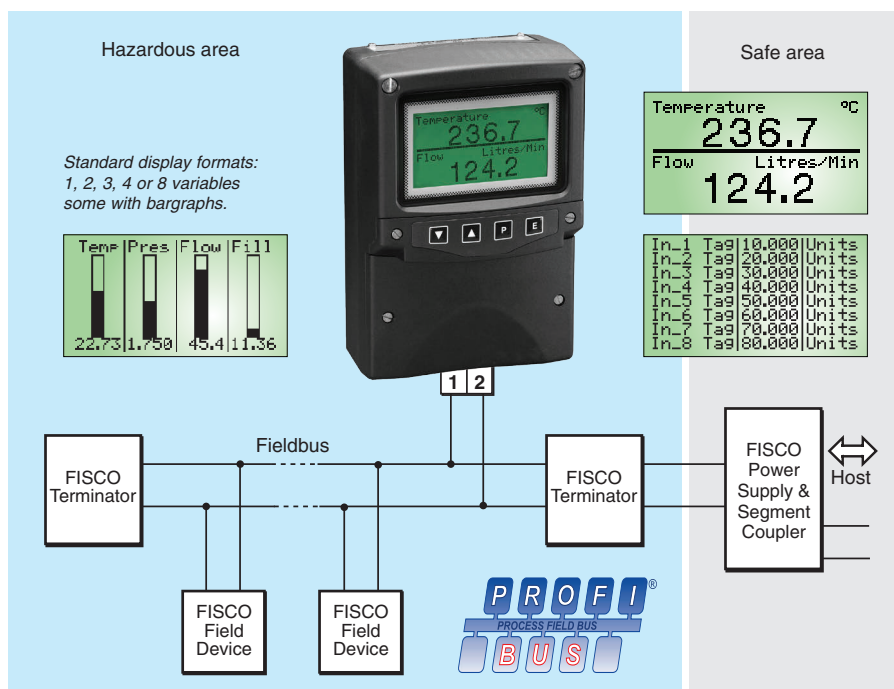
TERMINAL CONNECTIONS



Contacts	Isolated single pole solid state switch certified as simple apparatus. R _{on} less than 5Ω + 0.7V R _{off} greater than 1MΩ
Intrinsic safety parameters	U _i = 28Vdc I _i = 200mA P _i = 0.84W
Tag strip	Printed legend behind the display window
Tag plate	Engraved stainless steel plate attached to the side of the instrument.
Pipe mounting kit	BA392D or BA393
FOUNDATION™ fieldbus interface guide	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	BA484DF-F	} <i>All models have IECEx certification. Note: Cable entries differ for FM & ATEX models</i>
Certification	ATEX gas	
or	ATEX gas & dust	
or	FM & ATEX gas	
Accessories		Please specify if required
Six alarms		Alarms
Tag strip		Tag strip legend
Tag plate		Tag plate legend
Pipe mounting kit		BA392D or BA393



The **BA484DF-P Fieldbus Display** is an intrinsically safe instrument that can display up to eight fieldbus process variables. Eleven selectable standard screen formats contain one, two, three, four or eight variables, with units of measurement, tag descriptions and bargraphs on some screens.

Powered by the fieldbus the BA484DF-P only requires a 2-wire connection, no additional power supply Zener barriers or galvanic isolators are required. The high contrast 86 x 45mm liquid crystal display incorporates a green backlight enabling the display to be read in all lighting conditions from full sunlight to total darkness.

Simple commissioning results from the use of standard display formats. Apart from loading the BA484DF-P configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is re-quired. Configuration of the BA484DF-P Fieldbus Display is performed via the fieldbus and the instrument front panel push buttons.

ATEX, FM and IECEx intrinsic safety certification allows the BABA484DF-P to be installed in gas and dust hazardous areas. The two fieldbus terminals comply with the Fieldbus Intrinsic Safety Concept (FISCO) simplifying system design and documentation, although connection to non-FISCO intrinsically safe systems is possible using the entity concept. This allows a BA484DF-P display to be directly connected to almost any hazardous fieldbus segment, provided that the segment can supply the 25mA consumed by the display.

Six optional local alarm outputs may be linked to any of the displayed variables. Each isolated single pole solid state output may be conditioned as a combined high and low alarm, or as just a high or low alarm. All the outputs comply with the requirements for simple apparatus allowing them to switch any certified intrinsically safe load such as a sounder, lamp or solenoid valve. Alarm configuration and the alarm set point adjustment is performed via the BA484DF-P front panel push buttons, as the local alarms are not accessible from the fieldbus system host.

The four push buttons on the front of the instrument may be used for returning operator acknowledgments or controls to the fieldbus host. If larger industrial switches are required for these operator controls, up to six external push buttons may be connected to the BA484DF-P. When the external switches are activated, the front panel push buttons may be disabled or operated in parallel with the external switches.

Comprehensive documentation includes a PROFIBUS Interface Guide.

For panel mounting applications see the BA488CF-P datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

For FOUNDATION™ fieldbus systems, please see the datasheet for the equivalent BA484DF-F fieldbus display.

BA484DF-P

PROFIBUS PA

Fieldbus display

8 variables

Intrinsically safe for use in gas and dust hazardous areas

- ◆ **PROFIBUS PA** protocol.
- ◆ **Compatible with most** system hosts.
- ◆ **High contrast display** with backlight.
- ◆ **Intrinsically safe**
ATEX gas
or ATEX gas & dust
or FM & ATEX gas
or INMETRO
All models have
IECEx certification.
FISCO compliant.
- ◆ **Four operator push buttons & six optional** local alarm outputs.
- ◆ **IP66 field mounting** GRP enclosure.
- ◆ **3 year guarantee**

www.beka.co.uk/ba484df-p



BEKA

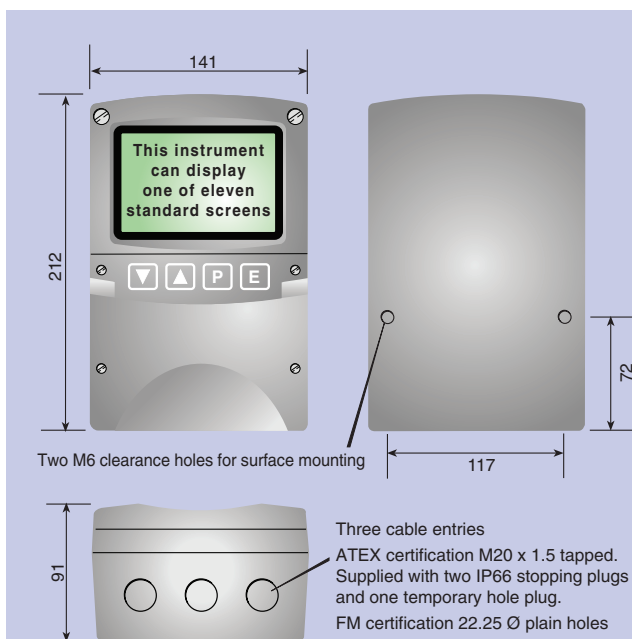
associates

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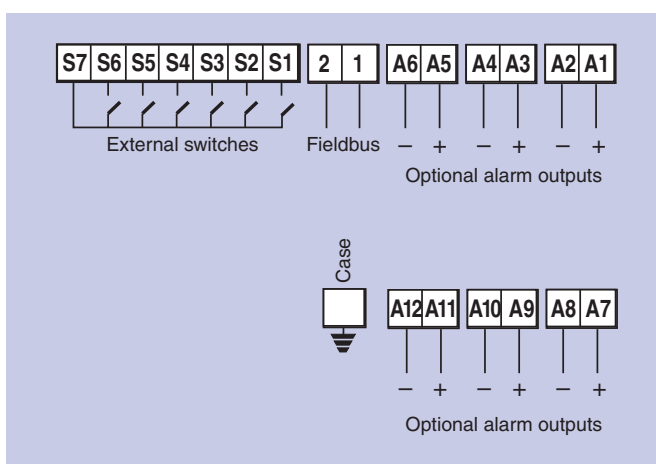
SPECIFICATION

Display			
Type	120 x 64 pixel liquid crystal		
Size	86.5mm x 45mm		
Backlight	Powered from fieldbus		
Screens			
Standard format	1, 2, 3, 4 or 8 variables plus bargraph can include: units of measurement tag information		
Controls			
Front panel	Four push buttons scroll the indicator display between screens when the BA484DF-P is configured to display more variables than fit onto a single screen. Also used to configure optional local alarms and may be used to return operator inputs to the system host.		
External switches	Control may be transferred to six external switches; front panel buttons may be inhibited or operated in parallel.		
Switch cable	Length 5m max		
Fieldbus communication			
Voltage	9 to 32V (Limited by intrinsic safety parameters)		
Current	25mA		
Compliant with Protocol	IEC61158-2 31.25kbits/s Voltage Mode PROFIBUS PA		
Function blocks			
PROFIBUS PA	8 x AO (Analogue Output) 6 x DI (Digital Input)		
Intrinsic safety			
Europe ATEX			
Code	Group II Category 1G Ex ia IIC T5 Ga (Tamb = -40 to 60°C)		
or	Group II Category 1D Ex ia IIIC T80°C Da (Tamb = -40 to 60°C) IP66 <i>Dust option, see How to order</i>		
Cert. No.	ITS04ATEX22778		
Intrinsic safety parameters	<table> <tr> <td> $U_i = 17.5V$ $I_i = 380mA$ $P_i = 5.32W$ </td> <td>FISCO compliant</td> </tr> </table>	$U_i = 17.5V$ $I_i = 380mA$ $P_i = 5.32W$	FISCO compliant
$U_i = 17.5V$ $I_i = 380mA$ $P_i = 5.32W$	FISCO compliant		
Location	Gas Zone 0, 1 or 2: Dust Zone 20, 21 or 22		
USA FM			
Standard Code	Option, see How to order 3610 Entity CL I, II, III: Div 1: GP A, B, C, D, E, F & G T4 @ 60°C		
File	3022546		
Standard Code	3611 Nonincendive CL I: Div 2: GP A, B, C & D, T4 @ 60°C CL II, III: Div 2: GP F & G, T4 @ 60°C		
File	3022546		
International IECEx			
Code	Group II Category 1G Ex ia IIC T5 Ga (Tamb = -40 to 60°C)		
or	Group II Category 1D Ex ia IIIC T80°C Da (Tamb = -40 to 60°C) IP66 <i>Dust option, see How to order</i>		
Cert. No	IECEx ITS 05.0006		
Brazil INMETRO			
	NCC 12.0845		
Environmental			
Operating temp	-20 to 60°C (ATEX gas certification -40 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 BS EN 61326:1998		
Immunity	Operates normally with conducted 3Vrms interference between 0.15kHz and 80MHz, or radiated 10V/m interference between 80MHz and 1GHz.		
Emissions	CISPR16-1/2 Class A		
Mechanical			
Terminals	Screw clamp for 0.5 to 1.5mm ² cable.		
Weight	1.6kg		
Accessories			
Alarms	Six galvanically isolated outputs which may be linked to displayed variables. Each alarm is configurable from instrument push buttons as: combined high and low alarm high or low alarm		
	Note: Alarms are not accessible from the fieldbus system host		

DIMENSIONS (mm)



