

Modem - TC EXTENDER 4001 ETH-1S - 2702253

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Managed Ethernet extender, point-to-point connections, data rates up to 15.3 Mbps, distances of up to 20 km on in-house copper cables, replaceable surge protection, 1 SHDSL port, 1 LAN port, diagnostics via Ethernet

Your advantages

- Distances up to 20 km
- Up to 15.3 Mbps in 2-wire operation
- Robust modulation method (SHDSL)
- Automatic SHDSL data rate detection
- Network transparent (no IP configuration required)
- Automatic network data rate detection (10/100 Mbps)
- Easy startup, plug and play
- Alarm and signal output
- Remote diagnostics via IP and automatic event messages via SNMP



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 055558
GTIN	4055626055558

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	60 mm
Height	130 mm
Depth	160 mm

Ambient conditions

Modem - TC EXTENDER 4001 ETH-1S - 2702253

Technical data

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Altitude	≤ 2500 m (For restrictions, see the manufacturer's declaration for altitude operation)
Degree of protection	IP20

General

Electrical isolation	VCC // Ethernet // DSL (A/B) // FE
Test voltage data interface/power supply	1.5 kV AC (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Net weight	258.7 g
Housing material	Aluminum / steel sheet DC01
MTTF	577 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	300 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	128 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

Power supply

Nominal supply voltage	24 V DC ±5 %
Supply voltage range	10 V DC ... 60 V DC
Typical current consumption	80 mA (60 V DC)
	200 mA (24 V DC)
	380 mA (10 V DC)
Connection method	Push-in spring connection

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
	1 port 10/100Base-T(X), auto negotiation
Transmission length	< 100 m (shielded twisted pair)
Protocols supported	IPv4, IPv6, TCP/IP, HTTP, HTTPS
Auxiliary protocols	ARP, DHCP (Client), PING, SNMP
Serial transmission speed	10/100 Mbps, auto negotiation
Interface 2	SHDSL interface according to ITU-T G.991.2.bis
No. of ports	1 (2-wire operation)
Connection method	Push-in spring connection
Transmission length	< 20 km (Depending on data rate and cable cross section)
Conductor cross section solid min.	0.2 mm ²

Modem - TC EXTENDER 4001 ETH-1S - 2702253

Technical data

Interfaces

Conductor cross section solid max.	1.5 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.	16
Serial transmission speed	2-wire operation: 32 kbps ... 15.3 Mbps

Function

Web-based management	yes
Management	Web-based management: Diagnostics, log book, customized configuration
Status and diagnostic indicators	LEDs for warning, status, and device information

Digital outputs

Output name	Digital output
Number of outputs	1
Voltage output signal	depending on the operating voltage
Current output signal	≤ 500 mA (Short-circuit-proof)
Connection method	Push-in spring connection

Conformance/approvals

Designation	CE
Identification	CE-compliant
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
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	5g, 10...150 Hz, 2.5 h, in XYZ direction
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	15g
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV
Indirect discharge	± 6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz
Standards/regulations	EN 61000-4-4

Modem - TC EXTENDER 4001 ETH-1S - 2702253

Technical data

Standards and Regulations

Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 1 kV (asymmetrical, shielded Ethernet cable)
	± 4 kV (asymmetrical: line to ground, unshielded SHDSL cable)
	± 2 kV (symmetrical: line to line, unshielded SHDSL cable)
Standards/regulations	EN 55011
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Standards/regulations	EN 50121-4

