

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) 31 segment bargraph
Variables	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 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

Code	CL I, II, III: Div 1 GP A, B, C, D, E, F & G T4 @ 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 @ 70°C
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File 3027031

Canada cFM

File 3027031C

International IECEx

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

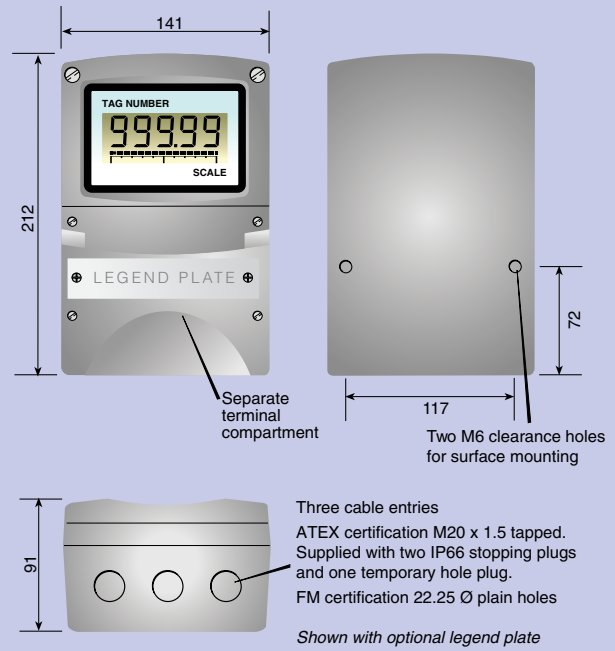
Environmental

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

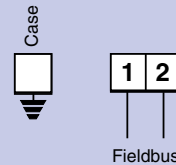
Mechanical

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS

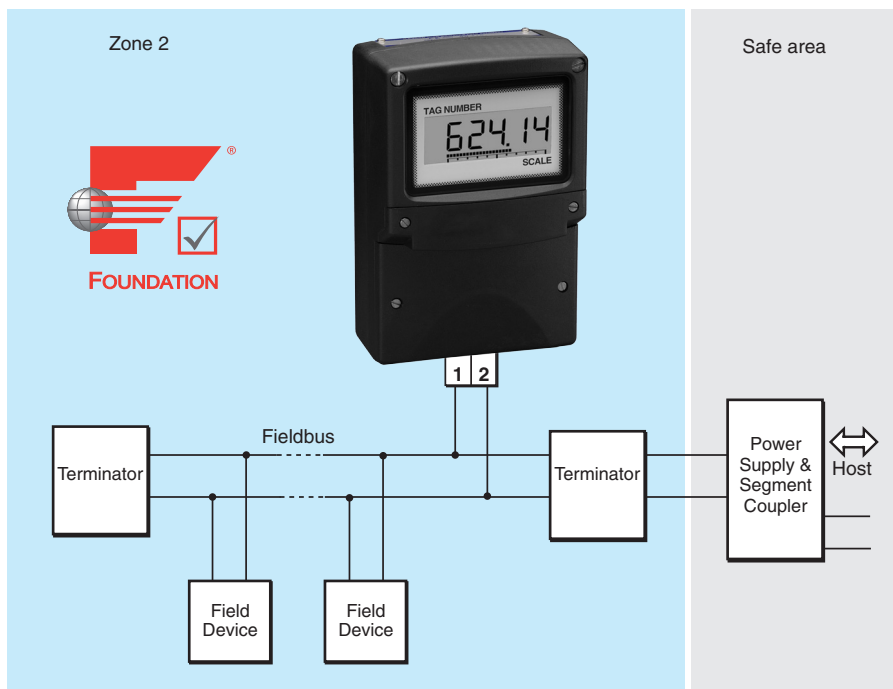


Accessories

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	BA414DF-F	All versions have IECEx certification. Note: Cable entries differ for FM & ATEX versions.
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 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 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 & FNICO compliant.
- ◆ IP66 field mounting GRP enclosure.
- ◆ 3 year guarantee

www.beka.co.uk/ba414ndf-f



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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 31.25kb/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	U _i = 36V I _i = 250mA P _i = 1.2W
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FNICO	U _i = 17.5V I _i = 380mA P _i = 5.32W
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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

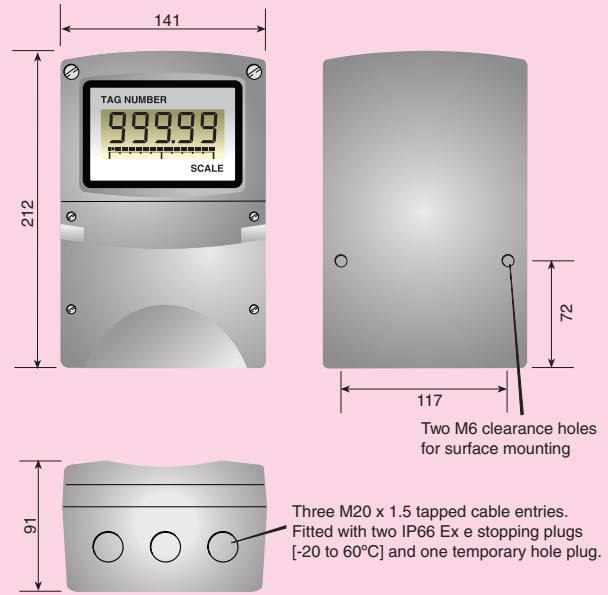
Environmental

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

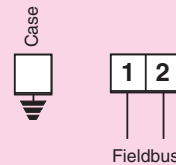
Mechanical

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS

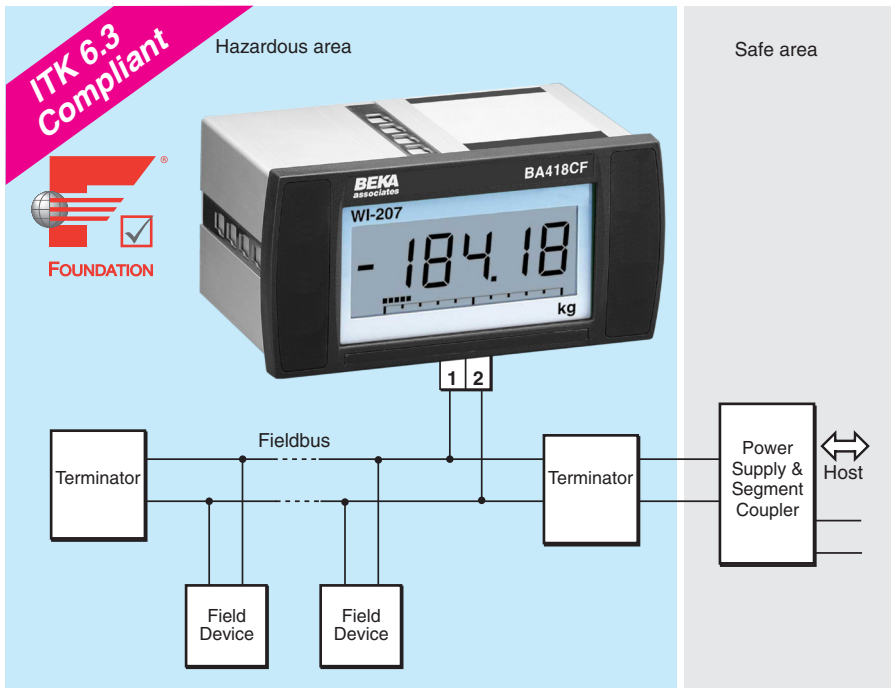


Accessories

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



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 (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