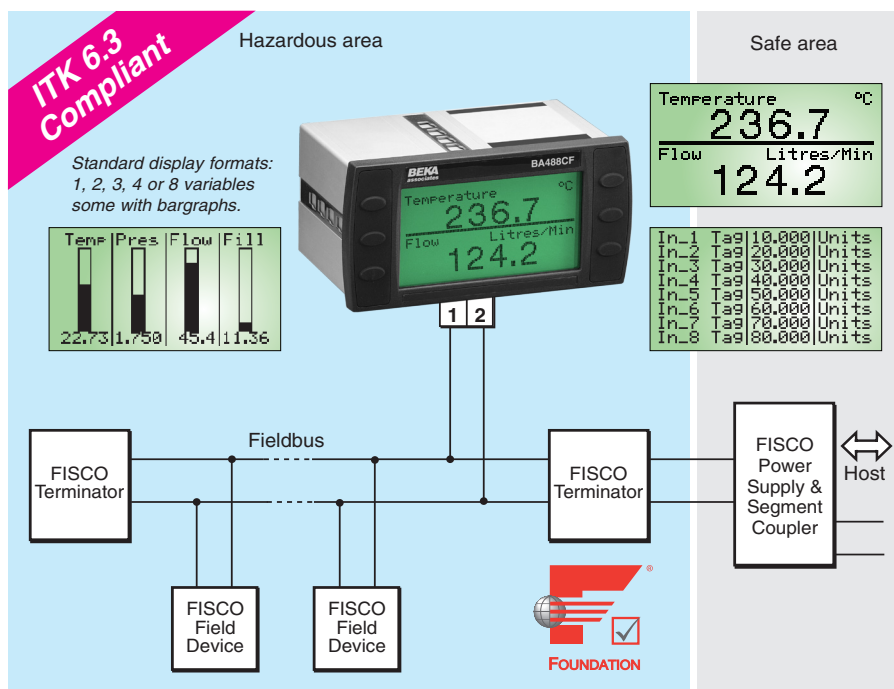
TERMINAL CONNECTIONS



Contacts	Isolated single pole solid state switch certified as simple apparatus. Ron less than 5Ω + 0.7V Roff greater than 1MΩ
Intrinsic safety parameters	$U_i = 28Vdc$ $I_i = 200mA$ $P_i = 0.84W$
Tag strip	Printed legend behind the display window
Tag plate	Engraved stainless steel plate attached to the side of the instrument.
Pipe mounting kit	BA392D or BA393
PROFIBUS PA interface guide	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	BA484DF-P
Certification	ATEX gas
or	ATEX gas & dust
or	FM & ATEX gas
or	INMETRO gas
or	INMETRO gas & dust
Accessories	
Six alarms	Alarms
Tag strip	Tag strip legend
Tag plate	Tag plate legend
Pipe mounting kit	BA392D or BA393
Please specify if required	
All models have IECEx certification. Note: Cable entries differ for FM & ATEX models	



The BA488CF-F Fieldbus Display is an intrinsically safe instrument that can display up to eight fieldbus process variables. Eleven selectable standard screen formats contain one, two, three, four or eight variables, with units of measurement, tag descriptions and bargraphs on some screens.

Selectable function blocks allow the BA488CF-F fieldbus display to be used with all common system hosts. Configuration files may be downloaded from the Foundation fieldbus or the BEKA websites

Powered by the fieldbus the BA488CF-F only requires a 2-wire connection, no additional power supply Zener barriers or galvanic isolators are required. The high contrast 86 x 45mm liquid crystal display incorporates a green backlight that is also powered from the fieldbus enabling the display to be read in all lighting conditions from full sunlight to total darkness.

Simple commissioning results from the use of standard display formats. Apart from loading the BA488CF-F configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is required. Configuration of the BA488CF-F Fieldbus Display is performed via the fieldbus and the instrument front panel push buttons.

ATEX, FM & IECEx intrinsic safety certification allows the BA488CF-F to be installed in gas hazardous areas worldwide. The two fieldbus terminals comply with the Fieldbus Intrinsic Safety Concept (FISCO) simplifying system design and documentation, although connection to non-FISCO intrinsically safe segments is possible using the entity concept. This allows a BA488CF-F to be directly connected to almost any hazardous fieldbus providing the segment can supply the 25mA consumed by the display.

Six optional local alarm outputs may be linked to any of the displayed variables. Each isolated single pole solid state output may be conditioned as a combined high and low alarm, or as just a high or low alarm. All the outputs comply with the requirements for *simple apparatus* allowing them to switch any certified intrinsically safe load such as a sounder, lamp or solenoid valve. Alarm configuration and the alarm set point adjustment is performed via the BA488CF-F front panel push buttons, as the local alarms are not accessible from the fieldbus system host.

Comprehensive documentation includes a FOUNDATION™ fieldbus Interface Guide.

For field mounting applications see the BA484DF-F datasheet. This instrument has a similar electrical specification but is housed in a robust IP66 GRP enclosure suitable for external mounting.

BA488CF-F

FOUNDATION™

fieldbus

Fieldbus display

8 variables

Intrinsically safe for use in all gas hazardous areas

- ◆ FOUNDATION™ fieldbus protocol, ITK 6 compliant.
- ◆ Compatible with most system hosts.
- ◆ High contrast display with backlight.
- ◆ Intrinsically safe ATEX, FM and IECEx certification FISCO compliant.
- ◆ Six optional local alarm outputs.
- ◆ IP66 front panel
- ◆ 3 year guarantee

www.beka.co.uk/ba488cf-f



BEKA

associates

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e-mail sales@beka.co.uk www.beka.co.uk

SPECIFICATION

Display

Type	120 x 64 pixel liquid crystal
Size	86.5mm x 45mm
Backlight	Powered from fieldbus
Screens	
Standard format	1, 2, 3, 4 or 8 variables plus bargraph can include: units of measurement tag information

Controls

Front panel	Six push buttons scroll the indicator display between screens when the BA488CF-F is configured to display more variables than fit onto a single screen. Also used to configure optional local alarms.
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Fieldbus communication

Voltage	9 to 32V (Limited by intrinsic safety parameters)
Current	25mA
Compliant with	EC61158-2 31.25kbits/s Voltage Mode
Protocol	FOUNDATION™ fieldbus, ITK 6.3 compliant
Function blocks	
FOUNDATION fieldbus™	1 x MAO (Multiple Analogue Output) or 2 x IS (Input Selector) } Selectable on-site

Intrinsic safety

Europe ATEX

Code	Group II Category 1G Ex ia IIC T5 Ga (Tamb = -40°C to 60°C)
Cert. No.	ITS04ATEX22779X <i>Special condition only apply for installations in Zone 0</i>

Intrinsic safety parameters	<table> <tr> <td>Ui = 17.5V</td><td rowspan="3">} FISCO compliant</td></tr> <tr> <td>Ii = 380mA</td></tr> <tr> <td>Pi = 5.32W</td></tr> </table>	Ui = 17.5V	} FISCO compliant	Ii = 380mA	Pi = 5.32W
Ui = 17.5V	} FISCO compliant				
Ii = 380mA					
Pi = 5.32W					

Location	Zone 0, 1 or 2
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USA FM

Standard	3610 Entity
Code	CL I; Div 1; GP A, B, C & D
File No	T4 @ 60°C 3022546
Standard	3611 Nonincendive
Code	CL I; Div 2; GP A, B, C & D
File No	T4 @ 60°C 3022546

International IECEx

Code	Group II Category 1G Ex ia IIC T5 Ga (Tamb = -40°C to 60°C)
Cert. No.	IECEx ITS 05.0007X <i>Special condition only apply for installations in Zone 0</i>

Environmental

Operating temp	-20 to 60°C (certified for use at -40°C)
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU

Mechanical

Terminals	Removable with screw clamp for 0.5 to 1.5mm ² cable.
Weight	0.7kg

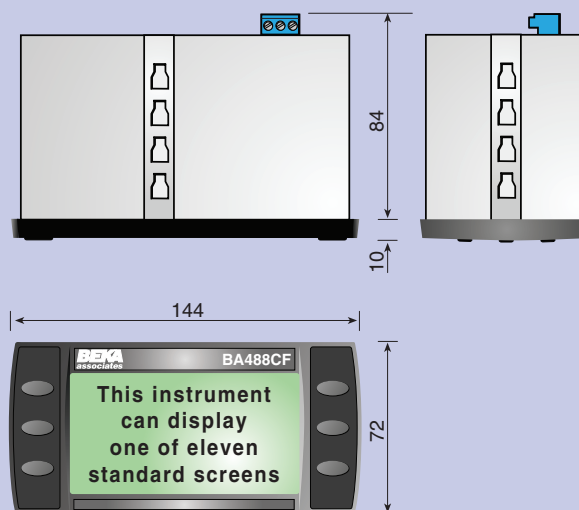
Accessories

Alarms	Six galvanically isolated outputs which may be linked to displayed variables. Each alarm is configurable from instrument push buttons as: combined high and low alarm high or low alarm Note: Alarms are not accessible from the fieldbus system host
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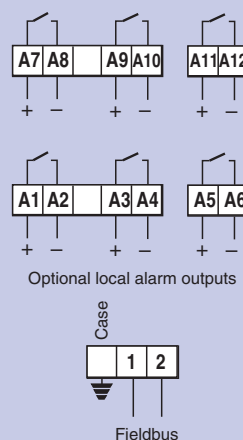
DIMENSIONS (mm)



Recommended panel cut-out
To achieve an IP66 seal between the instrument and the panel
136.0 +0.5/-0.0 x 66.2 +0.5/-0.0
Four panel mounting clips must be used
DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0



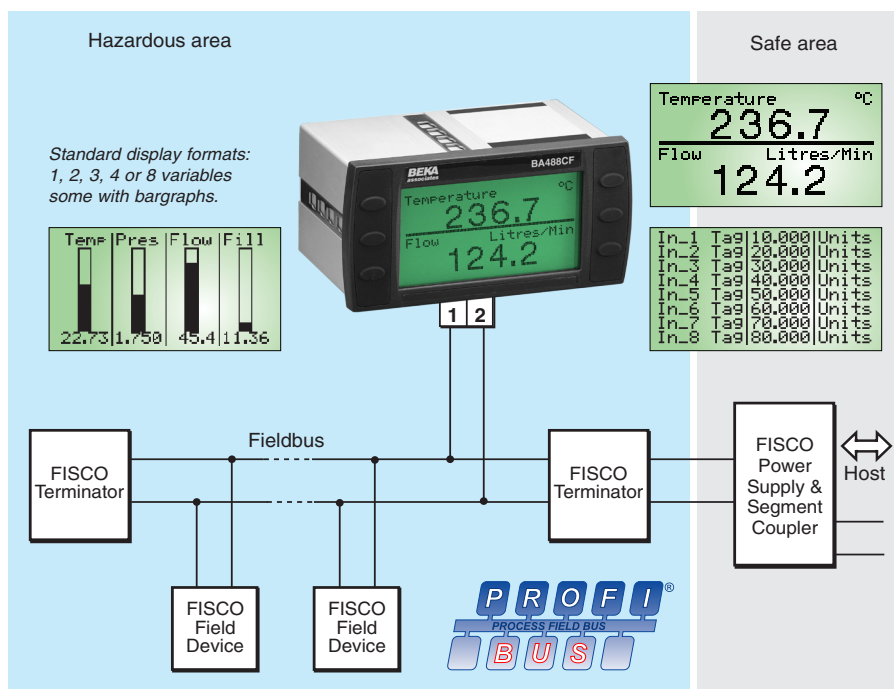
TERMINAL CONNECTIONS



Contacts	Isolated single pole solid state switch certified as simple apparatus. Ron less than 5Ω + 0.7V Roff greater than 1MΩ
Intrinsic safety parameters	Ui = 28Vdc Ii = 200mA Pi = 0.84W
Tag number	Thermally printed strip on rear of instrument.
FOUNDATION™ fieldbus interface guide	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	Please specify BA488CF-F
Accessories	Please specify if required
Six alarms	Alarms
Tag strip	Legend



The **BA488CF-P Fieldbus Display** is an intrinsically safe instrument that can display up to eight fieldbus process variables. Eleven selectable standard screen formats contain one, two, three, four or eight variables, with units of measurement, tag descriptions and bargraphs on some screens.