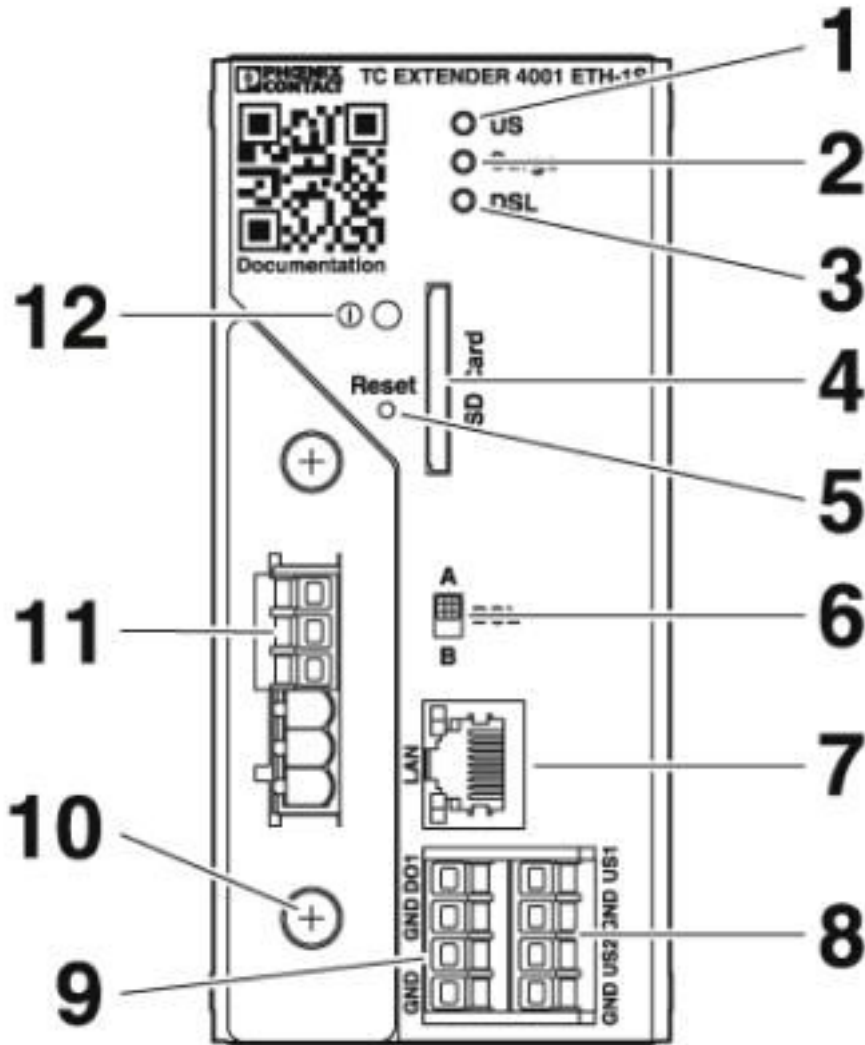
Environmental Product Compliance

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

Modem - TC EXTENDER 4001 ETH-1S - 2702253

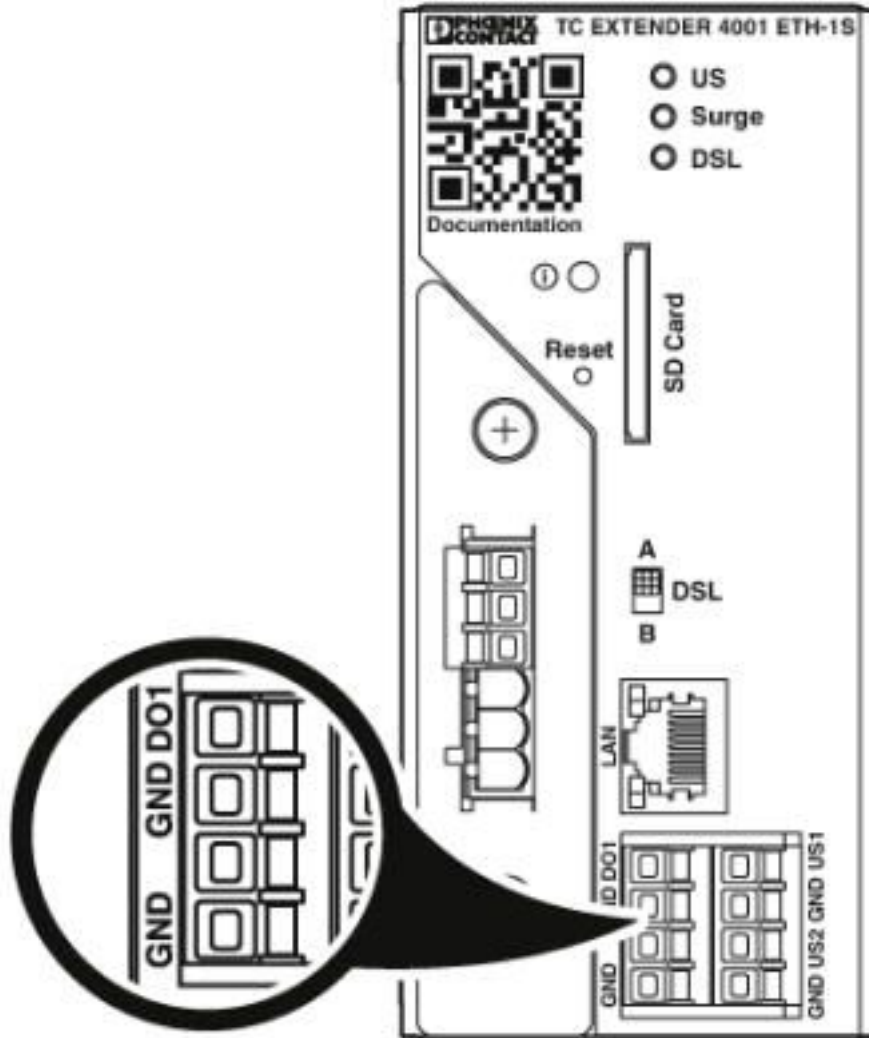
