PHŒNIX CONTACT

Modem - PSI-MODEM-SHDSL/PB - 2313656

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Industrial PROFIBUS extender, for point-to-point connections, linear structures, and mixed operation with repeaters and fiber optic converters. Distances of up to 20 km, PROFIBUS data rates of up to 1.5 Mbps via simple copper wires, such as in-house phone lines.

Your advantages

☑ Distances up to 20 km

☑ Robust modulation method (SHDSL)

☑ Mixed operation of copper cables and fiber optics

☑ The free software calculates the PROFIBUS data rate and the slot time

☑ For in-house cables

☑ Linear structure up to 500 kbps

☑ Point-to-point connection up to 1.5 Mbps

RoHS | PROFIBUS® | DSL

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 509213
GTIN	4046356509213
Weight per Piece (excluding packing)	282.300 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

Dimensions

Width	35 mm
Height	99 mm
Depth	114.5 mm

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Technical data

Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C (for derating, see technical documentation)
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 // PROFIBUS // 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
Net weight	282.3 g
Housing material	PA 6.6-FR
Color	green
MTBF	1004 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	199 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
MTTF	800 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	346 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	140 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))

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

Interfaces

Interface 1	PROFIBUS acc. to IEC 61158, RS-485 2-wire, half duplex, automatic control
Operating mode	Semi-duplex
Connection method	D-SUB-9 female connector
File format/coding	UART (11 Bit, NRZ)
Data direction switching	Automatic control
Transmission length	max. 1200 m (depending on the data rate, with shielded, twisted pair data cable)
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²

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Interfaces

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.	13
Serial transmission speed	9.6/19.2/45.45/93.75/187.5/500/1500 kbps, set via configuration software
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	up to 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	User-friendly software: Guided configuration, plausibility checks, diagnostic functions, log book
Status and diagnostic indicators	LEDs: VCC (supply voltage), RD/TD (PROFIBUS 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)

Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	EAC
Identification	EAC
Designation	ATEX
Identification	# II 3 G Ex nA IIC T4 Gc X
Additional text	Please follow the special installation instructions in the documentation!
Designation	UL, USA/Canada
Identification	508 Listed
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Shock	15g in all directions in acc. with IEC 60068-2-27

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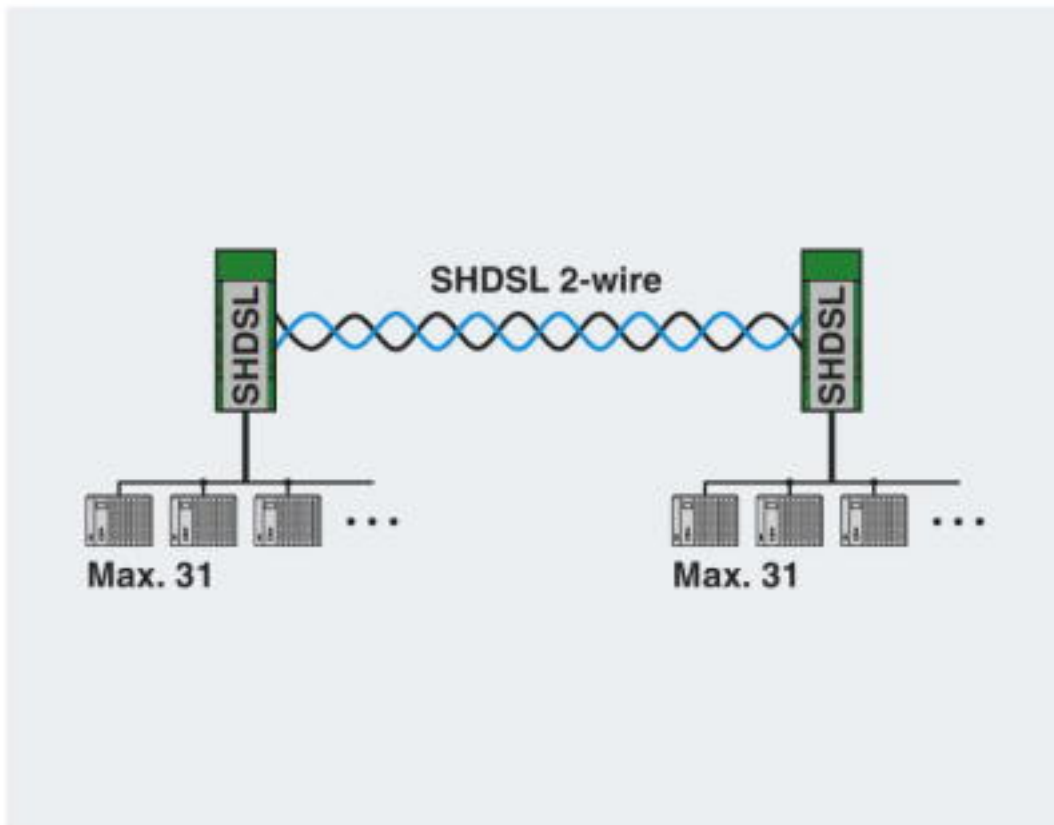
Technical data

