PSI-MODEM-SHDSL/SERIAL - Modem

2313669

https://www.phoenixcontact.com/in/products/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

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	DNC
Product Key	DNC441
Catalog Page	Page 429 (C-6-2019)
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

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))

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)
Connection method	COMBICON plug-in screw terminal block

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)
Conductor cross section flexible max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section, rigid max.	2.5 mm²
Conductor cross section, rigid min.	0.2 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

Material Housing	PA 6.6-FR
Flammability rating according to UL 94	V0

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

EAC

Identification	EAC

ATEX

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

UKEX

Identification	☐ II 3 G Ex ec nC IIC T4 Gc
Certificate	PxCIMA22UKEX2313643X

UL, USA/Canada

Identification	508 Listed

Corrosive gas test

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

EMC data

Noise immunity	EN 61000-6-2
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011

Standards and regulations

Standards/regulations	EN 50121-4
Standard designation	Railway applications - Electromagnetic compatibility, Part 4: Emission and immunity of the signaling and telecommunications apparatus

Mounting

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

Drawings

Application drawing
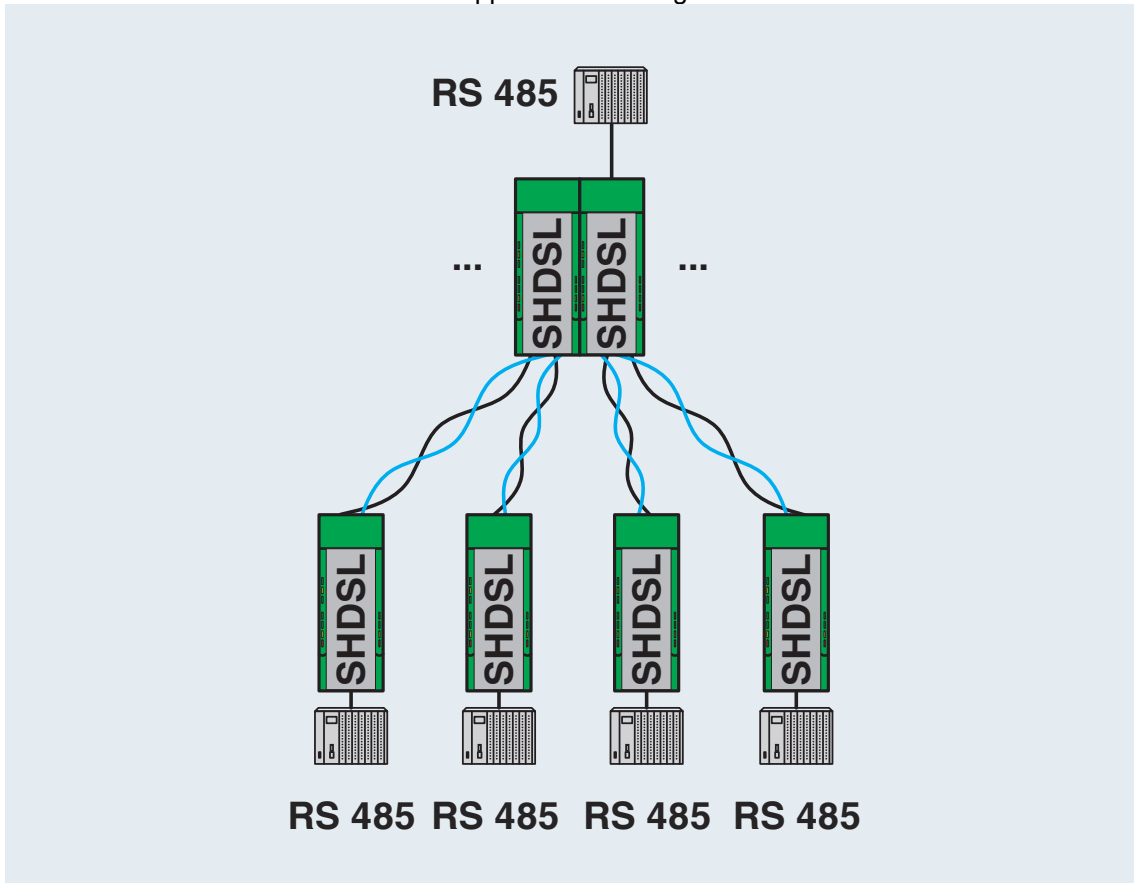
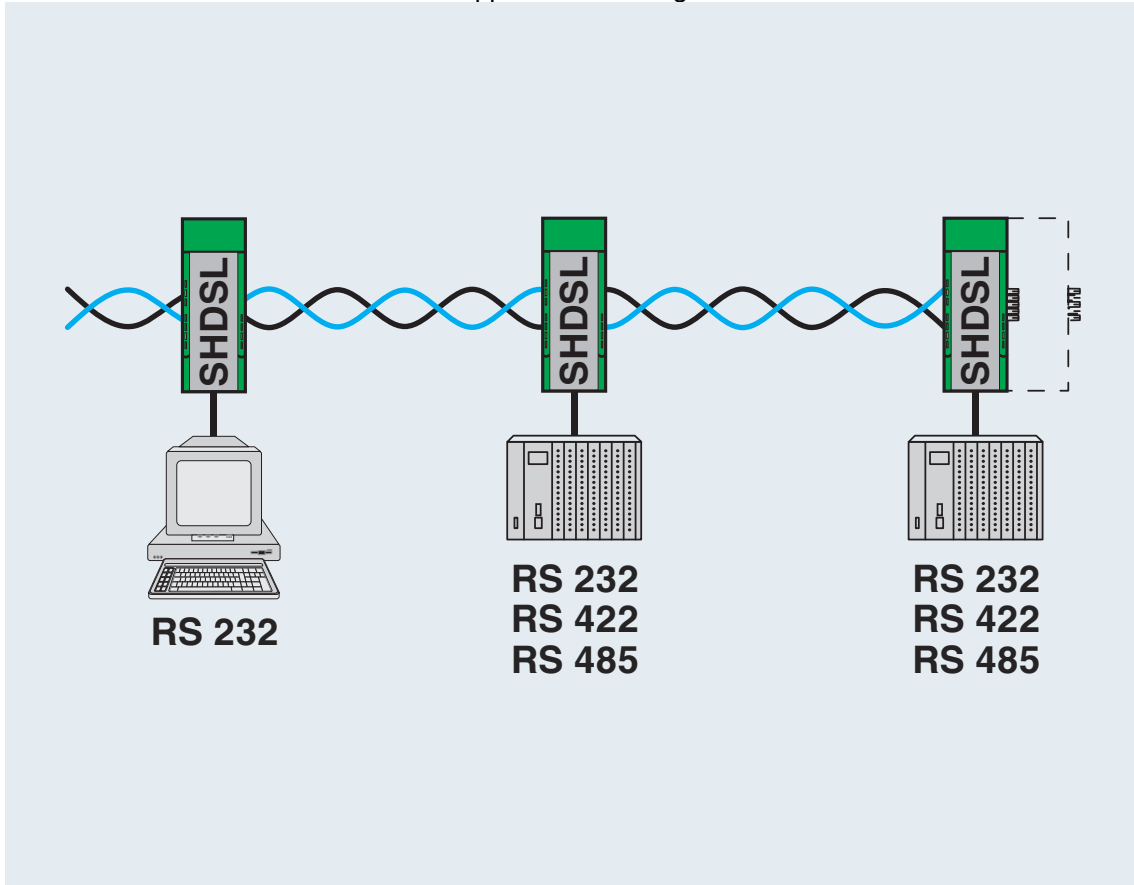
Star structure via DIN rail connector