Cert. No. ITS06ATEX25314X

USA FM

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

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

File 3027031

Canada cFM

File 3027031C

International IECEx

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

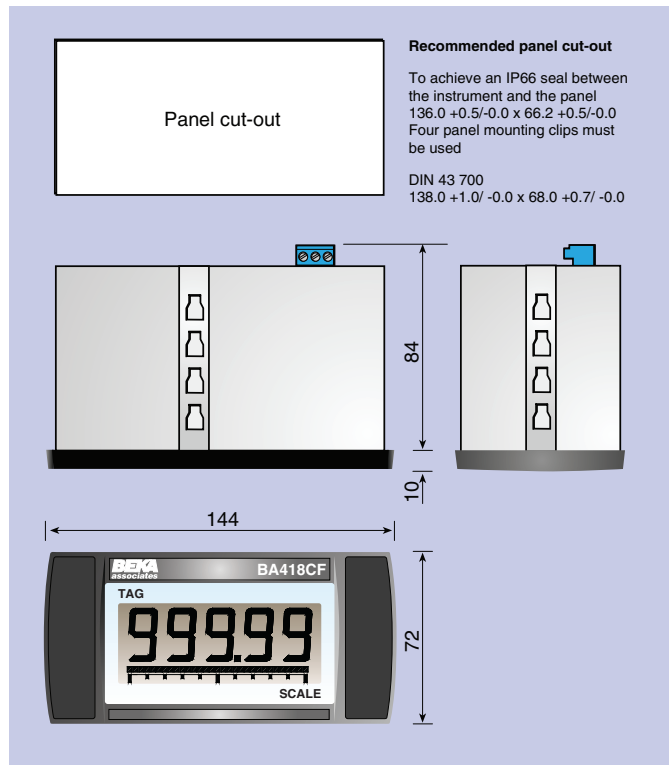
Environmental

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

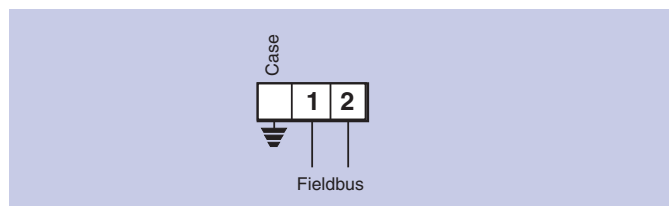
Mechanical

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

DIMENSIONS (mm)



TERMINAL CONNECTIONS

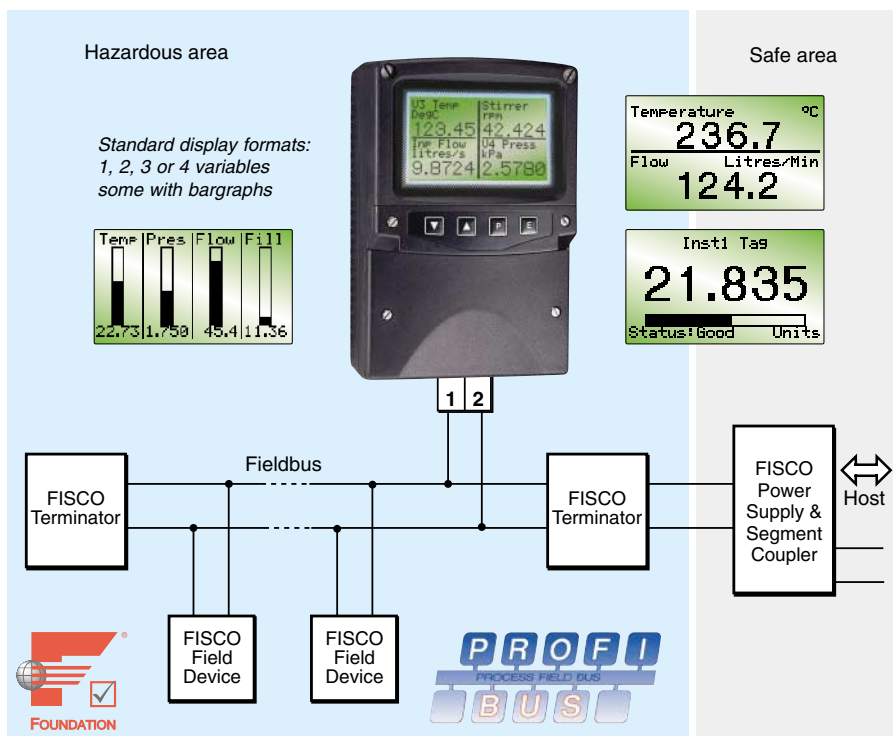


Accessories

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 BA484DF Fieldbus Display is an intrinsically safe instrument that can display up to eight fieldbus process variables. Nine selectable standard screen formats contain one, two, three or four variables, with units of measurement, tag descriptions and bargraphs on some screens. The use of standard screens simplifies commissioning, but if required dedicated screens tailored to an individual application can be constructed.

FOUNDATION fieldbus™ and Profibus PA versions of the BA484DF are available and have been registered by both organisations. The FOUNDATION fieldbus™ version now has selectable function blocks allowing use with most popular system hosts. Configuration files may be downloaded from the appropriate Fieldbus Foundation™ or Profibus sites, or from www.beka.co.uk.

Powered by the fieldbus the BA484DF 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.

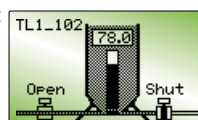
Simple commissioning results from the use of standard display formats. Apart from loading the BA484DF configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is required. Configuration of the BA484DF Fieldbus Display is performed via the fieldbus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

ATEX, FM and IECEx intrinsic safety certification allows the BA484DF 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 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 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, which permits them to switch any certified intrinsically safe load such as an intrinsically safe sounder, lamp or solenoid valve.

Custom display screens dedicated to a specific application can be created by writing to the transducer block parameters. Custom designed display screens can contain text in five different font sizes plus lines, boxes, bargraphs, simple graphics and fieldbus process variables. Free programming utilities to assist with screen development are available via the BEKA web site.



Typical custom display

The four push buttons on the front of the instrument may be used for returning operator acknowledgments or controls by reading a transducer block parameter. If larger industrial switches are required for these acknowledgements, up to six external push buttons may be connected to the BA484DF. 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 FOUNDATION fieldbus™ and Profibus Interface Guides and a Programming Guide that explains how to create custom display screens.

