

**Features**

- Pluggable, mounts between device coupler and trunk cable
- Intrinsically safe (Ex ia), FISCO, Entity, DART Fieldbus, or general-purpose
- Optional diagnostics for wear
- Grounding of shield via gas-discharge tube
- For FOUNDATION Fieldbus H1 and PROFIBUS PA
- Indication via LED and Advanced Diagnostics

**Function**

This fieldbus surge protector is in acc. with IEC 61158-2 and mounts on the trunk connector of FieldConnex® device couplers protecting them. It directs power surges to ground via gas discharge tubes. It is certified intrinsically safe for circuits in hazardous areas up to Zone 0/Div. 1 and DART Fieldbus. The surge protector is installed in Zone 1 ... 2 or Div. 1 ... 2.

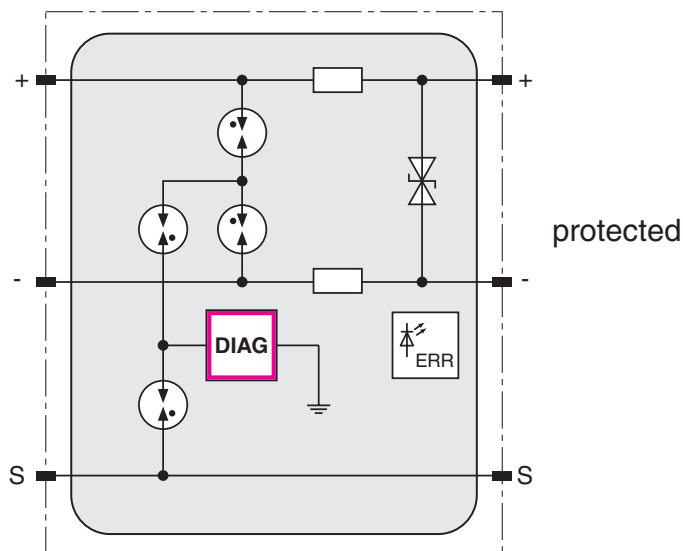
Self-diagnostics (option) continuously monitors wear caused by surges. The end of the useful life is indicated via LED and in the control room via FieldConnex® Advanced Diagnostics for exchange before protection is lost.

Installation on the trunk connector is without additional wiring even as retrofit.

**Assembly**



**Connection**



Release date 2012-11-29 10:34 Date of issue 2012-11-29 t157350\_eng.xml

<b>Fieldbus interface</b>		
Self current consumption		≤ 6 mA (for version TCP-LBF-IA1.36.IE.1) , ≤ 0 mA (for version TCP-LBF-IA1.36.IE.0)
<b>Indicators/operating means</b>		
LED ERR		green flashing: status OK , red flashing: maintenance required , (for version TCP-LBF-IA1.36.IE.1)
<b>Electrical specifications</b>		
Rated voltage		36 V
Rated current		600 mA
Voltage Protection Level	$U_p$	
Line/Line		≤ 50 V category B2 10/700μsec , 25 A ≤ 50 V category C1 8/20μsec , 300 A ≤ 55 V category C2 8/20μsec , 5 kA ≤ 46 V category C3 1kV/μsec , 10 A
Line/Earth		≤ 1060 V category B2 10/700μsec , 50 A per line ≤ 800 V category C1 8/20μsec , 300 A per line ≤ 1.5 kV category C2 8/20μsec , 5 kA per line ≤ 1.3 kV category C3 1kV/μsec , 50 A per line ≤ 1080 V category D1 10/350μsec , 500 A per line
Screen/Shield indirect grounded (via GDT)		≤ 500 V category B2 10/700μsec , 100 A ≤ 600 V category C1 8/20μsec , 500 A ≤ 720 V category C2 8/20μsec , 10 kA ≤ 550 V category C3 1kV/μsec , 100 A ≤ 570 V category D1 10/350μsec , 1 kA
Reaction time	$t_A$	
Line/Line		≤ 1 ns
Line/Earth		≤ 100 ns
Screen/Shield-Earth		≤ 100 ns
Overstressed fault mode		acc. IEC 61643-21 line inoperable mode 3
Series resistance in line		2 Ω +/- 5 %
Impulse durability		
Per line		5 kA category C2 8/20μsec
Screen/Shield indirect grounded (via GDT)		1 kA category D1 10/350μsec 10 kA category C2 8/20μsec
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
<b>Standard conformity</b>		
Electromagnetic compatibility		NAMUR NE 21
Protection degree		IEC 60529
Fieldbus standard		IEC 61158-2
Climatic conditions		IEC 60721
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Surge protection		IEC 61643-21
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 70 °C (-40 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		≤ 95 % non-condensing
Shock resistance		15 g 11 ms
Vibration resistance		1 g , 10 ... 150 Hz
Corrosion resistance		acc. to ISA-S71.04-1985, severity level G3
<b>Mechanical specifications</b>		
Connection type		screw terminals
Core cross-section		flexible wire 2.5 mm <sup>2</sup> solid wire ≤ 4 mm <sup>2</sup>
Housing material		Polyamide PA 6.6
Protection degree		IP20
Mass		pending
Grounding		M4 screw and external grounding rail
<b>Data for application in connection with Ex-areas</b>		
EC-Type Examination Certificate		SIRA 12 ATEX 2128X
Group, category, type of protection, temperature class		Ⓔ II 1G Ex ia IIC T4
Voltage	$U_i$	24 V
Current	$I_i$	500 mA
Internal capacitance	$C_i$	2 nF