Schematic diagram



Front view

Modem - TC EXTENDER 4001 ETH-1S - 2702253

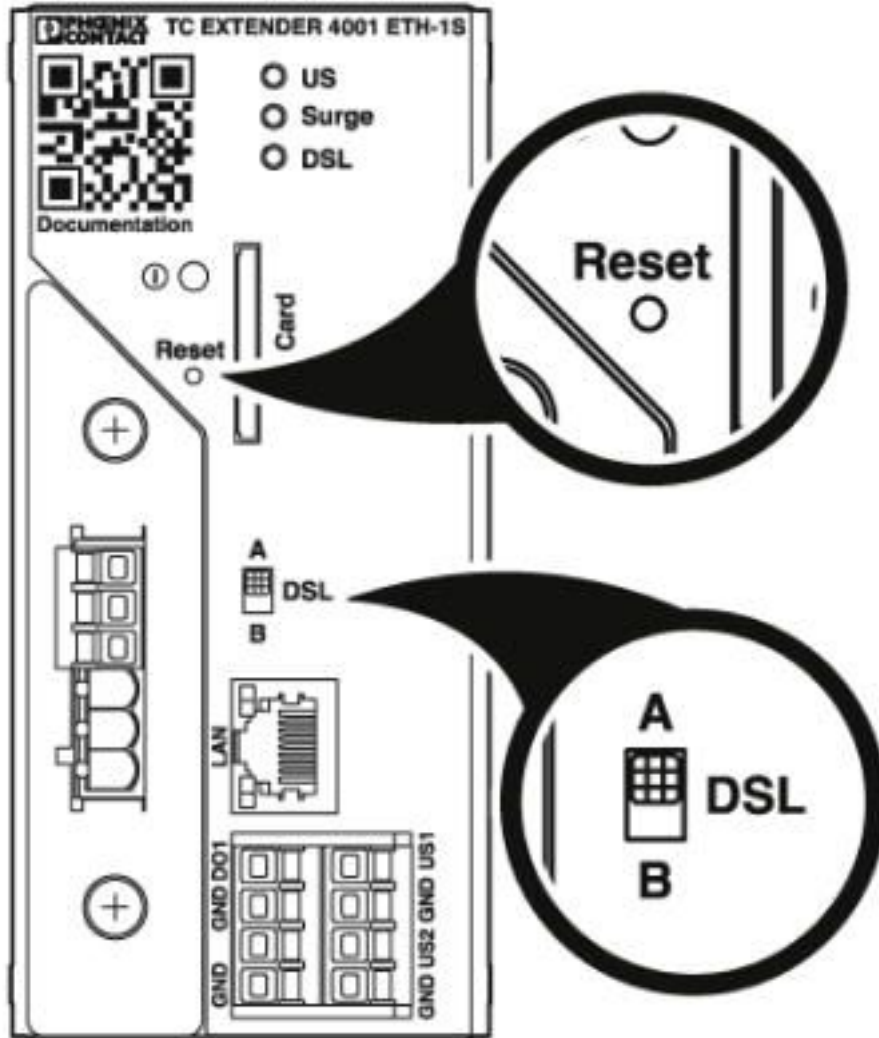
Schematic diagram



Digital switching output

