PSI-MODEM-SHDSL/SERIAL - Modem

2313669

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Industrial SHDSL extender for serial RS-232/422/485 interfaces, point-to-point and line structures, serial data transmission up to 2000 kbps on in-house cables, diagnostics via USB and LEDs, two configurable alarm outputs. Product is being prepared for compliance with the Cyber Resilience Act (CRA).

Your advantages

- Distances up to 20 km
- RS-232, up to 230.4 kbps
- RS-422, up to 2000 kbps
- RS-485, up to 2000 kbps
- Robust modulation method (SHDSL)
- 2 digital outputs for alerting external controllers
- Easy configuration
- For in-house cables

Commercial data

Item number	2313669
Packing unit	1 pc
Minimum order quantity	1 pc

Sales key	DN24
Product key	DNC441
GTIN	4046356509220
Weight per piece (including packing)	353.7 g
Weight per piece (excluding packing)	339.4 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Notes

Note on application	Only for industrial use
Note on application	As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA.

Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.

Product properties

Product type	Modem
MTTF	693 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	301 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	121 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
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))
Special properties	The product is being prepared for compliance with the Cyber Resilience Act (CRA)

Electrical properties

Electrical isolation	VCC, RS-232 // RS-422, RS-485 // DSL (A) // DSL (B) // FE
Maximum power dissipation for nominal condition	4.32 W
Mains type	Permanent line
Test voltage data interface/power supply	500 V AC (In accordance with EN/IEC 60079-7)
	1.5 kV_{rms} (50 Hz, 1 min.)

Supply

Supply voltage range	18 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
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)
Typical current consumption	< 180 mA (24 V DC)
Max. current consumption	≤ 2 A (For operation in a joining station, via the DIN rail connector)

Function

Management	User-friendly software: Guided configuration, plausibility checks, diagnostic functions, log book

Status and diagnostic indicators	LEDs: VCC (supply voltage), RD/TD (serial data traffic), ERR (errors), TERM (termination resistor active), RS-232 (RS-232 active) 2 x LINK / 2 x STAT (DSL data traffic port A and port B), DIAG (diagnostic messages)

Output data

Signal

Output name	Digital output
Number of outputs	2
Voltage output signal	18 V DC ... 30 V DC (depending on the operating voltage)
Current output signal	≤ 150 mA (Short-circuit-proof)

Connection data

Supply

Connection method	COMBICON plug-in screw terminal block
Tightening torque	0.56 Nm ... 0.79 Nm

Interfaces

Signal	RS-232
	RS-422
	RS-485
	Modbus

Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

Serial transmission speed	0.11/0.3/1.2/2.4/4.8/9.6/19.2/38.4/57.6/115.2/230.4 kbps, NRZ
Connection method	D-SUB 9 plug
Transmission length	max. 15 m
Termination resistor	390 Ω - 180 Ω - 390 Ω (can be connected)
Data flow control/protocols	Software handshake, Xon/Xoff, hardware handshake (RTS/CTS), 3964R-compatible, Modbus (RTU/ASCII), transparent protocol - additional protocols supported

Data: SHDSL interface according to ITU-T G.991.2.bis

Serial transmission speed	4-wire operation: 64 kbps ... 30 Mbps
	2-wire operation: 32 kbps ... 15.3 Mbps
Connection method	2 x 2-pos. COMBICON plug-in screw terminal blocks
Tightening torque	0.56 Nm ... 0.79 Nm
Transmission length	≤ 20 km (Depending on data rate and cable cross section)
Single conductor/terminal point, rigid	0.2 mm² ... 2.5 mm²
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Max. AWG conductor cross-section, flexible	14
Min. AWG conductor cross-section, flexible	24
Single-wire/terminal point, rigid AWG max.	14
Single-wire/terminal point, rigid AWG min.	24
Stripping length	7 mm

Data: USB 2.0

Connection method	Mini-USB type B, 5-pos.
Transmission length	< 5 m (only for configuration and diagnostics)

Data: RS-422 interface in acc. with ITU-T V.11, EIA/TIA-422, DIN 66348-1

Serial transmission speed	1.2/2.4/4.8/7.0/9.6/19.2/38.4/57.6/75/93.75/115.2/136/187.5/375/500/1500/2000 kbps, NRZ
Connection method	Plug-in/screw connection via COMBICON
Transmission length	≤ 1200 m
Termination resistor	390 Ω - 180 Ω - 390 Ω (can be connected)
File format/coding	Serial asynchronous UART/NRZ, 7/8 data bits, 1/2 stop bits, 1 parity bit (even, odd, mark, space, none), 9/10/11-bit character length
Data flow control/protocols	Automatic control // Modbus RTU/ASCII