Powered by the fieldbus the BA488CF-P only requires a 2-wire connection, no additional power supply Zener barriers or galvanic isolators are required. The high contrast 86 x 45mm liquid crystal display incorporates a green backlight that is also powered from the fieldbus enabling the display to be read in all lighting conditions from full sunlight to total darkness.

Simple commissioning results from the use of standard display formats. Apart from loading the BA488CF-P configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is required. Configuration of the BA488CF-P Fieldbus Display is performed via the fieldbus and the instrument front panel push buttons.

ATEX, FM & IECEx intrinsic safety certification allows the BA488CF-P to be installed in gas hazardous areas worldwide. The two fieldbus terminals comply with the Fieldbus Intrinsic Safety Concept (FISCO) simplifying system design and documentation, although connection to non-FISCO intrinsically safe segments is possible using the entity concept. This allows a BA488CF-P to be directly connected to almost any hazardous fieldbus providing the segment can supply the 25mA consumed by the display.

Six optional local alarm outputs may be linked to any of the displayed variables. Each isolated single pole solid state output may be conditioned as a combined high and low alarm, or as just a high or low alarm. All the outputs comply with the requirements for simple apparatus allowing them to switch any certified intrinsically safe load such as a sounder, lamp or solenoid valve. Alarm configuration and the alarm set point adjustment is performed via the BA488CF-P front panel push buttons, as the local alarms are not accessible from the fieldbus system host

The six push buttons on the front of the instrument may be used for returning operator acknowledgments or controls to the fieldbus host. If larger industrial switches are required for these operator controls, up to six external push buttons may be connected to the BA488CF-P. When the external switches are activated, the front panel push buttons may be disabled or operated in parallel with the external switches.

Comprehensive documentation includes a PROFIBUS Interface Guide.

For field mounting applications see the BA484DF-P datasheet. This instrument has a similar electrical specification but is housed in a robust IP66 GRP enclosure suitable for external mounting.

For FOUNDATION™ fieldbus systems, please see the datasheet for the equivalent BA488CF-F fieldbus display.

BA488CF-P

PROFIBUS PA

Fieldbus display

8 variables

Intrinsically safe for use in all gas hazardous areas

- ◆ PROFIBUS PA protocol
- ◆ Compatible with most system hosts.
- ◆ High contrast display with backlight.
- ◆ Intrinsically safe ATEX, FM, INMETRO and IECEx certification FISCO compliant.
- ◆ Six operator push buttons & six optional local alarm outputs.
- ◆ IP66 front panel
- ◆ 3 year guarantee

www.beka.co.uk/ba488cf-p



BEKA

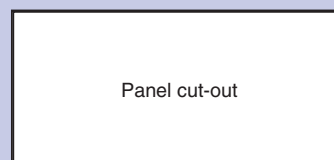
associates

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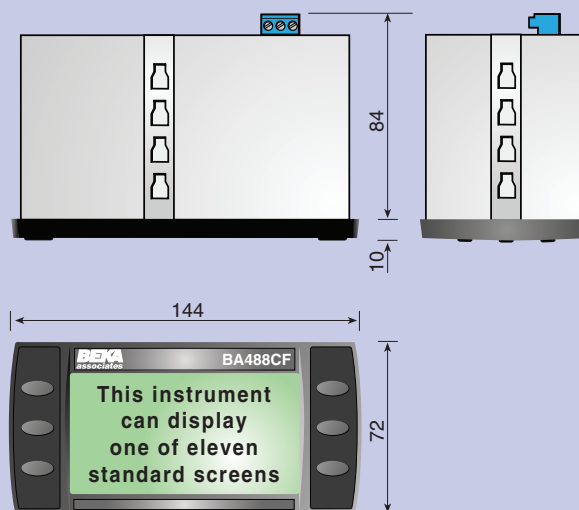
SPECIFICATION

Display	
Type	120 x 64 pixel liquid crystal
Size	86.5mm x 45mm
Backlight	Powered from fieldbus
Screens	
Standard format	1, 2, 3, 4 or 8 variables plus bargraph can include: units of measurement tag information
Controls	
Front panel	Six push buttons scroll the indicator display between screens when the BA488CF-P is configured to display more variables than fit onto a single screen. Also used to configure optional local alarms and may be used to return operator inputs to the system host. Control may be transferred to six external switches; front panel buttons may be inhibited or operated in parallel.
External switches	5m max length.
Switch cable	
Fieldbus communication	
Voltage	9 to 32V (Limited by intrinsic safety parameters)
Current	25mA
Compliant with Protocol	EC61158-2 31.25kbits/s Voltage Mode PROFIBUS PA
Function blocks	8 x AO (Analogue Output) 6 x DI (Digital Input)
Intrinsic safety	
Europe ATEX	
Code	Group II Category 1G Ex ia IIC T5 Ga (Tamb = -40°C to 60°C) ITS04ATEX22779X <i>Special condition only apply for installations in Zone 0</i>
Cert. No.	
Intrinsic safety parameters	$\left. \begin{array}{l} U_i = 17.5V \\ I_i = 380mA \\ P_i = 5.32W \end{array} \right\} \text{FISCO compliant}$
Location	Zone 0, 1 or 2
USA FM	
Standard	3610 Entity
Code	CL I; Div 1; GP A, B, C & D T4 @ 60°C
File No	3022546
Standard	3611 Nonincendive
Code	CL I; Div 2; GP A, B, C & D T4 @ 60°C
File No	3022546
International IECEx	
Code	Group II Category 1G Ex ia IIC T5 Ga (Tamb = -40°C to 60°C) IECEx ITS 05.0007X <i>Special condition only apply for installations in Zone 0</i>
Cert. No.	
Brazil INMETRO	
	NCC 12.0833X
Environmental	
Operating temp	-20 to 60°C (certified for use at -40°C)
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU BS EN 61326:1998
Immunity	Operates normally with conducted 3Vrms interference between 0.15kHz and 80MHz, or radiated 10V/m interference between 80MHz and 1GHz.
Emissions	CISPR 16-1/2 Class A
Mechanical	
Terminals	Removable with screw clamp for 0.5 to 1.5mm ² cable.
Weight	0.7kg
Accessories	
Alarms	Six galvanically isolated outputs which may be linked to displayed variables. Each alarm is configurable from instrument push buttons as: combined high and low alarm high or low alarm Note: Alarms are not accessible from the fieldbus system host

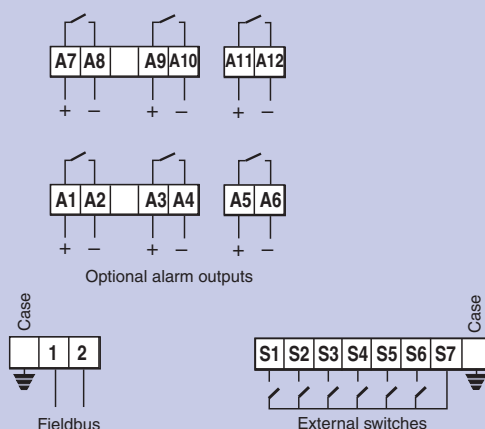
DIMENSIONS (mm)



Recommended panel cut-out
To achieve an IP66 seal between the instrument and the panel 136.0 +0.5/-0.0 x 66.2 +0.5/-0.0 Four panel mounting clips must be used
DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0



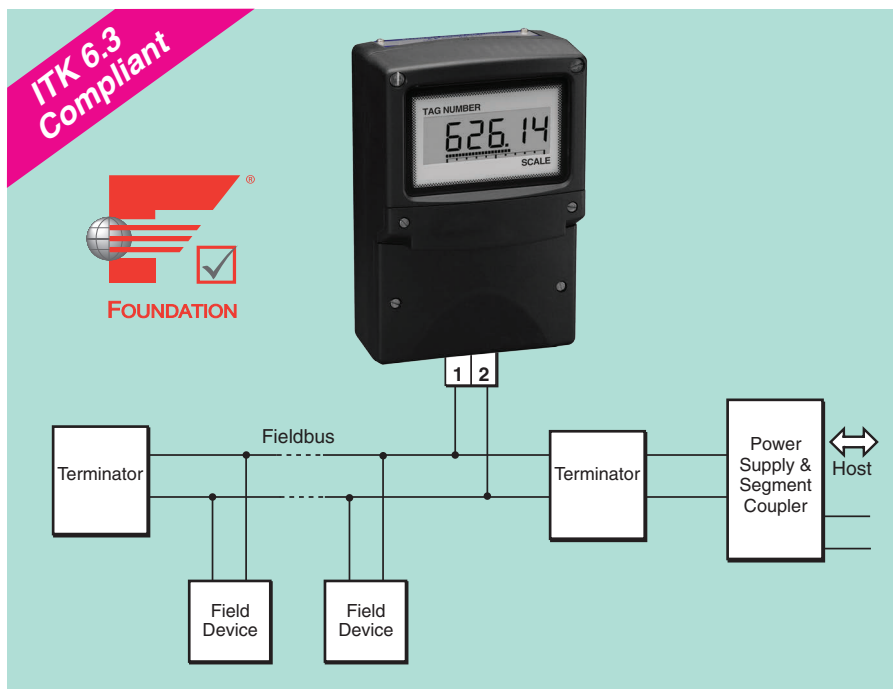
TERMINAL CONNECTIONS



Contacts	Isolated single pole solid state switch certified as simple apparatus. Ron less than 5Ω + 0.7V Roff greater than 1MΩ
Intrinsic safety parameters	U _i = 28Vdc I _i = 200mA P _i = 0.84W
Tag number	Thermally printed strip on rear of instrument.
PROFIBUS PA interface guide	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	Please specify BA488CF-P
Accessories	Please specify if required
Certification	INMETRO
Six alarms	Alarms
Tag strip	Legend



The **BA614DF-F Fieldbus Indicator** is a new cost-effective field mounting instrument that displays a single fieldbus variable in a process area. Housed in a robust IP66 GRP enclosure, the instrument has a large, high contrast five digit display, plus a horizontal bargraph. The BA614DF-F indicator uses the same technology and compliments the well established BEKA eight variable fieldbus displays that are now in worldwide use.

Powered by the fieldbus the BA614DF-F only requires a 2-wire connection to the fieldbus segment, no additional power supply is required. Compatibility with most FOUNDATION™ fieldbus hosts is ensured by the use of a single *Input Selector* function block, which is supported by nearly all systems. Please contact the BEKA sales office for the latest compatibility information. The instrument has ITK 6.3 Fieldbus Foundation registration and device description files may be downloaded from their website or from www.beka.co.uk.