Standards and Regulations

Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz

Environmental Product Compliance

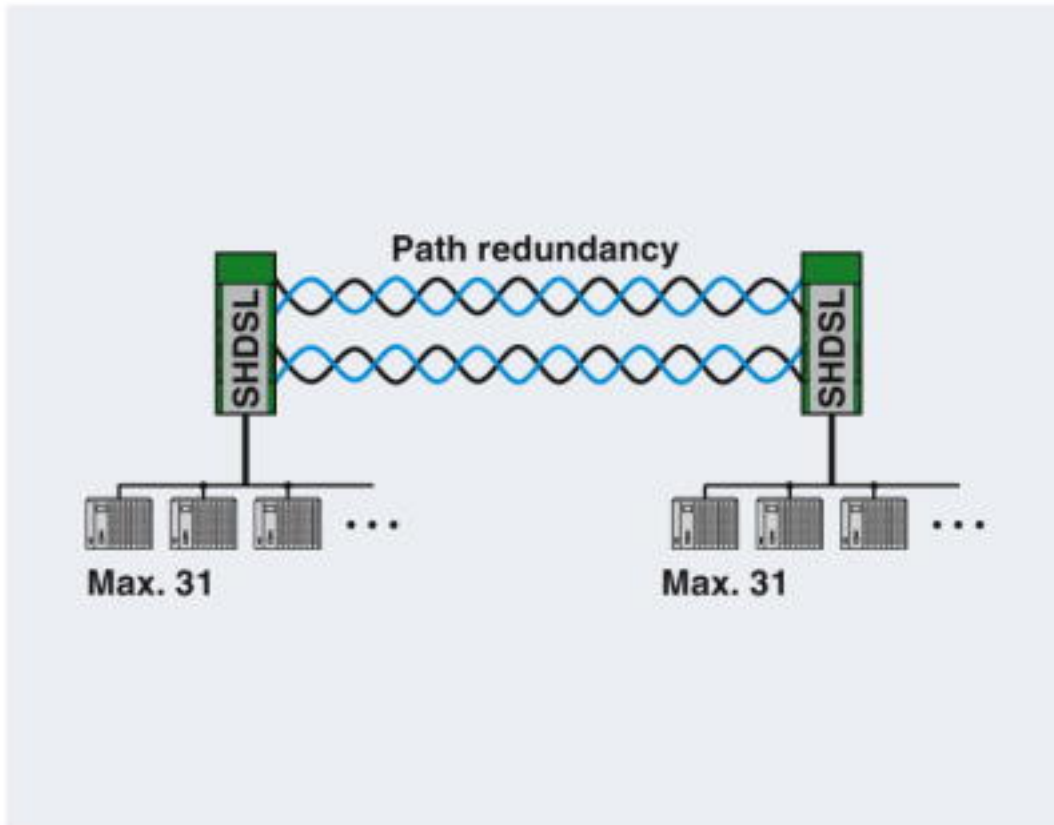| REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Application drawing