Data: RS-485 interface, in acc. with EIA/TIA-485, DIN 66259-4/RS-485 2-wire

Serial transmission speed	1.2/2.4/4.8/7.0/9.6/19.2/38.4/57.6/75/93.75/115.2/136/187.5/375/500/1500/2000 kbps, NRZ
Connection method	Plug-in/screw connection via COMBICON
Transmission length	≤ 1200 m
Termination resistor	390 Ω - 180 Ω - 390 Ω (can be connected)
File format/coding	Serial asynchronous UART/NRZ, 7/8 data, 1/2 stop, 1 parity, 10/11-bit character length
Protocols supported	Transparent, including 3964R protocol
Data flow control/protocols	Automatic control // Modbus RTU/ASCII

Dimensions

Width	35 mm
Height	99 mm
Depth	114.5 mm

Material specifications

Color (Housing)	green (RAL 6021)
Material (Housing)	PA 6.6-FR
Flammability rating according to UL 94	V0

Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	Operation: 5g, 10...150 Hz, 2.5 h, in XYZ direction
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	Operation: 15g, 11 ms period, half-sine shock pulse

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
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 (aligned without spacing and supply of other modules via the device, 1.5 A)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant

ATEX

Identification	Ⓔx II 3 G Ex ec nC IIC T4 Gc
Certificate	PxCIF11ATEX2313643X
Note	Please follow the special installation instructions in the documentation!

UL, USA/Canada

Identification	508 Listed

Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	EN 61000-6-2

Noise emission

Standards/regulations	EN 55011

Standards and regulations

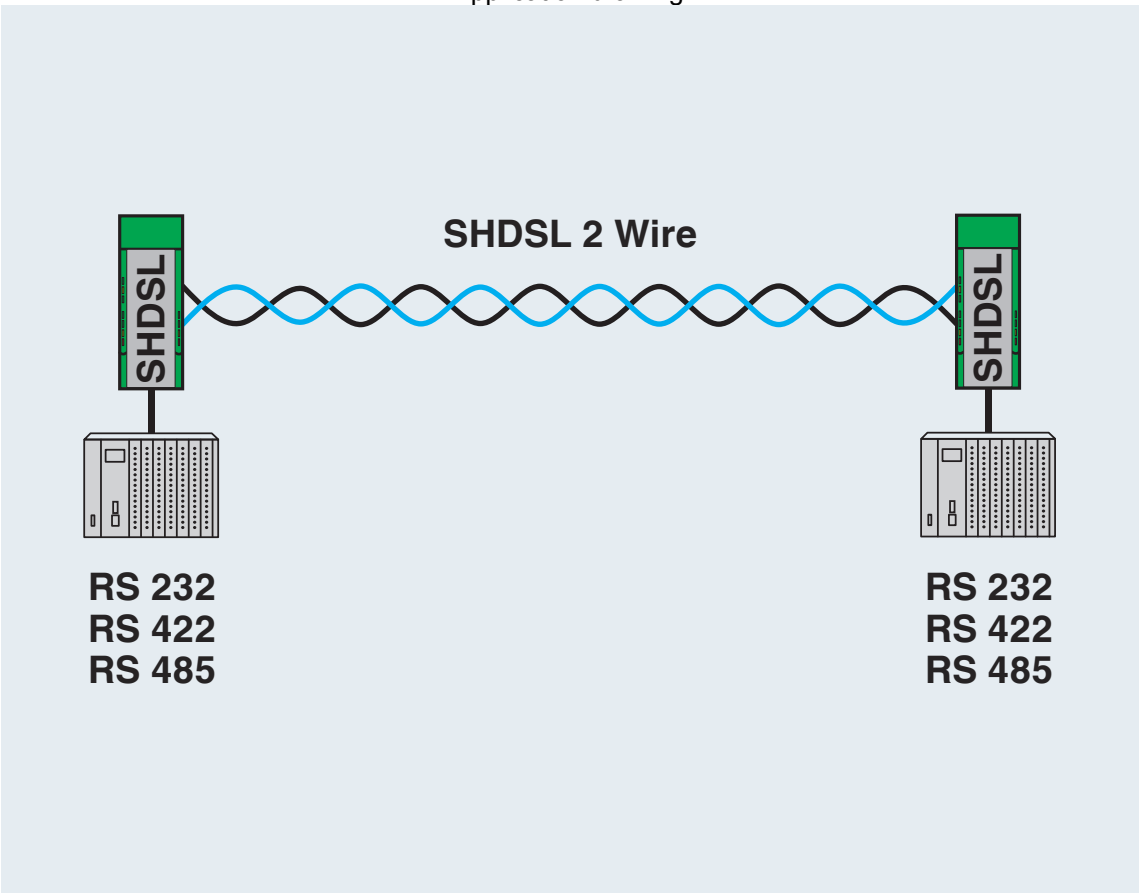
Standards/regulations	EN 50121-4
Standard designation	Railway applications

