

# FB-12SP ISO - Device coupler



2316312

<https://www.phoenixcontact.com/gb/products/2316312>

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Zone 1 installed 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
- Three isolation zones; Spurs 1-4, 5-8, and 9-12.
- Single-sided plug configuration eliminates cable bend radius issues
- Connect up to 12 Foundation Fieldbus or PROFIBUS PA field devices located in Zone 0/1
- Terminator preinstalled

## Commercial data

Item number	2316312
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNC144
Product key	DNC144
Catalog page	Page 456 (C-6-2019)
GTIN	4055626276991
Weight per piece (including packing)	1,265 g
Weight per piece (excluding packing)	1,265 g
Customs tariff number	85369095
Country of origin	US

## 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
Insulation characteristics	
Overvoltage category	II
Degree of pollution	2

### Electrical properties

#### Supply

Supply voltage range	16 V DC ... 32 V DC (input on trunk line side)
Max. current consumption	50 mA (trunk, no load)
	550 mA (maximum trunk current)

### 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

Input voltage $U_i$	32 V
Inductance $L_i$	0 $\mu$ H
Capacitance $C_i$	0 $\mu$ F
Max. output voltage $U_o$	16.7 V
Max. output current $I_o$	250 mA
Max. output power $P_o$	1.05 W
Safety-related maximum voltage $U_m$	253 V
IIC: Max. external inductivity $L_o$ / Max. external capacitance $C_o$	/ 0.39 $\mu$ F
IIB: Max. external inductivity $L_o$ / Max. external capacitance $C_o$	/ 2.33 $\mu$ F
IIC: Max. external inductivity $L_o$ / Max. external capacitance $C_o$	0.56 mH
IIB: Max. external inductivity $L_o$ / Max. external capacitance $C_o$	2.27 mH

### Interfaces

Signal	FOUNDATION Fieldbus
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	PROFIBUS
Data: Foundation Fieldbus and PROFIBUS PA Segment	
Connection method	Pluggable COMBICON screw connection for each spur
No. of channels	12
Termination resistor	Integrated termination, activated with bridge located in correct terminals
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
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	≤ 14 V (each spur)
Output current	35 mA (per spur)

## Dimensions

Dimensional drawing	
Width	279 mm
Height	142 mm
Depth	66 mm

## Material specifications

Flammability rating according to UL 94	V0
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## Cable/line

Cable impedance	Recommend Type A fieldbus cable
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20 IP30 (over trunk connections)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	< 95 % (non-condensing)
Permissible humidity (operation)	95 % (non-condensing)
Shock	15g for 11 ms
Vibration (operation)	2g, 10 Hz ... 150 Hz

## Approvals

ATEX

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Identification	II 2(1) G Ex eb ib mb [ia Ga] IIC T4 Gb II (1D) [Ex ia Da] IIIC FISCO power supply (spur)
Certificate	DEMKO 16ATEX 1689X

## IECEX

Identification	Ex eb ib mb [ia Ga] IIC T4 Gb [Ex ia Da] IIIC FISCO power supply (spur)
Certificate	IECEX UL 16.0114X

## UKCA Ex (UKEX)

Identification	II 2(1) G Ex eb ib mb [ia Ga] IIC T4 Gb II (1D) [Ex ia Da] IIIC FISCO power supply (spur)
Certificate	UL21UKEX2210X

## CCC Ex

Identification	Ex eb ib mb [ia Ga] IIC T4 Gb [Ex ia Da] IIIC
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## Ex data

UL, USA / Canada	Install in Class I, Div. 2, Groups A, B, C, D Entity/FISCO spur to: Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III; Group IIIC Class I, Zone 1 AEx eb ib mb [ia Ga] IIC T4 Gb [AEx ia Da] IIIC FISCO power supply (spur) Ex eb ib mb [ia Ga] IIC T4 Gb [Ex ia Da] IIIC FISCO power supply (spur)
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## Standards and regulations

