

## Bus coupler - IL S3 BK DI8 DO4 2TX-PAC - 2692380

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Inline, Bus coupler, Sercos, RJ45 jack, Digital inputs: 8, 24 V DC, connection method: 3-wire, Digital outputs: 4, 24 V DC, 500 mA, connection method: 3-wire, transmission speed in the local bus: 500 kbps / 2 Mbps, degree of protection: IP20, including Inline connectors and marking fields

### Product Description

The bus coupler with integrated I/Os is intended for use within a Sercos<sup>®</sup> network and represents the link to the Inline I/O system. Up to 63 Inline devices can be connected to the bus coupler. The bus coupler supports a maximum of 16 PCP devices. A corresponding SDDML file is available for integrating the Inline station into the programming system. This file can be downloaded at: [phoenixcontact.net/product/2692380](http://phoenixcontact.net/product/2692380).

### Your advantages

- ✓ Sercos specification V1.1.2
- ✓ Sercos diagnostic LED S and communication phase LED CP
- ✓ Minimum Sercos cycle time of 250 µs
- ✓ FSP-IO (Function Specific Profile-IO) for modular I/O devices
- ✓ Maximum of 6 realtime connections
- ✓ Hot plugging of participants in Sercos network
- ✓ Diagnostics trace
- ✓ Internet Protocol Services (IPS)
- ✓ 2 Ethernet ports
- ✓ Automatic detection of the transmission speed in the local bus (500 kbps or 2 Mbps)
- ✓ Eight digital inputs, four digital outputs (on-board)



sercos

### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356325882

### Technical data

Note

# Bus coupler - IL S3 BK DI8 DO4 2TX-PAC - 2692380

## Technical data

### Note

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

Width	80 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Specifications with connectors

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Degree of protection	IP20

### General

Mounting type	DIN rail
Color	green
Net weight	298 g
Note on weight specifications	with connectors
Diagnostics messages	Short-circuit or overload of the digital outputs Yes
	Sensor supply failure Yes
	Failure of the actuator supply Yes

### Interfaces

Designation	Sercos
No. of channels	2
Connection method	RJ45 jack
Designation	Inline local bus
No. of channels	1
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)

### Network/bus system

Amount of process data	max. 512 Byte (per station)
Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 63
Number of devices with parameter channel	max. 16
Number of supported branch terminals with remote bus branch	0
Designation	Sercos
Equipment type	Sercos slave

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## Technical data

### Network/bus system

Device profile	FSP_IO
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### Inline potentials

Designation	Bus coupler supply $U_{BC}$ ; Communications power $U_L$ (7.5 V) and the analog supply $U_{ANA}$ (24 V) are generated from the bus coupler supply.
Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	150 mA (without connected I/O terminal blocks)
	max. 1.05 A
Designation	Communications power ( $U_L$ )
Supply voltage	7.5 V DC
Power supply unit	max. 0.8 A DC
Designation	Supply of analog modules ( $U_{ANA}$ )
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply unit	max. 0.5 A DC
Designation	Main circuit supply ( $U_M$ )
Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply unit	max. 8 A DC (sum of $U_M + U_S$ )
Current consumption	min. 3 mA (without sensors)
	max. 8 A DC
Designation	Segment circuit supply ( $U_S$ )
Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply unit	max. 8 A DC (sum of $U_M + U_S$ )
Current consumption	max. 8 A DC
Power consumption	typ. 3.2 W (entire device)
Current consumption	min. 3 mA (without actuators)

### Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Connection method	Inline connector
Connection technology	3-wire
Number of inputs	8
Typical response time	approx. 500 $\mu$ s
Protective circuit	Reverse polarity protection Suppressor diode
Nominal input voltage $U_{IN}$	24 V DC
Nominal input current at $U_{IN}$	typ. 3 mA
Input voltage	24 V DC
Input voltage range "0" signal	-30 V DC ... 5 V DC

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## Technical data

### Digital inputs

Input voltage range "1" signal	15 V DC ... 30 V DC
Typical input current per channel	typ. 3 mA

### Digital outputs

Output name	Digital outputs
Connection method	Inline connector
Connection technology	3-wire
Number of outputs	4
Protective circuit	Short-circuit and overload protection Freewheeling circuit in the output driver
Output voltage	24 V DC -1 V (At nominal current)
Nominal output voltage	24 V DC
Maximum output current per channel	500 mA
Maximum output current per module / terminal block	2 A
Maximum output current per module	2 A
Nominal load, inductive	12 VA (1.2 H, 48 Ω)
Nominal load, lamp	12 W
Nominal load, ohmic	12 W
Limitation of the voltage induced on circuit interruption	approx. -30 V
Output voltage when switched off	max. 500 mV
Output current when switched off	max. 500 µA (When not loaded, a voltage can be measured even at an output that is not set.)
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Reverse voltage resistance to short pulses	Reverse voltage proof