Modem - TC EXTENDER 4001 ETH-1S - 2702253

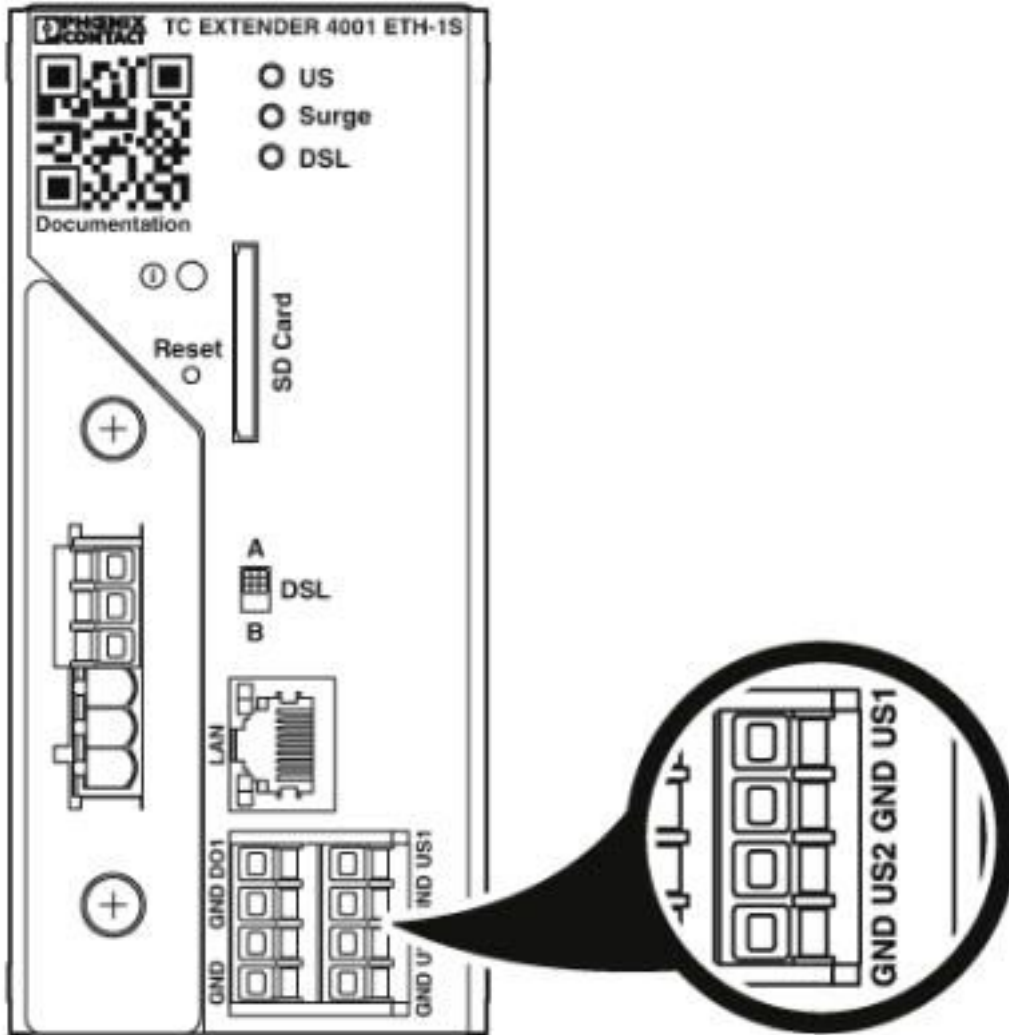
Schematic diagram



Reset button

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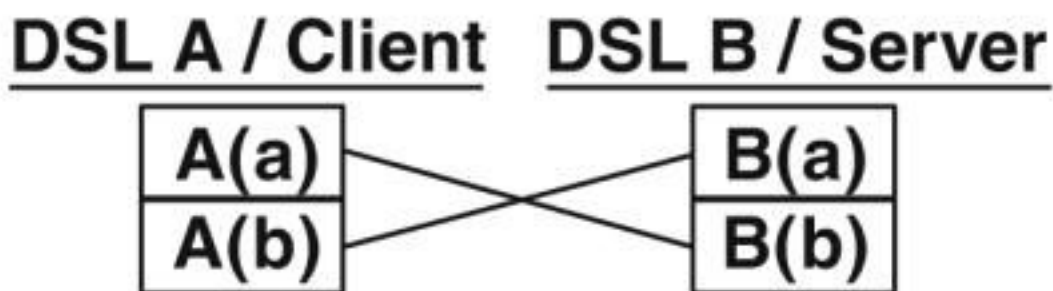
