

SIMATIC PN/PN Coupler for deterministic data exchange between max.4 PN-Controller per subnet, also from subnet to subnet, PROFI-safe data exchange, I/O-, MSI-, MSO- and data record communication, redundant power supply, PN-connection via SIMATIC BusAdapter (BA), delivery w/o BusAdapter



General information	
Product type designation	PN/PN coupler
Firmware version	
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> <li>Tool changer</li> </ul>	Yes; Docking station and docking unit
<ul style="list-style-type: none"> <li>Local coupling, IO data</li> </ul>	Yes
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Number of coupling modules</li> </ul> </li> </ul>	16
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Number of coupling submodules per module</li> </ul> </li> </ul>	4; 1x write, 3x read
<ul style="list-style-type: none"> <li>Local coupling, data records</li> </ul>	Yes
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Number of coupling modules</li> </ul> </li> </ul>	16
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Number of coupling submodules per module</li> </ul> </li> </ul>	4; 1x write, 3x read
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Record length, max.</li> </ul> </li> </ul>	4 096 byte
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>FIFO depth in storage mode</li> </ul> </li> </ul>	8
Engineering with	

- STEP 7 TIA Portal configurable/integrated as of version
- PROFINET as of GSD version/GSD revision

STEP 7 V15.1 or higher

V2.3

## Installation type/mounting

Mounting      Mounting rail 7.5 mm and 15 mm

## Supply voltage

Rated value (DC)      24 V

permissible range, lower limit (DC)      19.2 V

permissible range, upper limit (DC)      28.8 V

Reverse polarity protection      Yes

### Mains buffering

- Mains/voltage failure stored energy time      10 ms

## Input current

Current consumption, max.      360 mA; For 19.2 V input voltage at the right-hand supply terminal, including 2 plugged BA 2x LC

Inrush current, max.      1.6 A

$I^2t$       0.031 A<sup>2</sup>·s

from supply voltage 1L+, max.      320 mA; For 19.2 V input voltage at the left-hand supply terminal, including 2 plugged BA 2x LC

## Power loss

Power loss, typ.      4 W; For 24 V input voltage and 2 plugged BA 2x RJ45 If BusAdapters with an optical interface are plugged, there is an additional 750 mW per optical interface (3 W with 2 plugged BA 2x LC)

## Address area

### Address space per module

- Address space per module, max.      254 byte; max. 254 bytes of input data and 253 bytes of output data

### Address space per station

- Address space per station, max.      1 440 byte; per input / output

## Hardware configuration

### Submodules

- Number of submodules per station, max.      116

## Interfaces

Number of PROFINET interfaces      2; One PROFINET interface per line side

Optical interface      Yes; Via SIMATIC BusAdapter

Supports protocol for PROFINET IO

- automatic detection of transmission rate      Yes
- Transmission rate, max.      100 Mbit/s

## 1. Interface

### Interface types

• Number of ports	2; via BusAdapter
• integrated switch	Yes
• BusAdapter (PROFINET)	Yes; Compatible BusAdapter: BA 2x RJ45, BA 2x FC, BA 2x SCRJ, BA SCRJ / RJ45, BA SCRJ / FC, BA 2x LC, BA LC / RJ45, BA LC / FC

Protocols	
• PROFINET IO Device	Yes
• Open IE communication	Yes
• Media redundancy	Yes; As MRP or MRPD client; max. 50 or 30 devices in the ring

## 2. Interface

Interface types	
• Number of ports	2; via BusAdapter
• integrated switch	Yes

Protocols	
• PROFINET IO Device	Yes
• Open IE communication	Yes
• Media redundancy	Yes; As MRP or MRPD client; max. 50 or 30 devices in the ring

### Interface types

RJ 45 (Ethernet)	
• Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• 10 Mbps	No
• 100 Mbps	Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• Autonegotiation	Yes
• Autocrossing	Yes

### Protocols

Supports protocol for PROFINET IO	Yes
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Protocols (Ethernet)	
• TCP/IP	Yes
• SNMP	Yes
• LLDP	Yes
• ping	Yes
• ARP	Yes

### PROFINET IO Device

Services	
— Isochronous mode	No
— Open IE communication	Yes
— IRT	Yes
— PROFIenergy	No
— Prioritized startup	Yes
— Shared device	Yes

— Number of IO Controllers with shared device, max.	4; per line side
<b>Redundancy mode</b>	
• PROFINET system redundancy (S2)	Yes; NAP S2 acc. to IEC
• H-Sync forwarding	Yes
<b>Media redundancy</b>	
— MRP	Yes
— MRPD	Yes
<b>Open IE communication</b>	
• TCP/IP	Yes
• SNMP	Yes
• LLDP	Yes
<b>Interrupts/diagnostics/status information</b>	
Status indicator	Yes
Alarms	Yes
Diagnostics function	Yes; Parameterizable
<b>Diagnostics indication LED</b>	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• MAINT LED	Yes; Yellow LED
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Connection to network LINK (green)	Yes; 2x green link LEDs on BusAdapter
<b>Potential separation</b>	
between supply voltage and electronics	Yes; to power input 2
between Ethernet and electronics	Yes
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Standards, approvals, certificates</b>	
Network loading class	3
Security level	According to Security Level 1 Test Cases V1.1.4
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	-30 °C; From FS05
• max.	60 °C; = Tmax for horizontal installation; for vertical installation Tmax = 50 °C
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	2 000 m; On request: Installation altitudes greater than 2 000 m
<b>Mechanics/material</b>	
Strain relief	Yes; Optional, for RJ45 and FC BusAdapter only
<b>Dimensions</b>	

Width	100 mm; Minimized with good handling
Height	117 mm
Depth	74 mm; with mounting rail

#### Weights

Weight, approx. 200 g; without BusAdapter

**last modified:** 04/10/2020