The **liquid crystal display** has large characters and is designed to provide maximum contrast and a wide viewing angle which enables the BA614DF-F indicator to be easily read in most lighting conditions. Five digits, with four decimal points and a negative sign, may be configured to display any value between -99999 and 99999. The 31 segment horizontal bargraph, which provides a bold analogue indication of the fieldbus variable, may be conditioned to any starting and 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 - report available. A separate terminal compartment allows the instrument to be installed and terminated without exposing the indicator electronics. To further simplify field wiring and subsequent inspection, the terminal cable entries and clamping screws are both forward facing. The indicator may also be mounted onto a vertical or horizontal pipe using one of the accessory kits.

The **FOUNDATION™ fieldbus Interface Guide** contains commissioning information for the BA614DF-F indicator. A copy may be requested from the BEKA sales office or from the BEKA web site at www.beka.co.uk

Units of measurement, tag or application information specified by the customer can be printed onto the instrument escutcheon that surrounds the display for no additional charge. For users who require a stainless steel identification label, the indicator can be supplied with a laser engraved stainless steel legend plate mounted on the front of the instrument.

For panel mounting applications see the BA618CF-F datasheet. This instrument is electrically identical to the BA614DF-F but is housed in a 144 x 72 panel mounting enclosure with an IP66 front.

For use in hazardous areas the intrinsically safe BA414DF-F and Type nL BA414NDF-F single variable fieldbus indicators are available. These have similar specifications as the BA614DF-F plus international certification allowing installation in most gas and dust hazardous areas.

BA614DF-F

FOUNDATION™

fieldbus

Fieldbus indicator

Single variable

General purpose

- ◆ Large easy to read 5 digit display.
- ◆ 31 segment bargraph
- ◆ FOUNDATION™ fieldbus protocol, ITK 6.3 compliant.
- ◆ Compatible with most system hosts.
- ◆ Bus powered, only 13mA consumption.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba614df-f

BEKA

associates

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e-mail sales@beka.co.uk www.beka.co.uk

SPECIFICATION

Display

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

Fieldbus communication

Voltage	9 to 32V
Current	13mA
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode Clauses 11 and 22
Protocol	FOUNDATION™ fieldbus, ITK 6.3 compliant
Function block	1 x IS (input selector)

Environmental

Operating temp	-20 to 70°C
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	IP66
EMC	In accordance with EU Directive 2014/30/EU

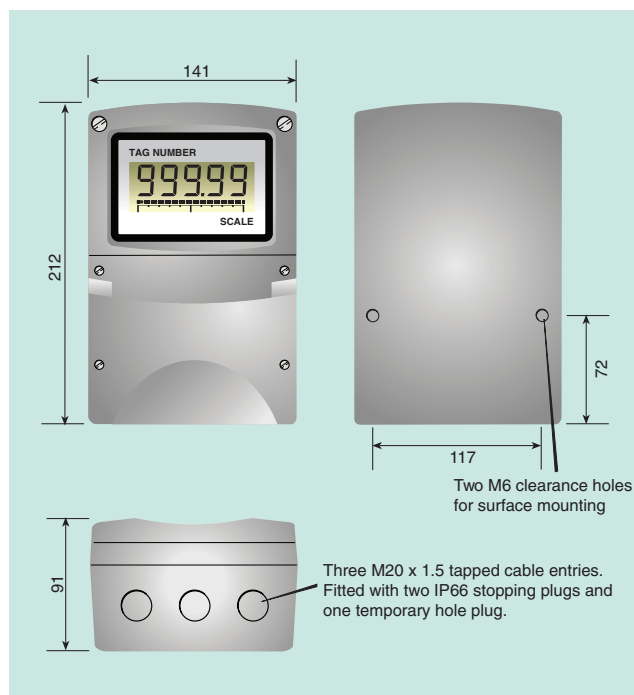
Mechanical

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

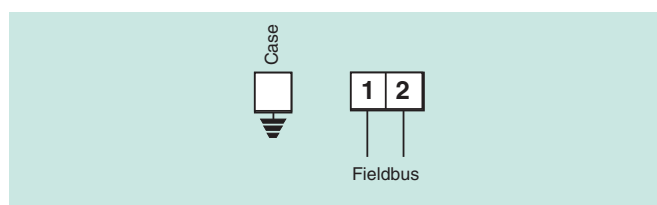
Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or applicational information marked onto display escutcheon.
Stainless legend plate	Stainless steel plate etched with tagging or applicational information secured to the front of the instrument.
Pipe mounting kit	BA392D or BA393
Fieldbus interface guide	May be downloaded from www.beka.co.uk

DIMENSIONS (mm)

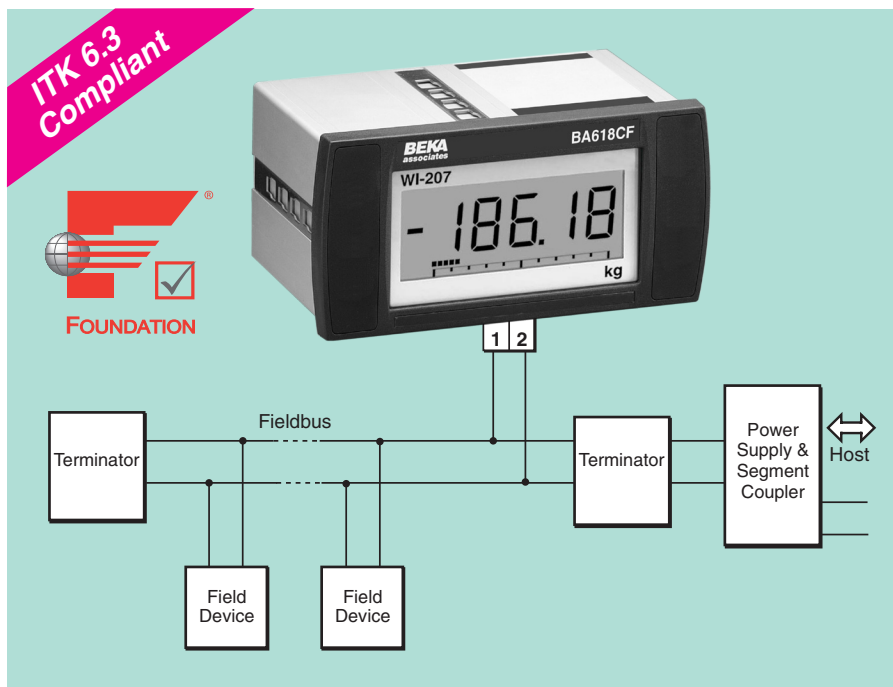


TERMINAL CONNECTIONS



HOW TO ORDER

Model number	Please specify BA614DF-F
Accessories	Please specify if required
Escutcheon markings	
Scale	Scale legend
Tag	Tag legend
Stainless legend plate	Legend
Pipe mounting kit	BA392D or BA393



The BA618CF-F Fieldbus Indicator is a cost-effective panel mounting instrument that displays a single fieldbus variable in a control room or process area. Housed in a robust panel mounting enclosure with an IP66 front, the instrument has a large, high contrast five digit display and a horizontal bargraph. The BA618CF-F indicator uses the same technology and compliments the well established BEKA eight variable fieldbus displays that are now in worldwide use.

Powered by the fieldbus the BA618CF-F only requires a 2-wire connection to the fieldbus segment, no additional power supply is required. Compatibility with most FOUNDATION™ fieldbus hosts is ensured by the use of a single *Input Selector* function block, which is supported by nearly all systems. Please contact the BEKA sales office for the latest compatibility information. The instrument has ITK 6.3 Fieldbus Foundation registration and device description files may be downloaded from their website or from www.beka.co.uk

The liquid crystal display has large characters and is designed to provide maximum contrast and a wide viewing angle, thus enabling the BA618CF-F indicator to be easily read in most lighting conditions. Five digits, with four decimal points and a negative sign, may be configured to display any value between -99999 and 99999. The 31 segment horizontal bargraph, which provides a bold analogue indication of the fieldbus variable, may be conditioned to any starting and finishing values within the range of the fieldbus variable.

The instrument front panel provides IP66 protection and a neoprene gasket seals the joint between the fieldbus indicator and the panel, making it suitable for use in areas that will be cleaned with a hose. To simplify installation and maintenance, the indicator has a removable terminal block that allows panel wiring to be completed before the BA618CF-F indicator is installed.

The FOUNDATION Fieldbus Interface Guide contains commissioning information for the BA618CF-F indicator. A copy may be requested from the BEKA sales office or from the BEKA web site at www.beka.co.uk

Units of measurement, tag or application information specified by the customer can be printed onto the instrument escutcheon that surrounds the display for no additional charge. Tag information can also be thermally printed onto the rear panel adjacent to the terminals.

For field mounting applications see the BA614DF-F datasheet. This instrument is electrically identical to the BA618CF-F but is housed in a robust IP66 field mounting enclosure.

For use in hazardous areas the intrinsically safe BA418CF-F single variable panel mounting fieldbus indicator is available. This has a similar specification as the BA618CF-F plus international certification allowing installation in most gas hazardous areas.

BA618CF-F

FOUNDATION™

fieldbus

Fieldbus indicator

Single variable

General purpose

- ◆ Large easy to read 5 digit display.
- ◆ 31 segment bargraph
- ◆ FOUNDATION™ fieldbus protocol ITK 6.3 compliant.
- ◆ Compatible with most system hosts.
- ◆ Bus powered, only 13mA consumption.
- ◆ 144 x 72mm DIN enclosure.
- ◆ IP66 front
- ◆ 3 year guarantee

www.beka.co.uk/ba618cf-f

BEKA

associates

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SPECIFICATION

Display

Type	Liquid crystal 5 digit 20mm high (-99999 to 99999) 31 segment bargraph
Variables	Single

Fieldbus communication

Voltage	9 to 32V
Current	13mA
Compliant with	IEC61158-2 Clauses 11 and 22
Protocol	FOUNDATION™ fieldbus
Function block	1 x IS (input selector)

Environmental

Operating temp	-20 to 70°C
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU

Mechanical

Terminals	Removable with screw clamp for 0.5 to 1.5mm ² cable.
Weight	0.7kg

Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or application marked onto display escutcheon
Tag strip	Tag number or application thermally printed onto rear of instrument
Fieldbus interface guide	May be downloaded from www.beka.co.uk

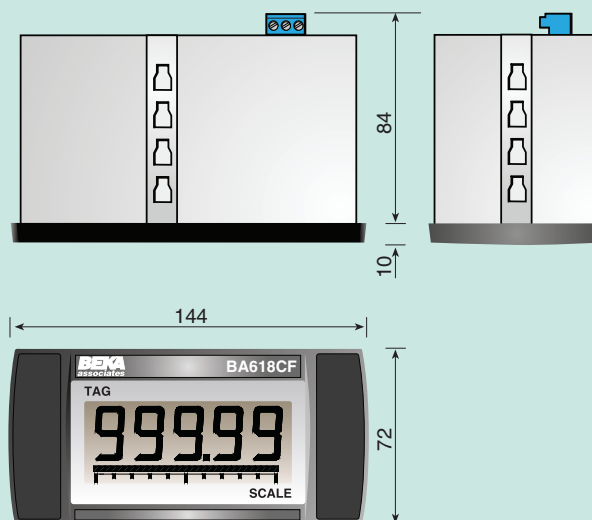
DIMENSIONS (mm)



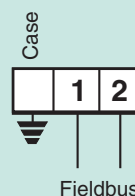
Recommended panel cut-out

To achieve an IP66 seal between the instrument and the panel 136.0 +0.5/-0.0 x 66.2 +0.5/-0.0 Four panel mounting clips must be used

DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0



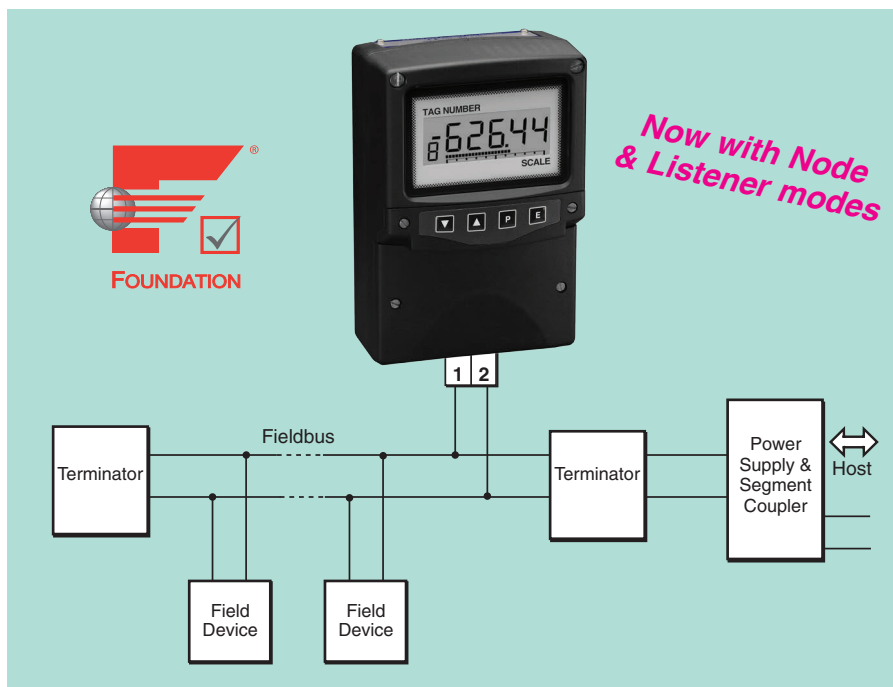
TERMINAL CONNECTIONS



HOW TO ORDER

	Please specify
Model number	BA618CF-F

Accessories	Please specify if required
Escutcheon markings	
Scale	Legend
Tag	Legend
Tag strip	Legend



*Now with Node
& Listener modes*

The **BA644DF-F FOUNDATION™ fieldbus Indicator** is a general purpose instrument that can display up to eight fieldbus process variables. 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 BA644DF-P PROFIBUS datasheet.

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 BA644DF-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's 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.

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 BA648CF-F FOUNDATION™ fieldbus indicator datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

For use in hazardous areas the intrinsically safe BA444DF-F FOUNDATION™ fieldbus and the Type n BA444NDF-F FOUNDATION™ fieldbus indicators are available. These are similar to the BA644DF-F FOUNDATION™ fieldbus indicator but have international certifications allowing installation in most gas and dust hazardous area.

BA644DF-F

FOUNDATION™

fieldbus

Fieldbus indicator

8 variables

General purpose

- ◆ Large 5 digit display with bargraph.
- ◆ FOUNDATION™ fieldbus Listener.
- ◆ Displays up to 8 fieldbus variables.
- ◆ Selectable Node or Listener modes.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba644df-f

BEKA

associates

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e-mail sales@beka.co.uk 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
Current 13mA.
Compliant with IEC61158-2 31.25kbits/s Voltage Mode.
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.

Environmental

Operating temp -20 to 70°C
Storage temp -40 to 85°C
Humidity To 95% @ 40°C
Enclosure IP66

EMC In accordance with EU Directive 2004/108/EC

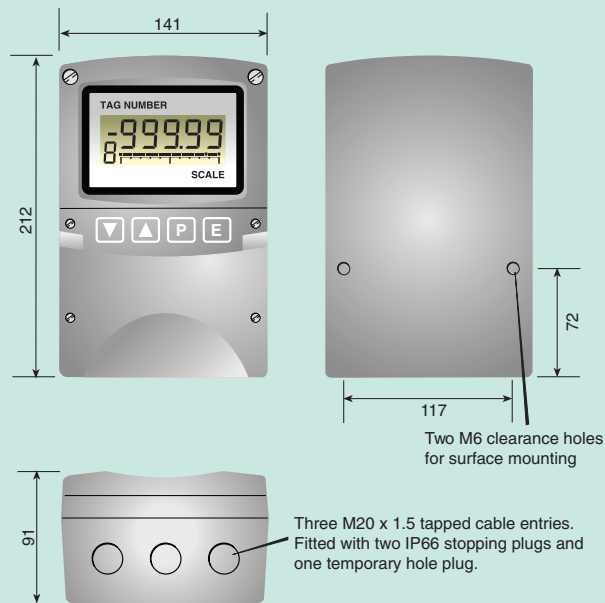
Mechanical

Terminals Screw clamp for 0.5 to 1.5mm² cable.
Weight 1.6kg

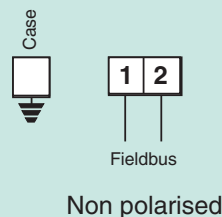
Accessories

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS



HOW TO ORDER

Please specify

Model number BA644DF-F FOUNDATION™ fieldbus

Accessories

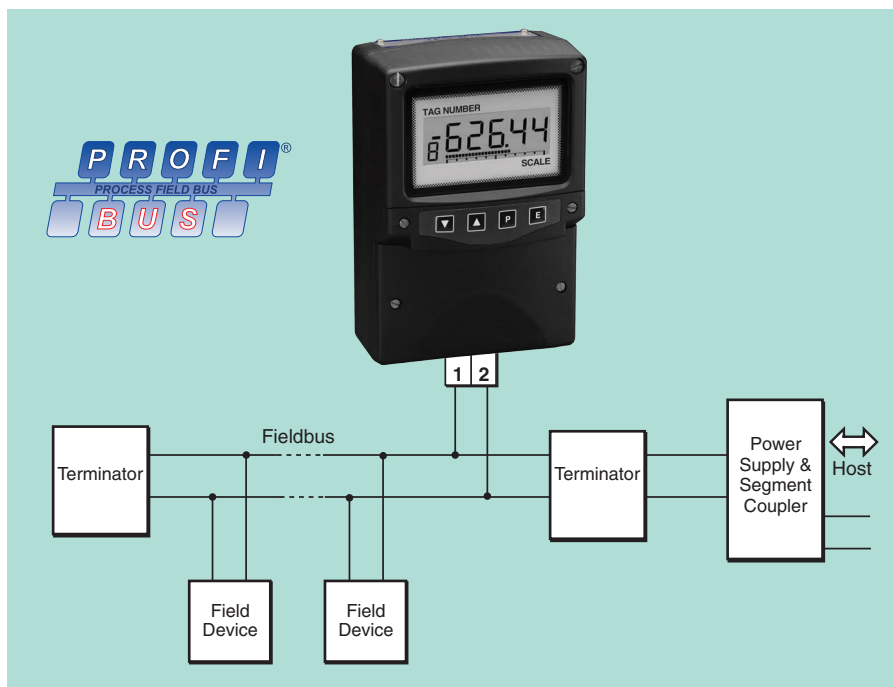
Please specify if required

Escutcheon markings

Scale Scale legend
Tag Tag legend

Stainless legend plate Legend

Pipe mounting kit BA392D or BA393



The **BA644DF-P PROFIBUS Indicator** is a general purpose instrument that can display up to eight fieldbus process variables. 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 the BA644DF-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 BA644DF-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 BA644DF-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 BA644DF-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.

Operator acknowledgements may be returned to the fieldbus host when the BA644DF-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 BA644DF-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 BA648CF-P PROFIBUS datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

For use in hazardous areas the intrinsically safe BA444DF-P PROFIBUS and the Type n BA444NDF-P PROFIBUS indicators are available. These are similar to the BA644DF-P PROFIBUS indicator but have international certifications allowing installation in most gas and dust hazardous area.

BA644DF-P

PROFIBUS PA

Fieldbus Indicator

8 variables

General purpose

- ◆ Large 5 digit display with bargraph.
- ◆ PROFIBUS PA protocol.
- ◆ Displays up to 8 fieldbus variables.
- ◆ Selectable Node or Listener modes.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba644df-p

BEKA

associates

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e-mail sales@beka.co.uk 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. May be used for returning operator acknowledgements when configured as a fieldbus node.

Fieldbus communication

Voltage 9 to 32V
Current 13mA
Compliant with IEC61158-2 31.25kbits/s Voltage Mode.

Protocol PROFIBUS PA
Profibus User Approval certificate Z01505
Organisation.
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

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

Mechanical

Terminals Screw clamp for 0.5 to 1.5mm² cable.

Weight 1.6kg

Accessories

Scale legend Units of measurement marked onto display escutcheon.

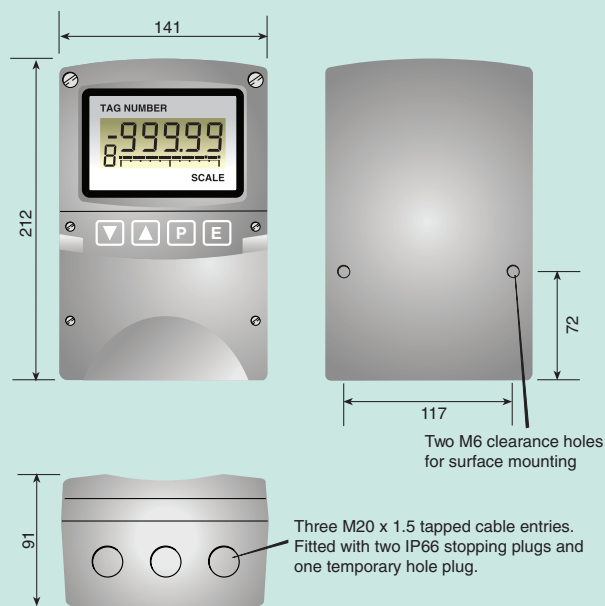
Tag legend Tag number or application marked onto display escutcheon.

Stainless legend plate. Stainless steel plate etched with tag number or application attached to front of the instrument.

