

## Device coupler - FB-2SP - 2316051

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Device coupler for Foundation Fieldbus and PROFIBUS PA expansions with terminal connections for 2 spurs connected to fieldbus end devices

### Product Description

The FB-2SP 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.



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 046356 466158 |
| GTIN                                 | 4046356466158   |
| Weight per Piece (excluding packing) | 99.760 g  |
| Custom tariff number                 | 85369095  |
| Country of origin                    | United States   |

### Technical data

#### Note

|                         |   |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

#### Dimensions

|        |         |
|--------|---------|
| Width  | 17.5 mm |
| Height | 89.7 mm |
| Depth  | 70.4 mm |

#### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -40 °C ... 85 °C (depending on set rated current) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C                                  |
| Permissible humidity (operation)        | 10 % ... 95 % (non-condensing)                    |
| Degree of protection                    | IP20  |

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## Technical data

### General

|                     |  |
|---------------------|--|
| Mounting position   | On horizontal DIN rail NS 35 in acc. with EN 60715 |
| Net weight          | 99.76 g  |
| Housing material    | PA 6.6-FR  |
| Color               | green  |
| Conformance         | CE-compliant, additionally EN 61326                |
| Fieldbus Foundation | FF-846   |

### Power supply

|                             |  |
|-----------------------------|--|
| Supply voltage range        | 10.3 V DC ... 32 V DC (input on trunk line side) |
| Typical current consumption | 6 mA   |

### Interfaces

|                                       |   |
|---------------------------------------|---|
| Interface 1                           | Foundation Fieldbus and PROFIBUS PA Segment                     |
| No. of ports                          | 2   |
| Connection method                     | Pluggable COMBICON screw connection for each spur               |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup>   |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup>   |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup>   |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup>   |
| Conductor cross section AWG min.      | 24  |
| Conductor cross section AWG max.      | 12  |
| Output nominal voltage                | ≤ 32 V (each spur)  |
| Output current                        | 15 mA (each spur, adjustable via selector switch, -40 ... 85°C) |
|                                       | 25 mA (each spur, adjustable via selector switch, -40...80°C)   |
|                                       | 35 mA (each spur, adjustable via selector switch, -40...75°C)   |
|                                       | 45 mA (each spur, adjustable via selector switch, -40...70°C)   |
| Maximum output current                | 22 mA (each spur, adjustable via selector switch, -40 ... 85°C) |
|                                       | 33 mA (each spur, adjustable via selector switch, -40...80°C)   |
|                                       | 45 mA (each spur, adjustable via selector switch, -40...75°C)   |
|                                       | 57 mA (each spur, adjustable via selector switch, -40...70°C)   |
| Inductance L <sub>i</sub>             | 4 μH  |
| Max. output voltage U <sub>o</sub>    | U <sub>i</sub>  |

### Safety data

|  |                            |
|--|----------------------------|
| Max. output voltage U <sub>o</sub>       | U <sub>i</sub>             |
| Max. output current I <sub>o</sub>       | 48 mA                      |
| Max. output power P <sub>o</sub>         | 1.536 W                    |
| Group                                    | IIB                        |
| Max. external capacitance C <sub>o</sub> | 100 nF                     |
| Group                                    | IIB                        |
| Max. external inductivity L <sub>o</sub> | 325 μH                     |
| ATEX                                     | Sira 08ATEX4303X: II 3(3)G |

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## Technical data

### Safety data

|                 |  |
|-----------------|--|
|                 | Ex nA [Ic Gc] IIB T4 Gc, FISCO Ic spurs<br>Ex nA [nL Gc] IIB T4 Gc, FNICO spurs                                      |
| IECEX           | IECEX SIR 08.0110X: II 3(3)G<br>Ex nA [Ic Gc] IIB T4 Gc, FISCO Ic spurs<br>Ex nA [nL Gc] IIB T4 Gc, FNICO spurs      |
| CSA, USA/Canada | Class I, Div. 2, Groups C, D<br>Ex nA [nL] IIB T4, FNICO/Entity<br>Class I, Zone 2, AEx nA [nL] IIB T4, FNICO/Entity |

