

EXTENDER 1010 ETH TP-G - Ethernet extender



1319321

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Gigabit Ethernet extender, network extension via twisted pair cable up to 1 kilometer and bandwidth up to 1 Gbps, Power over Link (PoL) function for the power supply of additional devices via the twisted pair cable

Commercial data

Item number	1319321
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNC361
Product key	DNC361
GTIN	4063151604721
Weight per piece (including packing)	195.4 g
Weight per piece (excluding packing)	145 g
Country of origin	DE

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Technical data

Notes

Note on application

Note on application	Only for industrial use
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Product properties

Product type	Ethernet extender
MTTF	294 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	144 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	61 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

Insulation characteristics

Pollution degree	2
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System properties

Functionality

Basic functions	Gigabit Ethernet extender in accordance with ITU G.9960
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Electrical properties

Electrical isolation	VCC (US+GND) // Ethernet (PoE) // G.hn (without PoL) // FE
Mains type	Permanent line
Test voltage data interface/power supply	1.5 kV AC (50 Hz, 1 min.)

Supply

Supply voltage range	18 V DC ... 57 V DC
Nominal supply voltage	24 V DC (Without PoL)
	48 V DC (With PoL)
Power consumption	≤ 7.5 W (Without PoL)
	≤ 37.5 W (With PoL)
Protective circuit	Overload protection, protection against polarity reversal; Internal device protection: 2x 5 AF, internal series diode

Connection data

Supply

Connection method	Push-in spring connection
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² ... 2.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm² ... 2.5 mm²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² ... 1.5 mm²
Single conductor/terminal point, rigid	0.2 mm² ... 2.5 mm²

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	≥ 0.5 mm ² (PoL cables in accordance with DIN VDE 0100, part 523)
Single-wire/terminal point, flexible	0.2 mm ² ... 2.5 mm ²
	≥ 0.5 mm ² (PoL cables in accordance with DIN VDE 0100, part 523)
Conductor cross section, flexible [AWG]	24 ... 16
Stripping length	10.00 mm

Interfaces

Signal	Ethernet
Basic functions	Gigabit Ethernet extender in accordance with ITU G.9960

Data: Ethernet interface, 10/100/1000Base-T(X) in accordance with IEEE 802.3

Serial transmission speed	10/100/1000 Mbps
Connection method	RJ45 jack, shielded
Note on the connection method	CAT6
	Autonegotiation
No. of channels	1
Transmission length	< 100 m (shielded twisted pair)
Protocols supported	Protocol-transparent for TCP/IP, IPv4, and IPv6

Data: G.hn interface in accordance with ITU G.9960

Transmission speed	≤ 1000 Mbps (Depending on the quality of the data line)
Connection method	Push-in spring connection
Note on the connection method	Short-circuit-proof
Transmission length	≤ 1000 m (Depending on the quality of the data line)
Single conductor/terminal point, rigid	0.2 mm ² ... 2.5 mm ²
Single-wire/terminal point, flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm ² ... 2.5 mm ²
Max. AWG conductor cross section, flexible	16
Min. AWG conductor cross section, flexible	24
Stripping length	10 mm
Transmission method	QAM (quadrature amplitude modulation) carrier frequency method
Output power	≤ 74 W (With PoL)

Dimensions

Width	23 mm
Height	101 mm
Depth	115 mm

Material specifications

Color (Housing)	gray (RAL 7042)
Material (Housing)	PA 6.6-FR

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Flammability rating according to UL 94	V0
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Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	: 1g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	: 15g, 11 ms

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 60 °C (Free standing, without PoE)
	-40 °C ... 55 °C (Free standing, PoE up to 15 W)
	-40 °C ... 50 °C (Free standing, PoE up to 30 W)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant
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Corrosive gas test

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

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	EN 55035

Noise emission

Standards/regulations	EN 61000-6-4, Class A, industrial area of application
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Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Contact discharge	± 6 kV
Discharge in air	± 8 kV
Indirect discharge	± 6 kV
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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Electromagnetic HF field

Frequency range	80 MHz ... 3 GHz (80% amplitude modulation with 1 kHz)
Field intensity	10 V/m

