

Modem - PSI-MODEM-SHDSL/ETH - 2313643

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Industrial Ethernet extender, for point-to-point connections, line and ring structures. Data rates of up to 30 Mbps, distances of up to 20 km on in-house copper cables, integrated diagnostic function, two configurable alarm outputs.

Why buy this product


- Distances up to 20 km
- Up to 15.3 Mbps in 2-wire operation
- Up to 30 Mbps in 4-wire operation
- Robust modulation method (SHDSL)
- Automatic SHDSL data rate detection
- Network transparent (no IP configuration required)
- Protocol transparent
- Automatic detection of network cable type (auto MDI(X))
- Automatic network data rate detection (10/100 Mbps)
- Easy startup, plug and play
- Future proof (IPv4 and IPv6-compatible)
- Two digital outputs for alerting external controllers
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Ethernet



Key commercial data

Packing unit	1 pc
GTIN	 4 046356 509206
Weight per Piece (excluding packing)	283.4 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Modem - PSI-MODEM-SHDSL/ETH - 2313643

Technical data

Dimensions

Width	35 mm
Height	99 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C (Freestanding (40 mm spacing to the right and left), no supply of other modules via the device)
	-20 °C ... 55 °C (Mounted in rows with zero spacing and low power dissipation of aligned modules)
	-20 °C ... 50 °C (Mounted in rows with zero spacing)
	-20 °C ... 45 °C (Mounted in rows with zero spacing and supply of other modules via the device)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Altitude	5000 m (For restrictions see manufacturer's declaration)
Degree of protection	IP20

General

Electrical isolation	DIN EN 50178 (VCC // Ethernet // DSL (A) // DSL (B) // FE)
Test voltage data interface/power supply	1.5 kV _{rms} (50 Hz, 1 min.)
Standards/regulations	EN 50121-4
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Net weight	283.4 g
Housing material	PA 6.6-FR
Color	green
MTBF	1017 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	205 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
MTTF	711 Years (SN 29500 standard, temperature 25°C, operating cycle 21 % (5 days a week, 8 hours a day))
	308 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	125 Years (SN 29500 standard, temperature 40°C, operating cycle 100 % (7 days a week, 24 hours a day))
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X (Please follow the special installation instructions in the documentation!)
UL, USA / Canada	cULus listed UL 508

Power supply

Nominal supply voltage	24 V DC ±5 % (as an alternative or redundant, via backplane bus contact and system current supply)
	5 V DC (configuration only, via mini-USB type B)
Supply voltage range	18 V DC ... 30 V DC

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Power supply

Typical current consumption	< 180 mA (24 V DC)
Connection method	COMBICON plug-in screw terminal block

Serial interface

Interface 1	Ethernet interface, 10/100BASE-T(X) in acc. with IEEE 802.3u
Interface	Ethernet
Connection method	RJ45 socket, shielded
Transmission length	< 100 m (shielded twisted pair)
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	13
Protocols supported	Transparent protocol for IPv4 and IPv6
Serial transmission speed	10/100 Mbps, auto negotiation
Interface 2	SHDSL interface according to ITU-T G.991.2.bis
Connection method	2 x 2-pos. COMBICON plug-in screw terminal blocks
Transmission length	< 20 km (Depending on data rate and cable cross section)
Serial transmission speed	4-wire operation: 64 kbps ... 30 Mbps
	2-wire operation: 32 kbps ... 15.3 Mbps
Interface 3	USB 2.0
Connection method	Mini-USB type B, 5-pos.
Transmission length	< 5 m (only for configuration and diagnostics)

Function

Management	Plug and play, user-friendly software: Diagnostic functions, log book, individual configuration
Status and diagnostic indicators	LEDs: VCC (supply voltage), ACT/LINK (Ethernet data traffic), ERR (errors) 2 x LINK / 2 x STAT (DSL data traffic port A and port B), DIAG (diagnostic messages)

Digital outputs

Output name	Digital output
Number of outputs	2
Voltage output signal	depending on the operating voltage
Current output signal	≤ 150 mA (Short-circuit-proof)
Behavior of the outputs	Deactivated for device supply via T-BUS

Classifications

eCl@ss

eCl@ss 4.0	27240490
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Classifications

eCl@ss

eCl@ss 4.1	27240490
eCl@ss 5.0	27242208
eCl@ss 5.1	27242208
eCl@ss 6.0	27242208
eCl@ss 7.0	27242208
eCl@ss 8.0	19060503

