



Digitalization

Industrie 4.0

Smart Production

E-Mobility

Smart Energy

Energy Efficiency

Smart Infrastructure

Smart Buildings

Renewables

Antonio Gordillo

IMA

Septiembre - Diciembre 2020

Welcome

Infraestructura en aplicaciones de videovigilancia

Webinar IMA Octubre 2020

Infraestructura en aplicaciones de videovigilancia



Fecha	28 Octubre 2020
Hora	9:00
Hora	16:00
Duración	1 hora
Costo	gratuito

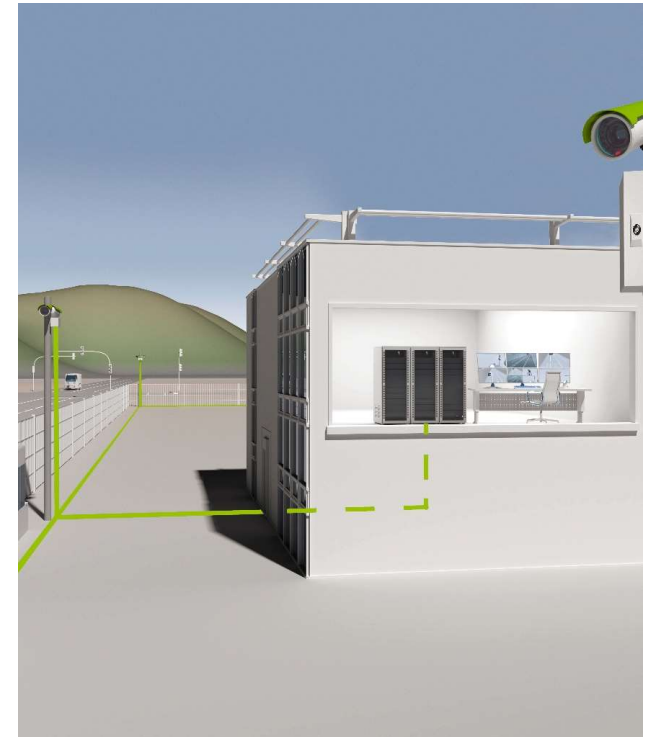
Lograr mayor conocimiento en la oferta de infraestructura Ethernet disponible para aplicaciones de videovigilancia. Descubra como ahorrar tiempo en la producción, instalación, y operación en aplicaciones de videovigilancia con infraestructura PoE y otros tipos de tecnología opcionales.

Durante la sesión serán explicados todos los productos PoE que están disponibles así como sus aplicaciones más representativas. Un nuevo producto denominado Smart Camera Box será presentado como una gran alternativa en las aplicaciones de videovigilancia moderna para utilización más práctica en la instalación y operación de cajas de infraestructura ya listas para cámaras normales y PoE en sistemas de videovigilancia.

Webinars

Agenda

- Overview
 - PoE
 - Smart Camera Box
 - Applications
-



Surveillance Infrastructure

Phoenix Contact

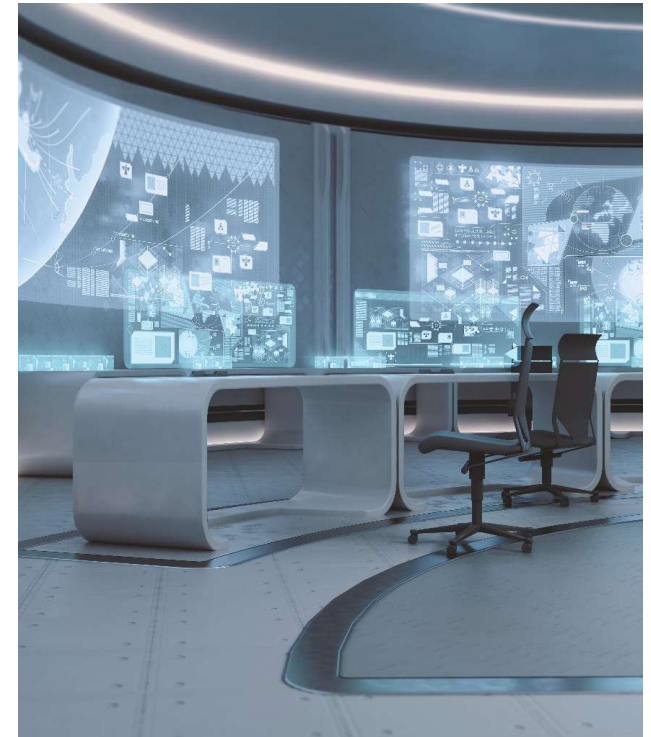


Video Surveillance

Surveillance Infraestructure

Overview

- Security
- Access
- Recording
- Process
- Paths
- Warning
- Alarm
- Control
- Actions
- Light
- Dark
- Temperature
- PoE
- Fiber optic
- Cameras
- Wireless
- Control Room
- Doors
- Bars
- Tunnels
- Traffic Light
- Urban Monitoring
- Police
- Fire Department