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Frequency range	3 GHz ... 6 GHz (80% amplitude modulation with 1 kHz)
Field intensity	3 V/m
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4
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Fast transients (burst)

Input	± 2.2 kV
Signal	± 2.2 kV (Ethernet, G.hn)

Surge current load (surge)

Standards/regulations	EN 61000-4-5
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Surge current load (surge)

Input	± 0.5 kV (Symmetrical, unshielded supply line)
	± 1 kV (Asymmetrical, unshielded supply line)
Signal	± 1 kV (Ethernet signal / asymmetrical: shielded Ethernet cable)
	± 4 kV (Ethernet signal / asymmetrical: cable to ground, unshielded G.hn cable)
	± 2 kV (Ethernet signal / symmetrical: cable to cable, unshielded G.hn cable)
	± 4 kV (Telecommunication lines, symmetrical, unshielded, with primary protection)
	± 1 kV (Telecommunication lines, symmetrical, unshielded, without primary protection)
Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6
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Conducted interference

Frequency range	0.15 MHz ... 80 MHz (80% amplitude modulation with 1 kHz)
Comments	Criterion A
Voltage	10 V

Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Mounting

Mounting type	DIN rail mounting
Assembly note	To allow for air circulation, mount the device freestanding, with a clearance of at least one centimeter on all sides to other devices.
Mounting position	Vertical (horizontal DIN rail)

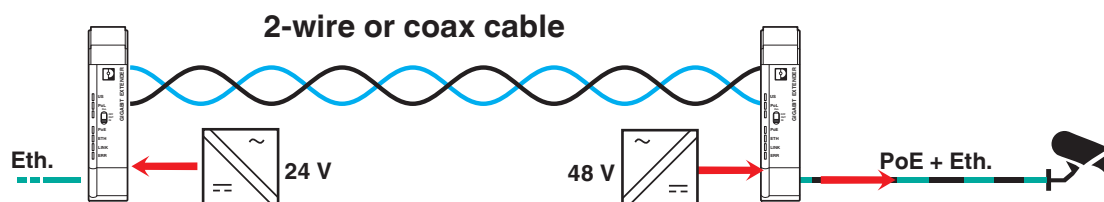
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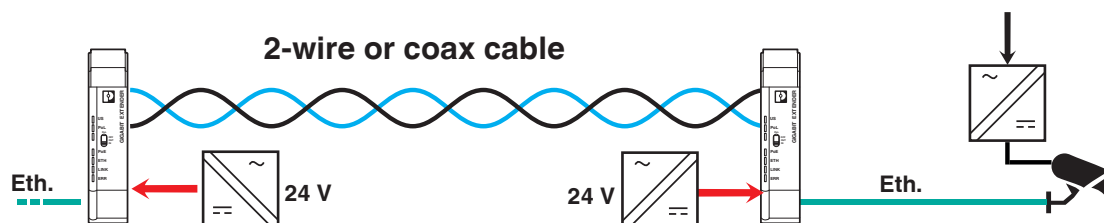
Drawings

