

SCX...POE 2T

Industrial outdoor switch

Data sheet
109004_en_01

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1 Description

The Smart Camera Box is used to connect PoE end devices such as IP cameras to a video server. You can use the Smart Camera Box to supply voltage to PoE end devices and additional external devices.

The Smart Camera Box integrates the functions of conventional connection boxes equipped with standard DIN rail devices into a single compact device. This saves you planning and installation time.

Numerous management and monitoring functions ensure reliable operation of the system.

Features

- Cost savings with an all-in-one solution that provides all functions in a single device
- Significant time savings with adapter for wall and mast mounting
- Minimal wiring effort
- Replaceable surge protection
- A wide range of alarm messages via SNMP in cases such as sabotage attempts or defective surge protection systems
- Advanced PoE management for reliable operation of IP cameras
- Quick and easy startup and configuration via the web-based management system or FL Network Manager software
- Managed Ethernet Switch with RSTP, VLAN, SNMP, and other functions



Make sure you always use the latest documentation.

It can be downloaded at: phoenixcontact.net/product/1108542

The additional information in the user manual must also be strictly observed.

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3 Ordering data

Description	Type	Order No.	Pcs./Pkt.
Smart Camera Box to connect PoE end devices, four PoE ports, two uplink ports (RJ45), integrated Managed Switch and surge protection, supply voltage 100 ... 240 V AC, wall or mast mounting	SCX 4POE 2T	1108542	1
Smart Camera Box to connect PoE end devices, two PoE ports, two uplink ports (RJ45), integrated Managed Switch and surge protection, supply voltage 100 ... 240 V AC, wall or mast mounting	SCX 2POE 2T	1108544	1
Accessories	Type	Order No.	Pcs./Pkt.
Replacement plug for the SCX Smart Camera Box for the N-PE path.	F-MS 12 HD ST	1224885	10
Replacement plug for the SCX Smart Camera Box for the L-N path.	VAL-MS 320 HD ST	1224886	10
Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 230 V AC	VAL-MS 230 ST	2798844	10
Surge protection connector type 2 with series connection consisting of varistor and gas-filled spark gap for VAL-MS base element, thermal monitoring, visual fault warning. Design: 350 V AC	VAL-MS 350 VF ST	2856595	10
Mast clamps, 2 pcs, with quick mounting connection for installation on masts with a diameter of 51 ... 127 mm	SCX-CLAMP 14X51-127	1175556	1
Mast clamps, 2 pcs, with quick mounting connection for installation on masts with a diameter of 102 ... 254 mm	SCX-CLAMP 14X102-254	1188634	1
Stable door lock with locking tab for securely locking the Smart Camera Box, protects against unauthorized access, for a padlock with a shackle diameter of up to 12 mm	SCX-DOOR-LOCK	1184401	1
FL Network Manager, SNMP-based configuration and firmware update software, for easy startup of Managed Switches	FL NETWORK MANAGER BASIC	2702889	1
NPT adapter, stainless steel, M20 to 1/2-inch	SCX M20-1/2NPT	1247389	1

4 Technical data

Supply		
Supply voltage range	100 V AC ... 240 V AC (Single-phase)	
Tolerance	-15 % ... +10 %	
Nominal frequency	50 Hz ... 60 Hz	
Nominal current range	1.2 A ... 2.9 A	
Circuit breaker/fuse	Circuit breaker, 6 A ... 16 A, characteristics B, C, D, K	
Rated insulation voltage	3 kV AC (Input / output, IEC/EN 60950-1)	
Protection class	I (Protective grounding of all conductive housing parts)	
Power supply system	TN, TT	
Connection method	Push-in spring connection	
Stripping length	10 mm	
Conductor cross section		
	flexible	0.20 mm ² ... 6.00 mm ²
	rigid	1.00 mm ² ... 6.00 mm ²
	AWG flexible	24 AWG ... 10 AWG
	Flexible with ferrules without plastic sleeve	0.2 mm ² ... 4 mm ²
	Flexible with ferrules with plastic sleeve	0.2 mm ² ... 4 mm ²
	2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 1.5 mm ²
Cable gland		
Thread type, cable screw connection	5x M20, 5x M25 in accordance with UL: 2x M20, 5x M25	
Tightening torque, cable gland		
	M20	2 Nm
	M20, UL	4 Nm
	M25	3.5 Nm
	M25, UL	5 Nm
External cable diameter		
	M20	6 mm ... 12 mm
	M25	6 mm ... 10 mm
Strain relief	IEC 62444	