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

BA484DF

Fieldbus display 8 variables

*Intrinsically safe for use
in gas and dust
hazardous areas*

- ◆ FOUNDATION fieldbus™ & Profibus PA models
- ◆ 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
- ◆ Four operator push buttons & six optional alarm outputs
- ◆ IP66 field mounting GRP enclosure
- ◆ 3 year guarantee



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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 or 4 variables plus bargraph can include: units of measurement tag information
	Custom format
Characters	See Programming Guide ASCII character set, 5 font sizes each with 4 computer definable soft characters.
Hidden screen	May be written to at any time and displayed when required.

Controls

Front panel	Four push buttons which select the displayed screen. May be used for returning operator acknowledgements by reading transducer block parameters.
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 17.5V (limited by intrinsic safety parameters)
Current	25mA
Compliant with	IEC61158-2 Clauses 11 and 22
Protocol	FOUNDATION fieldbus™ or Profibus PA
Function blocks	FOUNDATION fieldbus™ 1 x MAO (Multiple Analogue Output) 2 x IS (Input Selector)] <i>Selectable</i> or] <i>on-site</i>
Profibus PA	8 x AO (Analogue Output)

Intrinsic safety

Europe ATEX

Standard Code	EN50020:2002 Group II Category 1G, EEx ia IIC T4 (Tamb = -40 to 60°C)] <i>Dust option,</i>] <i>see</i>] <i>How to order</i>
or	Group II Category 1GD, T125°C IP66 EEx ia IIC T4 (Tamb = -20 to 60°C)	
Cert. No.	ITS04ATEX22778	
Intrinsic safety parameters	Ui = 17.5V Ii = 380mA Pi = 5.32W] FISCO compliant	
Location	Gas Zone 0, 1 or 2: Dust Zone 20, 21 or 22	

USA FM

Standard Code	<i>Option, see How to order</i> 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

Standard Code	IEC60079-11:1999 Ex ia IIC T4 Ta = -40 to 60°C Ex ia IIC T4 DIP A21 TA 125°C IP66 Ta = -20 to 60°C] <i>Dust option,</i>] <i>see</i>] <i>How to order</i>
or	IECEx ITS 05.0006	
Cert. No		

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

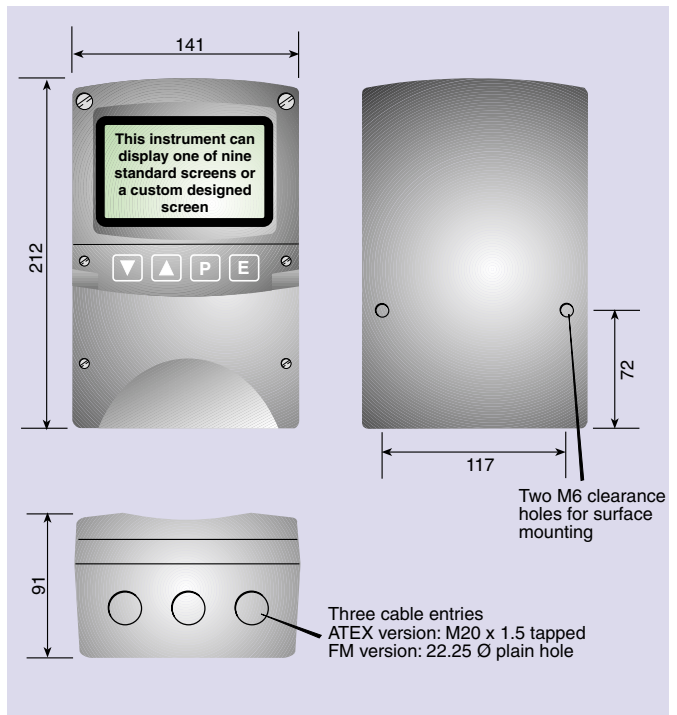
Mechanical

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

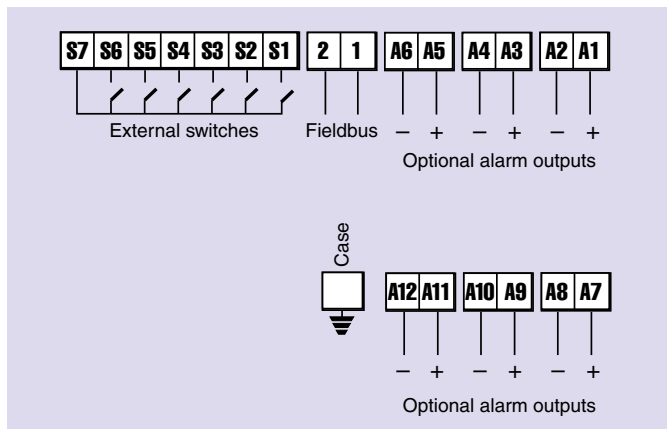
Accessories

Alarms	Six galvanically isolated outputs which may be linked to displayed variables. Configurable as:
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DIMENSIONS (mm)



TERMINAL CONNECTIONS



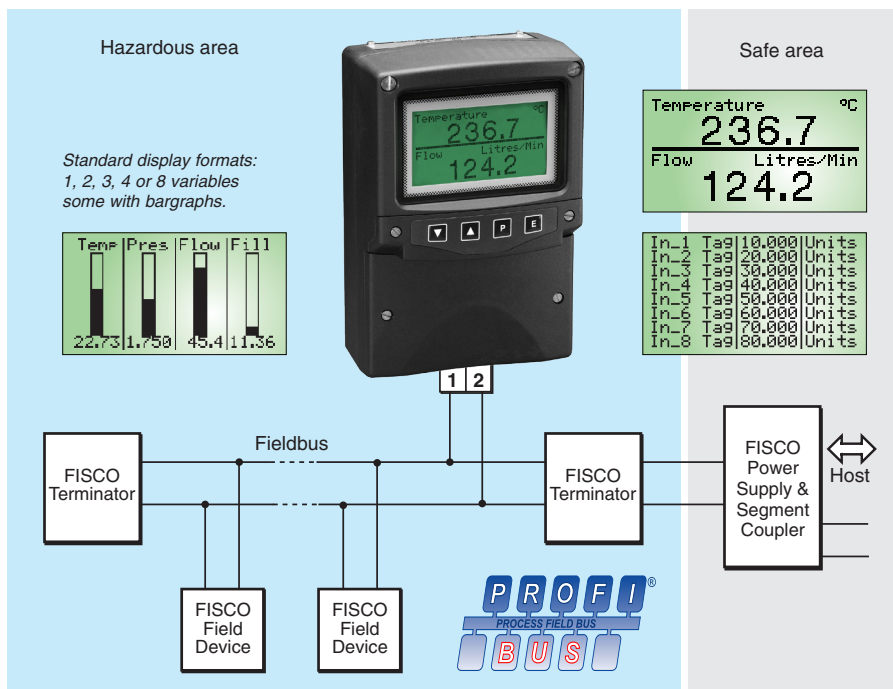
Contacts	combined high and low alarm high or low alarm Isolated single pole solid state switch certified as simple apparatus. Ron less than 5Ω + 0.7V Roff greater than 1MΩ
Intrinsic safety parameters	Ui = 28Vdc Ii = 200mA Pi = 0.84W
Tag strip	Printed legend behind the display window
Tag plate	Engraved stainless steel plate attached to the side of the instrument.
Pipe mounting kit	BA392D or BA393
Programming guide	May be downloaded from www.beka.co.uk
Fieldbus interface guides	May be downloaded from www.beka.co.uk

