

FB-12SP - Device coupler



2316310

<https://www.phoenixcontact.com/in/products/2316310>

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Device coupler for Foundation Fieldbus and PROFIBUS PA with terminal connections for 12 spurs connected to fieldbus end devices.



Your advantages

- Provides current limiting short-circuit protection per spur
- Connect up to 12 Foundation Fieldbus or PROFIBUS PA field devices
- Terminator preinstalled
- Single-sided plug configuration eliminates cable bend radius issues
- Ex nA [nL, Ex nA [ic] or FISCO ic spur connections

Commercial Data

Item number	2316310
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DNC
Product Key	DNC144
Catalog Page	Page 456 (C-6-2019)
GTIN	4046356883597
Weight per Piece (including packing)	502.4 g
Weight per Piece (excluding packing)	502.4 g
Customs tariff number	85369095
Country of origin	US

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Technical Data

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Product properties

Product type	Device coupler
MTTF	723 Years (25 degrees C)

Electrical properties

Supply

Supply voltage range	10.5 V DC ... 32 V DC (input on trunk line side)
Typical current consumption	6.5 mA

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

Input voltage U_i	32 V (IIB (C/D))
	24 V (IIC (A/B))
	17.5 V (FISCO)
Inductance L_i	4 μ H
Capacitance C_i	0 μ F
Max. output voltage U_o	U_{in} (spur)
Max. output current I_o	56 mA (spur)
Max. output power P_o	1.792 W
Current consumption	6.5 mA (Maximum, no load)
	0.68 A (maximum trunk current)
IIC/IIB (spur): Max. external inductivity L_o / Max. external capacitance C_o	/ 80 nF
	0.26 mH

Interfaces

Signal	FOUNDATION Fieldbus
	PROFIBUS

Data: Foundation Fieldbus and PROFIBUS PA Segment

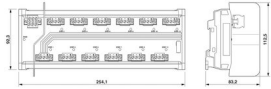
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Connection method	Pluggable COMBICON screw connection for each spur
No. of channels	12
Termination resistor	100 Ω , external removable plug included 100 Ω (external removable plug)
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
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)
Output current	38 mA

Dimensions

Dimensional drawing	
Width	254.1 mm
Height	112.5 mm
Depth	83.5 mm

Material specifications

Flammability rating according to UL 94	V0
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-50 °C ... 90 °C
Ambient temperature (storage/transport)	-50 °C ... 90 °C
Altitude	2000 m
Max. permissible relative humidity (operation)	< 95 % (non-condensing)
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	non-condensing
Shock	30g, 11 ms
Vibration (operation)	5g, 10 Hz ... 150 Hz

Approval data

ATEX

Identification	<input type="checkbox"/> II 3(3)G Ex nA [ic] IIC T4 Gc, Entity/FISCO ic spurs Ex nA [nL] IIC T4 Gc Ex ic IIC T4 Gc, FISCO ic
Certificate	Sira 13ATEX4247X

IECEX

Identification	Ex nA [ic] IIC T4 Gc, Entity/FISCO ic spurs
	Ex nA [nL] IIC T4 Gc
	Ex ic IIC T4 Gc, FISCO ic
Certificate	IECEX SIR 13.0089X

CSA, USA/Canada

Identification	Class I, Div. 2, Groups A, B, C, D
	Ex nA [nL] IIC T4 Gc
	Class I, Zone 2, AEx nA [nC] IIC T4 Gc

UL, USA

Identification	Class I, Zone 2
	AEx nA [ic] IIC T4, Entity/FISCO spurs
	Ex nA [ic] IIC T4 Gc
	Class I, Div. 2, Groups A, B, C, D T4

UKCA Ex (UKEX)

Identification	<input type="checkbox"/> II 3(3)G Ex nA [ic] IIC T4 Gc, Entity/FISCO ic spurs
	Ex nA [nL] IIC T4 Gc
	Ex ic IIC T4 Gc, FISCO ic
Certificate	PxCAI22UKEx2316307X

CCC

Identification	Ex nA [ic] IIC T4 Gc
	Ex ic IIC T4 Gc

Standards and regulations

Standards

Standards/regulations	EN 60079-0:2011; EN 60079-11:2012; EN 60079-15:2005; EN 60079-15:2010
	IEC 60079-0:2011; IEC 60079-11:2011; IEC 60079-15:2005; IEC 60079-15:2010