Point-to-point connection (2-wire)
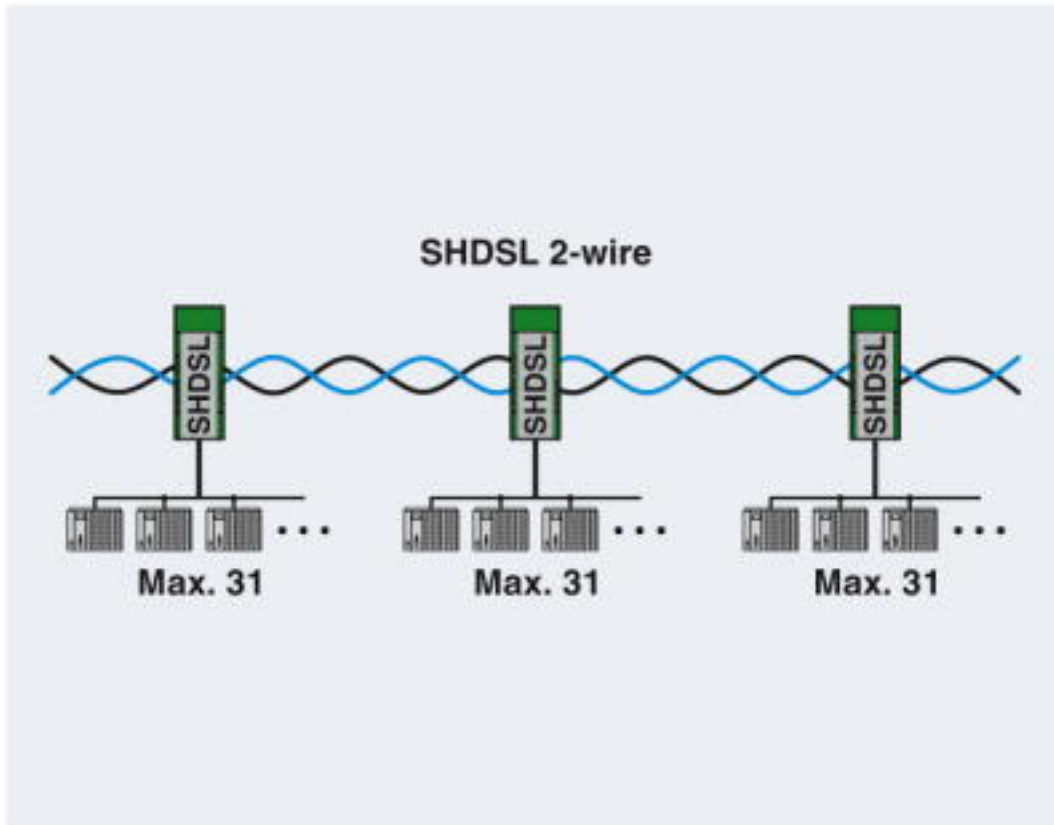
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Application drawing