HOW TO ORDER

Model number	Please specify BA484DF
Type of fieldbus	FOUNDATION fieldbus™ or Profibus PA
Certification	ATEX gas ATEX gas & dust or FM & ATEX gas] <i>All models have IECEx certification.</i>] <i>Note: Cable entries differ for FM & ATEX models</i>

Accessories

Six alarms	Please specify if required 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

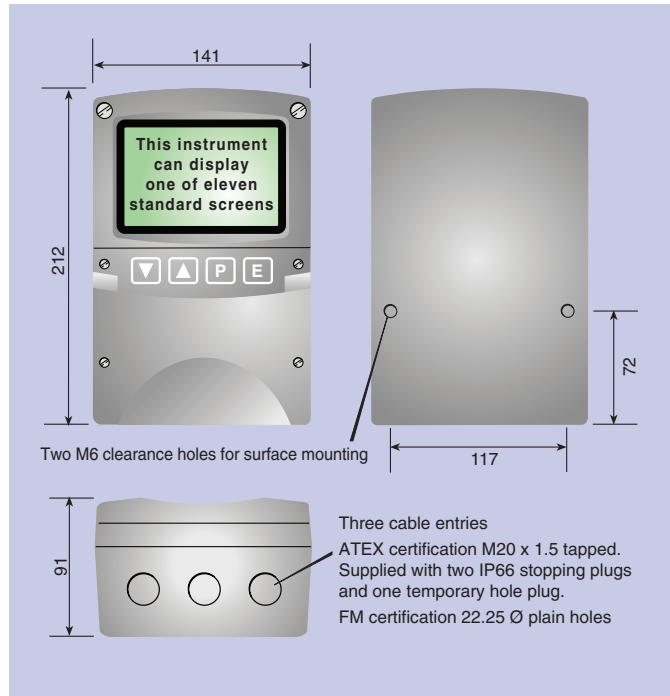
associates

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

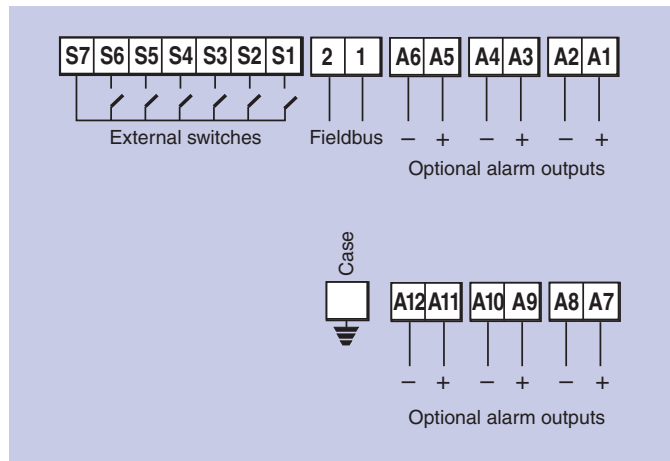
SPECIFICATION

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 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	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 border="0"> <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 Code	<i>Option, see How to order</i> 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. CISPR16-1/2 Class A				
Emissions					
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)



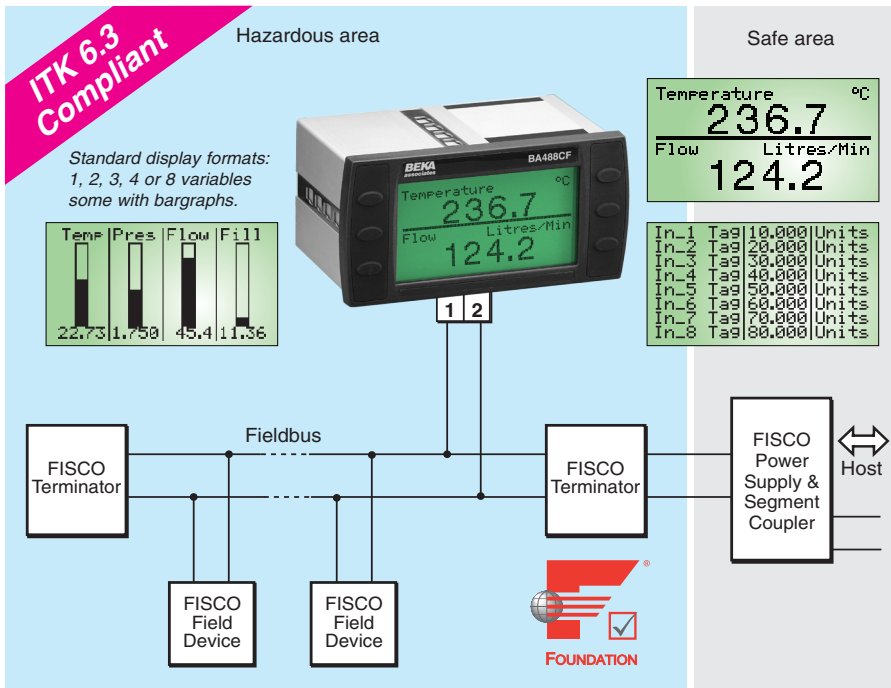
TERMINAL CONNECTIONS



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	Please specify BA484DF-P	<i>All models have IECEx certification.</i> Note: Cable entries differ for FM & ATEX models
Certification	ATEX gas ATEX gas & dust FM & ATEX gas INMETRO gas INMETRO gas & dust	
or		
or		
or		
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 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

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 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 Protocol	EC61158-2 31.25kbits/s Voltage Mode 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	$U_i = 17.5V$ $I_i = 380mA$ $P_i = 5.32W$	FISCO compliant
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Location	Zone 0, 1 or 2
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USA FM

Standard Code	3610 Entity CL I; Div 1; GP A, B, C & D T4 @ 60°C 3022546
Standard Code	3611 Nonincendive CL I; Div 2; GP A, B, C & D 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