### Standards and Regulations

|                       |  |
|-----------------------|--|
| Type of test          | Corrosive resistance in acc. to ANSI-ISA 71.04-1985 - Severity level G3  |
| Designation           | Standards/regulations  |
| Standards/regulations | Ring wave noise immunity in acc. with IEC 61000-4-12   |
| Designation           | Standards/regulations  |
| Standards/regulations | Dry heat in acc. with IEC 61131-2  |
| Designation           | Standards/regulations  |
| Standards/regulations | Damp heat in acc. with IEC 61131-2   |
| Designation           | Standards/regulations  |
| Standards/regulations | Shock and vibration in acc. with EN 61131-2 and EN 50178   |
|                       | IEC 61158-2  |
|                       | IEC 60529, IEC 61158-2   |
|                       | NE21   |
|                       | EN 61326, EN 60068-2-27, EN 60068-2-6  |
|                       | FF-846   |
| Shock                 | 15g, 11 ms   |
| Vibration (operation) | 1g, 10 Hz ... 150 Hz   |
| Conformance           | CE-compliant, additionally EN 61326  |
| Fieldbus Foundation   | FF-846   |
| Group                 | IIB  |
|                       | IIB  |
| ATEX                  | Sira 08ATEX4303X: II 3(3)G<br>Ex nA [Ic Gc] IIB T4 Gc, FISCO Ic spurs<br>Ex nA [nL Gc] IIB T4 Gc, FNICO spurs        |
| IECEX                 | IECEX SIR 08.0110X: II 3(3)G<br>Ex nA [Ic Gc] IIB T4 Gc, FISCO Ic spurs<br>Ex nA [nL Gc] IIB T4 Gc, FNICO spurs      |
| CSA, USA/Canada       | Class I, Div. 2, Groups C, D<br>Ex nA [nL] IIB T4, FNICO/Entity<br>Class I, Zone 2, AEx nA [nL] IIB T4, FNICO/Entity |

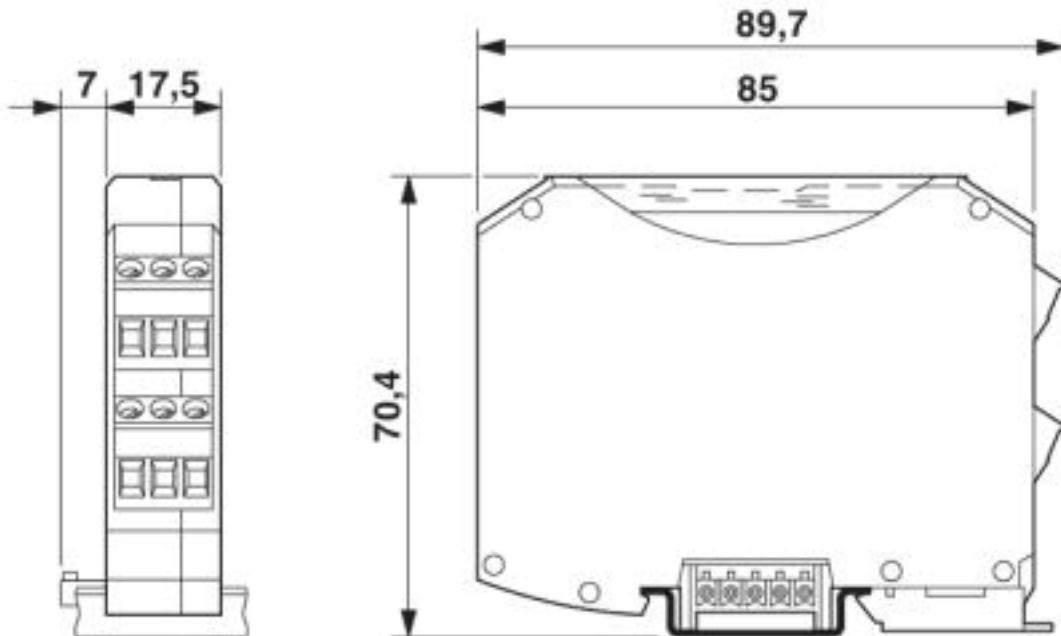
### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