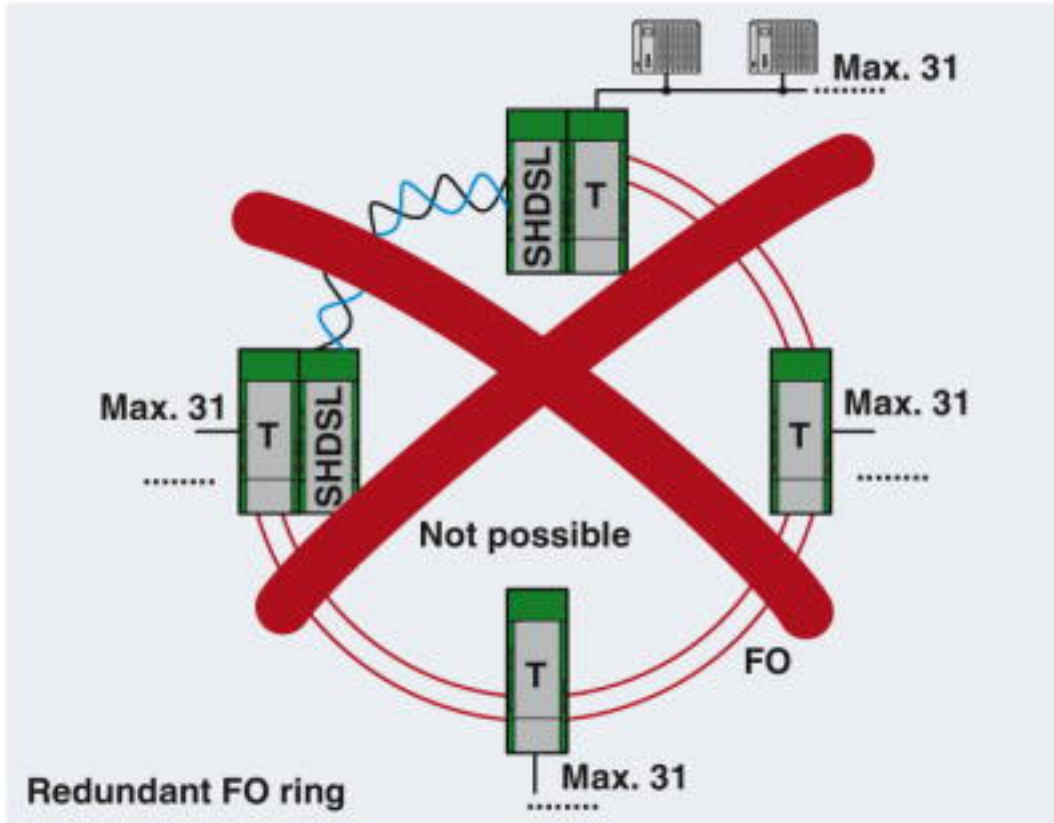Point-to-point connection (4-wire)

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Application drawing

SHDSL 2-wire

Linear structure (2-wire)
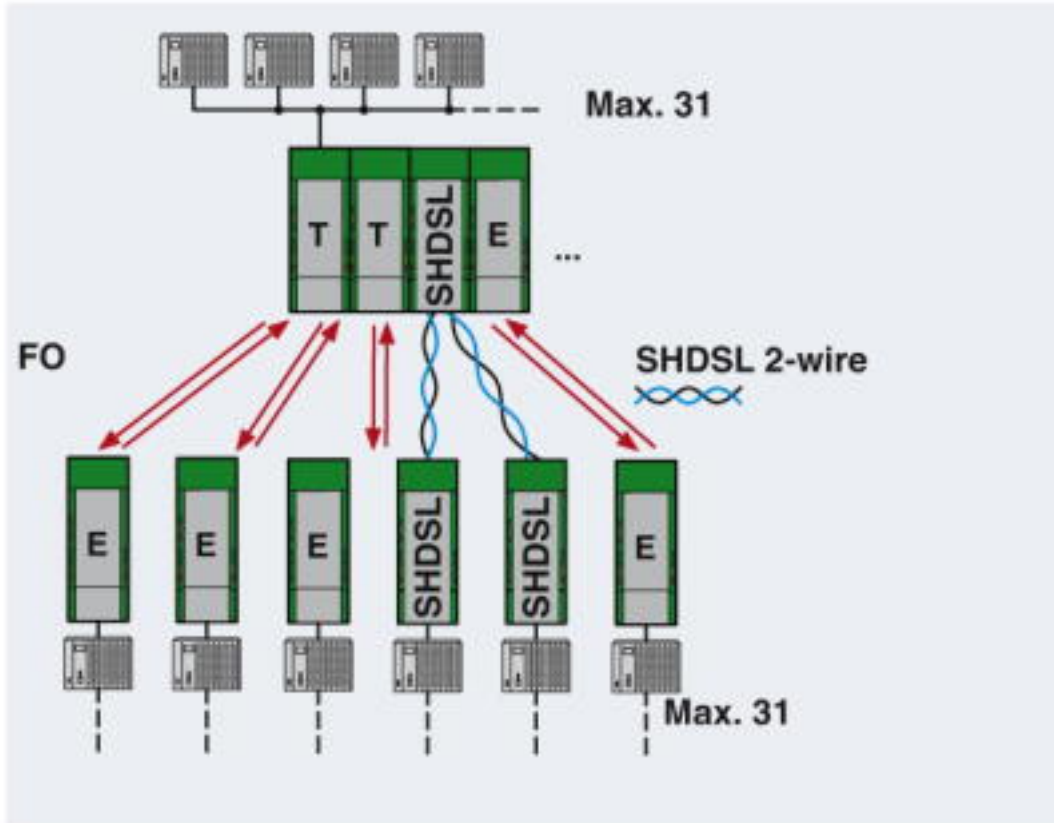
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Application drawing