Mounting

Mounting type	DIN rail mounting
Assembly note	The product can be snapped onto all 35 mm DIN rails in accordance with EN 60715.
Useable DIN rail type	DIN rail: 35 mm

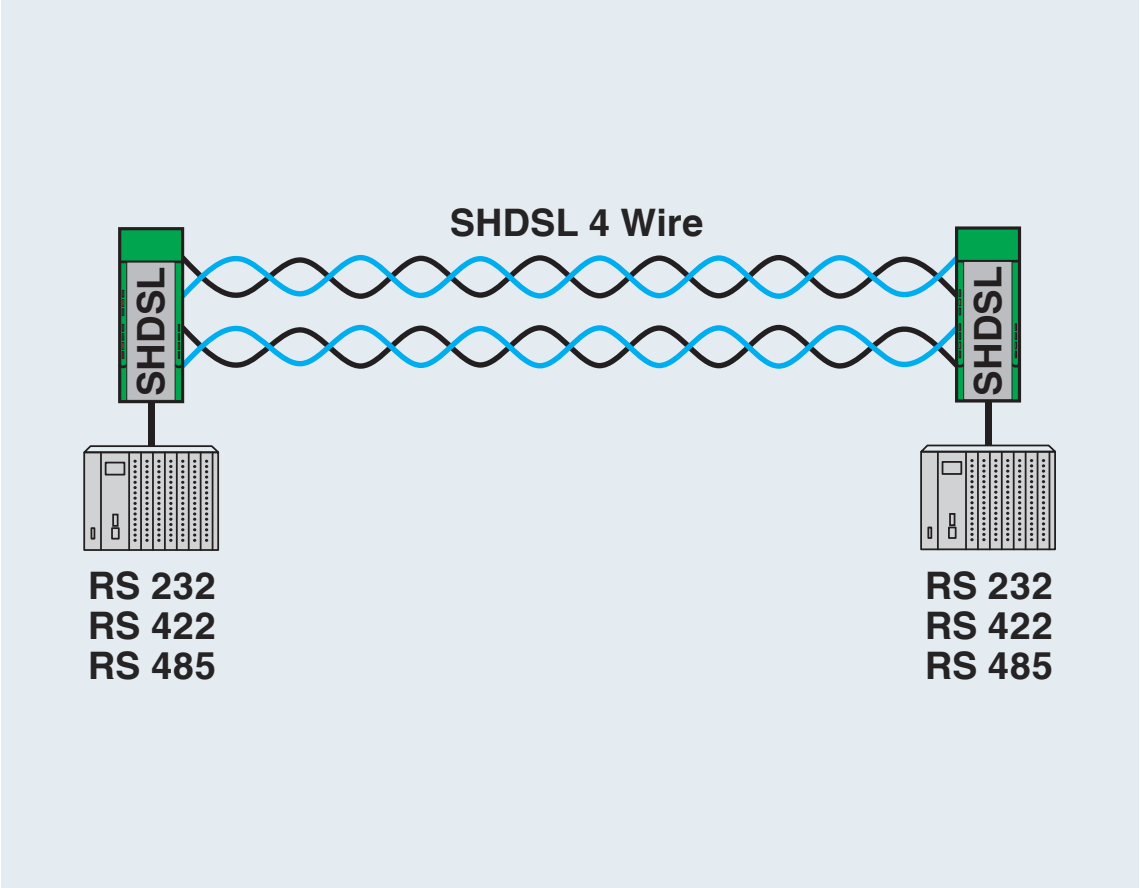
Drawings

Application drawing



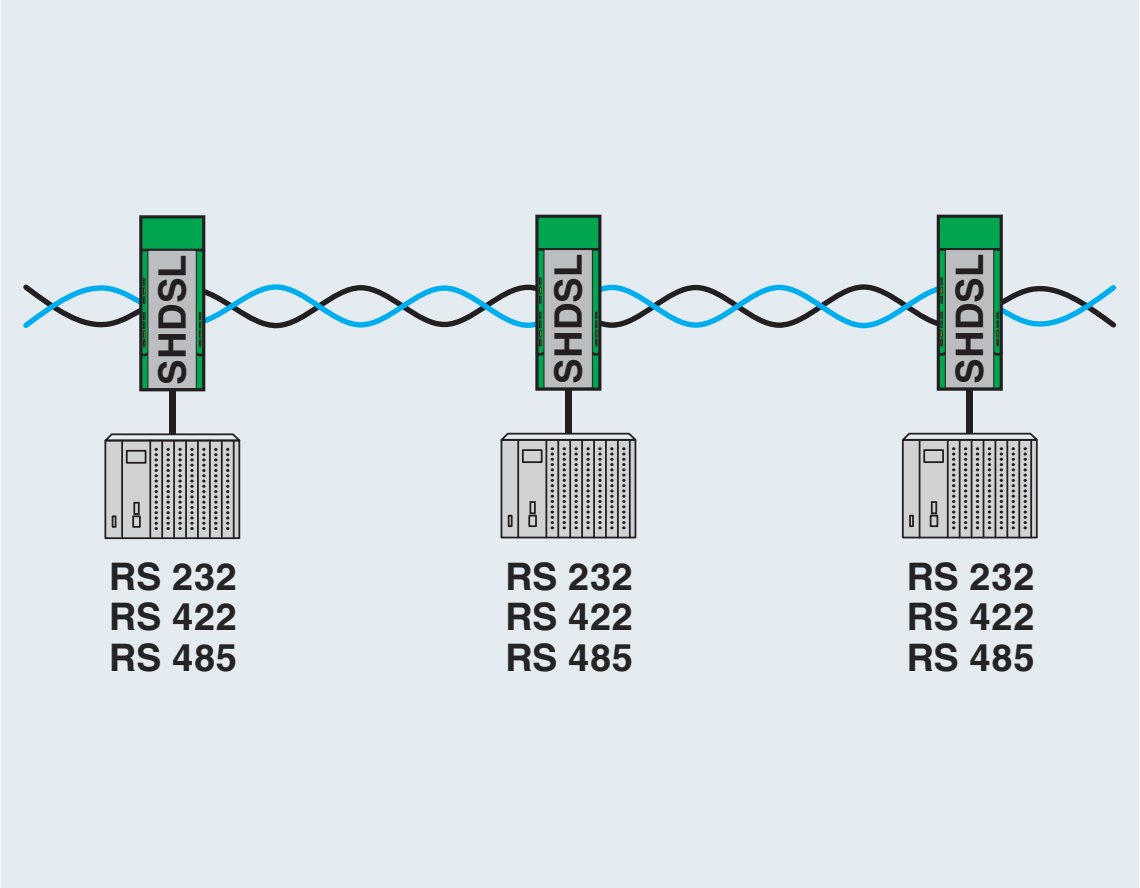
Point-to-point connection (2-wire)

