PHŒNIX CONTACT

Modem - PSI-MODEM-SHDSL/ETH - 2313643

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First generation: Unmanaged Ethernet extender for point-to-point connections, line and ring structures, data rates up to 30 Mbps, distances of up to 20 km on in-house copper cables, diagnostics via USB and LEDs, 2 SHDSL ports, 1 LAN port

Your advantages

☑ 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)

☑ PROFINET

☑ 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

RoHS | **Ex** | **Ethernet** | **DSL** | **dnp** Distributed Network Protocol | **PROFINET®**

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 509206
GTIN	4046356509206
Weight per Piece (excluding packing)	260.000 g
Custom tariff number	85176200
Country of origin	Germany

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Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

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	$\leq$ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
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.)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Mounting type	DIN rail: 35 mm
Net weight	258.7 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%)
	308 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	125 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

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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
Max. current consumption	$\leq$ 2 A ()
Typical current consumption	< 180 mA (24 V DC)
Connection method	COMBICON plug-in screw terminal block

Interfaces

Interface 1	Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3
Interface	Ethernet
No. of ports	1
Connection method	RJ45 jack, shielded
Transmission length	< 100 m (shielded twisted pair)
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)
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
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

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Digital outputs

| Number of outputs	2
Voltage output signal	depending on the operating voltage
Current output signal	≤ 150 mA (Short-circuit-proof)

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Standards/regulations	EN 50121-4
Shock	15g in all directions in acc. with IEC 60068-2-27
Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz

Environmental Product Compliance

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

Drawings
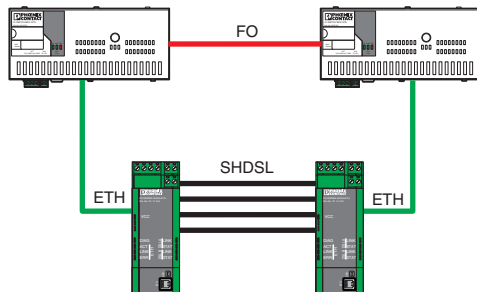
Application drawing
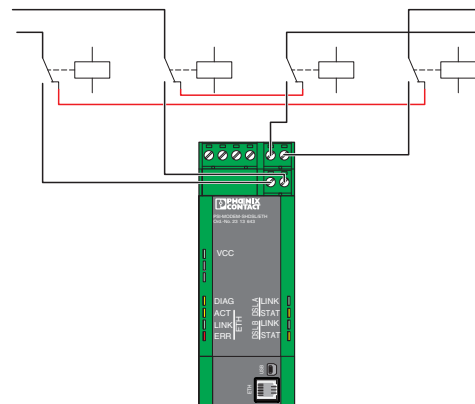
Example application: redundant system via SHDSL and manageable switch

Functional drawing

Jumpering with relay
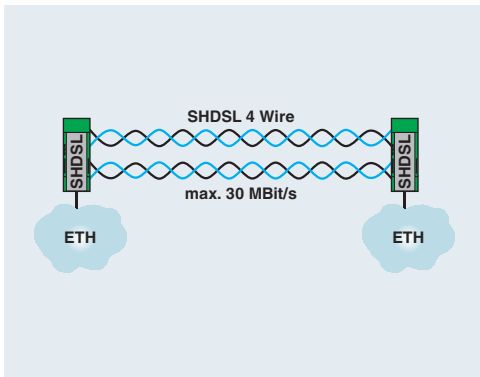
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Application drawing

SHDSL 2 Wire

max. 15,3 MBit/s

SHDSL

SHDSL

ETH

ETH
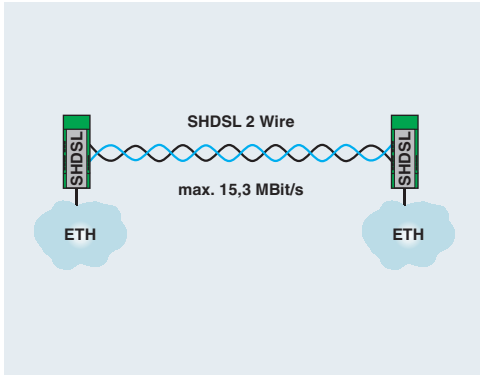
Point-to-point connection (2-wire)

Application drawing

SHDSL 2 Wire   SHDSL 2 Wire

SHDSL

SHDSL

SHDSL

max. 15,3 MBit/s max. 15,3 MBit/s

ETH

ETH

ETH
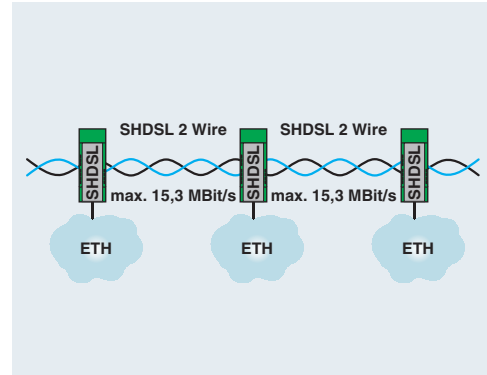
Linear structure (2-wire)

