

FB-2SP/E - Device coupler

2316052

<https://www.phoenixcontact.com/us/products/2316052>

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Device coupler for Foundation Fieldbus and PROFIBUS PA with terminal connections for two spurs connected to fieldbus end devices

Product description

The FB-2SP/E has terminal blocks for two spur connections to each device coupler. The device coupler provides short-circuit protection to the fieldbus trunk. Voltage and communication are routed via the TBUS connection system to multiple installed device couplers.

Commercial data

Item number	2316052
Packing unit	1 pc
Sales key	DN11
Product key	DNC144
Catalog page	Page 455 (C-6-2019)
GTIN	4055626000916
Weight per piece (including packing)	109.4 g
Weight per piece (excluding packing)	109.4 g
Customs tariff number	85389099
Country of origin	US

Technical data

Notes

Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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Product properties

Product type	Device coupler
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Electrical properties

Supply

Supply voltage range	10.5 V DC ... 32 V DC (via FB-ET/E)
Max. current consumption	3.5 mA (No-load)

Connection data

Supply

Conductor cross section, flexible	2.50 mm ² ... 0.20 mm ²
Conductor cross section, rigid	2.50 mm ² ... 0.20 mm ²
Conductor cross section, flexible [AWG]	24 ... 12
Conductor cross section AWG	24 ... 12

Ex data

Safety data

Inductance L_i	0 μ H
Capacitance C_i	0 nF
Max. output voltage U_o	U_i
Max. output current I_o	50 mA (per spur)
Max. output power P_o	$U_o \times I_o$
IIC: Max. external inductivity L_o / Max. external capacitance C_o	/ 60 nF 250 μ H

Interfaces

Signal	PROFIBUS FOUNDATION Fieldbus
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Data: Foundation Fieldbus and PROFIBUS PA Segment

Connection method	Pluggable COMBICON screw connection for each spur
No. of channels	2
Tightening torque	0.5 Nm ... 0.6 Nm
Termination resistor	via FB-ET/E
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²

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Conductor cross section, rigid max.	2.5 mm ²
Conductor cross section, rigid min.	0.2 mm ²
Conductor cross section AWG max.	12
Conductor cross section AWG min.	24
Output nominal voltage	≤ 32 V (each spur)
Maximum output current	45 mA (per spur)

Dimensions

Width	17.5 mm
Height	89.7 mm
Depth	70.4 mm

Material specifications

Color	green
Housing material	PA 6.6-FR

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C (depending on set rated current)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	< 95 % (non-condensing)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Shock	15g, 11 ms
Vibration (operation)	1g, 10 Hz ... 150 Hz

Approvals

Conformity/Approvals

Fieldbus Foundation	FF-846
EN	EN 61326, EN 60068-2-27, EN 60068-2-6, EN 60079-0, EN 60079-11, EN 60079-15
NE	NAMUR NE 21

Ex data

ATEX	Sira 14ATEX4018X; Ⓢ II 3(3)G Ex nA [ic] IIC T4 Gc; Ex nA [ic] IIC T4 Gc, FISCO ic spurs
IECEX	IECEX SIR 14.0011X; Ex nA [ic] IIC T4 Gc; Ex nA [ic] IIC T4 Gc, FISCO ic spurs

CSA, USA/Canada	<p>Class I, Div. 2, Groups A,B,C,D Ex nL IIC T4 FNICO, Ex ic IIC T4 FISCO ic Ex nA [nL] IIC T4, Ex nA [ic] IIC T4 Ex nA [nL] IIC T4 FNICO spurs, Ex nA [ic] IIC T4 FISCO ic spurs Class I, Zone 2 AEx nL IIC T4 FNICO, AEx ic IIC T4 FISCO ic AEx nA [nL] IIC T4, AEx nA [ic] IIC T4 AEx nA [nL] IIC T4 FNICO spurs, AEx nA [ic] IIC T4 FISCO ic spurs</p>
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Standards and regulations