SHDSL subsection in fiber optic ring not supported
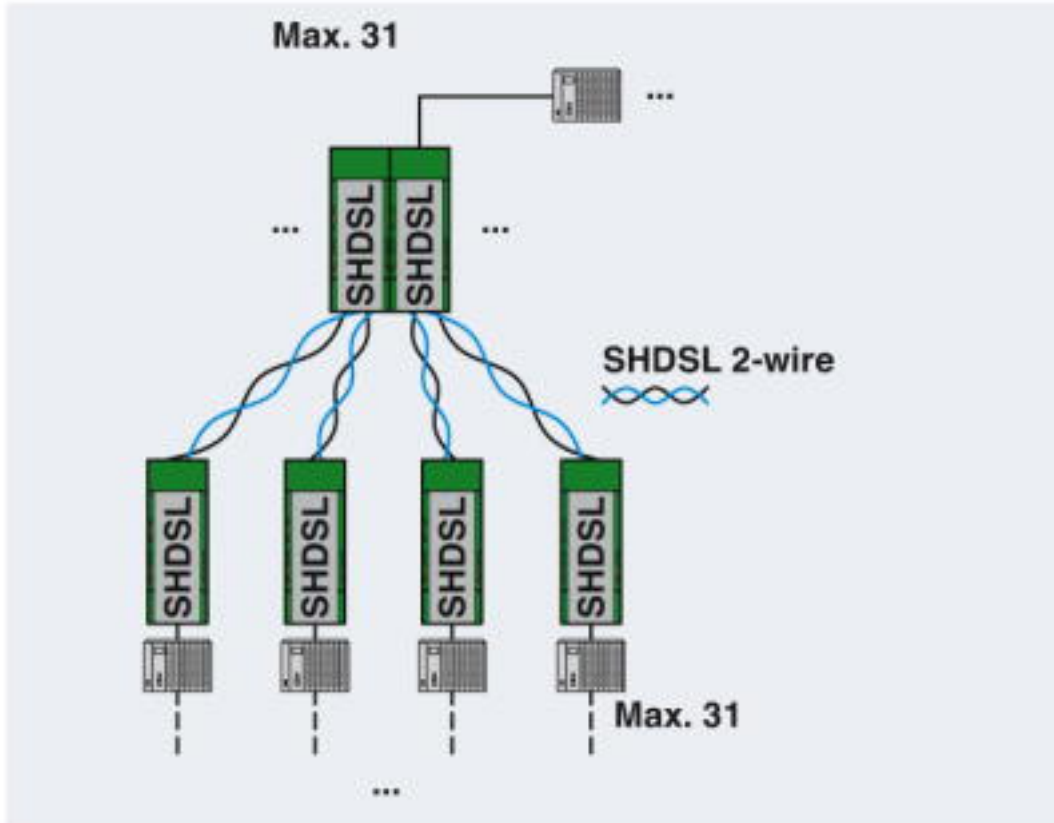
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Application drawing