Application drawing



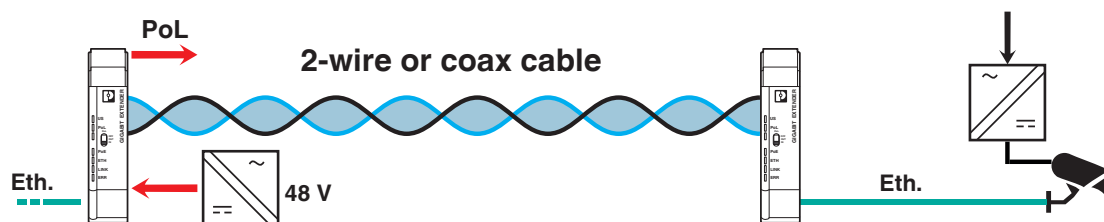
PoE supply of a PoE end device

Application drawing



Separate supply with one power supply unit each

Application drawing



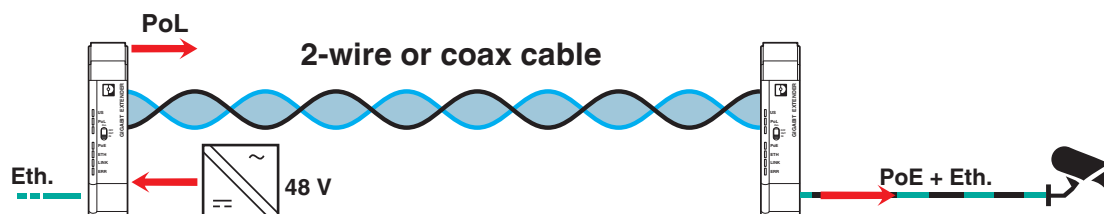
PoL supply of the remote extender

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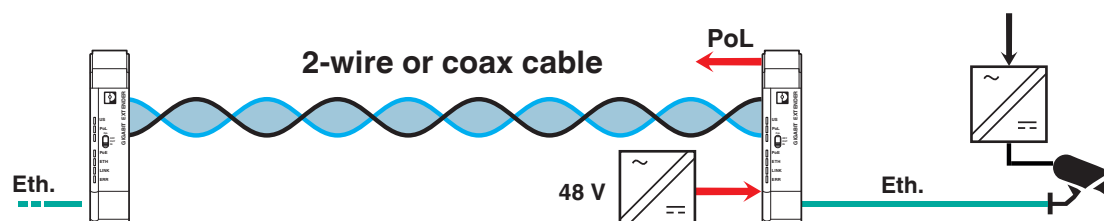
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Application drawing



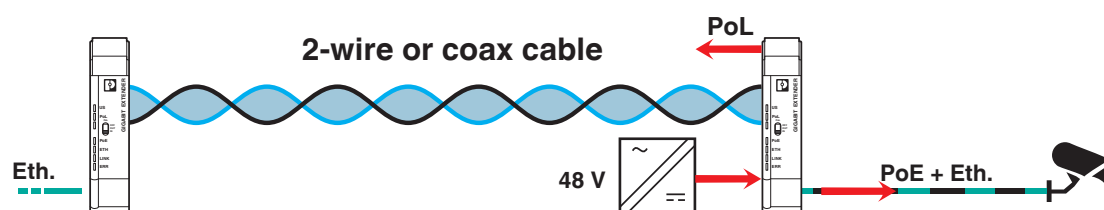
PoL supply of the remote extender and PoE supply of a PoE end device

Application drawing



PoL supply of the local extender

Application drawing



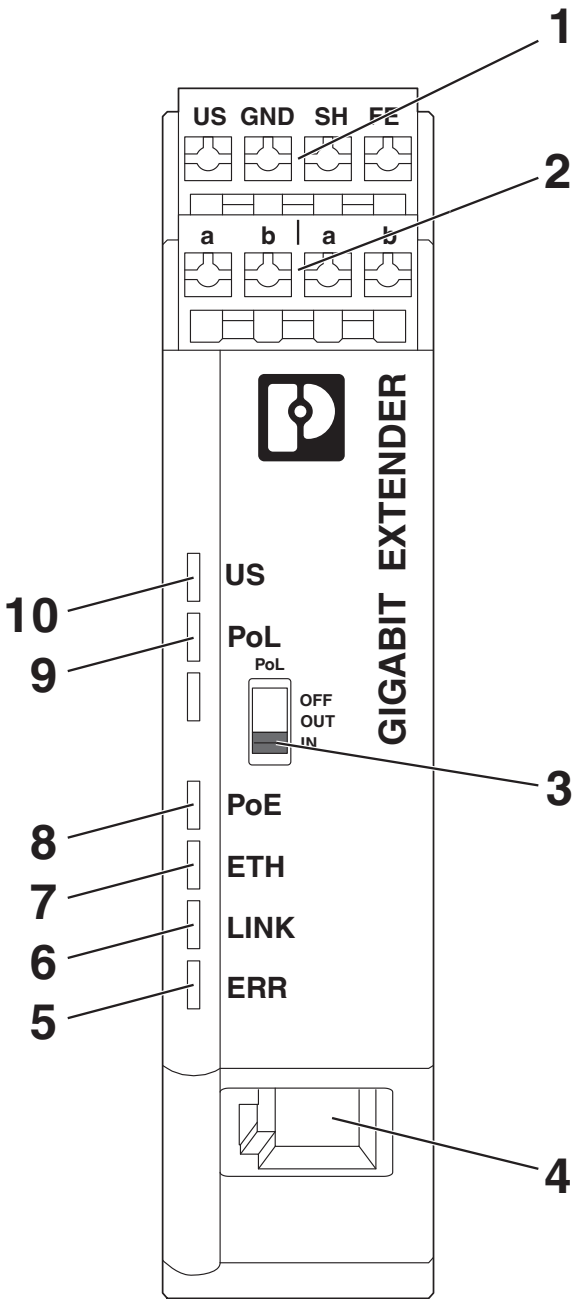
PoL supply of the local extender and PoE supply of a PoE end device