Application drawing

SHDSL 4 Wire

max. 30 MBit/s

SHDSL

SHDSL

ETH

ETH

Point-to-point connection (4-wire)

Application drawing

SHDSL 4 Wire

max. 30 MBit/s

SHDSL

SHDSL

SHDSL

SHDSL

ETH

ETH
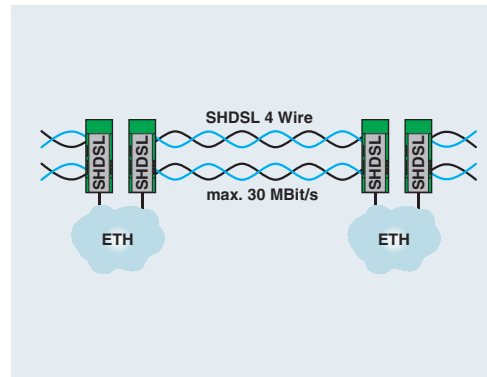
Linear structure (4-wire)

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Application drawing
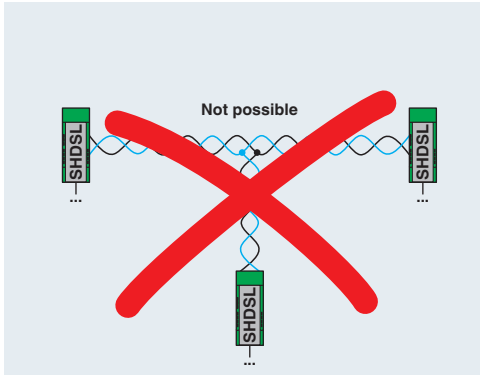
Multipoint communication via SHDSL not supported

Diagram

455x

15,3 MBit/s

33,6 kBit/s
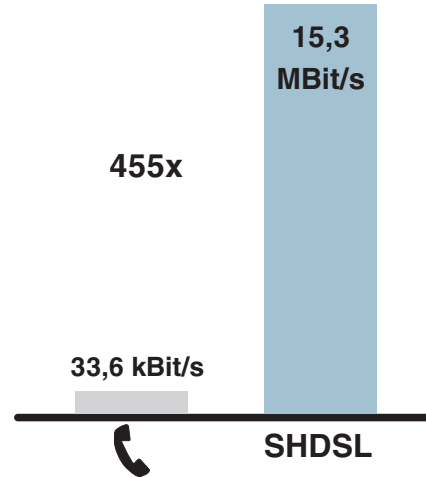
SHDSL

Speed comparison between the analog and SHDSL connection
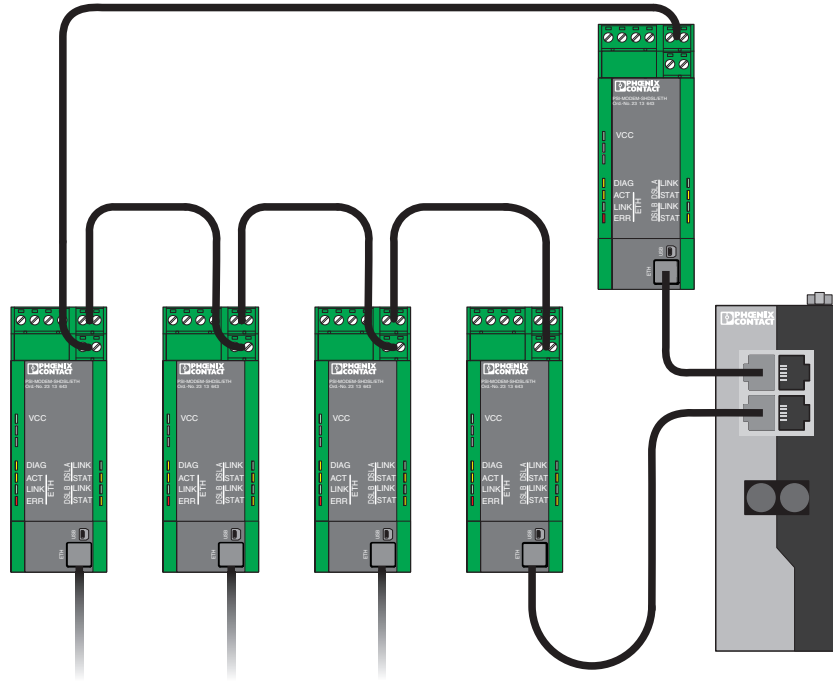
Functional drawing
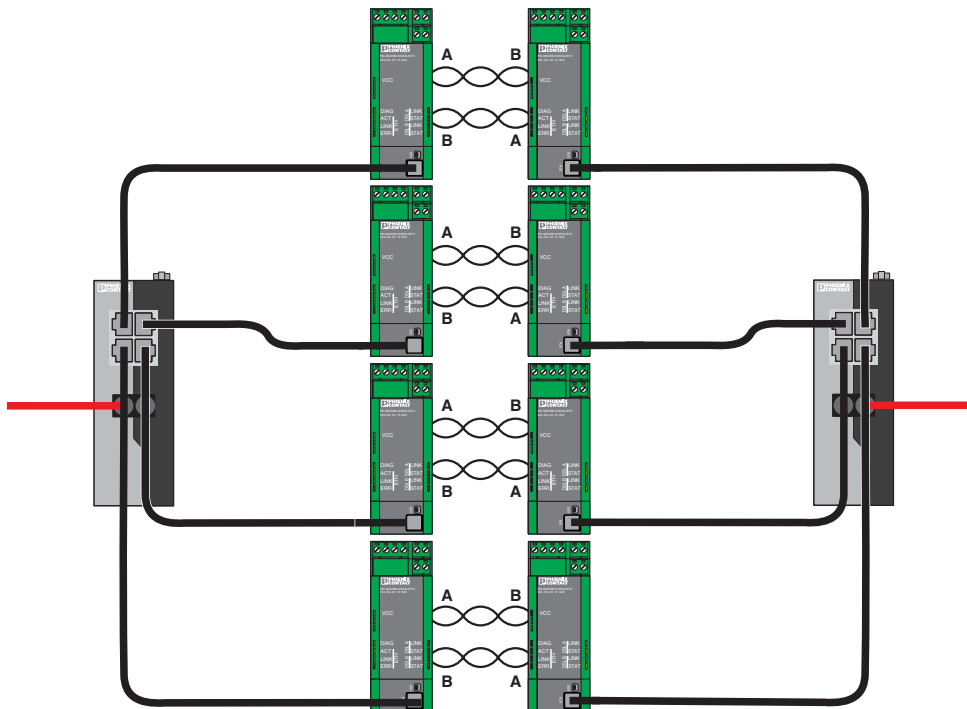
Link aggregation