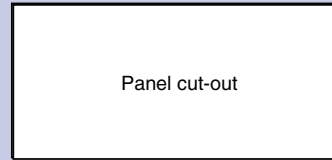
Mechanical

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

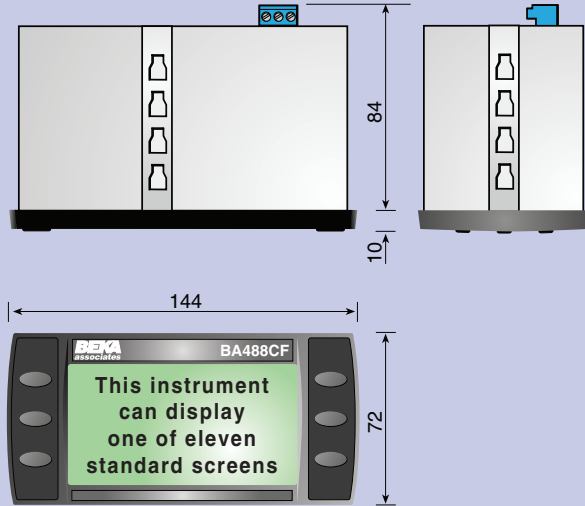
Accessories

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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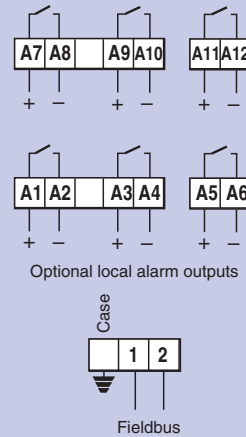
DIMENSIONS (mm)



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



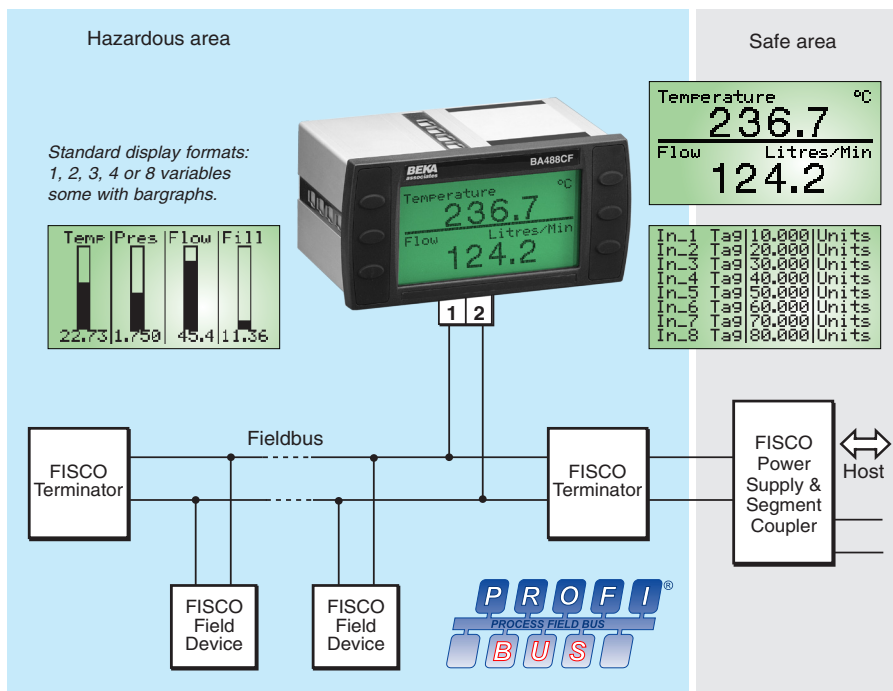
TERMINAL CONNECTIONS



Contacts	Isolated single pole solid state switch certified as simple apparatus. Ron less than 5Ω + 0.7V Roff greater than 1MΩ
Intrinsic safety parameters	U _i = 28Vdc I _i = 200mA P _i = 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

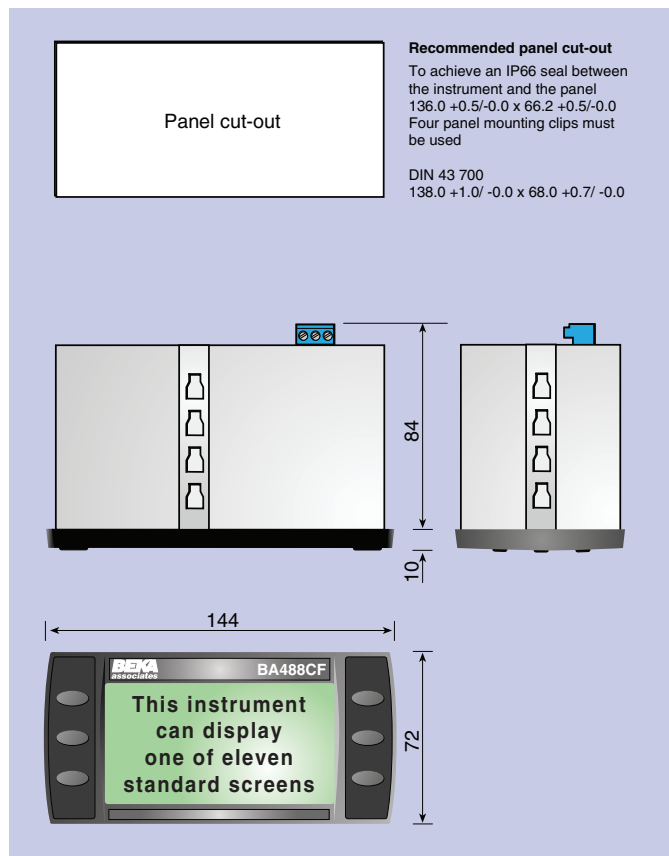
associates

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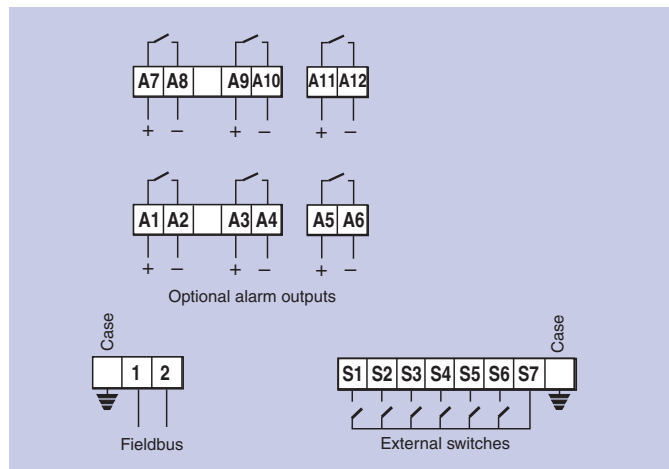
SPECIFICATION

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. 5m max length.				
External switches					
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					
PROFIBUS PA	8 x AO (Analogue Output) 6 x DI (Digitl 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	<table border="0"> <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	Zone 0, 1 or 2				
USA FM					
Standard	3610 Entity				
Code	CL I; Div 1; GP A, B, C & D T4 @ 60°C 3022546				
File No					
Standard	3611 Nonincendive				
Code	CL I; Div 2; GP A, B, C & D T4 @ 60°C 3022546				
File No					
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)