### Standards and Regulations

Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

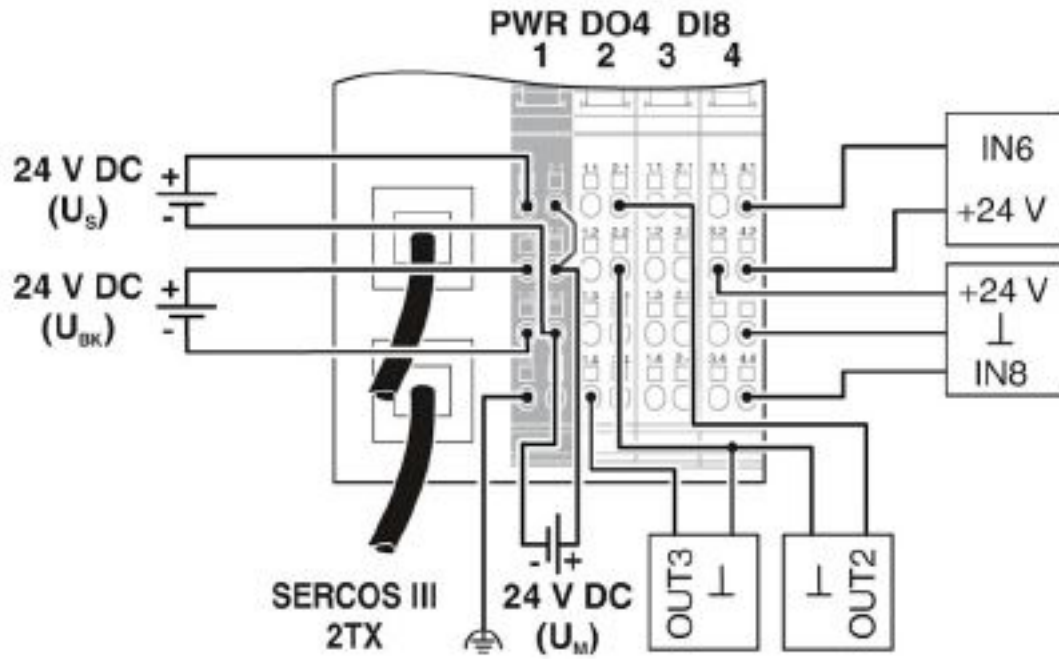
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

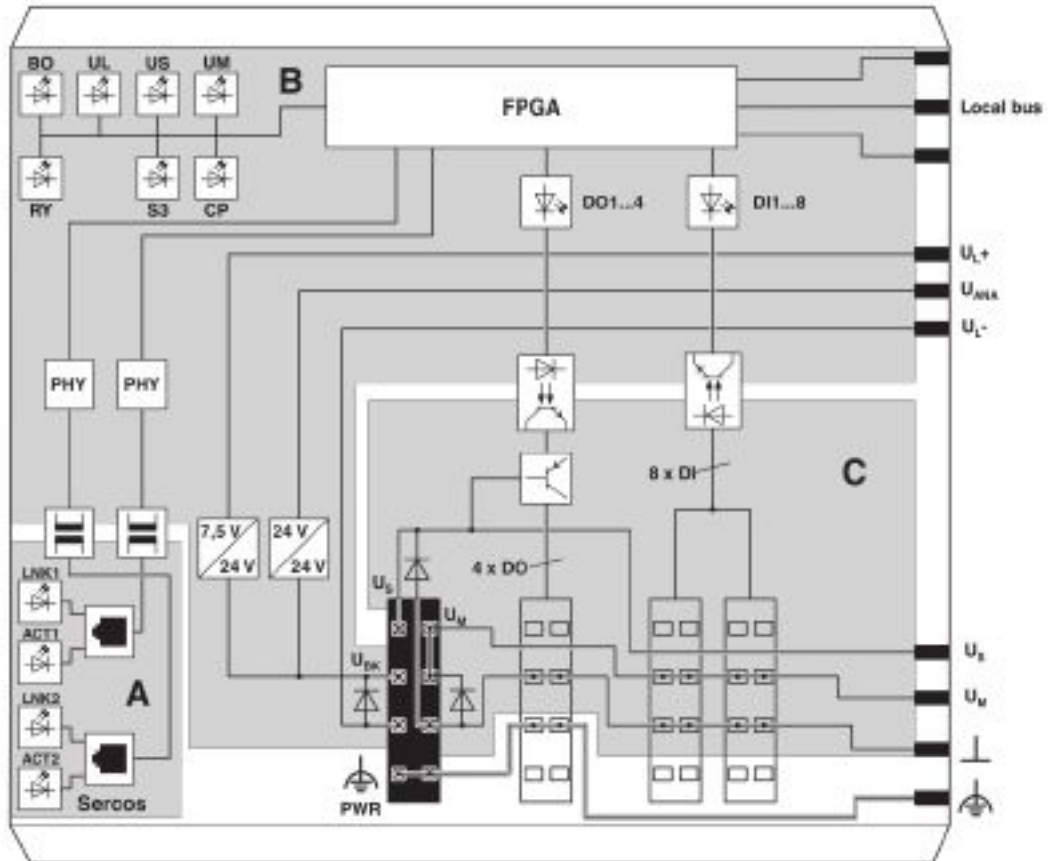
# Bus coupler - IL S3 BK DI8 DO4 2TX-PAC - 2692380