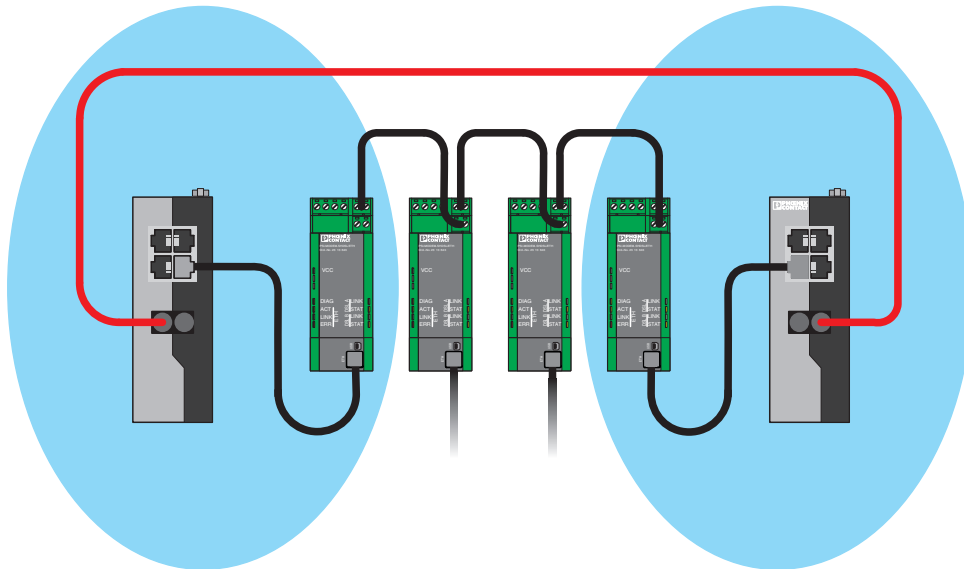# Modem - PSI-MODEM-SHDSL/ETH - 2313643

Functional drawing

Redundancy, ring closure via an external switch

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Functional drawing

Redundancy via parallel fiber optic path

Classifications

eCl@ss

eCl@ss 10.0.1	19060590
eCl@ss 11.0	19060590
eCl@ss 4.0	27240400
eCl@ss 4.1	27240400
eCl@ss 5.0	19030100
eCl@ss 5.1	19030100
eCl@ss 6.0	19060500
eCl@ss 7.0	19060590
eCl@ss 9.0	19060590

ETIM

ETIM 2.0	EC000310
ETIM 3.0	EC000740
ETIM 4.0	EC000740
ETIM 6.0	EC000740

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Classifications

ETIM

ETIM 7.0	EC000740

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43222628
UNSPSC 18.0	43222628
UNSPSC 19.0	43222628
UNSPSC 20.0	43222628
UNSPSC 21.0	43222628

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / EAC / UL Listed / cUL Listed / EAC / EAC / EAC-RoHS

Ex Approvals

ATEX / ATEX

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

EAC		EAC-Zulassung

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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
EAC			RU *-DE.A*30.B.01735
EAC			RU *-DE.A*30.B.01735
EAC-RoHS			RU D-DE.HB35.B.00388