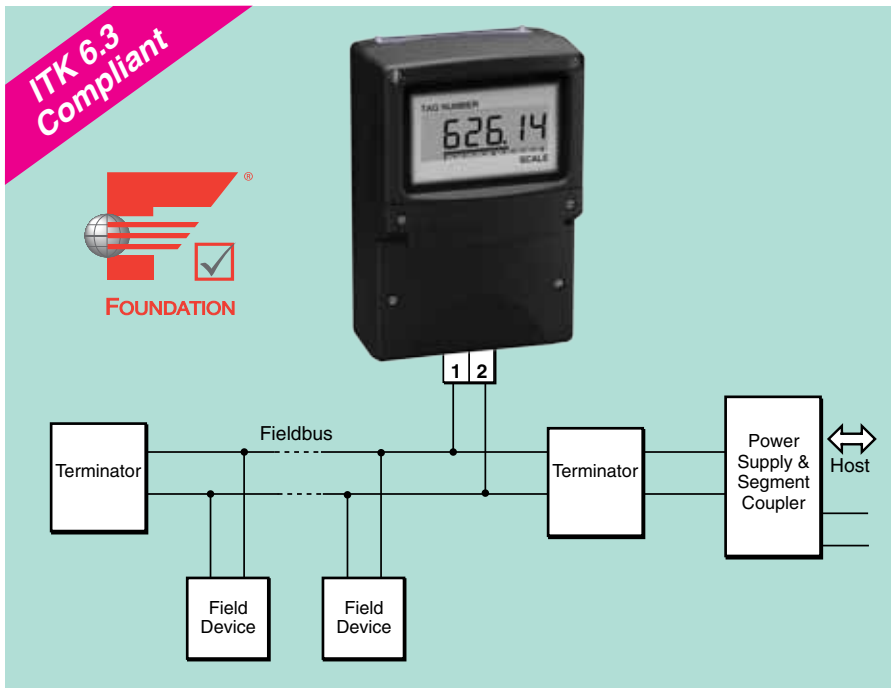
TERMINAL CONNECTIONS



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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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 digits plus sign, 20mm high (-99999 to 99999)
Variables	31 segment bargraph 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

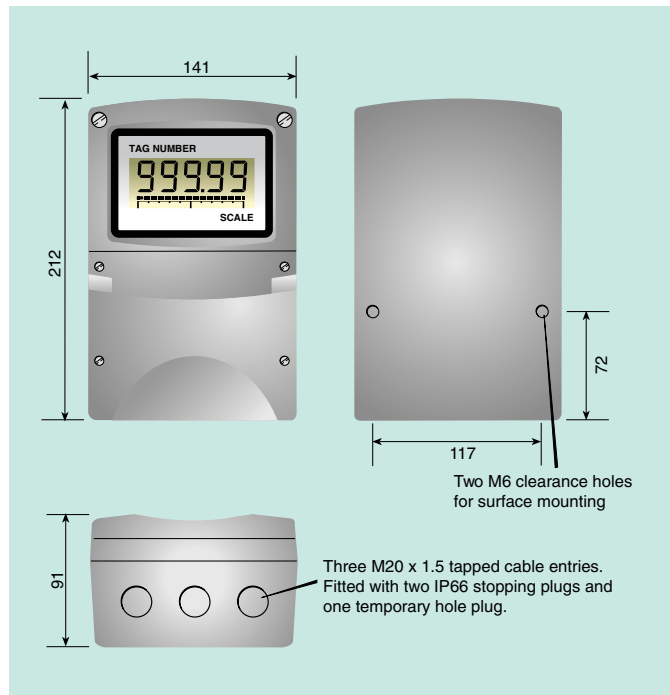
Mechanical

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

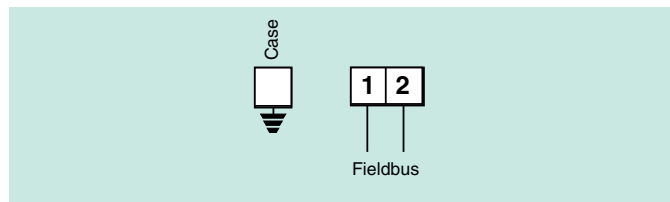
Accessories

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)

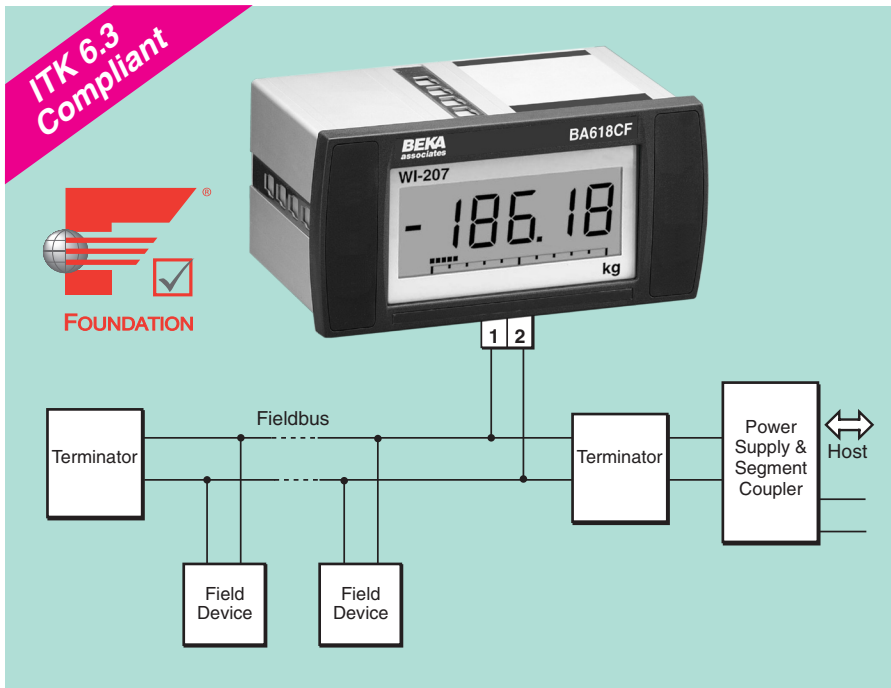


TERMINAL CONNECTIONS



HOW TO ORDER

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



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

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) 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

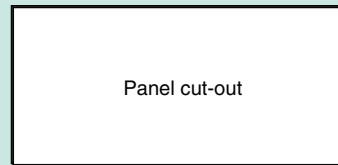
Mechanical

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

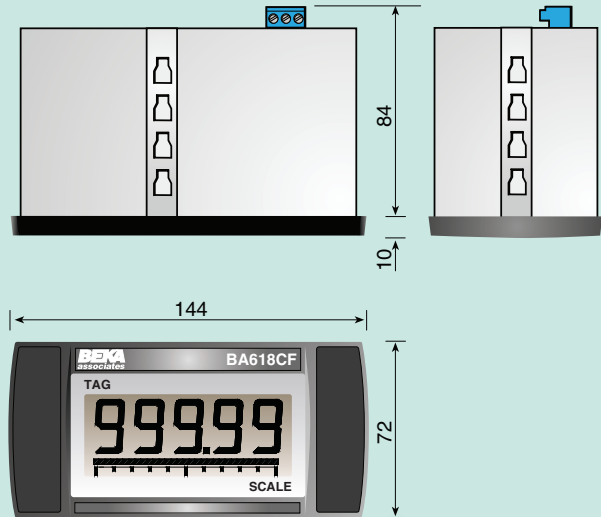
Accessories

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

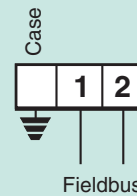
DIMENSIONS (mm)