ETIM

ETIM 2.0	EC000310
ETIM 3.0	EC000740
ETIM 4.0	EC000740
ETIM 5.0	EC000740

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43201553

Approvals

Approvals

Approvals


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

Ex Approvals

ATEX / ATEX

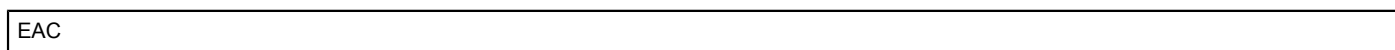
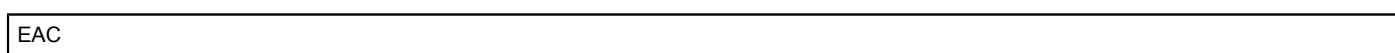
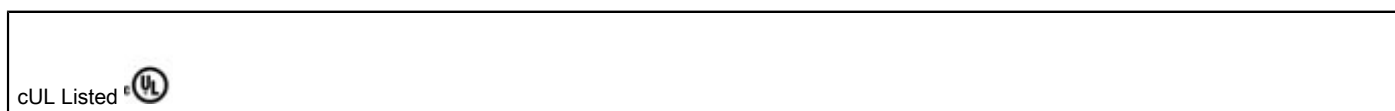
Approvals submitted

Approval details

UL Listed 

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Approvals



Accessories

Accessories

Adapter cable

USB cable - CABLE-USB/MINI-USB-3,0M - 2986135



USB connecting cable: USB plug type A to USB plug type Mini-B; length: 3 m

Data cable preassembled

Network cable - FL CAT5 HEAVY CONF/ - 2744827



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 mm², solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter, preassembled on both sides with RJ45 plug, crossover or line

DIN rail connector

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Accessories

Electronic housing - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

Patch cable

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

Patch cable - FL CAT5 PATCH 5,0 - 2832580



Patch cable, CAT5, assembled, 5.0 m

Power supply

Power supply unit - MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983



Primary-switched MINI POWER supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A

Programming cable

Cable for programming - PSI-CA-USB A/MINI B/1METER - 2313575



USB 2.0 cable, USB A male plug to mini-USB B male plug, length: 1 m

Safety locking

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Accessories

Security element - FL PATCH SAFE CLIP - 2891246



Security element for FL patch cable

Surge protection for information technology

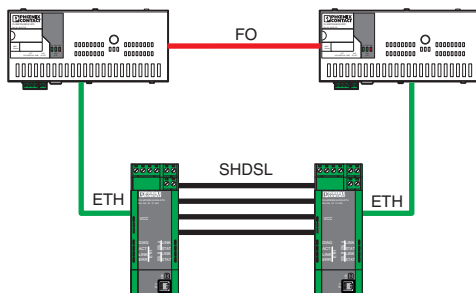
Surge protection device - DT-TELE-SHDSL - 2801593



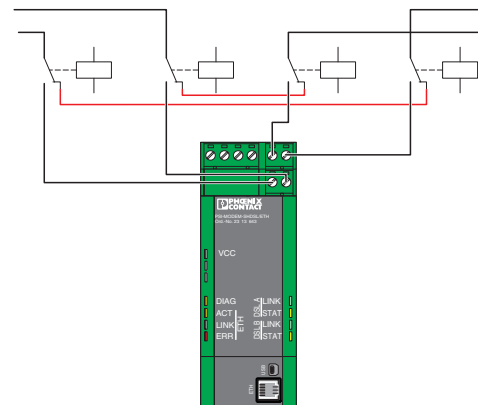
Attachment plug with surge protection for two SHDSL telecommunications interfaces (ports). Connection: RJ45 (RJ12/RJ11) and plug-in screw terminal block (COMBICON). Alternatively, can be snapped onto a DIN rail.