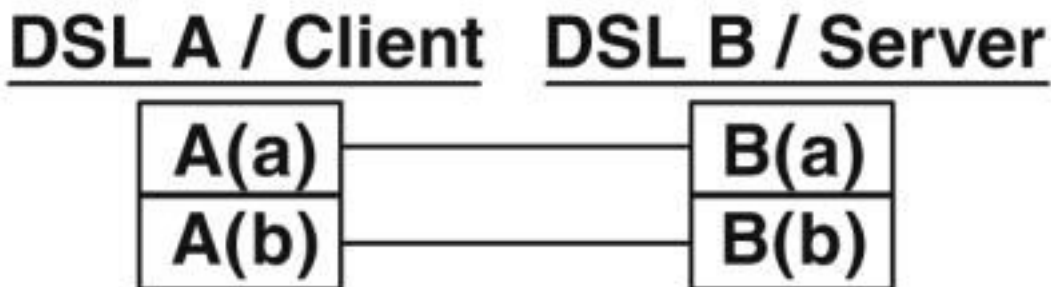
Schematic diagram



Power supply

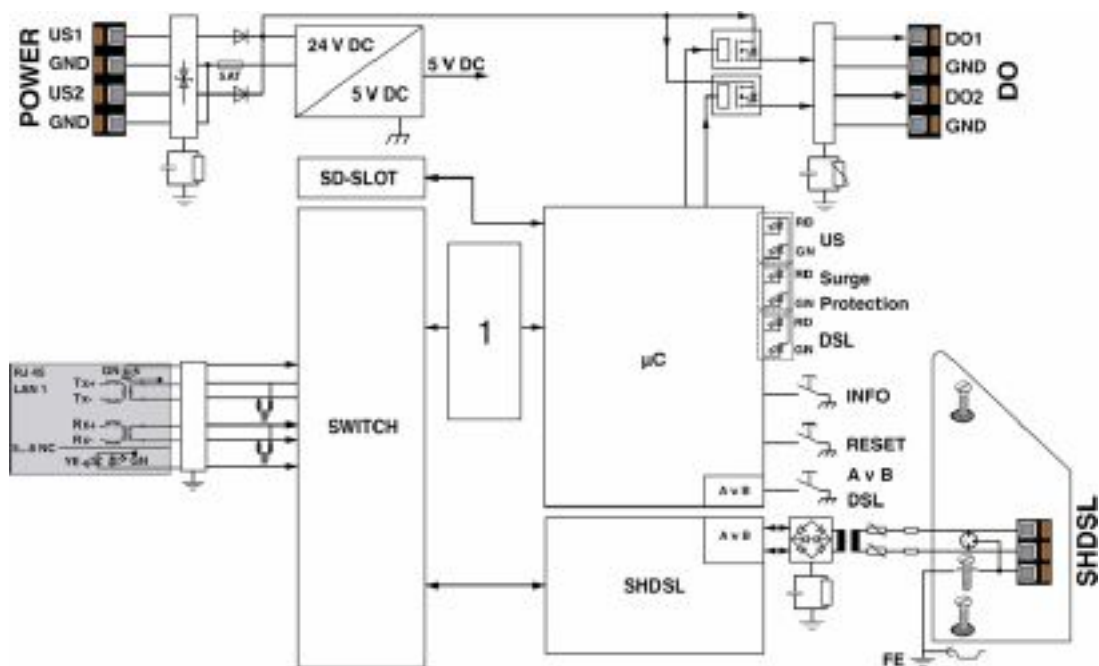
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Connection diagram