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

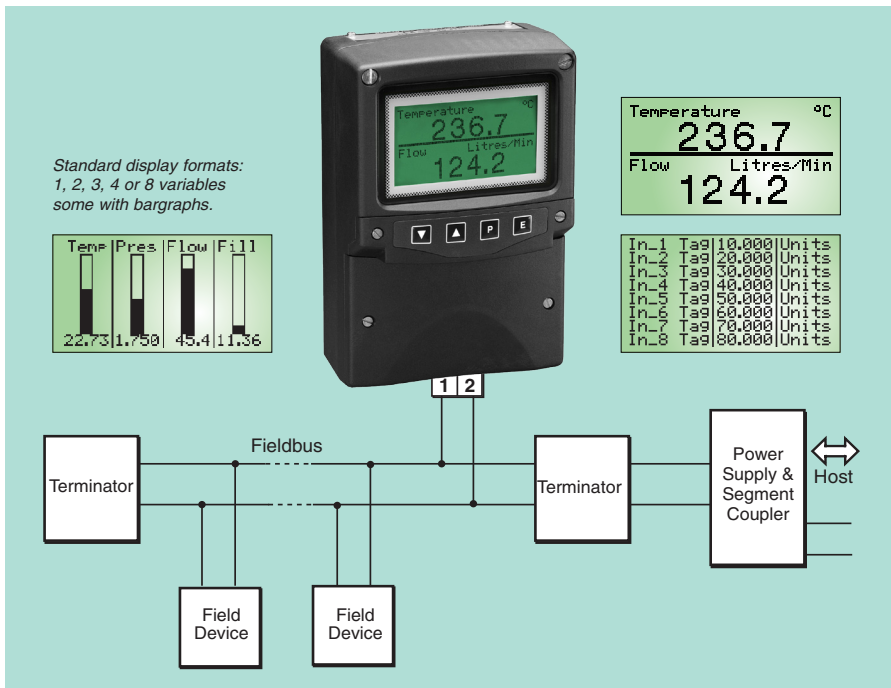


HOW TO ORDER

Model number **Please specify**
BA618CF-F

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

Tag strip Legend



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	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 Protocol	IEC61158-2 31.25kbits/s Voltage Mode PROFIBUS PA
Function blocks	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

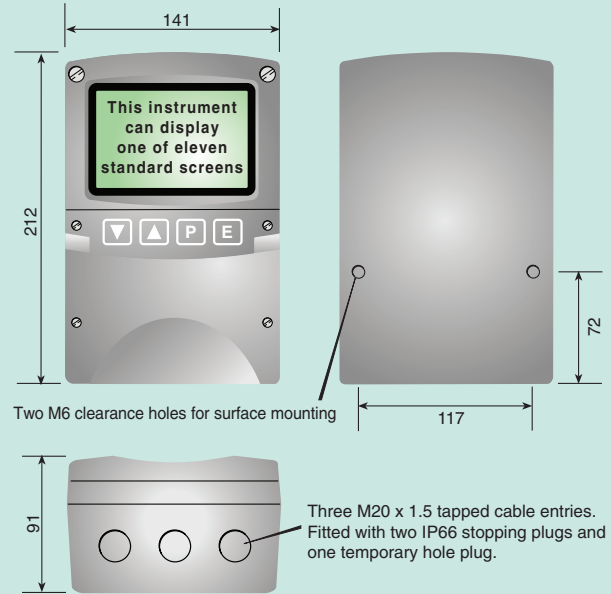
Mechanical

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

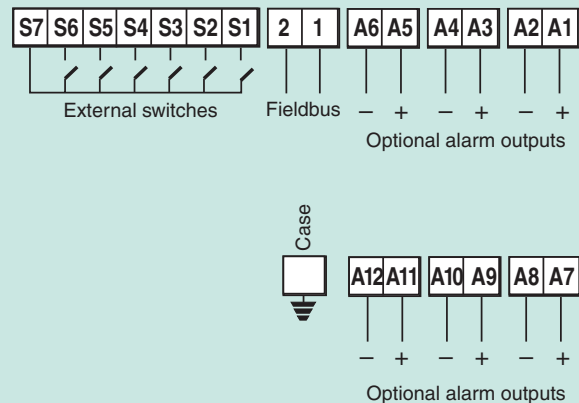
Accessories

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

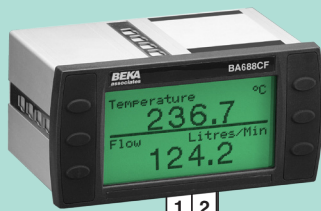
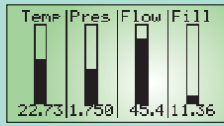


HOW TO ORDER

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

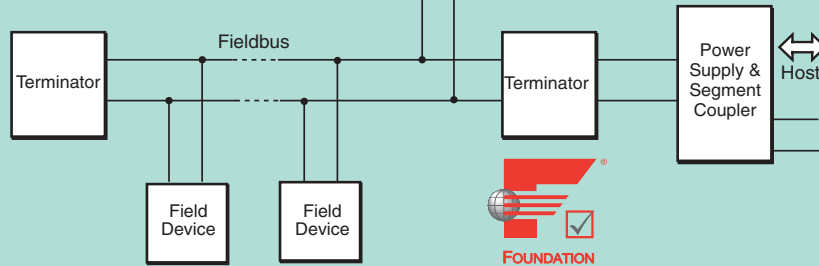
**ITK 6.3
Compliant**

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



Temperature	°C
236.7	
Flow	Litres/Min
124.2	

In	Tag	Units
In-1	Tag	10.000 Units
In-2	Tag	20.000 Units
In-3	Tag	30.000 Units
In-4	Tag	40.000 Units
In-5	Tag	50.000 Units
In-6	Tag	60.000 Units
In-7	Tag	70.000 Units
In-8	Tag	80.000 Units



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

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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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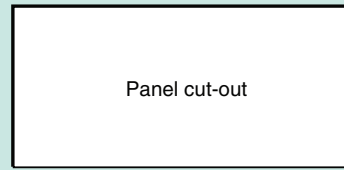
Contacts Isolated single pole solid state switch.

Ron	less than 5Ω + 0.7V
Roff	greater than 1MΩ
Vmax	= 30V dc
I _{max}	= 200mA

Tag number Thermally printed strip on rear of instrument.