PoE – Power over Ethernet

Agenda

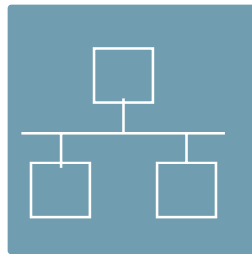
- What does **PoE** mean
- Basics
- Standards and performance classes
- Transmission modes
- Detection and classification
- Product portfolio
- IEEE 802.3 bt - the new standard
- PoE power
- Galvanic isolation
- Surge protection
- Shield current detection
- Connection of the PoE cable



What does PoE mean

PoE - Power over Ethernet

LAN –
local Ethernet network



→ Supply of PoE capable Ethernet devices
with power and data via one cable



Video surveillance



WLAN access points



IP telephony

Infraestructure Surveillance

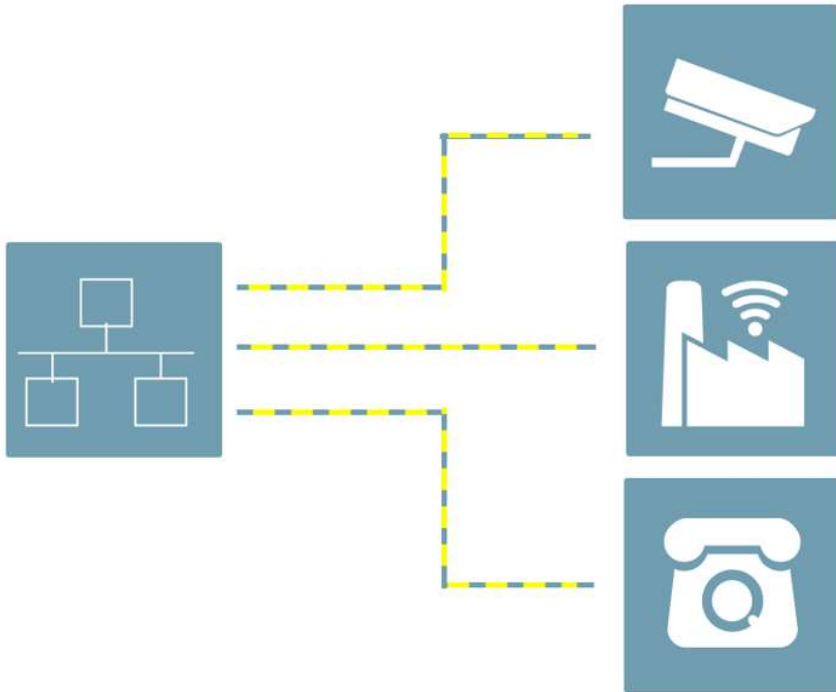
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PoE Installation PoE Cameras

What does PoE mean

Advantages



Significant cost savings

- Less cabling
- No separate power supply units for the devices to be supplied
- Easier and faster installation

