

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

Why buy this product

- ✓ 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 STK
GTIN	 4 055626 055558
GTIN	4055626055558
Weight per Piece (excluding packing)	14,400.000 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

Modem - TC EXTENDER 4001 ETH-1S - 2702253

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

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 manufacturer's declaration)
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.)
Standards/regulations	EN 50121-4
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 % (5 days a week, 8 hours a day)) 300 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day)) 128 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X (Please follow the special installation instructions in the documentation!)
UL, USA/Canada	508 Listed

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

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Serial interface

Interface 1	Ethernet interface, 10/100Base-T(X) in acc. with IEEE 802.3u
Interface	Ethernet
No. of ports	1
Connection method	RJ45 socket
	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
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

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

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Standards and Regulations

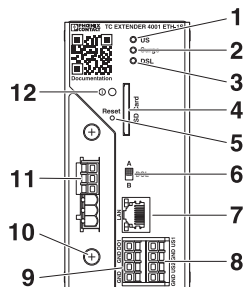
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV
Indirect discharge	± 6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 1 kV (asymmetrical, shielded Ethernet cable)
	± 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
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA/Canada	508 Listed
Noxious gas test	ISA-S71.04-1985 G3 Harsh Group A

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

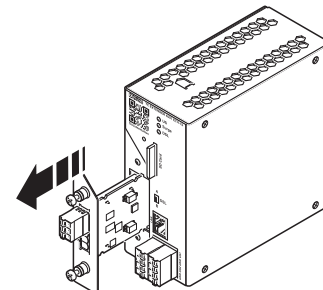
Drawings

Schematic diagram



Front view

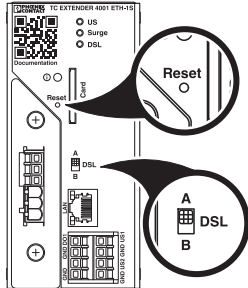
Schematic diagram



Replacement of protective module

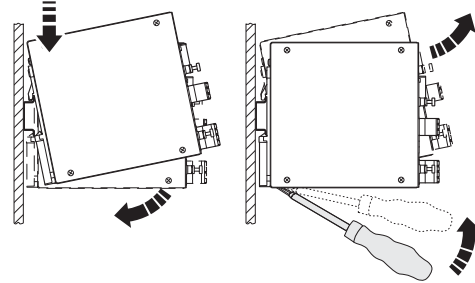
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Schematic diagram



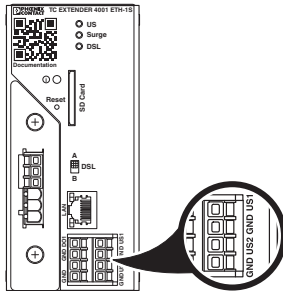
Reset button

Schematic diagram



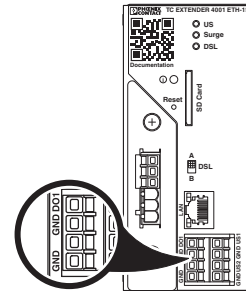
Assembly/removal

Schematic diagram



Power supply

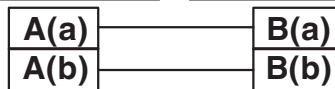
Schematic diagram



Digital switching output

Connection diagram

DSL A / Client DSL B / Server



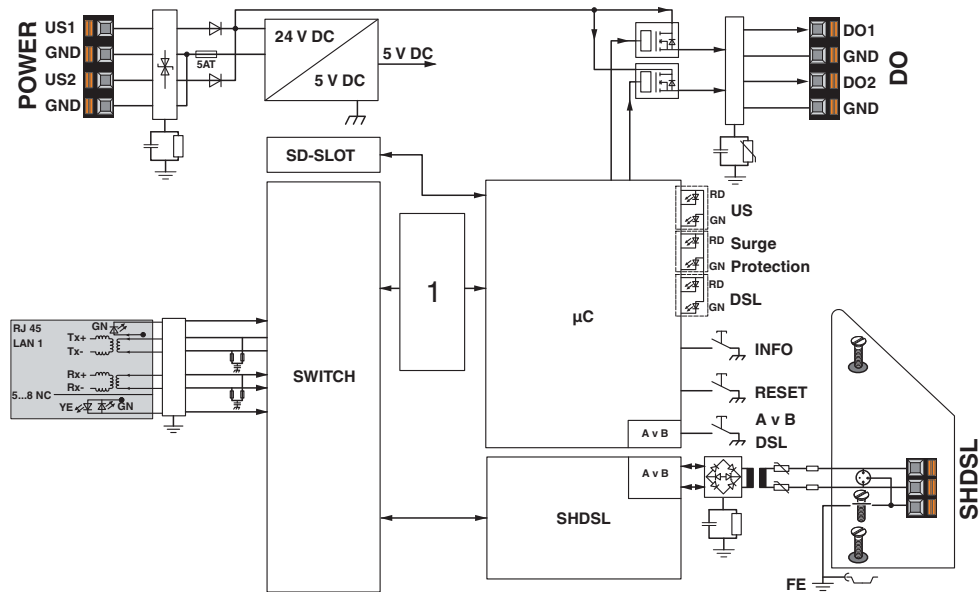
DSL A / Client DSL B / Server



DSL connection

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Circuit diagram



Classifications

eCl@ss

eCl@ss 5.1	27242208
eCl@ss 6.0	27242208
eCl@ss 8.0	19060590
eCl@ss 9.0	19060590

ETIM

ETIM 4.0	EC000740
ETIM 5.0	EC000740
ETIM 6.0	EC000740

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43222628

Approvals

Approvals

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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

Parameterization memory

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Accessories

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

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

Replacement plug

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Accessories

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.