

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.

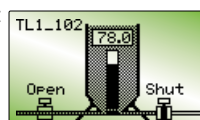
ATEX, FM and IECEx intrinsic safety certification allows the BA484DF to be installed in gas and dust hazardous areas. The two fieldbus terminals comply with the Fieldbus Intrinsic Safety Concept (FISCO) simplifying system design and documentation, although connection to non-FISCO intrinsically safe systems 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	EN50020:2002
Code	Group II Category 1G, EEx ia IIC T4 (Tamb = -40 to 60°C)
	or
	Group II Category 1GD, T125°C IP66 EEx ia IIC T4 (Tamb = -20 to 60°C)] <i>Dust option,</i> see] <i>How to order</i>
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	<i>Option, see How to order</i>
Code	3610 Entity 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 CL II, III: Div 2: GP F & G, T4 @ 60°C
File	3022546

International IECEx

Standard	IEC60079-11:1999
Code	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> see] <i>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 89/336/EEC
Immunity	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.
Emissions	CISPR16-1/2 Class A

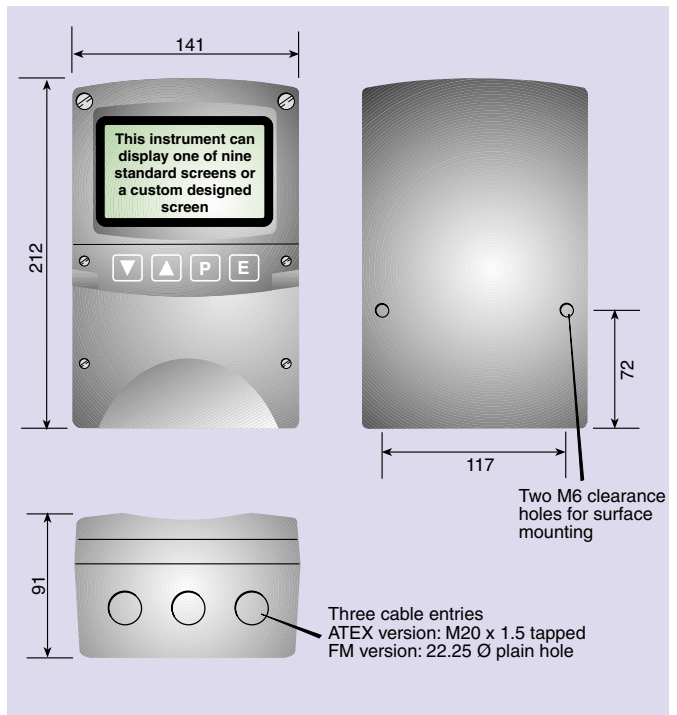
Mechanical

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

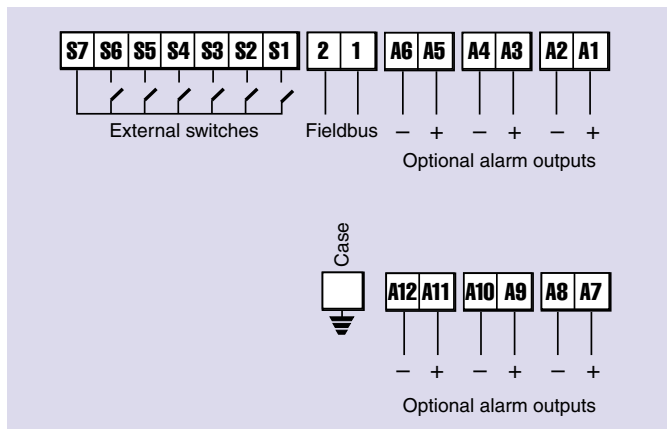
Accessories

Alarms	Six galvanically isolated outputs which may be linked to displayed variables. 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> or] <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