Drawings

Application drawing



Functional drawing

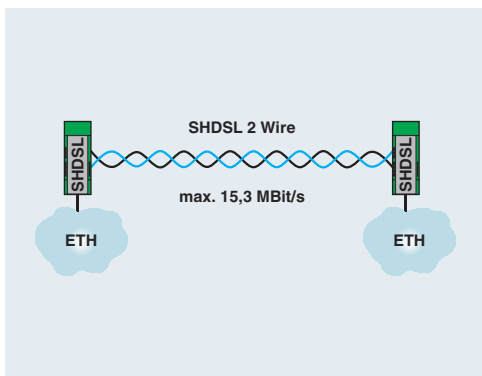


Example application: redundant system via SHDSL and manageable switch

Jumpering with relay

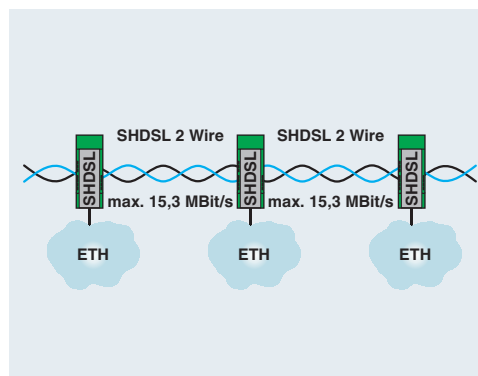
Modem - PSI-MODEM-SHDSL/ETH - 2313643

Application drawing



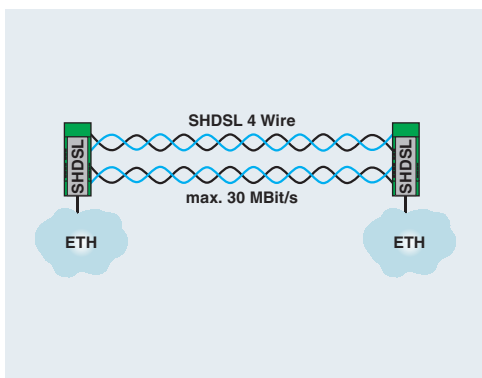
Point-to-point connection (2-wire)

Application drawing



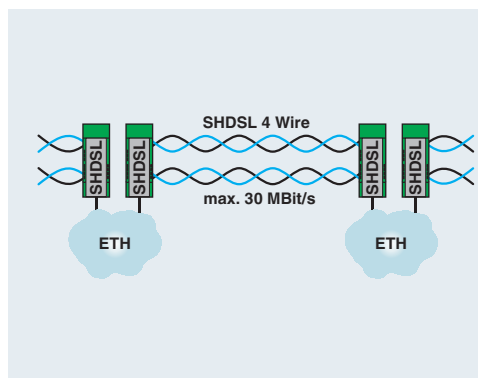
Linear structure (2-wire)

Application drawing



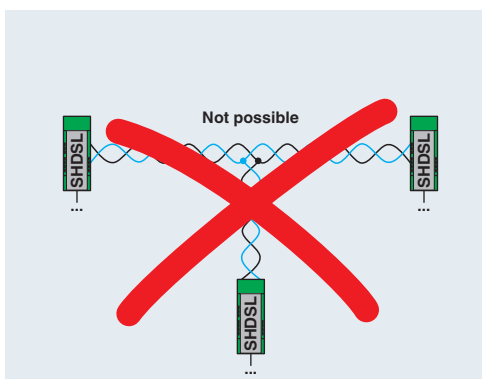
Point-to-point connection (4-wire)

Application drawing



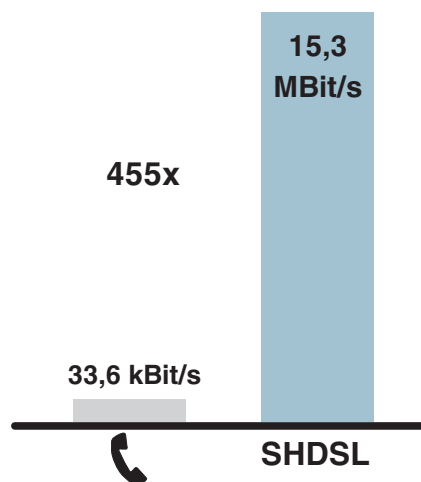
Linear structure (4-wire)