Application drawing



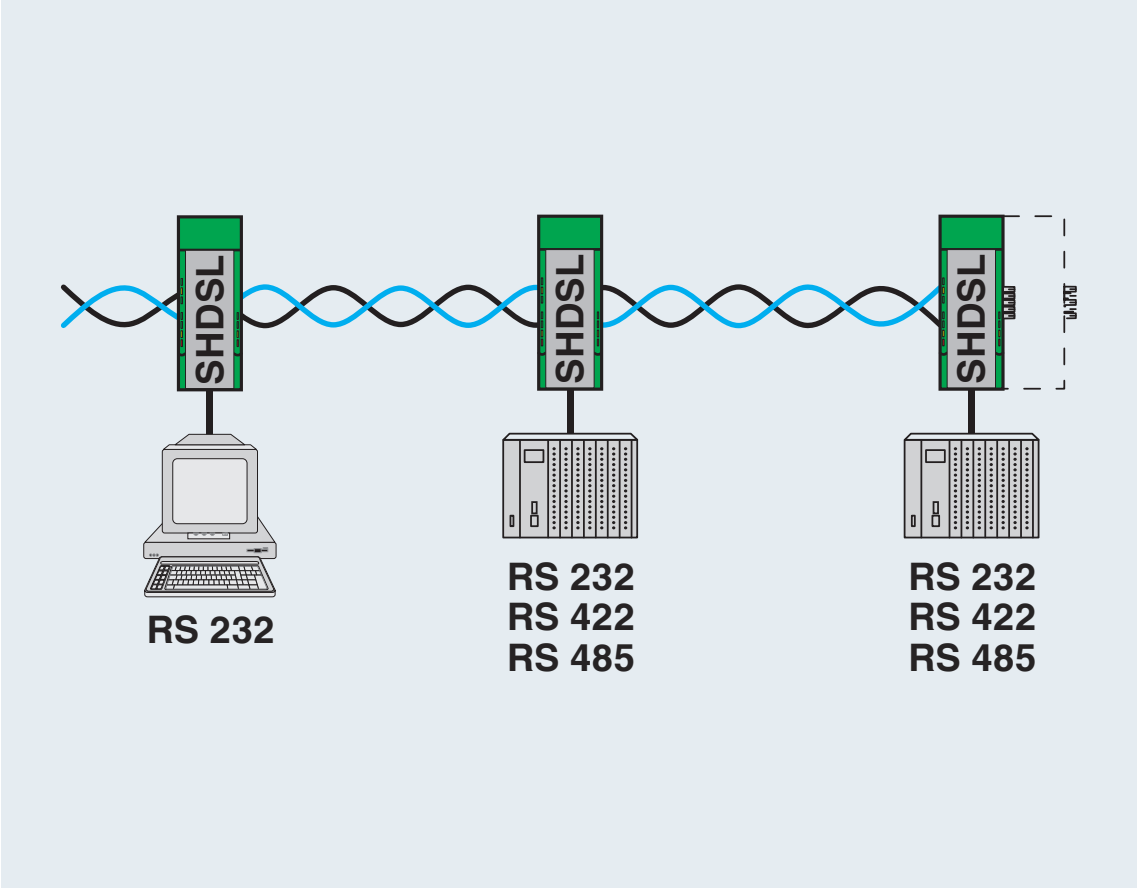
Point-to-point connection (4-wire)

Application drawing



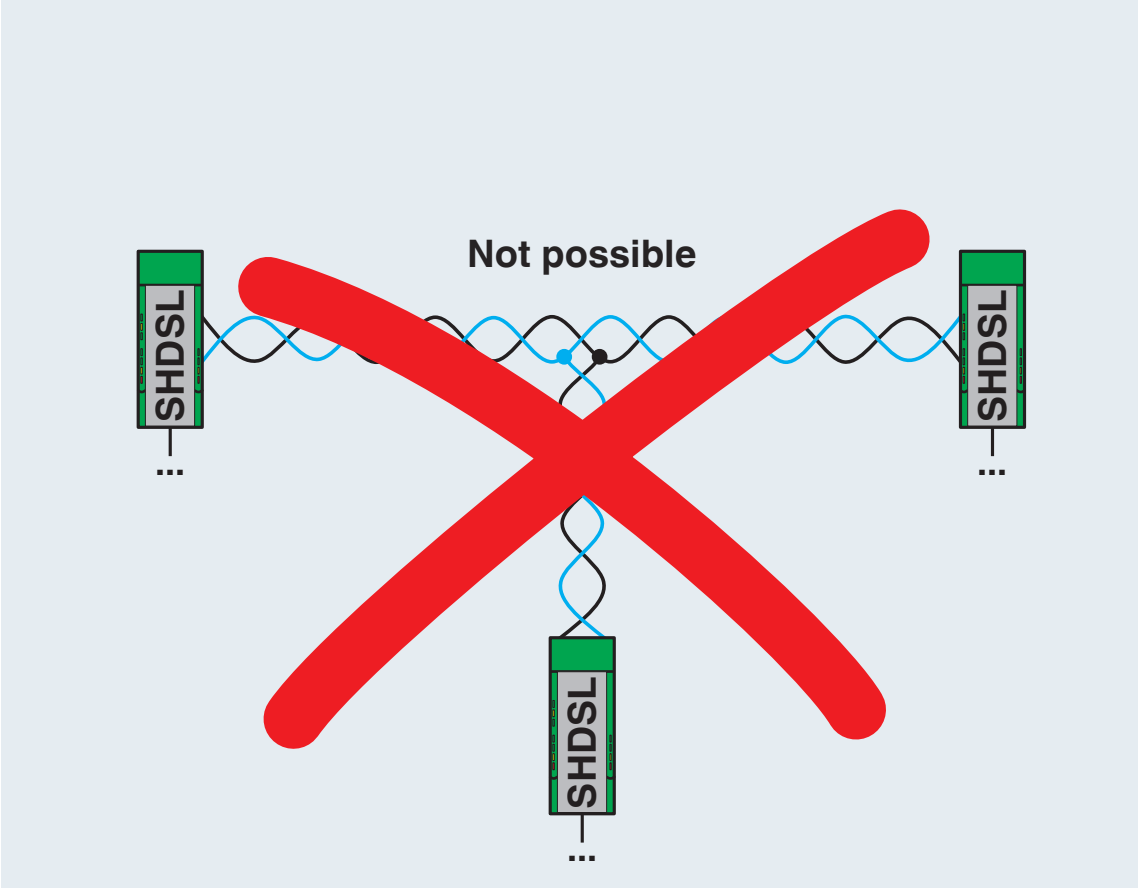
Linear structure (2-wire)