Connection diagram



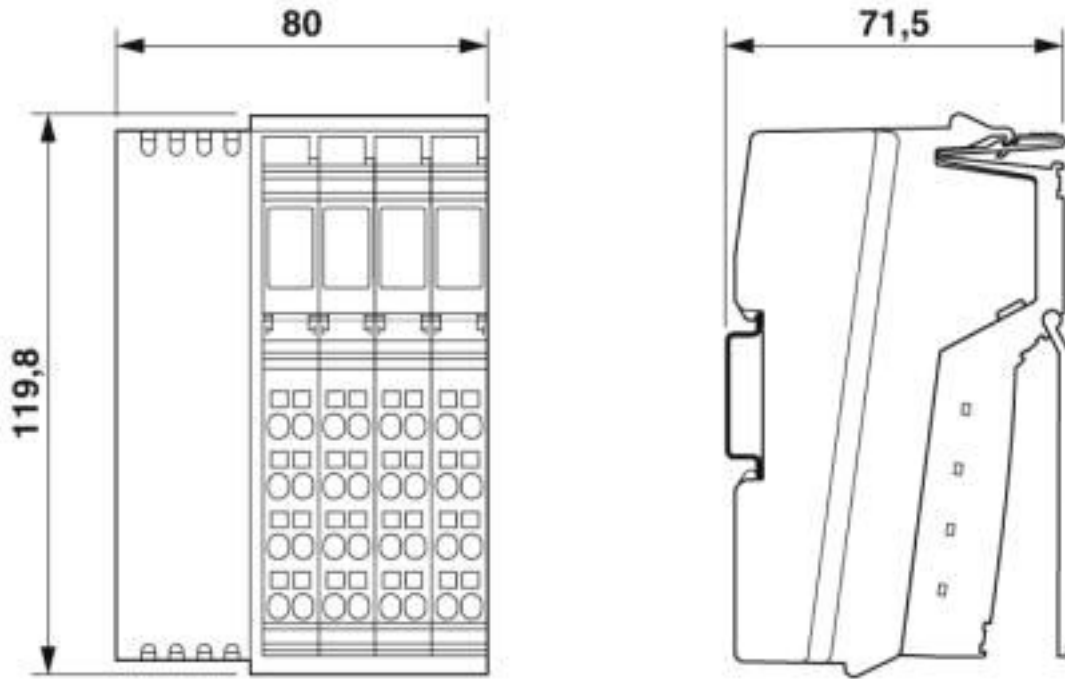
# Bus coupler - IL S3 BK DI8 DO4 2TX-PAC - 2692380