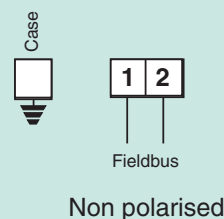
Pipe mounting kit BA392D or BA393

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS



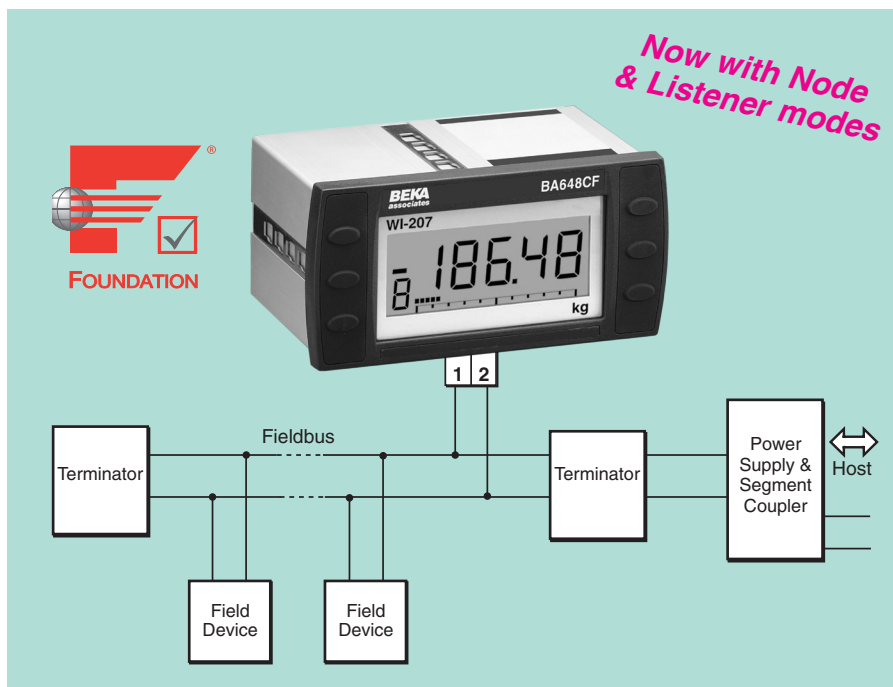
HOW TO ORDER

Model number **Please specify**
BA644DF-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



The BA648CF-F Fieldbus Indicator is a general purpose instrument that can display up to eight fieldbus process variables. A numeric annunciator on the left hand side of the screen shows which variable is being displayed. This version of the instrument supports FOUNDATION™ fieldbus protocol; for PROFIBUS PA systems an alternative version is available - please see the BA648CF-P PROFIBUS datasheet.

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 BA648CF-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 instrument front panel provides IP66 protection and a neoprene gasket seals the joint between the fieldbus indicator and the panel, making it suitable for use in areas that will be cleaned with a hose. To simplify installation and maintenance, the indicator has a removable terminal block that allows panel wiring to be completed before the BA648CF-F indicator is installed.

Units of measurement can be marked onto the display escutcheon prior to despatch and the tag number or application thermally printed onto the rear panel adjacent to the terminals.

For field mounting applications see the BA644DF-F FOUNDATION™ fieldbus datasheet. This instrument has a similar electrical specification but is housed in an IP66 field mounting enclosure.

For use in hazardous areas the intrinsically safe BA448CF-F FOUNDATION™ fieldbus indicator is available. This is similar to the BA648CF-F FOUNDATION™ fieldbus indicator but has international certifications allowing installation in most gas and dust hazardous areas.

BA648CF-F

FOUNDATION™

fieldbus

Fieldbus Indicator

8 variables

General purpose

- ◆ Large 5 digit display with bargraph.
- ◆ FOUNDATION™ fieldbus protocol.
- ◆ Displays up to 8 fieldbus variables.
- ◆ Selectable Node or Listener modes.
- ◆ 144 x 72mm DIN enclosure.
- ◆ IP66 front
- ◆ 3 year guarantee

www.beka.co.uk/ba648cf-f

BEKA

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SPECIFICATION

Display

Type Liquid crystal
5 digit 20mm high
(-99999 to 99999)
31 segment bargraph

Variables 8

Fieldbus communication

Voltage 9 to 32V

Current 13mA.

Compliant with IEC61158

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.

Environmental

Operating temp -20 to 70°C

Storage temp -40 to 85°C

Humidity To 95% @ 40°C

Enclosure Front IP66, rear IP20

EMC Complies with EMC
Directive 2014/30/EU

Mechanical

Terminals Removable with screw clamp
for 0.5 to 1.5mm² cable.

Weight 0.7kg

Accessories

Scale legend Units of measurement marked
onto display escutcheon.

Tag legend Tag number or application
marked onto display
escutcheon.

Tag strip Tag number or application
thermally printed onto rear of
the instrument.

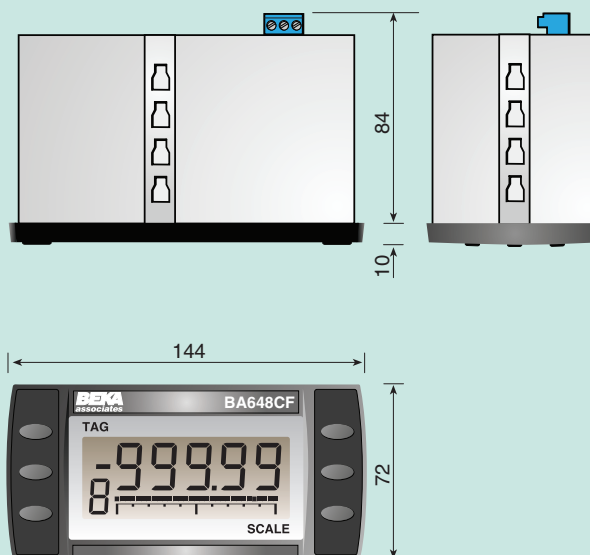
DIMENSIONS (mm)



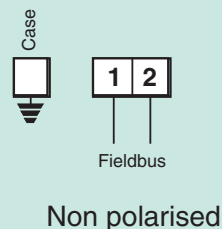
Recommended panel cut-out

To achieve an IP65 seal between
the instrument and the panel
136.0 +0.5/-0.0 x 66.2 +0.5/-0.0
Four panel mounting clips must
be used

DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0



TERMINAL CONNECTIONS



HOW TO ORDER

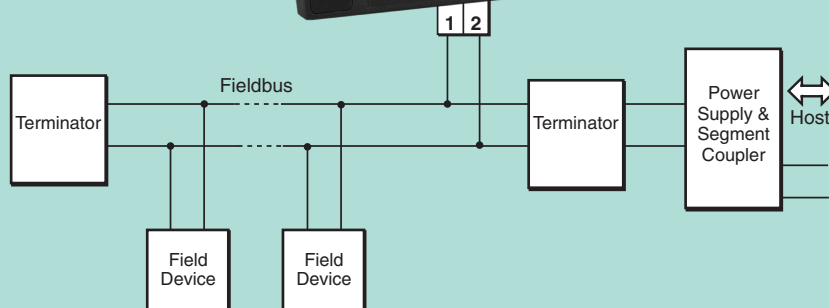
Please specify

Model number BA648CF-F FOUNDATION™
fieldbus

Accessories Please specify if required

Escutcheon markings

Scale	Legend
Tag	Legend
Tag strip	Legend



The BA648CF-P PROFIBUS Indicator is a general purpose instrument that can display up to eight fieldbus process variables. 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 BA648CF-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 BA648CF-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 BA648CF-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 BA648CF-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 instrument front panel provides IP66 protection and a neoprene gasket seals the joint between the fieldbus indicator and the panel, making it suitable for use in areas that will be cleaned with a hose. To simplify installation and maintenance, the indicator has a removable terminal block that allows panel wiring to be completed before the BA648CF-P indicator is installed.

Operator acknowledgements may be returned to the fieldbus host when the BA648CF-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 front panel push buttons to be read.

A Comprehensive PROFIBUS interface guide contains commissioning information for the BA648CF-P. Copies may be requested from the BEKA sales office or downloaded from www.beka.co.uk

Units of measurement can be marked onto the display escutcheon prior to despatch and the tag number or application thermally printed onto the rear panel adjacent to the terminals.

For field mounting applications see the BA644DF-P PROFIBUS datasheet. This instrument has a similar electrical specification but is housed in an IP66 field mounting enclosure.

For use in hazardous areas the intrinsically safe BA448CF-P PROFIBUS indicator is available. This is similar to the BA648CF-P PROFIBUS indicator but has international certifications allowing installation in most gas and dust hazardous areas.

BA648CF-P

PROFIBUS PA

Fieldbus Indicator

8 variables

General purpose

- ◆ Large 5 digit display with bargraph.
- ◆ PROFIBUS PA protocol.
- ◆ Displays up to 8 fieldbus variables.
- ◆ Selectable Node or Listener modes.
- ◆ 144 x 72mm DIN enclosure.
- ◆ IP66 front
- ◆ 3 year guarantee

www.beka.co.uk/ba648cf-p

BEKA

associates

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SPECIFICATION

Display

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

Fieldbus communication

Voltage	9 to 32V
Current	13mA
Compliant with	IEC61158-2 Clauses 11 and 22
Protocol	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 Format	Captures date in DS-33

Environmental

Operating temp	-20 to 70°C
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU.

Mechanical

Terminals	Removable with screw clamp for 0.5 to 1.5mm ² cable.
Weight	0.7kg

Accessories

Scale legend	Units of measurement marked onto display escutcheon.
Tag legend	Tag number or application marked onto display escutcheon.
Profibus interface guide.	May be downloaded from www.beka.co.uk

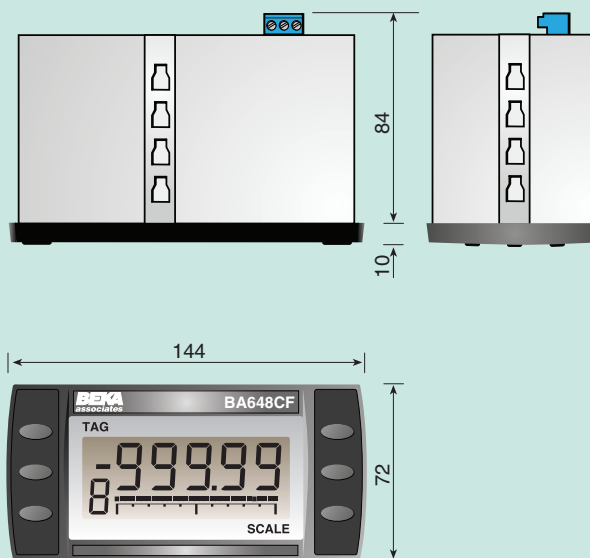
DIMENSIONS (mm)



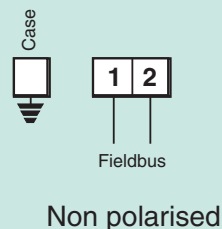
Recommended panel cut-out

To achieve an IP65 seal between the instrument and the panel 136.0 +0.5/-0.0 x 66.2 +0.5/-0.0 Four panel mounting clips must be used

DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0

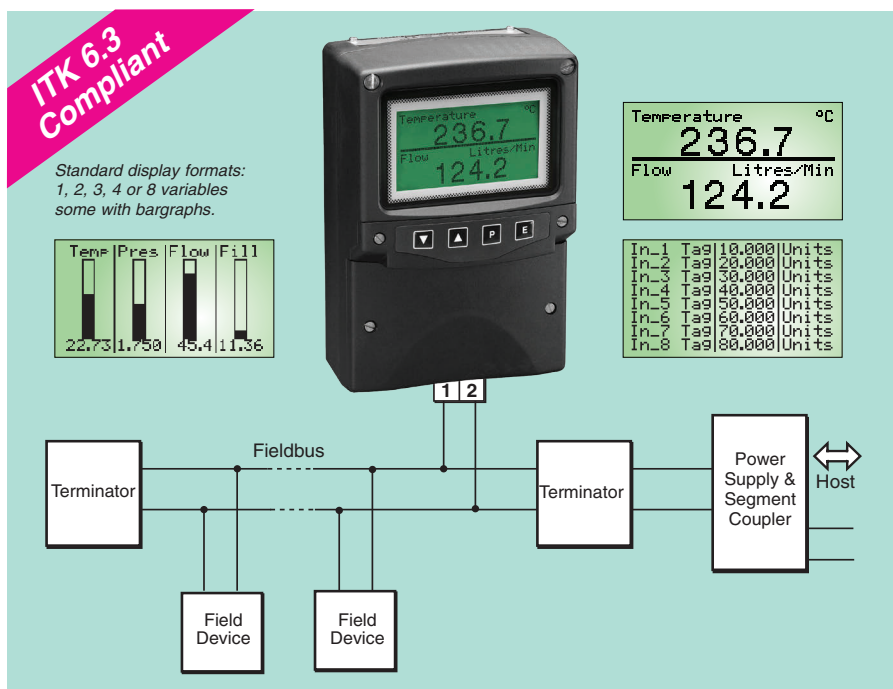


TERMINAL CONNECTIONS



HOW TO ORDER

Model number	Please specify BA648CF-P PROFIBUS
Accessories	Please specify if required
Escutcheon markings	
Scale	Legend
Tag	Legend
Tag strip	Legend



The BA684DF-F Fieldbus Display is a general purpose instrument that can display up to eight fieldbus process variables. Eleven selectable standard screen formats contain one, two, three, four or eight variables, with units of measurement, tag descriptions and bargraphs on some screens.