For mounting in accordance with UL, use conduit fittings: 3x 1/2" NPT (L, N, PE)

PoE ports		SCX 4POE 2T	SCX 2POE 2T
Number of ports		4	2
Designation		Ethernet / Fast Ethernet / Gigabit Ethernet	
Connection method		RJ45 jack	
Note on the connection method		Auto negotiation and autocrossing	
Transmission medium		Copper	
Transmission speed		10/100/1000 Mbps	
Transmission length		100 m (per segment)	
Power over Ethernet		PoE standard IEEE 802.3bt, at, af	
Maximum output power		165 W (>55°C derating) 155 W (If switching output is active, >55°C derating)	
		90 W (per port POE1...3, >50°C derating) 30 W (POE4)	90 W (per port POE1/2, >50°C derating)
Uplink ports			
Number of ports		2	
Connection method		RJ45 jack	
Transmission medium		Copper	
Transmission speed		10/100/1000 Mbps	
Transmission length		100 m (per segment)	
Configuration interface			
Number of ports		1	
Connection method		RJ45	

Store-and-forward switch, complies with IEEE 802.3

Management	Web-based management (HTTP/HTTPS) SNMPv2/v3 Command-line interface (Telnet, SSH)
Diagnostic functions	RMON History LLDP (Link Layer Discovery Protocol) SNMP traps N:1-Portmirroring ACD (Address Conflict Detection)
Filter functions	Port prioritization VLAN (up to 32 VLANs)
Redundancy	RSTP (Rapid Spanning Tree Protocol) Large Tree Support FRD (Fast Ring Detection)
Time synchronization	SNTP (Simple Network Time Protocol)
IP parameterization	DHCP client BootP Static IP address
Additional functions	Jumbo frames
MAC address table	8k

Switching output

Number of ports	1
Configuration	Configuration via web-based management
Output nominal voltage	24 V DC $\pm 10\%$ (Supply for devices within the Smart Camera Box)
Output current	300 mA (typical)
Load/output load current output	no inductive load
Connection method	Push-in spring connection
Stripping length	10 mm
Conductor cross section	
	flexible 0.2 mm ² ... 1.5 mm ²
	rigid 0.2 mm ² ... 1.5 mm ²
	AWG 24 AWG ... 16 AWG
Flexible with ferrules without plastic sleeve	0.25 mm ² ... 1.5 mm ² (Stripping length 8 mm)
Flexible with ferrules with plastic sleeve	0.25 mm ² ... 0.75 mm ² (Stripping length 8 mm)



If you use the switching output, the available PoE power will be reduced by 10 W.

Surge protection

IEC test classification	II T2
Standards/regulations	IEC 61643-11 EN 61643-11

General data

Degree of protection IP65

Impact strength IK10

Degree of pollution 2

Overvoltage category

With protective modules plugged in III

Without protective modules II

Flammability rating

Housing V0

Cable gland V2

Dimensions (W/H/D) 284 mm x 364 mm x 121 mm

Material Polycarbonate PC (Housing)

Vibration resistance in acc. with EN 60068-2-6/
IEC 60068-2-6 1g

Shock in acc. with EN 60068-2-27/IEC 60068-2-27 15g, 11 ms



Enclosure (UL50/50E): UL (NEMA) Enclosure Type Rating: 4X, watertight and corrosion resistant, suitable for indoor or outdoor use

MTTF (mean time to failure)SN 29500 standard, temperature 25°C,
operating cycle 21%**SCX 4POE 2T**

441 Years

SCX 2POE 2T

496 Years

SN 29500 standard, temperature 40°C,
operating cycle 34.25%

224 Years

247 Years

SN 29500 standard, temperature 40°C,
operating cycle 100%

92 Years

105 Years

Ambient conditions

Ambient temperature

Operation -40 °C ... 70 °C (>50°C derating)