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Schematic diagram



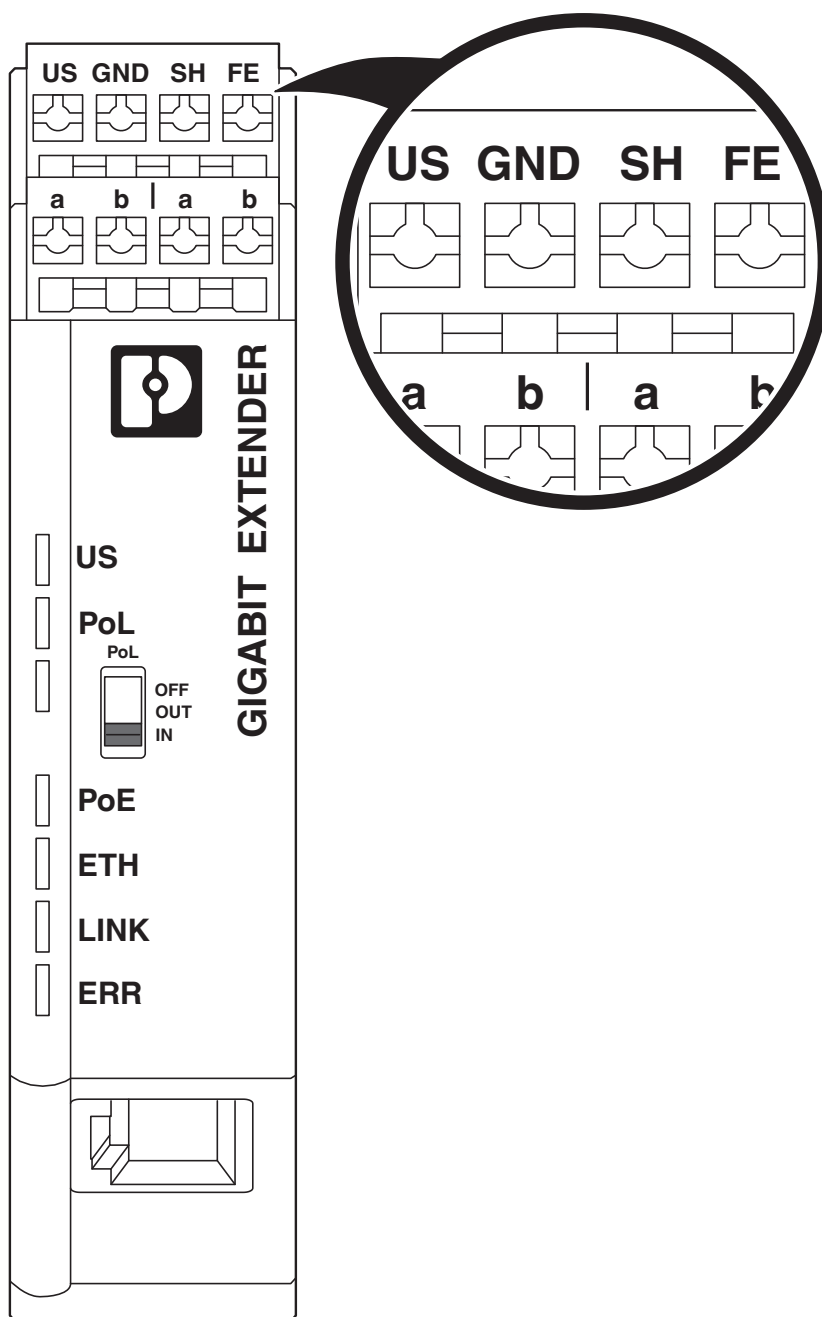
Front view

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Schematic diagram



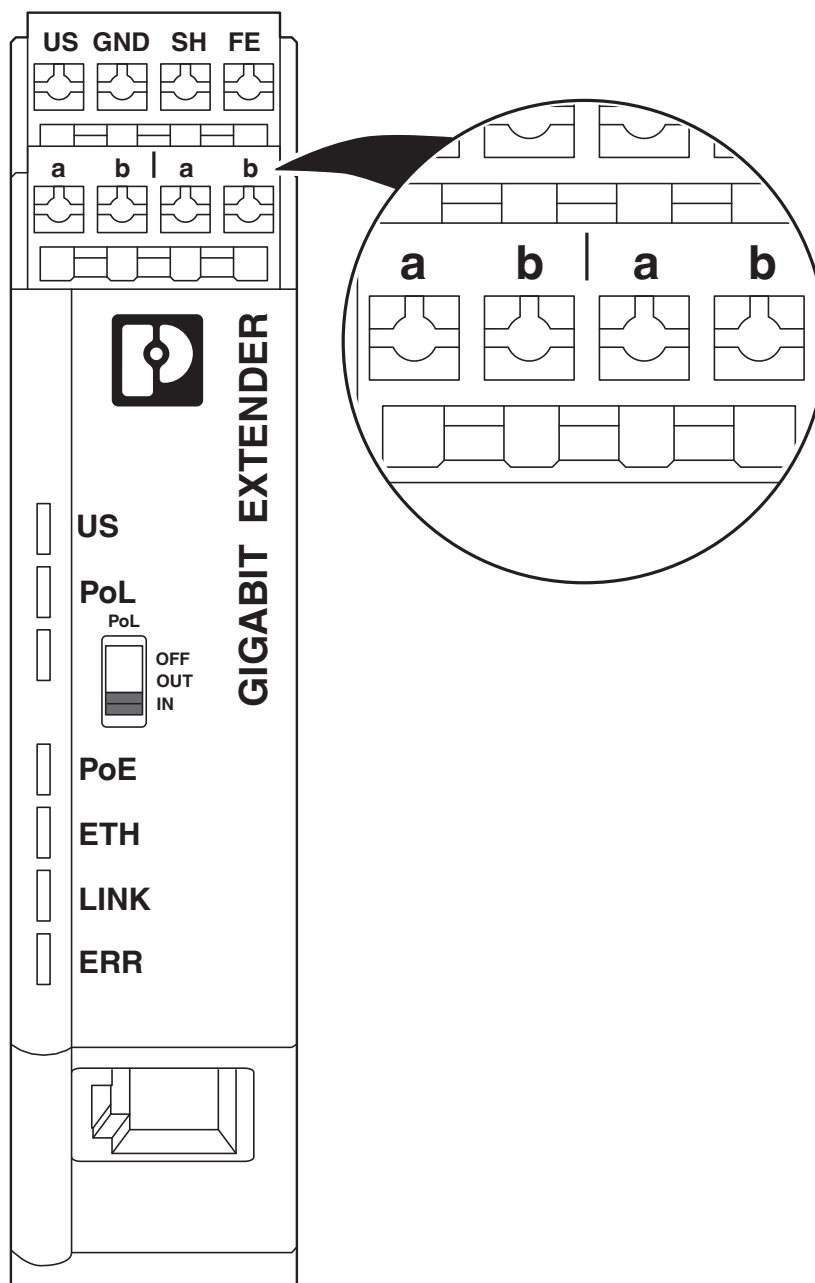
Connecting the supply voltage

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Schematic diagram



Connection of the twisted pair cable

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Classifications

ECLASS

ECLASS-13.0	19170407
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ETIM

ETIM 9.0	EC000309
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UNSPSC

UNSPSC 21.0	43223100
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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