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

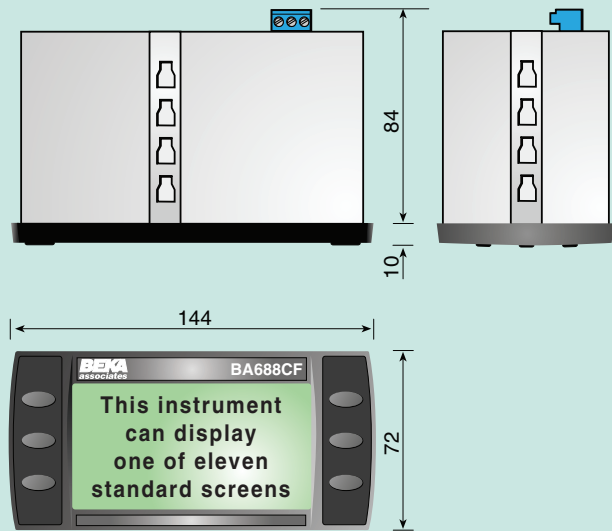
DIMENSIONS (mm)



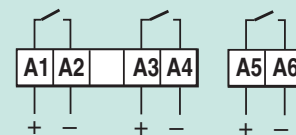
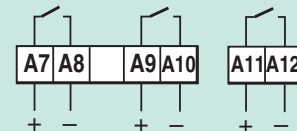
Recommended panel cut-out

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

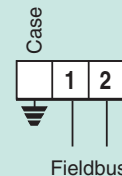
DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0



TERMINAL CONNECTIONS

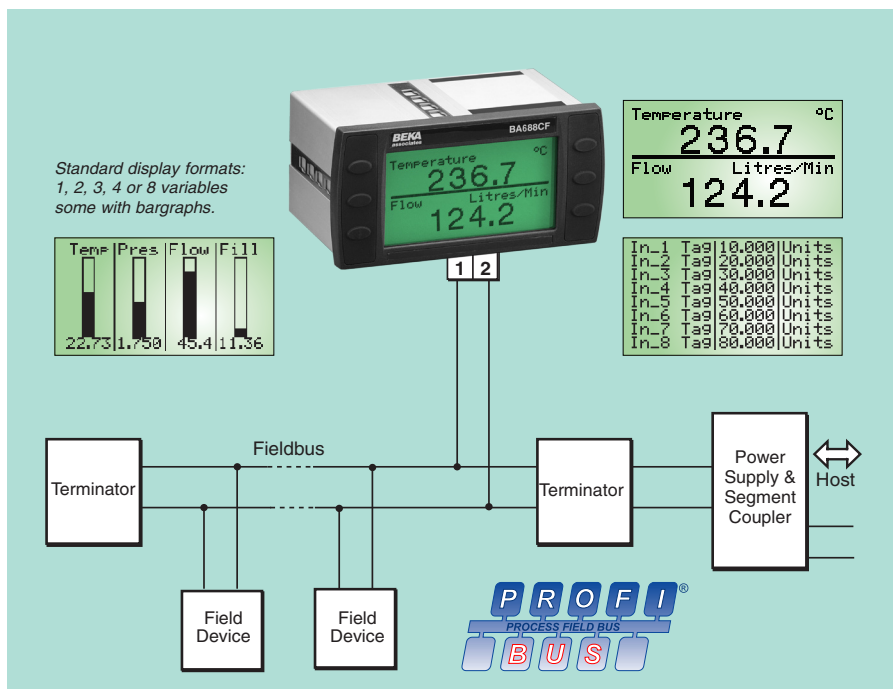


Optional local alarm outputs



HOW TO ORDER

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



The **BA688CF-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 BA688CF-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 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-P configuration files onto the system host and selecting the fieldbus variables to be displayed, no programming is required. Configuration of the BA688CF-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 BA688CF-P front panel push buttons, as the local alarms are not accessible from the fieldbus system host.

BA688CF-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 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 BA688CF-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 BA684DF-P 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-P fieldbus display should be used.

For FOUNDATION™ fieldbus systems, please see the datasheet for the equivalent BA688CF-F fieldbus display.

BA688CF-P

PROFIBUS PA

Fieldbus display

8 variables

General purpose

- ◆ PROFIBUS PA protocol.
- ◆ Compatible with most system hosts.
- ◆ High contrast display with backlight.
- ◆ Six operator push buttons & six optional local alarm outputs.
- ◆ IP66 front panel
- ◆ 3 year guarantee

www.beka.co.uk/ba688cf-p

BEKA

associates

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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	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 BA688CF-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	5m max length.

Fieldbus communication

Voltage	9 to 32V
Current	25mA
Compliant with Protocol	IEC61158-2 Clauses 11 and 22 PROFIBUS PA
Function blocks	8 x AO (Analogue Output) 6 x DI (digitl Input)

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.
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	CISPR 16-1/2 Class A

Mechanical

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

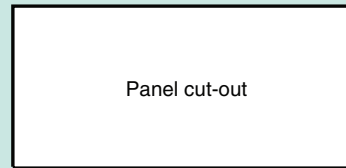
Accessories

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
Contacts	Isolated single pole solid state switch. 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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PROFIBUS PA interface guide.	May be downloaded from www.beka.co.uk
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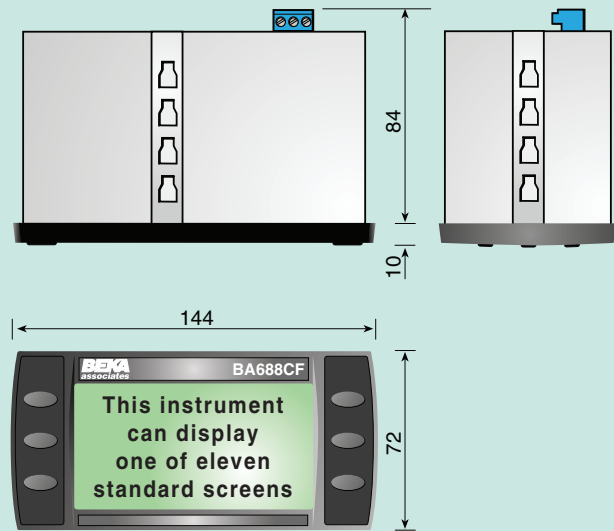
DIMENSIONS (mm)



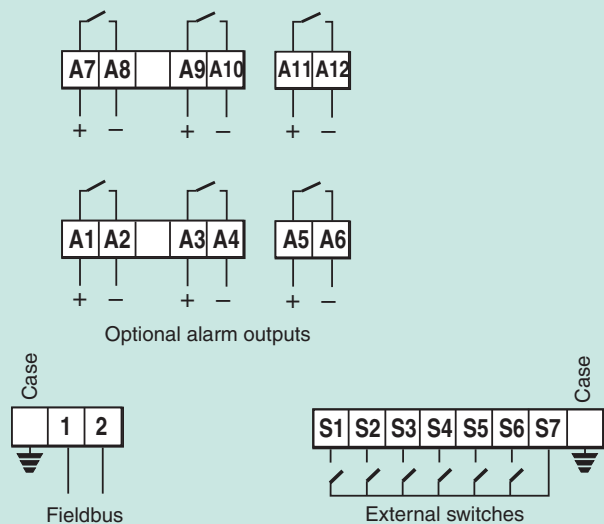
Recommended panel cut-out

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



HOW TO ORDER

Model number

Please specify
BA688CF-P

Accessories
Six alarms
Tag strip

Please specify if required
Alarms
Legend