Standards

Standards/regulations	IEC 60529, IEC 61158-2
	NE21
	EN 61326, EN 60068-2-27, EN 60068-2-6, EN 60079-0, EN 60079-11, EN 60079-15
	FF-846

Standards/regulations

Standards/regulations	Ring wave noise immunity in acc. with IEC 61000-4-12
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Standards/regulations

Standards/regulations	Dry heat in acc. with IEC 61131-2
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Standards/regulations

Standards/regulations	Damp heat in acc. with IEC 61131-2
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Standards/regulations

Standards/regulations	Shock and vibration in acc. with EN 61131-2 and EN 50178
Standards/regulations	IEC 61158-2

Mounting

Mounting type	DIN rail mounting
Mounting position	On horizontal DIN rail NS 35 in acc. with EN 60715

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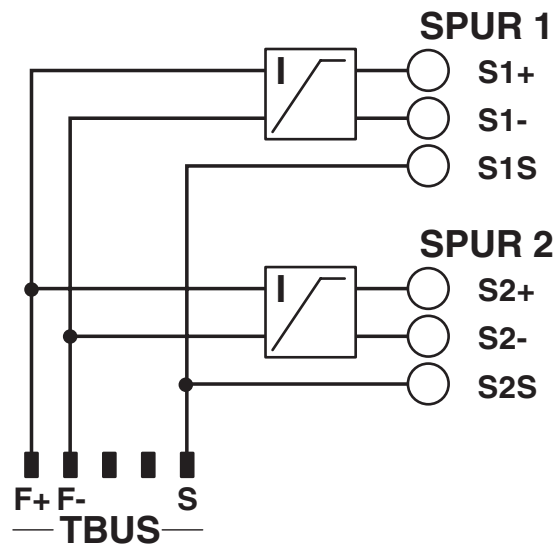
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Drawings

Circuit diagram



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Approvals

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IECEx

Approval ID: IECEx SIR 14.0011X



CSAus

Approval ID: 70009852



ATEX

Approval ID: SIRA 14 ATEX 4018 X

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Classifications

ECLASS

ECLASS-11.0	27242610
ECLASS-12.0	27242610

ETIM

ETIM 9.0	EC001600
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	724f47d3-7afe-4999-b8ff-fb5a9ec1cbc1

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Accessories

PT 2X2-FF-ST - Surge protection plug

2800755

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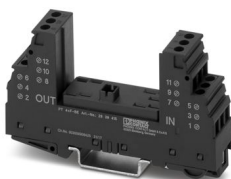


PLUGTRAB, plug-in surge protection for Foundation Fieldbus

PT 4+F-BE - Surge protection base-element

2839415

<https://www.phoenixcontact.com/us/products/2839415>



Base element for protective plug PT with protective circuit for a 4-wire floating signal circuit, gas-filled surge arrester between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS35/15, housing width: 17.5 mm

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FB-15-SS - Junction box

2316190

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Stainless steel field junction box with 15 ports for use in hazardous locations. Includes FB-ET trunk module, Plugtrab base with option for surge protection plug, and DIN rail space for up to 12 device couplers.

FB-9-SS - Junction box

2316213

<https://www.phoenixcontact.com/us/products/2316213>



Stainless steel field junction box with 9 ports for use in hazardous locations. Includes FB-ET trunk module, Plugtrab base with option for surge protection plug, and DIN rail space for up to 6 device couplers.

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FB-PS-PLUG-24DC/28DC/0.5/EX - Power module

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Power supply plug for fieldbus system in hazardous locations. Provides 500 mA @ 28 V DC to couplers along the trunk.

FB-PS-BASE/EX - Power distributor

2316145

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Base for fieldbus power supply plugs. Provides redundancy when 2 plugs are installed. Redundancy is maintained across multiple bases via internal power buses. Additional internal bus provides remote indication.

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