

# 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
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 <sup>2</sup> ... 0.20 mm <sup>2</sup>
Conductor cross-section, rigid	2.50 mm <sup>2</sup> ... 0.20 mm <sup>2</sup>
Conductor cross-section, flexible [AWG]	24 ... 12
Conductor cross-section AWG	24 ... 12

### Ex data

#### Safety data

Inductance $L_i$	0 $\mu$ 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 $\mu$ 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 <sup>2</sup>
Conductor cross-section flexible min.	0.2 mm <sup>2</sup>

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Conductor cross-section, rigid max.	2.5 mm <sup>2</sup>
Conductor cross-section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross-section AWG max.	12
Conductor cross-section AWG min.	24
Output nominal voltage	≤ 32 V (per 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

## Mechanical tests

Corrosive resistance in accordance with ANSI-ISA 71.04-1985 - Severity level G3	:
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## 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)	10 Hz ... 150 Hz, 1g

## 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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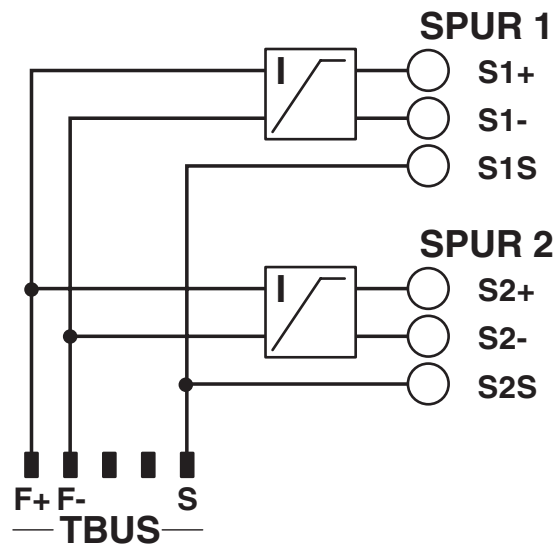
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## Drawings

Circuit diagram



Connection diagram: FB-2SP

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## Classifications

### 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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