Star structure: mixed operation with repeaters and FO converters

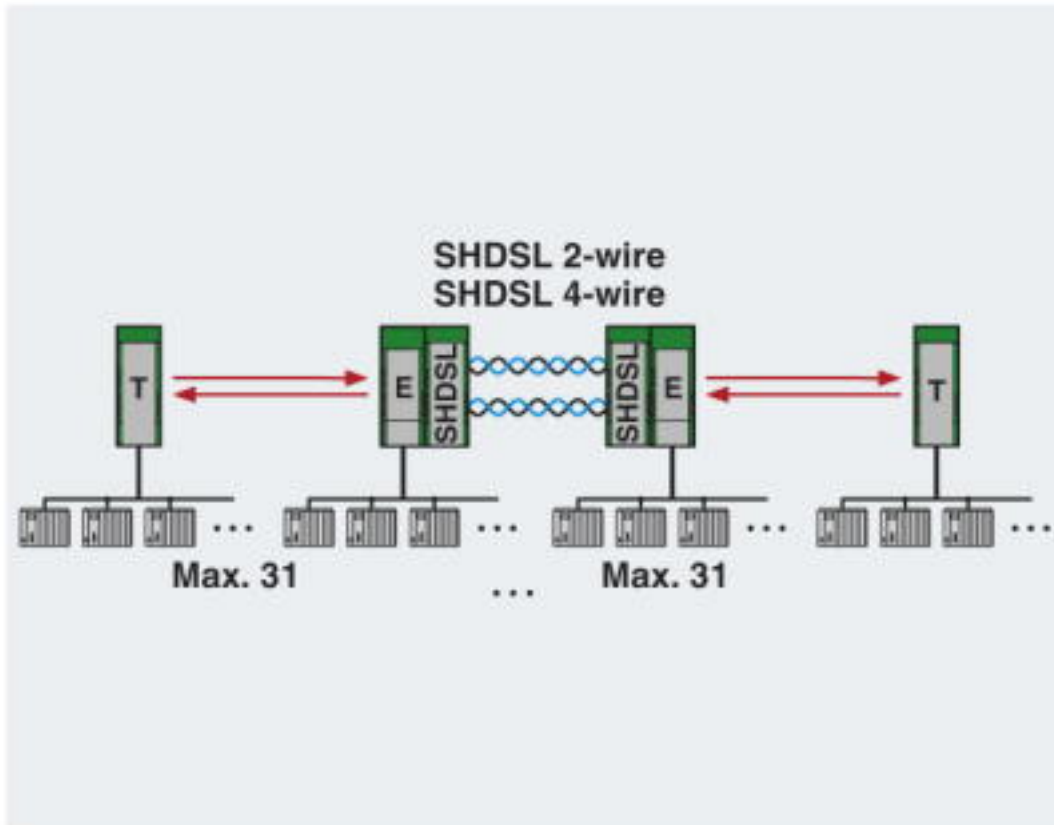# Modem - PSI-MODEM-SHDSL/PB - 2313656

Application drawing

Star structure via DIN rail connector

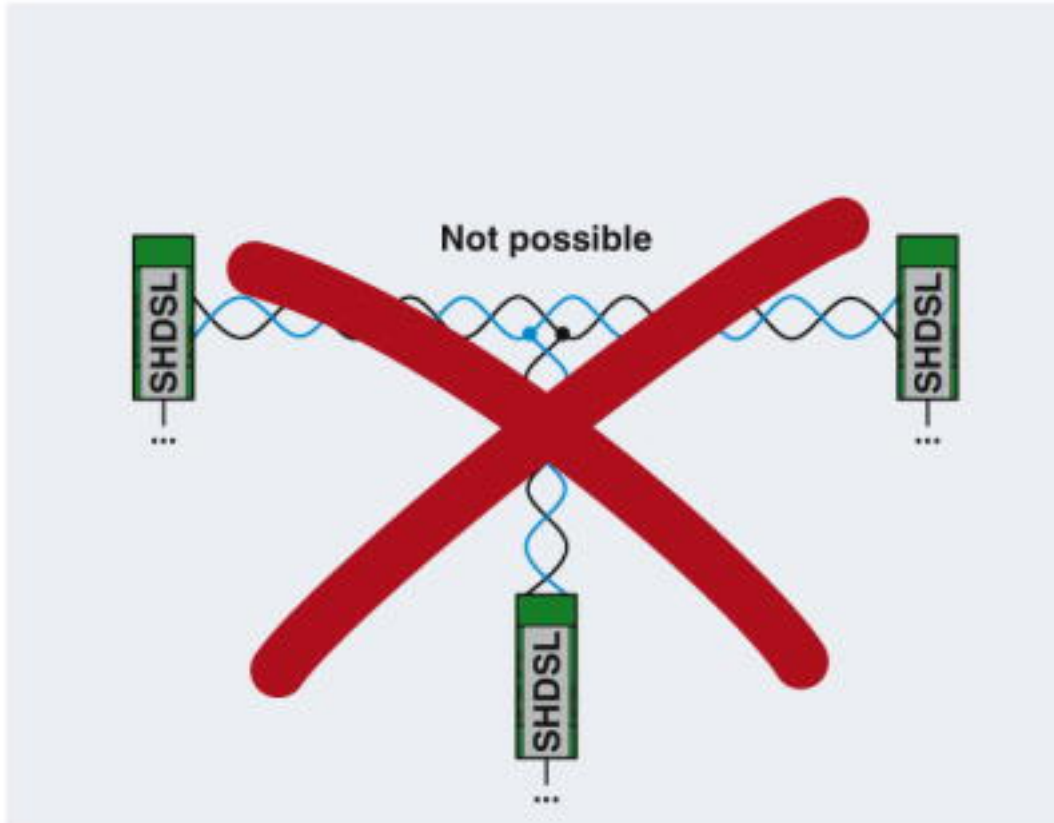# Modem - PSI-MODEM-SHDSL/PB - 2313656

Application drawing

Linear structure: mixed operation with repeaters and FO converters

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Application drawing

Multipoint communication via SHDSL not supported

Classifications

eCl@ss

eCl@ss 10.0.1	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 8.0	19060590
eCl@ss 9.0	19060590

ETIM

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

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Classifications

ETIM

ETIM 6.0	EC000740
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 / cULus Listed

Ex Approvals

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			RU *-DE.A*30.B.01735

cULus Listed			

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Accessories

Accessories

Data cable by the meter

Bus system cable - PSM-CABLE-PROFIB/FC - 2744652

By the meter, Bus system cable, PROFIBUS (12 Mbps), shielded, PVC FR VI/PVC, Violet, 2-wire (1X2XAWG22/1), color single wire: Red, green, cable length: Free entry (1.0 ... 1000.0 m)

Data plug

D-SUB bus connector - SUBCON-PLUS-PROFIB/SC2 - 2708232

D-SUB connector, 9-pos., male connector, cable entry < 35°, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/PG/SC2 - 2708245

D-SUB connector, 9-pos., male connector, cable entry < 35°, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/IDC - 2313672

D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; IDC terminal block connection

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/PG/IDC - 2313685

D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; IDC terminal block connection

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Accessories

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/SC - 2313698