Selectable function blocks allow the BA684DF-F fieldbus display to be used with all common system hosts. Configuration files may be downloaded from the Foundation fieldbus or the BEKA websites

Powered by the fieldbus the BA684DF-F only requires a 2-wire connection, no additional power supply is required. The high contrast 86 x 45mm liquid crystal display incorporates a green backlight enabling the display to be read in all lighting conditions from full sunlight to total darkness.

Simple commissioning results from the use of standard display formats. Apart from loading the BA684DF-F configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is required. Configuration of the BA684DF-F Fieldbus Display is performed via the fieldbus and

the instrument front panel push buttons; simple menus enable the required standard display format to be selected and the units of measurement and tag information for each variable to be entered.

Six optional local alarm outputs may be linked to any of the displayed variables. Each isolated single pole solid state output may be conditioned as a combined high and low alarm, or as just a high or low alarm. Each output can switch any low power load such as a sounder, lamp or solenoid valve. Alarm configuration and the alarm set point adjustment is performed via the BA684DF-F front panel push buttons, as the local alarms are not accessible from the fieldbus system host.

Comprehensive documentation includes a FOUNDATION™ fieldbus Interface Guide.

For panel mounting applications see the BA688CF-F datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

If flammable atmospheres are present the intrinsically safe BA484DF-F fieldbus display should be used.

BA684DF-F

FOUNDATION™

fieldbus

Fieldbus display

8 variables

General purpose

- ◆ FOUNDATION™ fieldbus protocol, ITK 6.3 compliant.
- ◆ Compatible with most system hosts.
- ◆ High contrast display with backlight.
- ◆ Six optional local alarm outputs.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba684df-f



BEKA

associates

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SPECIFICATION

Display

Type	120 x 64 pixel liquid crystal
Size	86.5mm x 45mm
Backlight	Powered from fieldbus
Screens	
Standard format	1, 2, 3, 4 or 8 variables plus bargraph can include: units of measurement tag information

Controls

Front panel	Four push buttons scroll the indicator display between screens when the BA684DF-F is configured to display more variables than fit onto a single screen. Also used to configure optional local alarms.
-------------	--

Fieldbus communication

Voltage	9 to 32V
Current	25mA
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode.
Protocol	FOUNDATION™ fieldbus, ITK 6.3 compliant
Function blocks	
FOUNDATION™ fieldbus	1 x MAO (Multiple Analogue Output) } Selectable on-site or 2 x IS (Input Selector)

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 2014/30/EU

Mechanical

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

Accessories

Alarms	Six galvanically isolated outputs which may be linked to displayed variables. Each alarm is configurable from instrument push buttons as: combined high and low alarm high or low alarm Note: Alarms are not accessible from the fieldbus system host
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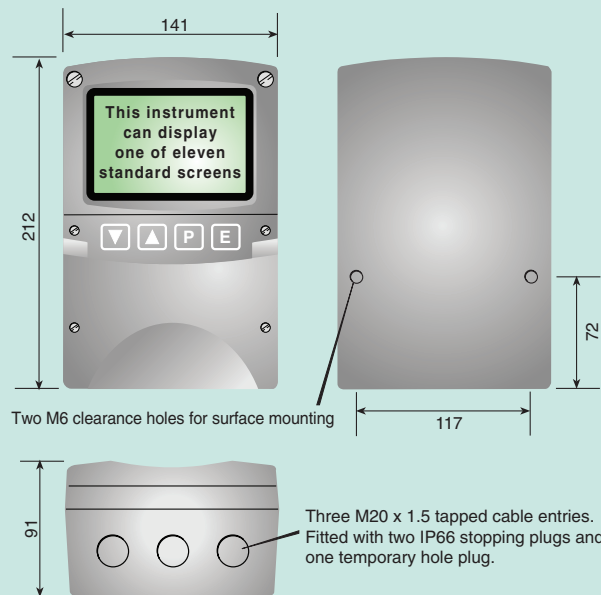
Contacts	Isolated single pole solid state Ron less than 5Ω + 0.7V Roff greater than 1MΩ Vmax= 30V dc Imax = 200mA
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Tag strip	Printed legend behind the display window
Tag plate	Engraved stainless steel plate attached to the side of the instrument.

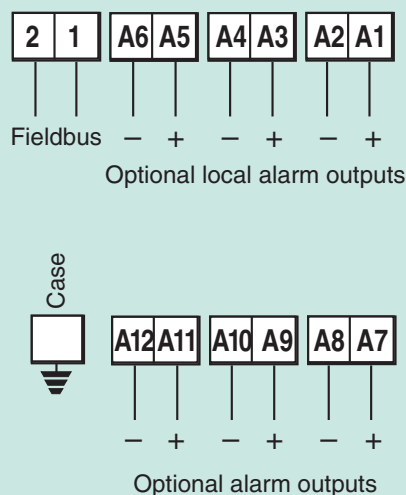
Pipe mounting kit	BA392D or BA393
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FOUNDATION™ fieldbus interface guides	May be downloaded from www.beka.co.uk
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DIMENSIONS (mm)



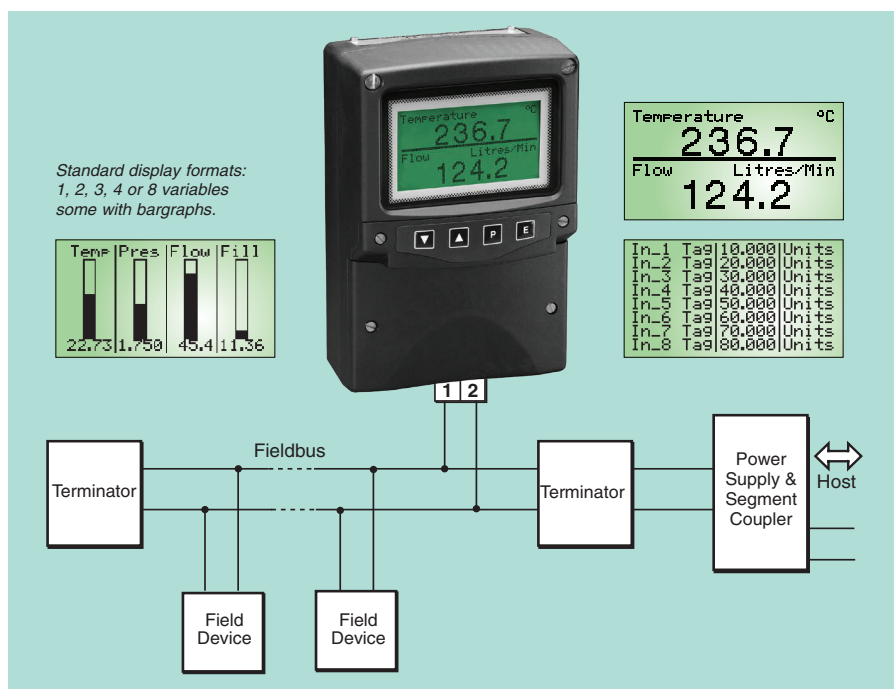
TERMINAL CONNECTIONS



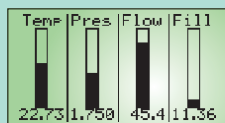
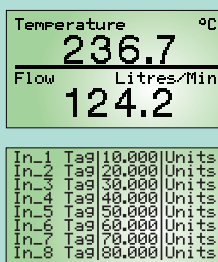
HOW TO ORDER

Model number	Please specify BA684DF-F
Accessories	Please specify if required
Six alarms	Alarms
Tag strip	Tag strip legend
Tag plate	Tag plate legend
Pipe mounting kit	BA392D or BA393

Will be set to display 00.0 at 4mA and 100.0 at 20mA if calibration information is not supplied.



Standard display formats:
1, 2, 3, 4 or 8 variables
some with bargraphs.



The **BA684DF-P Fieldbus Display** is a general purpose instrument that can display up to eight fieldbus process variables. Eleven selectable standard screen formats contain one, two, three, four or eight variables, with units of measurement, tag descriptions and bargraphs on some screens.

Powered by the fieldbus the BA684DF-P only requires a 2-wire connection, no additional power supply is required. The high contrast 86 x 45mm liquid crystal display incorporates a green backlight enabling the display to be read in all lighting conditions from full sunlight to total darkness.

Simple commissioning results from the use of standard display formats. Apart from loading the BA684DF-P configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is required. Configuration of the BA684DF-P Fieldbus Display is performed via the fieldbus and the instrument front panel push buttons; simple menus enable the required standard display format to be selected and the units of measurement and tag information for each variable to be entered.

Six optional local alarm outputs may be linked to any of the displayed variables. Each isolated single pole solid state output may be conditioned as a combined high and low alarm, or as just a high or low alarm. Each output can switch any low power load such as a sounder, lamp or solenoid valve. Alarm configuration and the alarm set point adjustment is performed

via the BA684DF-P front panel push buttons, as the local alarms are not accessible from the fieldbus system host.

BA684DF-P applications vary from a simple single variable display using a standard format, to providing an operator interface with a custom display and control inputs via external buttons.

The four push buttons on the front of the instrument may be used for returning operator acknowledgments or controls to the fieldbus host. If larger industrial switches are required for these operator controls, up to six external push buttons may be connected to the BA684DF-P. When the external switches are activated, the front panel push buttons may be disabled or operated in parallel with the external switches.

Comprehensive documentation includes a PROFIBUS Interface Guide.

For panel mounting applications see the BA688CF-P datasheet. This instrument has a similar electrical specification but is housed in a 144 x 72 panel mounting enclosure.

If flammable atmospheres are present the intrinsically safe BA484DF-P fieldbus display should be used.

For FOUNDATION™ fieldbus systems, please see the datasheet for the equivalent BA684DF-F fieldbus display.