Application drawing

SHDSL 4 Wire

SHDSL

SHDSL

RS 232
RS 422
RS 485

RS 232
RS 422
RS 485
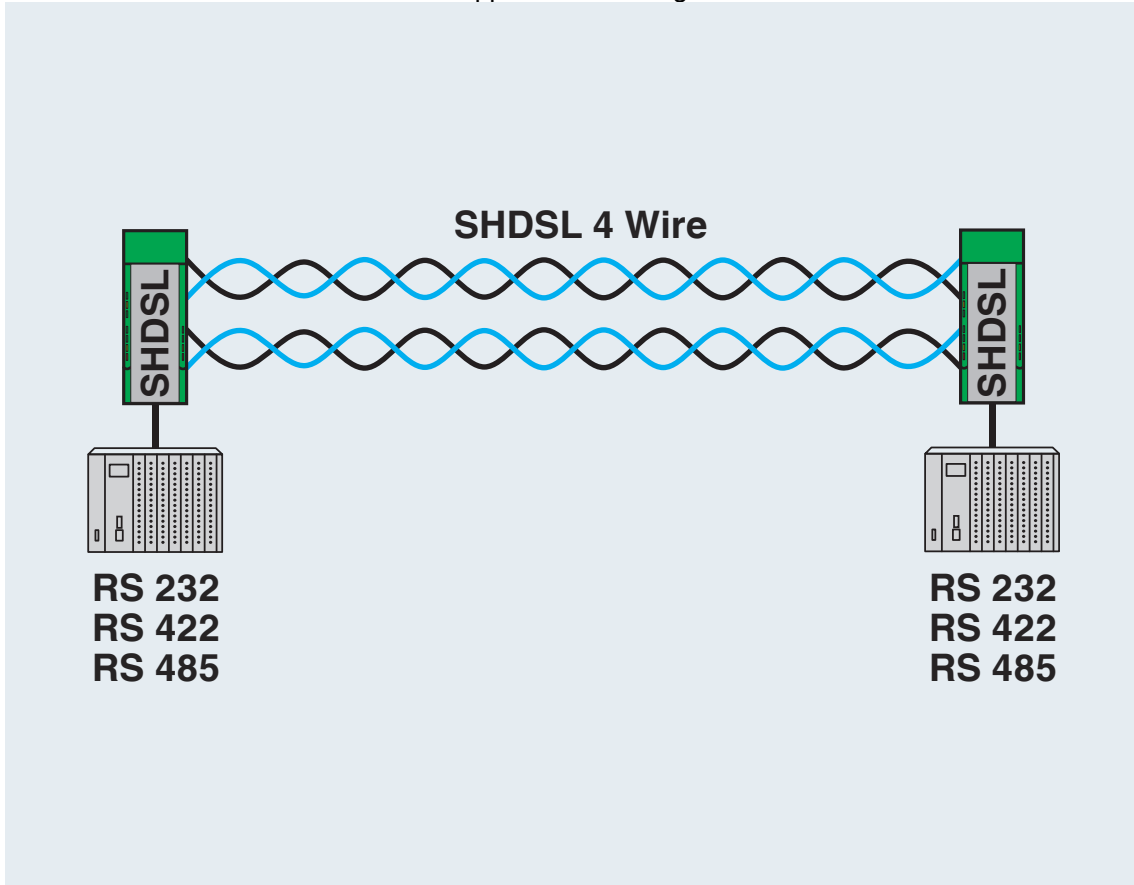
Point-to-point connection (4-wire)

Application drawing

Linear structure (2-wire)