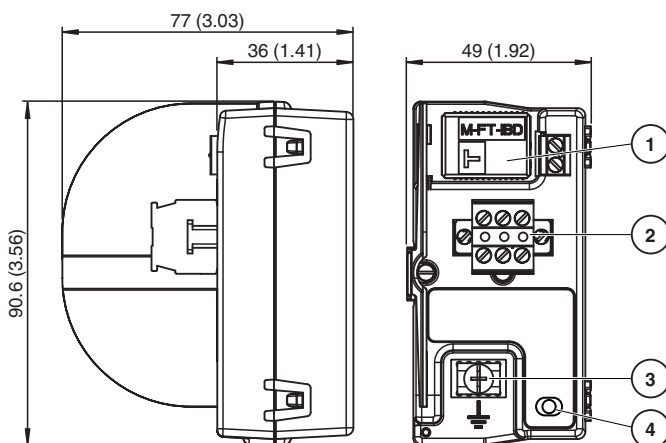
Release date 2012-11-29 10:34 Date of issue 2012-11-29 t157350\_eng.xml

Internal inductance	$L_i$	0.1 $\mu$ H
Statement of conformity		SIRA 12 ATEX 4176X
Group, category, type of protection, temperature class		$\text{Ex}$ II 3G Ex nAc IIC T4 , $\text{Ex}$ II 3G Ex ic IIC T4
Voltage	$U_i$	33 V
Current	$I_i$	600 mA
Internal capacitance	$C_i$	2 nF
Directive conformity		
Directive 94/9/EC		EN 60079-0:2012 , EN 60079-11:2012 , EN 60079-15:2010 , EN 60079-26:2007
Supplementary information		FISCO field device
<b>International approvals</b>		
CSA approval		pending
Control drawing		pending
IECEX approval		IECEX SIR 12.0051X
Approved for		Ex ia IIC T4
<b>General information</b>		
Supplementary information		Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

## Versions

Type	Description
TCP-LBF-IA1.36.IE.0	Fieldbus Surge Protector without diagnosis
TCP-LBF-IA1.36.IE.1	Fieldbus Surge Protector with diagnosis

## Dimensions



Dimensions in mm (in)

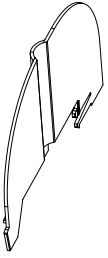
- 1 Terminator M-FT\*
- 2 T-connector T-CON.3
- 3 Grounding terminal
- 4 LED red (only type TCP-LBF-IA1.36.IE.1)

## Scope of delivery

- Fieldbus Surge Protector TCP-LBF-IA1.36.IE\*
- Terminator M-FT\* and T-connector T-CON.3 not included. Terminator and T-connector can be applied from installed fieldbus coupler.

Release date 2012-11-29 10:34 Date of issue 2012-11-29 t157350\_eng.xml

## Accessories



Separation wall ACC-LBF-SW.3  
to be ordered separately for Ex ic applications