Application drawing



Multipoint communication via SHDSL not supported

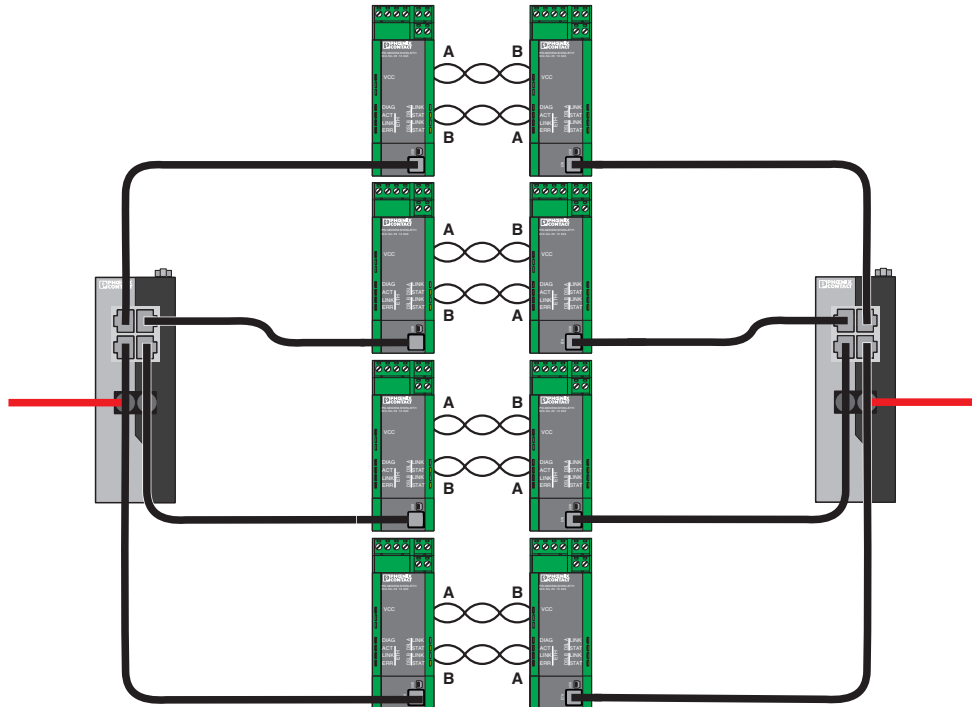
Diagram



Speed comparison between the analog and SHDSL connection

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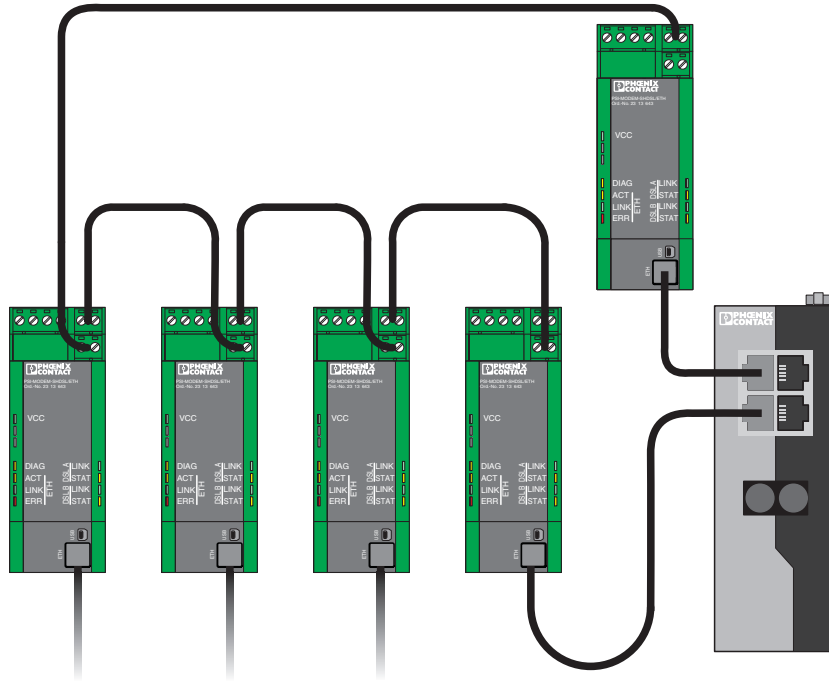
Functional drawing



Link aggregation

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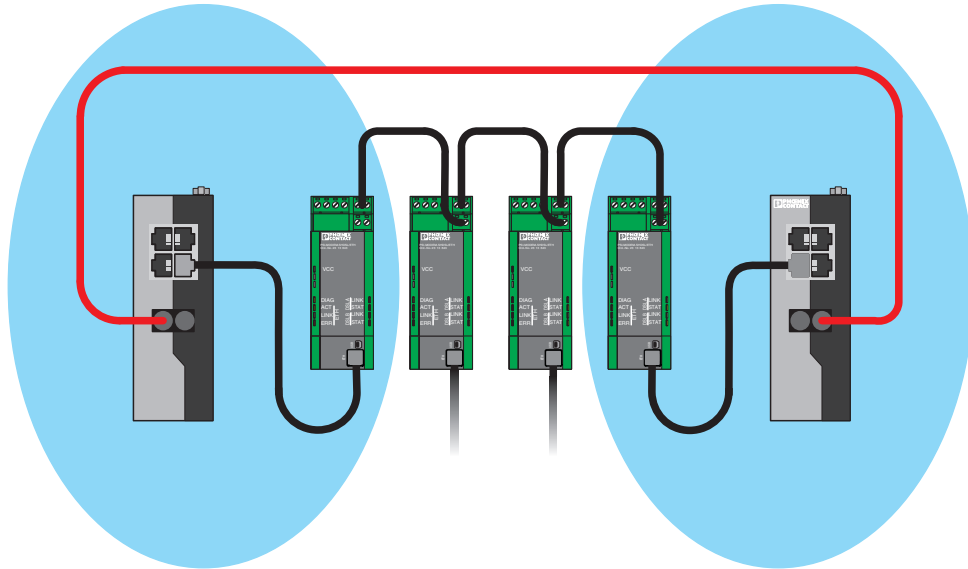
Functional drawing



Redundancy, ring closure via an external switch

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Functional drawing



Redundancy via parallel fiber optic path