Application drawing

Not possible
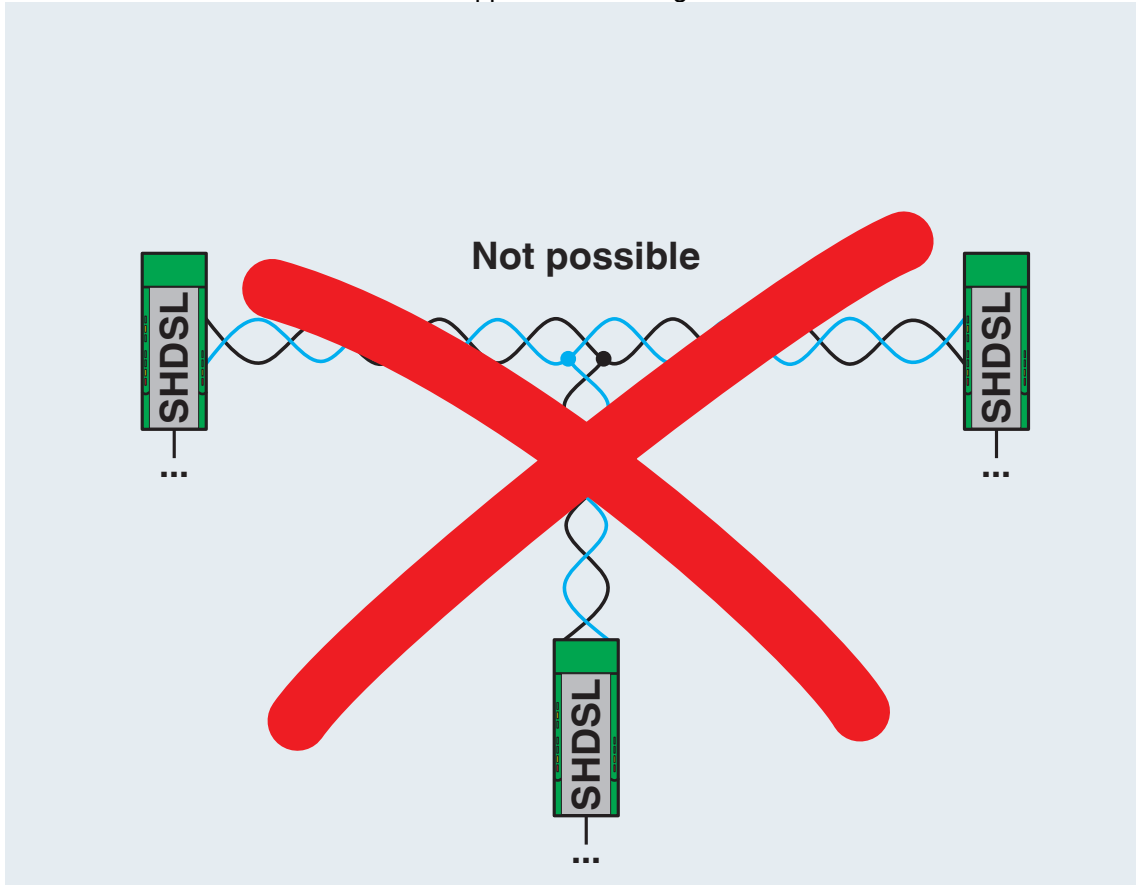
Multipoint communication via SHDSL not supported