Block diagram

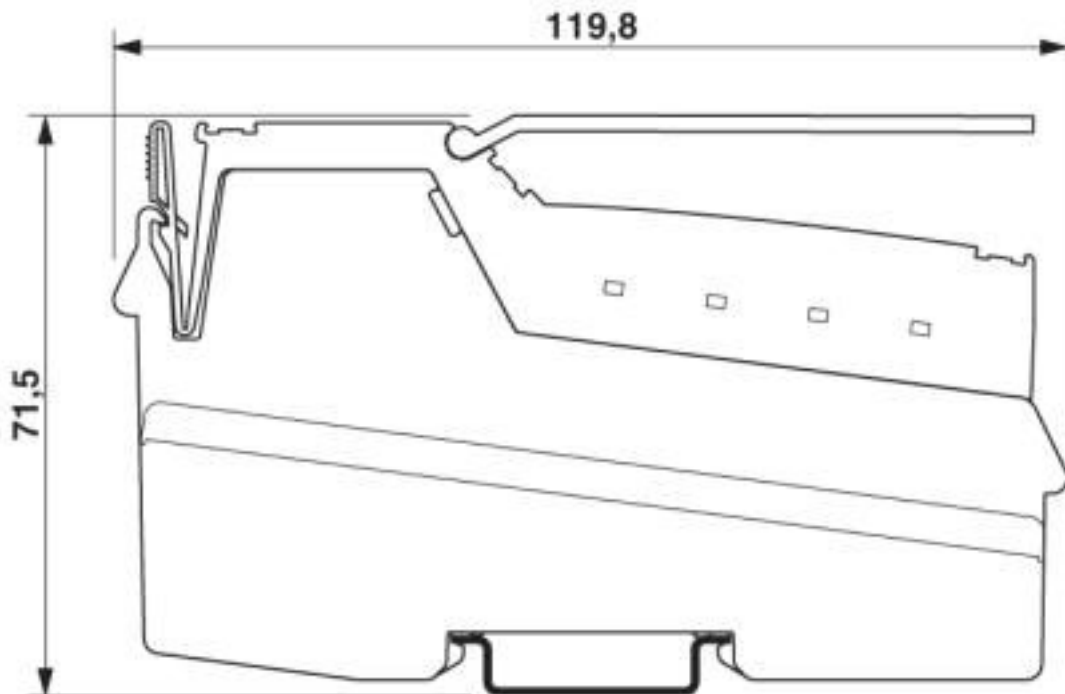


# Bus coupler - IL S3 BK DI8 DO4 2TX-PAC - 2692380

Dimensional drawing



Dimensional drawing



# Bus coupler - IL S3 BK DI8 DO4 2TX-PAC - 2692380

## Classifications

### eCl@ss

eCl@ss 10.0.1	27242608
eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27250300
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242608
eCl@ss 8.0	27242608
eCl@ss 9.0	27242608

### ETIM

ETIM 2.0	EC001430
ETIM 3.0	EC001599
ETIM 4.0	EC001599
ETIM 5.0	EC001604
ETIM 6.0	EC001604
ETIM 7.0	EC001604

### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / UL Listed / cUL Listed / EAC / EAC

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#### Ex Approvals

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### Approval details



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## Approvals

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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EAC		EAC-Zulassung
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EAC		EAC-Zulassung
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## Accessories

### Accessories

#### Connector set

Connector set - IL BKDIO-PLSET - 2878599



Connector set, for Inline bus coupler with I/Os mounted in rows

#### Data cable by the meter

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### Accessories

#### Network cable - FL CAT5 HEAVY - 2744814



CAT5-SF/UTP cable (J-02YS(ST)C HP 2 x 2 x 24 AWG), heavy-duty installation cable, 2 x 2 x 0.22 mm<sup>2</sup>, solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

#### Installation cable - FL CAT5 FLEX - 2744830



By the meter, Installation cable, Ethernet CAT5 (100 Mbps), shielded, PUR halogen-free, water blue RAL 5021, 4-wire (2x2xAWG26/7; SF/UTP), color single wire: white/orange-orange, white/green-green, cable length: Free entry (1.0 ... 1000.0 m)

### Data plug

#### Assembly tool - FL CRIMPTOOL - 2744869



Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site

### End block

#### End clamp - CLIPFIX 35 - 3022218



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

#### End clamp - E/UK - 1201442



End clamp, width: 9.5 mm, height: 35.3 mm, material: PA, length: 50.5 mm, Mounting on a DIN rail NS 32 or NS 35, color: gray

### Labeling panel

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### Accessories

Labeling field - IB IL FIELD 8 - 2727515

Labeling field, width: 48.8 mm



Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



### Plug

RJ45 connector - FL PLUG RJ45 GR/2 - 2744856

RJ45 connector, shielded, with bend protection sleeve, 2 pieces, gray for straight cables, for assembly on site. For connections that are not crossed, it is recommended that you use the connector set with gray bend protection sleeve.



RJ45 connector - FL PLUG RJ45 GN/2 - 2744571

RJ45 connector, shielded, with bend protection sleeve, 2 pieces, green for crossed cables, for assembly on site. For connections that are crossed, it is recommended that the connector set with green bend protection sleeves is used.



### Terminal marking

Insert strip - ESL 62X46 - 0809502

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems: Laser printer, mounting type: insert, lettering field size: 62 x 46 mm, Number of individual labels: 120



## Bus coupler - IL S3 BK DI8 DO4 2TX-PAC - 2692380

### Accessories

Insert strip - ESL 62X10 - 0809492



Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems: Laser printer, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72

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