Storage/transport -40 °C ... 85 °C

Humidity

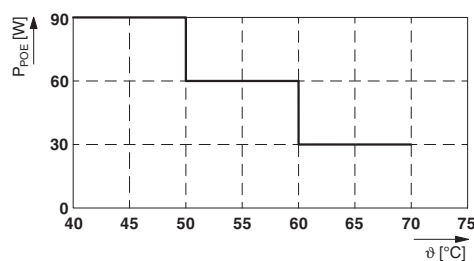
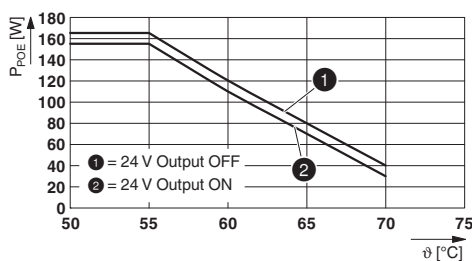
Operation 10 % ... 95 % (non-condensing)

Altitude

2000 m

Other resistance

UV-resistant in accordance with UL746C (Housing)

Derating (PoE power total)**Derating per port**

Conformance/Approvals

CE	CE-compliant
UL, USA/Canada	Listed UL 61010-1, 3rd Edition UL 61010-2-201, 2nd Edition CAN/CSA C22.2 No. 61010-1-12 CSA C22.2 No. 61010-2-201:18
Corrosive gas test	ISA-S71.04-1985 G3 Harsh Group A

Conformance with EMC Directive 2014/30/EU**Noise immunity according to EN 61000-6-2**

Electrostatic discharge	EN 61000-4-2	
	Contact discharge	± 6 kV
	Discharge in air	± 8 kV
	Indirect discharge	± 6 kV
	Comments	Criterion B
Electromagnetic HF field	EN 61000-4-3	
	Frequency range	80 MHz ... 3 GHz (80% amplitude modulation with 1 kHz)
	Field intensity	10 V/m
	Comments	Criterion A
Fast transients (burst)	EN 61000-4-4	
	Input	± 2.2 kV (1 minute)
	Signal	± 2.2 kV (1 minute)
	Comments	Criterion B
Surge current loads (surge)	EN 61000-4-5	
	Input	± 1 kV (AC supply, line to line) ± 2 kV (AC supply, line to ground)
Conducted interference	EN 61000-4-6	
	Frequency range	0.15 MHz ... 80 MHz (80% amplitude modulation with 1 kHz)
	Voltage	10 V
	Comments	Criterion A

Noise emission

Noise emission	EN 61000-6-4, Class B, domain of use: residential and small commercial
Conducted noise emission	EN 61000-6-3 Class B, domain of use: residential and small commercial