Application drawing

SHDSL 2 Wire

SHDSL

SHDSL

RS 232
RS 422
RS 485

RS 232
RS 422
RS 485
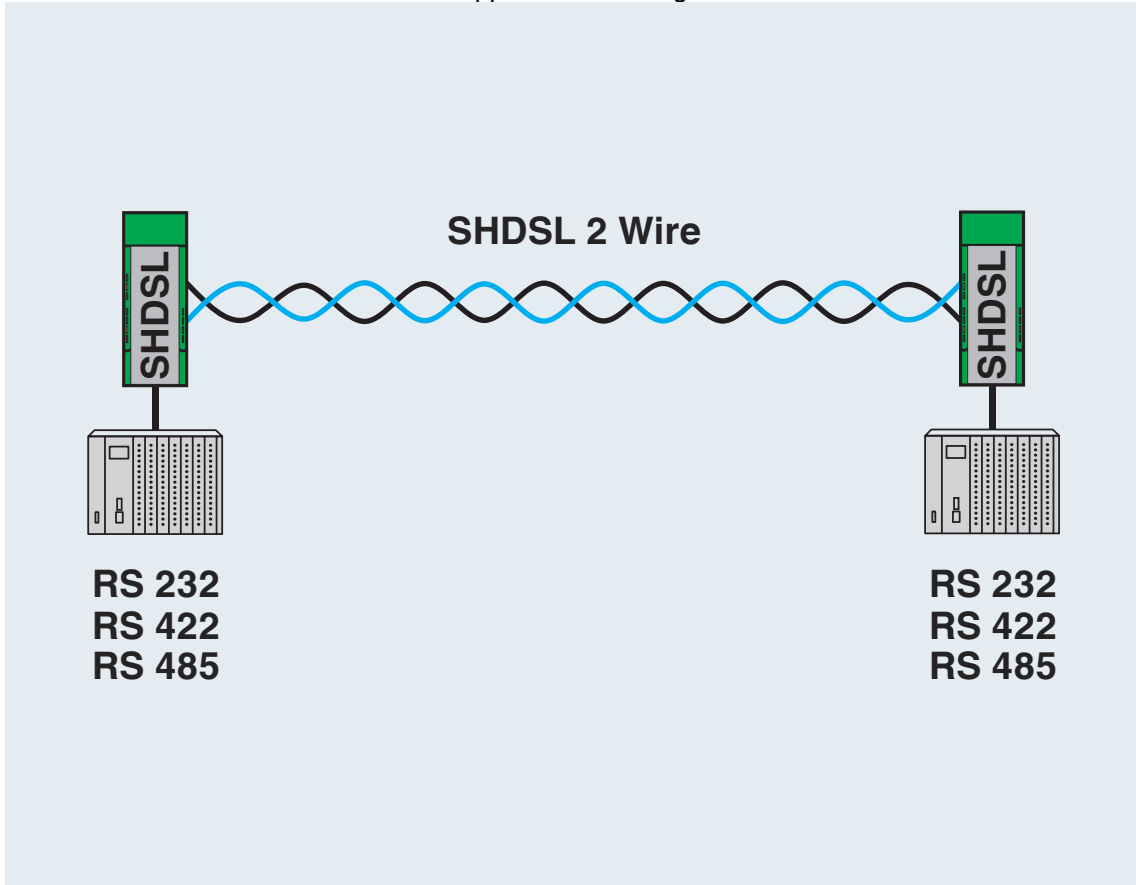
Point-to-point connection (2-wire)

Application drawing
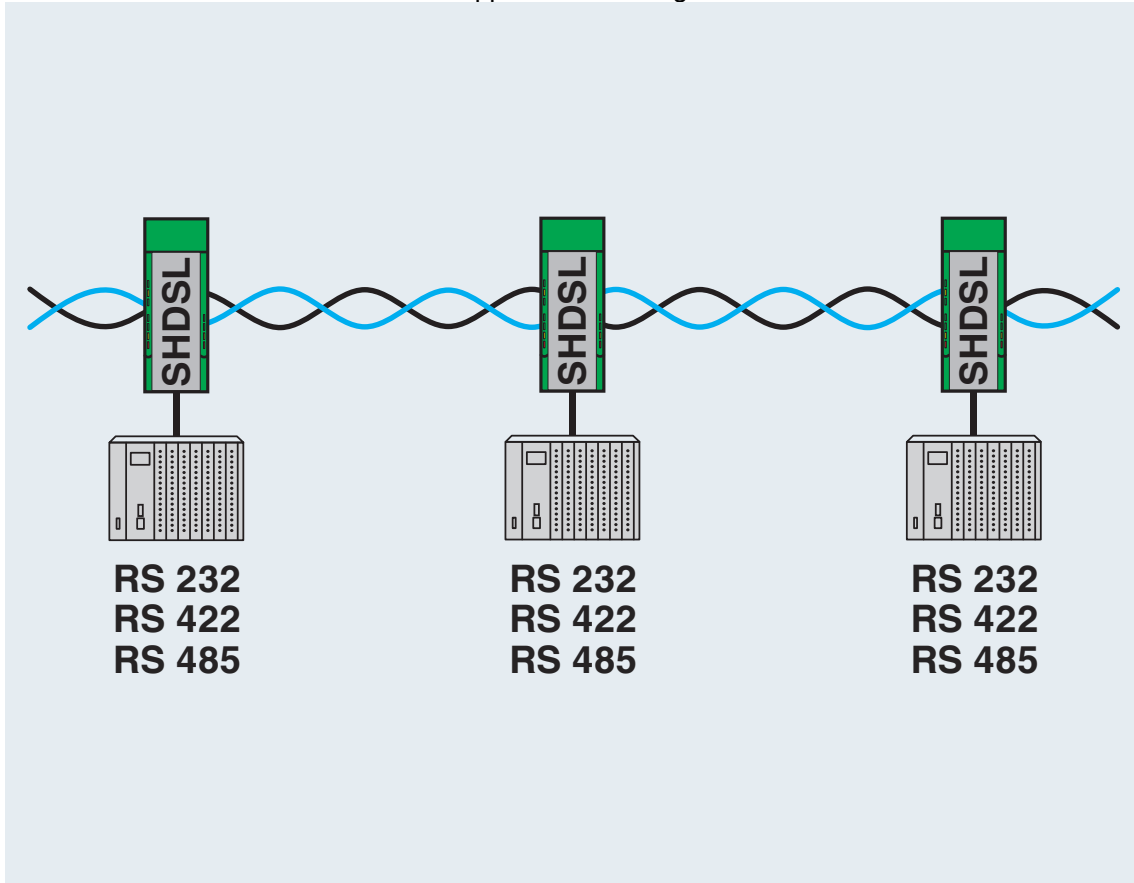
Linear structure (2-wire)