Application drawing



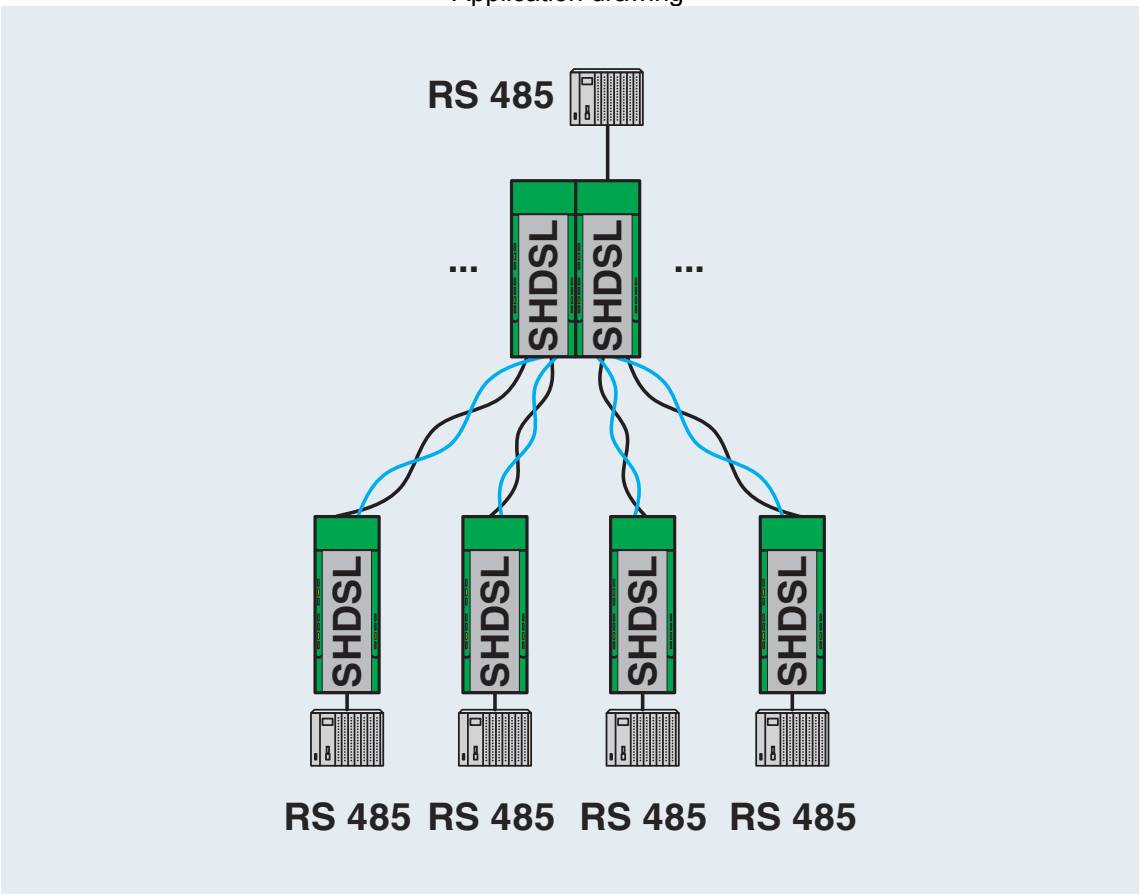
Linear structure (2-wire)

Application drawing



Multipoint communication via SHDSL not supported

Application drawing



Star structure via DIN rail connector

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2313669

cULus Listed
Approval ID: E238705

Classifications

ECLASS

ECLASS-13.0	19170407
ECLASS-15.0	19170407

ETIM

ETIM 10.0	EC000309

UNSPSC

UNSPSC 21.0	43223100

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	289e5825-9e7b-46c3-ab9a-6b494bf7e3b7

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