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

4.1 Product description

Figure 1 Dimensions

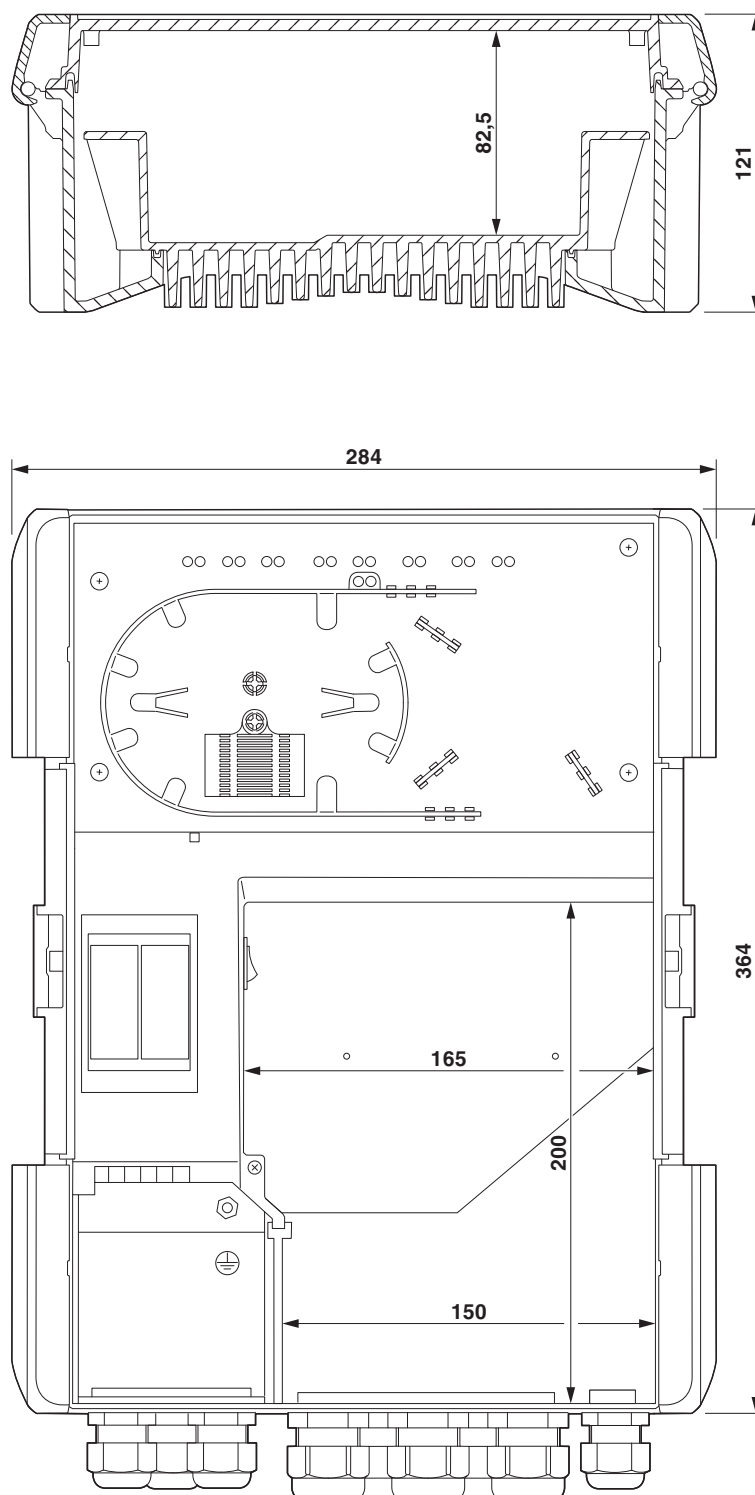
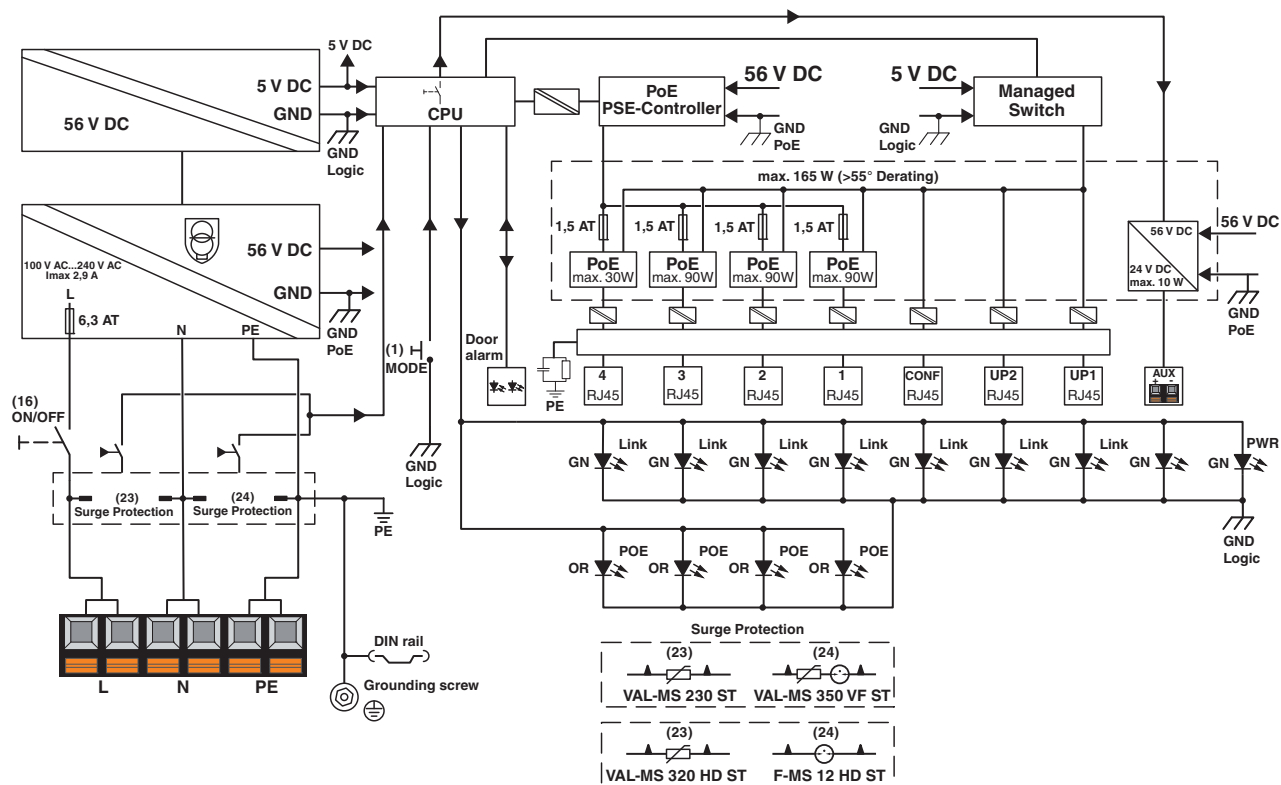