BA684DF-P

PROFIBUS PA

Fieldbus display

8 variables

General purpose

- ◆ **PROFIBUS PA protocol.**
- ◆ **Compatible with most system hosts.**
- ◆ **High contrast display with backlight.**
- ◆ **Four operator push buttons & six optional local alarm outputs.**
- ◆ **IP66 field mounting GRP enclosure.**
- ◆ **3 year guarantee**

www.beka.co.uk/ba684df-p



BEKA

associates

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e-mail sales@beka.co.uk www.beka.co.uk

SPECIFICATION

Display

Type	120 x 64 pixel liquid crystal
Size	86.5mm x 45mm
Backlight	Powered from fieldbus
Screens	
Standard format	1, 2, 3, 4 or 8 variables plus bargraph can include: units of measurement tag information

Controls

Front panel	Four push buttons scroll the indicator display between screens when the BA684DF-P is configured to display more variables than fit onto a single screen. Also used to configure optional local alarms and may be used to return operator inputs to the system host.
External switches	Control may be transferred to six external switches; front panel buttons may be inhibited or operated in parallel.
Switch cable	Length 5m max

Fieldbus communication

Voltage	9 to 32V
Current	25mA
Compliant with	IEC61158-2 31.25kbits/s Voltage Mode
Protocol	PROFIBUS PA
Function blocks	
PROFIBUS PA	8 x AO (Analogue Output) 6 x DI (Digital Input)

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 89/336/EEC
Immunity	BS EN 61326:1998 Operates normally with conducted 3Vrms interference between 0.15kHz and 80MHz, or radiated 10V/m interference between 80MHz and 1GHz.
Emissions	CISPR16-1/2 Class A

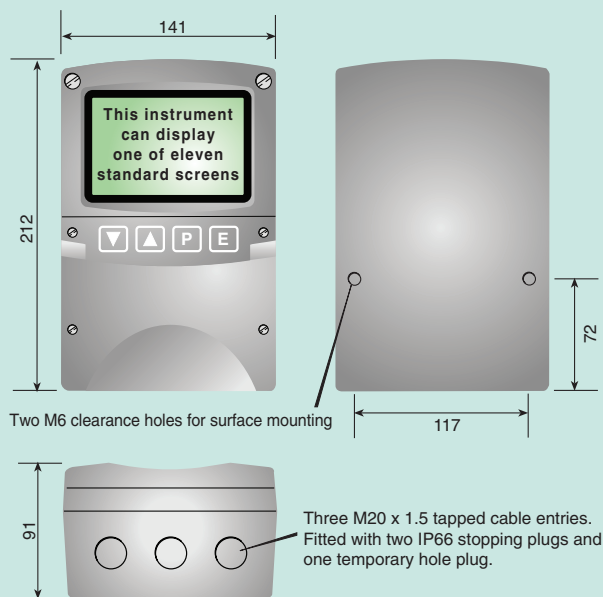
Mechanical

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

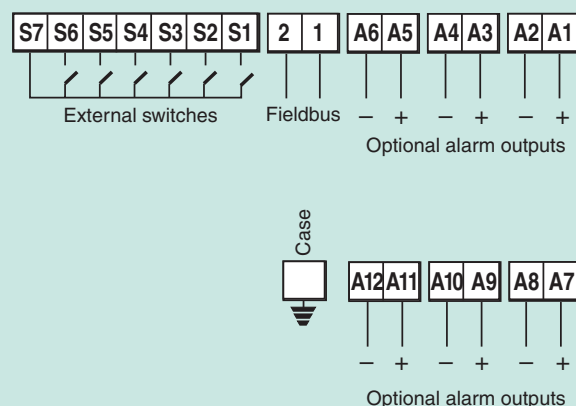
Accessories

Alarms	Six galvanically isolated outputs which may be linked to displayed variables. Each alarm is configurable from instrument push buttons as: combined high and low alarm high or low alarm Note: Alarms are not accessible from the fieldbus system host
Contacts	Isolated single pole solid state Ron less than 5Ω + 0.7V Roff greater than 1MΩ Vmax = 30V dc Imax = 200mA
Tag strip	Printed legend behind the display window
Tag plate	Engraved stainless steel plate attached to the side of the instrument.
Pipe mounting kit	BA392D or BA393
PROFIBUS PA interface guide	May be downloaded from www.beka.co.uk

DIMENSIONS (mm)

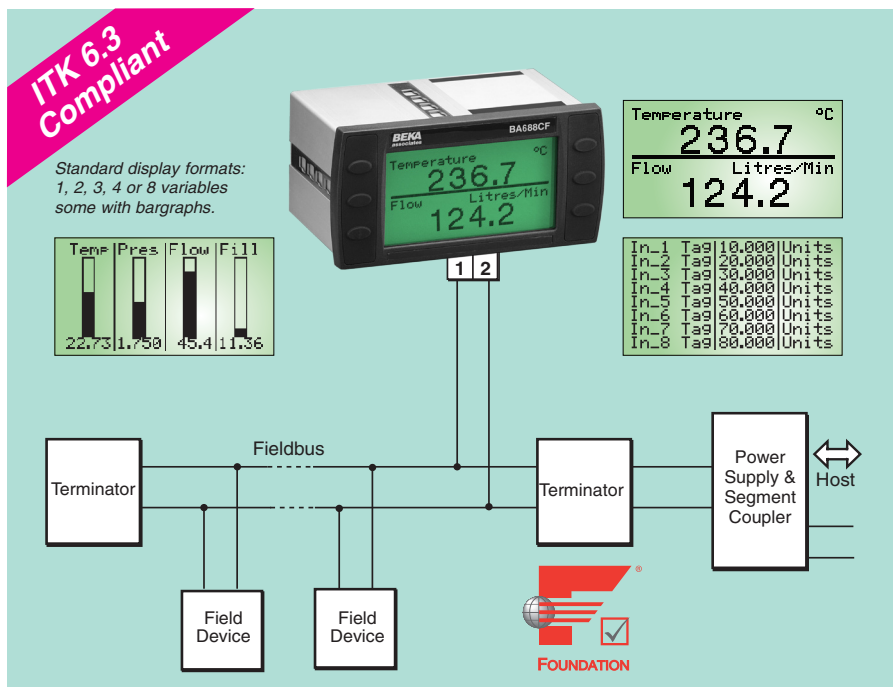


TERMINAL CONNECTIONS



HOW TO ORDER

Model number	Please specify BA684DF-P
Accessories	Please specify if required
Six alarms	Alarms
Tag strip	Tag strip legend
Tag plate	Tag plate legend
Pipe mounting kit	BA392D or BA393



The BA688CF-F Fieldbus Display is a general purpose instrument that can display up to eight fieldbus process variables. Eleven selectable standard screen formats contain one, two, three, four or eight variables, with units of measurement, tag descriptions and bargraphs on some screens.

Selectable function blocks allow the BA688CF-F fieldbus display to be used with all common system hosts. Configuration files may be downloaded from the Foundation fieldbus or the BEKA websites

Powered by the fieldbus the BA688CF-F only requires a 2-wire connection, no additional power supply is required. The high contrast 86 x 45mm liquid crystal display incorporates a green backlight that is also powered from the fieldbus enabling the display to be read in all lighting conditions from full sunlight to total darkness.

Simple commissioning results from the use of standard display formats. Apart from loading the BA688CF-F configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is required. Configuration of the BA688CF-F Fieldbus Display is performed via the fieldbus and the

instrument front panel push buttons; simple menus enable the required standard display format to be selected and the units of measurement and tag information for each variable to be entered.

Six optional local alarm outputs may be linked to any of the displayed variables. Each isolated single pole solid state output may be conditioned as a combined high and low alarm, or as just a high or low alarm. Each output can switch any low power load such as a sounder, lamp or solenoid valve. Alarm configuration and the alarm set point adjustment is performed via the BA688CF-F front panel push buttons, as the local alarms are not accessible from the fieldbus system host.

Comprehensive documentation includes FOUNDATION™ fieldbus Interface Guide.

For field mounting applications see the BA684DF-F datasheet. This instrument has a similar electrical specification but is housed in a robust IP66 GRP enclosure suitable for external mounting.

If flammable atmospheres are present, the intrinsically safe BA488CF-F fieldbus display should be used.

BA688CF-F

FOUNDATION™

fieldbus

Fieldbus display

8 variables

General purpose

◆ FOUNDATION™ fieldbus protocol, ITK 6.3 compliant.

◆ Compatible with most system hosts.

◆ High contrast display with backlight.

◆ Six optional local alarm outputs.

◆ IP66 front panel

◆ 3 year guarantee

www.beka.co.uk/ba688cf-f

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	120 x 64 pixel liquid crystal
Size	86.5mm x 45mm
Backlight	Powered from fieldbus
Screens	
Standard format	1, 2, 3, 4 or eight variables plus bargraph can include: units of measurement tag information

Controls

Front panel	Six push buttons scroll the indicator display between screens when the BA688CF-F is configured to display more variables than fit onto a single screen. Also used to configure optional local alarms.
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Fieldbus communication

Voltage	9 to 32V
Current	25mA
Compliant with Protocol	IEC61158-2 Clauses 11 and 22 FOUNDATION™ fieldbus, ITK 6.3 compliant
Function blocks	
FOUNDATION fieldbus™	1 x MAO (Multiple Analogue Output) or 2 x IS (Input Selector)
	Selectable on-site

Environmental

Operating temp	-20 to 60°C
Storage temp	-40 to 85°C
Humidity	To 95% @ 40°C
Enclosure	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU.

Mechanical

Terminals	Removable with screw clamp for 0.5 to 1.5mm ² cable.
Weight	0.7kg

Accessories

Alarms	Six galvanically isolated outputs which may be linked to displayed variables. Each alarm is configurable from instrument push buttons as: combined high and low alarm high or low alarm Note: Alarms are not accessible from the fieldbus system host
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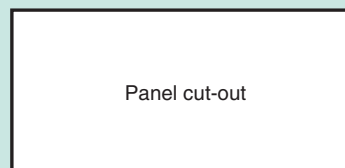
Contacts	Isolated single pole solid state switch.
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Ron less than 5Ω + 0.7V
Roff greater than 1MΩ
Vmax= 30V dc
Imax = 200mA

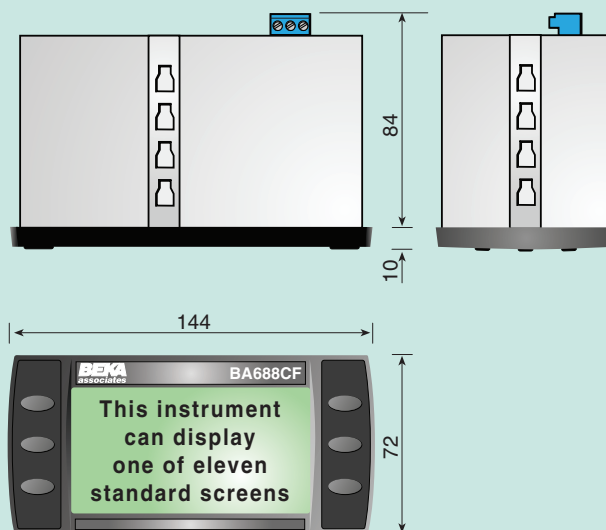
Tag number	Thermally printed strip on rear of instrument.
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FOUNDATION™ fieldbus interface guide.	May be downloaded from www.beka.co.uk
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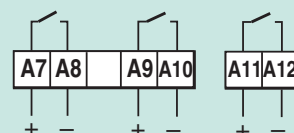
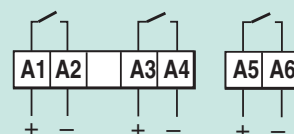
DIMENSIONS (mm)



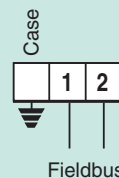
Recommended panel cut-out
To achieve an IP66 seal between the instrument and the panel 136.0 +0.5/-0.0 x 66.2 +0.5/-0.0
Four panel mounting clips must be used
DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0



TERMINAL CONNECTIONS



Optional local alarm outputs



HOW TO ORDER

Model number	Please specify BA688CF-F
Accessories	Please specify if required
Six alarms	Alarms
Tag strip	Legend