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

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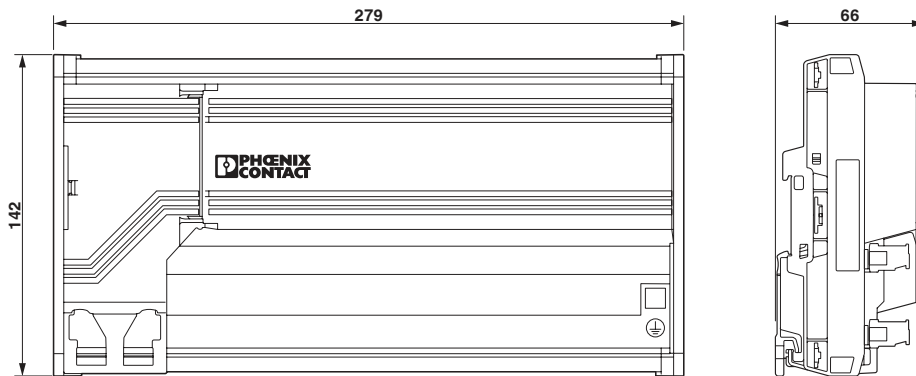


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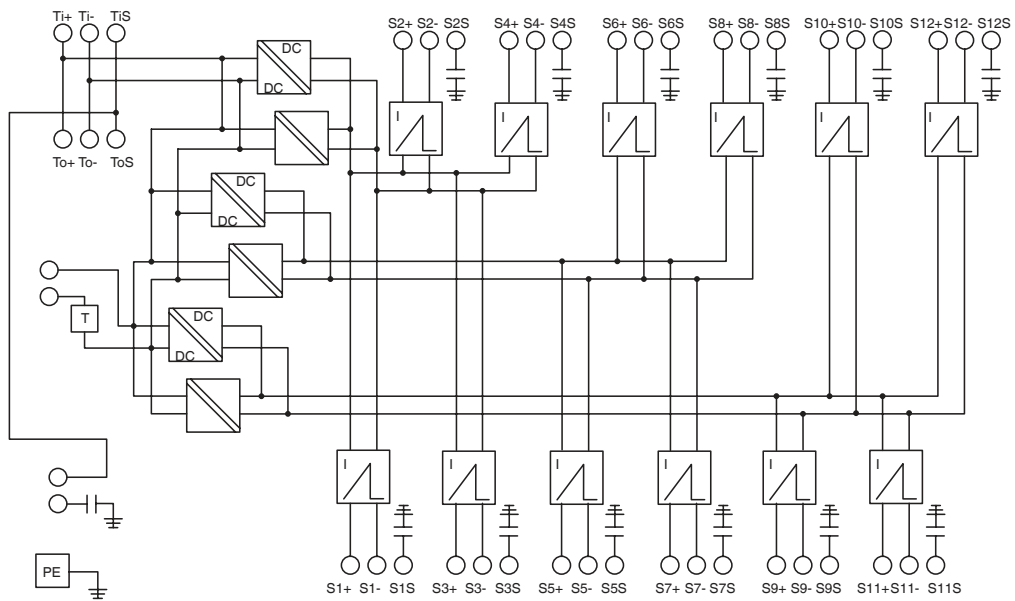
<https://www.phoenixcontact.com/gb/products/2316312>

## Drawings

Dimensional drawing



Block diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2316312>



**UKCA-EX**

Approval ID: UL21UKEX2210X



**IECEX**

Approval ID: IECEX UL 16.0114X



**CCC**

Approval ID: 2022122310115622



**cUL Listed**

Approval ID: FILE E 199827



**UL Listed**

Approval ID: FILE E 199827



**ATEX**

Approval ID: DEMKO 16 ATEX 1689X

**cULus Listed**

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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

<https://www.phoenixcontact.com/gb/products/2316132>



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

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### FB-PS-BASE/EX - Power distributor

2316145

<https://www.phoenixcontact.com/gb/products/2316145>



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

2316148

<https://www.phoenixcontact.com/gb/products/2316148>

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



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

2316149

<https://www.phoenixcontact.com/gb/products/2316149>

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



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## PT 2X2-FF-ST - Surge protection plug

2800755

<https://www.phoenixcontact.com/gb/products/2800755>



PLUGTRAB, plug-in surge protection for Foundation Fieldbus

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

2839415

<https://www.phoenixcontact.com/gb/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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## AXL SHIELD SET - Shield connection

2700518

<https://www.phoenixcontact.com/gb/products/2700518>

Axiline shield connection set (contains 2 shield bus holders and 2 SK 5 shield connection clamps)



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## NLS-CU 3/10 SN 2000MM - Neutral busbar

0402006

<https://www.phoenixcontact.com/gb/products/0402006>

Neutral busbar, DIN VDE 0611-4: 1991-02, material: Copper, tin-plated, color: silver



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## SK 5 - Shield connection clamp

3025338

<https://www.phoenixcontact.com/gb/products/3025338>



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

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