Figure 2 Basic circuit diagram



4.2 UL notes

To install the device according to the UL/CSA/IEC standard, the following rules must be observed.



CAUTION!

- The external circuits intended to be connected to this device, except for MAINS supply of the equipment, shall be galvanically separated from MAINS supply or hazardous live voltage by reinforced or double insulation and meet the requirements of Class 2 of NEC or SELV/PELV - Limited Energy of UL/ CSA 61010-1, -2-201 or Limited Power Source of UL/CSA 60950.
- Communication cable shall meet the requirements of UL Standard 444 / CSA Standard (C22.2) No. 214, be suitable for the application and be marked "Outdoor" to indicate its suitability for installation outdoors on dwellings.
- SFP transceiver(s) shall meet the relevant requirements of UL 60950-1, CAN/ CSA C22.2 No. 60950-1, be rated "Laser Class I" and comply with 21 CFR 1040 - Laser Class.
- The device is designed to be maintenance-free. Repairs are not permitted to be carried out.
- The hub (conduit hub adapter) shall be connected to the conduit before the hub is connected to the enclosure.



Information:

- The switch or circuit breaker must be included in the installation, be suitably located, easily reached and marked as the disconnecting device for the equipment. If there is only one device - one switch or one circuit breaker - symbols 9 and 10 of Table 1, UL/ CSA/IEC 61010 are sufficient if the symbols are marked on or adjacent to the switch or circuit breaker.
 - a) Circuit breakers used as a disconnecting device shall meet the relevant requirements of UL Standard 489 / CSA Standard (C22.2) No. 5 / IEC 60947-2, be suitable for the application and installed near the equipment.
 - b) Switch used as a disconnecting device shall meet the relevant requirements of UL Standard 508 / CSA Standard (C22.2) No. 14 / IEC 60947-3, be suitable for the application and installed near the equipment.
- Equipment intended to be energized from a MAINS supply shall be protected by fuses, circuit breakers, thermal cut-outs, impedance limiting circuits or similar means, to provide protection against excessive current being drawn from the MAINS in case of a fault in the equipment.
 - a) Overcurrent protection devices shall not be fitted in the protective conductor. Fuses or single pole circuit breakers shall not be fitted in the neutral conductor of multi-phase equipment.
 - b) A single-pole circuit breaker used as an overcurrent protective device shall be connected in the ungrounded supply conductor.
 - c) A multiple-pole circuit breaker used as an overcurrent protective device or devices shall be so constructed as to interrupt all of the neutral (grounded) and ungrounded conductors of the MAINS supply simultaneously.
 - d) Fuses shall meet the relevant requirements of UL Standard 248 / CSA Standard (C22.2) No. 248 / IEC 60127, be suitable for the application and installed near the equipment.
 - e) A single fuse used as an overcurrent protective device shall be connected in the ungrounded supply conductor.

- f) Where fuses are used as overcurrent protective devices in both the neutral (grounded) and ungrounded supply conductors, the fuseholders shall be mounted adjacent to each other and the fuses shall be of the same RATING and characteristics.
- g) The screw shell of a plug fuseholder and the ACCESSIBLE contact of an extractor fuseholder connected to the ungrounded supply conductor shall be connected towards the load. The ACCESSIBLE contact or screw shell of fuseholders connected in the neutral (grounded) conductor shall be located towards the grounded supply line.
- If the equipment is used in a manner not specified, the protection provided by the equipment may be impaired.
- Minimum temperature rating of the cable to be connected to the field wiring terminals (MAINS supply)
75 °C, AWG 24 ... 10
Use copper conductors only.
- Minimum temperature rating of the cable to be connected to the field wiring terminals (Digital output)
75 °C, AWG 24 ... 16
Use copper conductors only.