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

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Mounting

Mounting position

On horizontal and vertical DIN rail NS 35 in acc. with EN 60715

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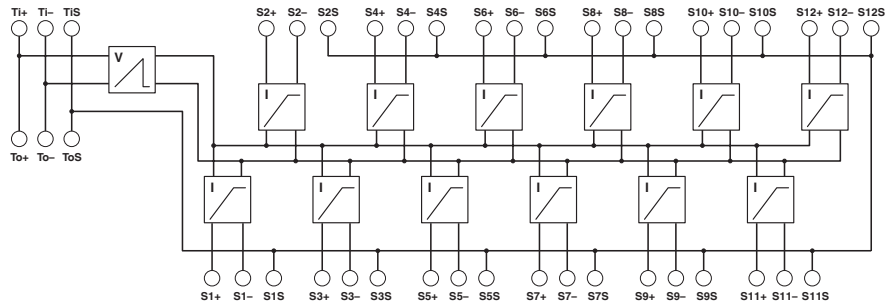


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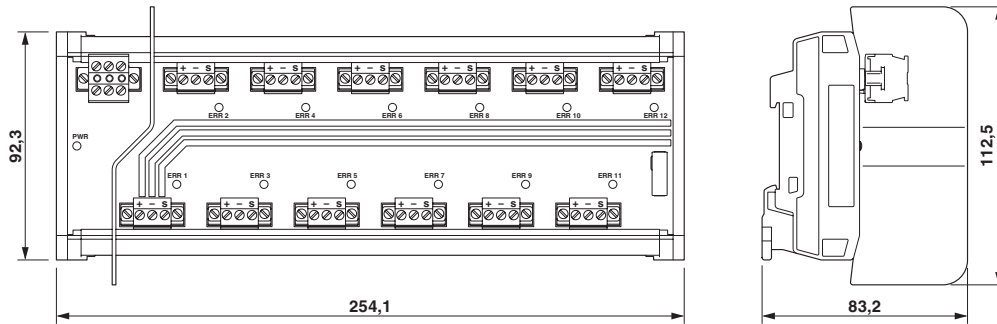
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Drawings

Circuit diagram



Dimensional drawing



FB-12SP dimensions


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Approvals


 **UL Listed**
Approval ID: FILE E 330267


 **cUL Listed**
Approval ID: FILE E 330267

 **CSA**
Approval ID: 2673619

 **cUL Listed**
Approval ID: FILE E 199827

 **UL Listed**
Approval ID: FILE E 199827

 **CSAus**
Approval ID: 2673619

 **CCC**
Approval ID: 2022122310115623

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Classifications

ECLASS

ECLASS-11.0	27242610
ECLASS-12.0	27242610
ECLASS-13.0	27242610

ETIM

ETIM 8.0	EC001600
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UNSPSC

UNSPSC 21.0	32151600
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

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

2316132

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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-MB-25DSUB/EX - Power supply unit

2316146

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Four-channel, redundant fieldbus power supply base. Host connection is a D-SUB 25 socket connector.

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FB-PS-MB-Y/EX - Power supply unit

2316148

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Four-channel redundant fieldbus power supply base. Host connections are for two Yokogawa AKB336 20-pin cables.



FB-PS-MB-I/EX - Power supply unit

2316149

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Four-channel, redundant fieldbus power supply base. Host connection is for an Invensys® D-SUB 25 cable.



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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.

PT 2X2-FF-ST - Surge protection plug

2800755

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PLUGTRAB, plug-in surge protection for Foundation Fieldbus

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

2839415

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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

FB2-S1-12SP-S-0-16-00-0-0 - Junction box

2316433

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Stainless steel field junction box with 16 ports for use in hazardous locations. Includes 12-spur block device coupler (FB-12SP) for Foundation Fieldbus or PROFIBUS PA, trunk cable (+, -, S) is connected to a Plugtrab surge base (PT 4+F-BE).

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FB2-S1-12SP-T-0-16-00-0-0 - Junction box

2316417

<https://www.phoenixcontact.com/in/products/2316417>

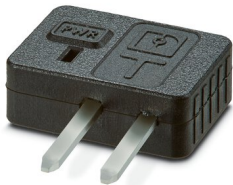


Stainless steel field junction box with 16 ports for use in hazardous locations. Includes 12-spur block device coupler (FB-12SP) for Foundation Fieldbus or PROFIBUS PA, three terminal blocks for trunk cable connection (+, -, S).

FIELDBUS TERMINATOR - Termination resistor

2316034

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The fieldbus terminator plug is pre-installed in the trunk out connection of device couplers.

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