D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/PG/SC - 2313708

D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/AX/SC - 2744380

D-SUB connector, 9-pos., male connector, axial version with two cable entries, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

DIN rail connector

DIN rail bus connectors - 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.

Interface converter

Repeater - PSI-REP-PROFIBUS/12MB - 2708863

Modular repeater for electrical isolation and range increase for PROFIBUS up to 12 Mbps, 4-way isolation, rail-mountable, supply 24 V DC

Media converter

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Accessories

FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

FO converter with integrated optical diagnostics, alarm contact, for PROFIBUS up to 12 Mbps, T-coupler with two FO interfaces (BFOC), 850 nm, for PCF/fiberglass cable (multimode)

FO converters - PSI-MOS-PROFIB/FO 660 T - 2708287

FO converter with integrated optical diagnostics, alarm contact, for PROFIBUS up to 12 Mbps, T-coupler with two FO interfaces (FSMA), 660 nm, for polymer/PCF fiber cable

FO converters - PSI-MOS-PROFIB/FO1300 E - 2708559

Fiber optic converter with integrated optical diagnostics, alarm contact, for PROFIBUS up to 12 Mbps, termination device with one fiber optic interface (SC-Duplex), 1300 nm, for fiberglass cable

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

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

Shield connection clamp

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Shield connection clamp - SKS 8-SNS35 - 3062786

Shield connection terminal block, for applying the shield to busbars

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.

Terminal resistor

Termination resistor - PSI-TERMINATOR-PB-TBUS - 2702636

Active termination resistor for PROFIBUS and RS-485 bus systems, redundant power supply, routing of the supply voltage via DIN rail connector, electrical isolation, switchable termination, integrated programming interface