Approvals

	EAC
	Approval ID: RU *-DE.A*30.B.01735

	UL Listed
	Approval ID: FILE E 238705

	cUL Listed
	Approval ID: FILE E 238705

	EAC
	Approval ID: RU D-DE.HB35.B.00388

	ATEX
	Approval ID: PxCIF11ATEX2313643X

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Classifications

ECLASS

ECLASS-11.0	19170407
ECLASS-12.0	19170407
ECLASS-13.0	19170407

ETIM

ETIM 8.0	EC000309

UNSPSC

UNSPSC 21.0	43223100

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

Accessories

QUINT4-SYS-PS/1AC/24DC/2.5/SC - Power supply unit

2904614

https://www.phoenixcontact.com/in/products/2904614

Primary-switched power supply, QUINT POWER, screw connection, DIN rail mounting, supply of devices possible via the TBUS DIN rail connector, protective coating, input: single-phase, output: 24 V DC/2.5 A

ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - DIN rail bus connectors

2709561

https://www.phoenixcontact.com/in/products/2709561
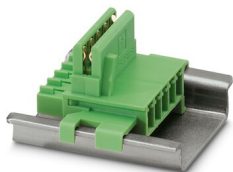
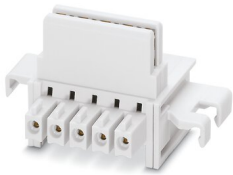DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

ME 17,5 TBUS 1,5/ 5-ST-3,81 KMGY - DIN rail bus connectors

2713645

https://www.phoenixcontact.com/in/products/2713645

DIN rail connector, color: light grey, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, mounting: DIN rail mounting, locking: without, mounting: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

DT-TELE-SHDSL - Surge protection device

2801593

https://www.phoenixcontact.com/in/products/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.

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

2986135

https://www.phoenixcontact.com/in/products/2986135

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

SUBCON 9/M-SH - D-SUB bus connector

2761509

https://www.phoenixcontact.com/in/products/2761509

D-SUB connector, 9-pos., male connector, one 35° cable entry, universal type for all systems, pin assignment: 1, 2, 3, 4, 5, 6, 7, 8, 9 to screw connection terminal block

SCC 10-NS35 - Shield connection clamp

1019440

https://www.phoenixcontact.com/in/products/1019440

Shield connection clamp, number of positions: 1, connection method: Spring-cage connection, mounting type: NS 35/7,5, NS 35/15, color: black