# Device coupler - FB-2SP - 2316051

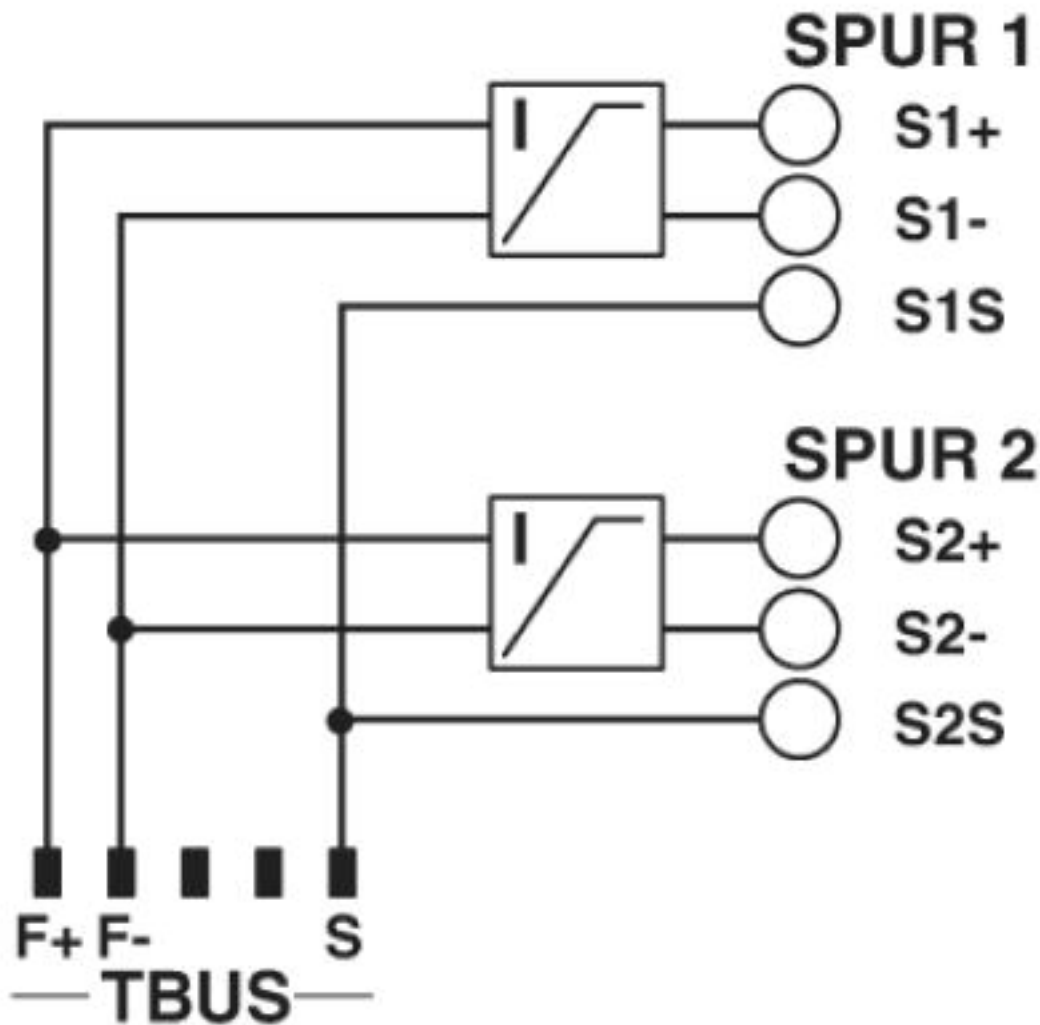
## Drawings

Dimensional drawing



# Device coupler - FB-2SP - 2316051

Circuit diagram



Connection diagram: FB-2SP

## Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27250200 |
| eCl@ss 4.1 | 27250200 |
| eCl@ss 5.0 | 27259200 |
| eCl@ss 5.1 | 27259200 |
| eCl@ss 6.0 | 27242600 |
| eCl@ss 7.0 | 27242610 |
| eCl@ss 8.0 | 27242610 |
| eCl@ss 9.0 | 27242610 |

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## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC001423 |
| ETIM 3.0 | EC001600 |
| ETIM 4.0 | EC001600 |
| ETIM 5.0 | EC001600 |
| ETIM 6.0 | EC001600 |
| ETIM 7.0 | EC001600 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211506 |
| UNSPSC 7.0901 | 39121008 |
| UNSPSC 11     | 39121008 |
| UNSPSC 12.01  | 39121008 |
| UNSPSC 13.2   | 32151602 |
| UNSPSC 18.0   | 32151602 |
| UNSPSC 19.0   | 32151602 |
| UNSPSC 20.0   | 32151602 |
| UNSPSC 21.0   | 32151602 |

## Accessories

### Accessories

#### Base element

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

Junction box - FB-15-SS - 2316190



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.

## Device coupler - FB-2SP - 2316051

### Accessories

Junction box - FB-9-SS - 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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### Device coupler

Power distributor - FB-PS-BASE/EX - 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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Device coupler - FB-DIAG/FF/NC - 2316297



Field diagnostic module, includes TBUS connector

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### Power supply

Power module - FB-PS-PLUG-24DC/28DC/0.5/EX - 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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### Surge protection for information technology

Surge protection plug - PT 2X2-FF-ST - 2800755



PLUGTRAB, plug-in surge protection for Foundation Fieldbus

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