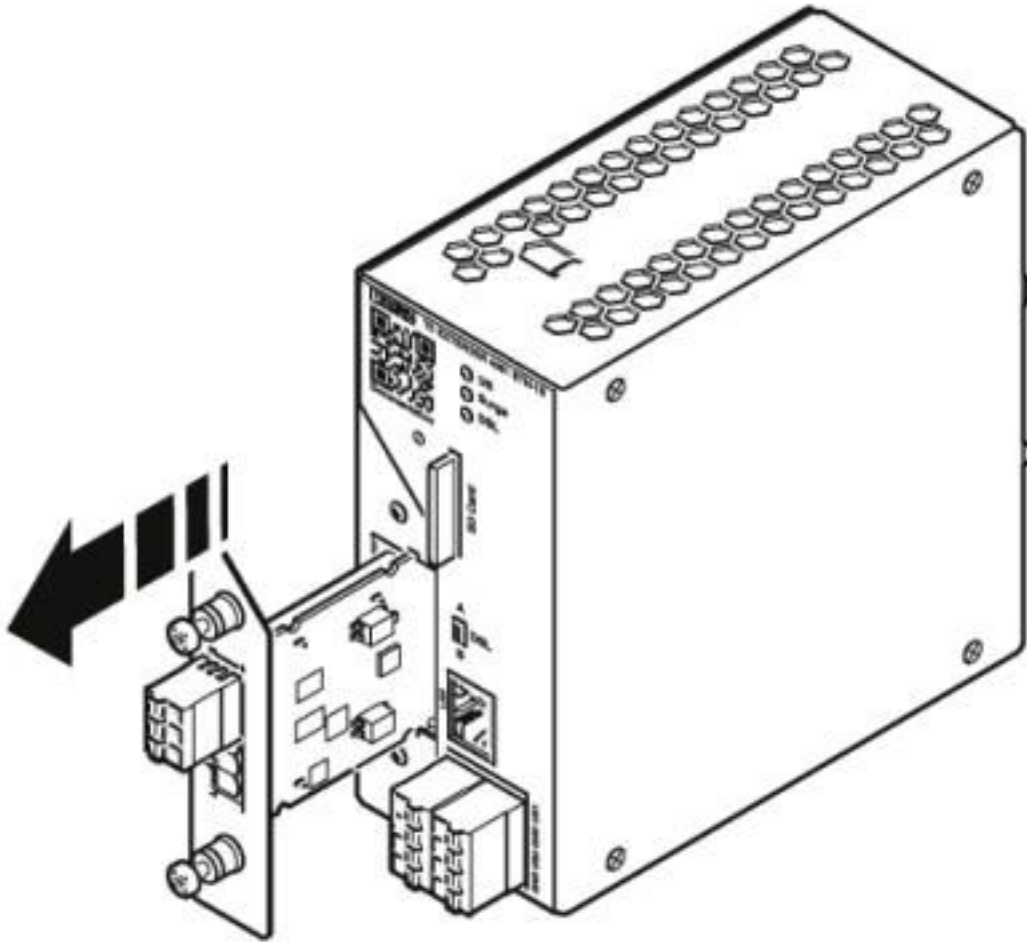
DSL connection

Circuit diagram



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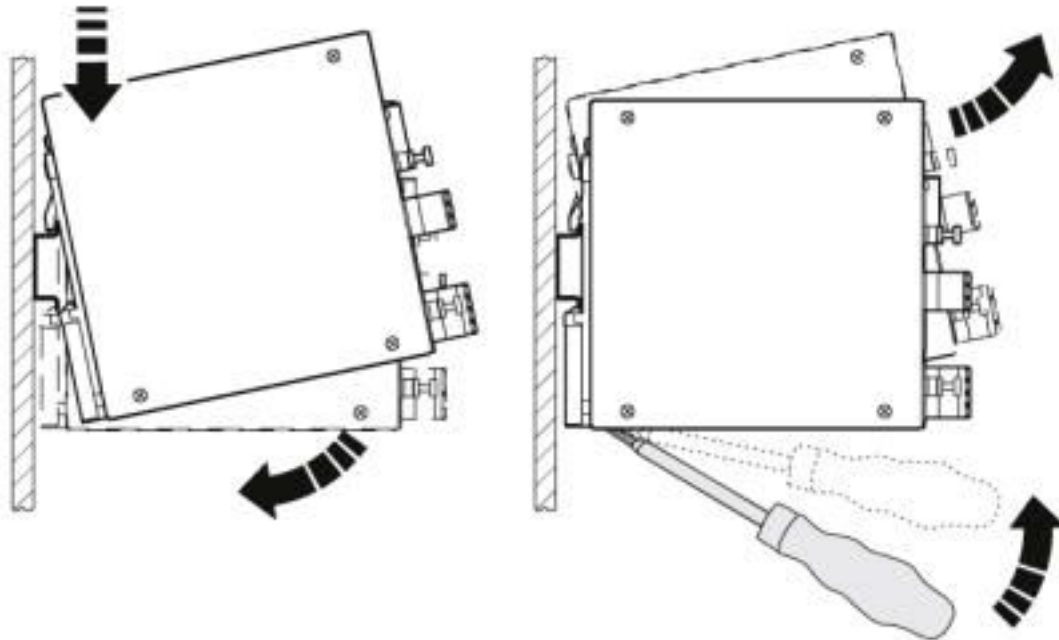
Schematic diagram



Replacement of protective module

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Schematic diagram



Mounting and removing

Classifications

eCl@ss

eCl@ss 10.0.1	19060590
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 4.0	EC000740
ETIM 5.0	EC000740
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

Modem - TC EXTENDER 4001 ETH-1S - 2702253

Classifications

UNSPSC

UNSPSC 18.0	43222628
UNSPSC 19.0	43222628
UNSPSC 20.0	43222628
UNSPSC 21.0	43222628

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

ATEX

Approval details

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

Accessories

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

Modem - TC EXTENDER 4001 ETH-1S - 2702253

Accessories

Data plug

RJ45 connector - VS-08-RJ45-5-Q/IP20 - 1656725



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, connection cross section: AWG 26- 23, cable outlet: straight, color: traffic grey A RAL 7042

Modem

Modem - TC EXTENDER 2001 ETH-2S - 2702409



Second 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

Parameterization memory

Memory - SD FLASH 512MB - 2988146



Program and configuration memory, plug-in, 512 Mbyte.

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 m

Modem - TC EXTENDER 4001 ETH-1S - 2702253

Accessories

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

Power supply unit - MINI-PS-100-240AC/24DC/1.5/EX - 2866653



Primary-switched power supply MINI POWER for DIN rail mounting, input: 1-phase, output: 24 V DC/1,5 A, for the potentially explosive area

Replacement plug

Surge protection plug - TC EXTENDER PT-IQ-1S - 2702257



Replaceable surge protection module, only for Ethernet extender TC EXTENDER 4001 ETH-1S (2702253), 1 SHDSL port, two-wire protection for floating SHDSL cables, two-level protective circuit

Surge protection for information technology

Surge protection device - DT-LAN-CAT.6+ - 2881007



Surge protection in accordance with Class E_A (CAT6_A), for Gigabit Ethernet (up to 10 Gbps), token ring, FDDI/ CDDI, ISDN, and DS1. Suitable for Power over Ethernet (PoE+) "Mode A" and "Mode B". RJ45 attachment plug with separate grounding cable and ground connection snap-on foot for NS 35 DIN rails.

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