PoE – Power over Ethernet

Agenda

- What does **PoE** mean
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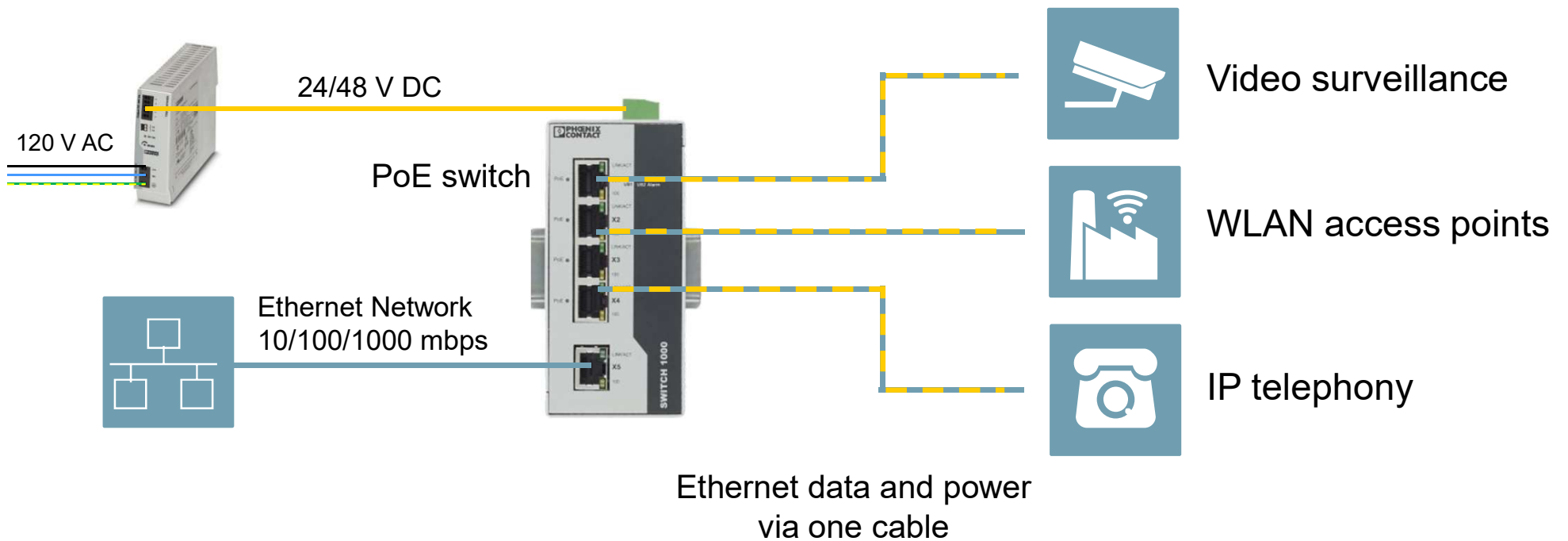
Basics

Terminology



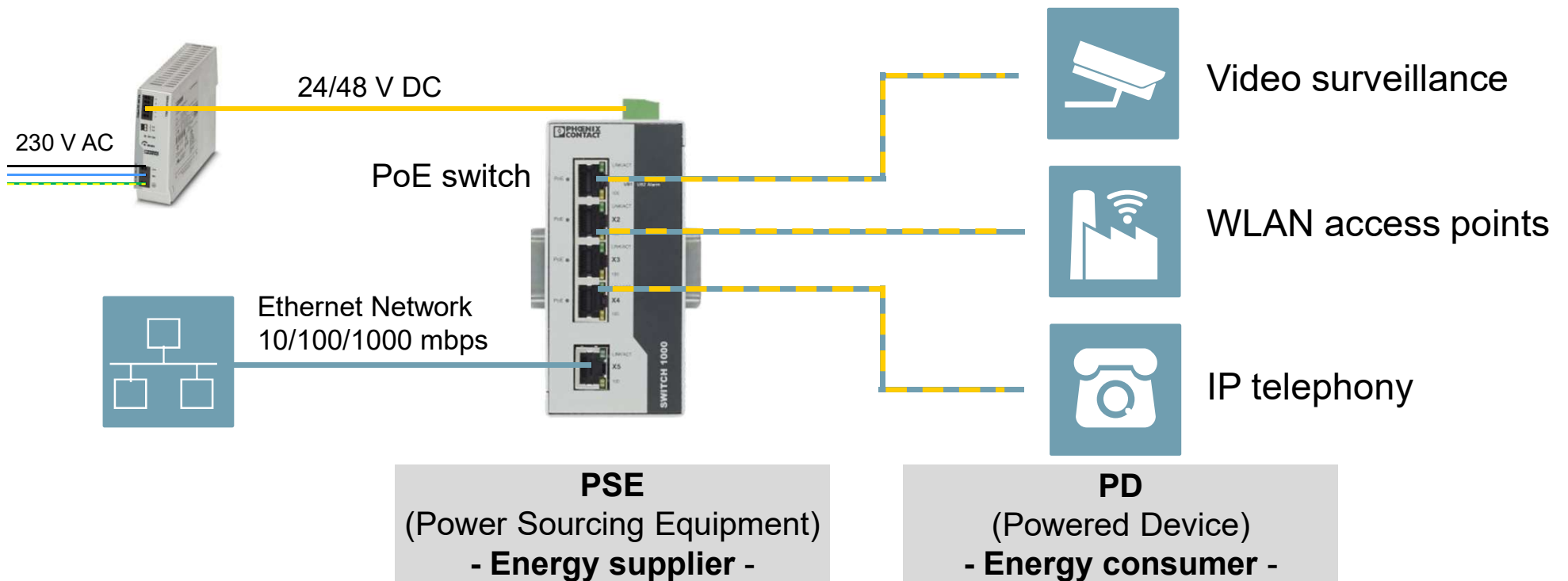
Basics

Terminology



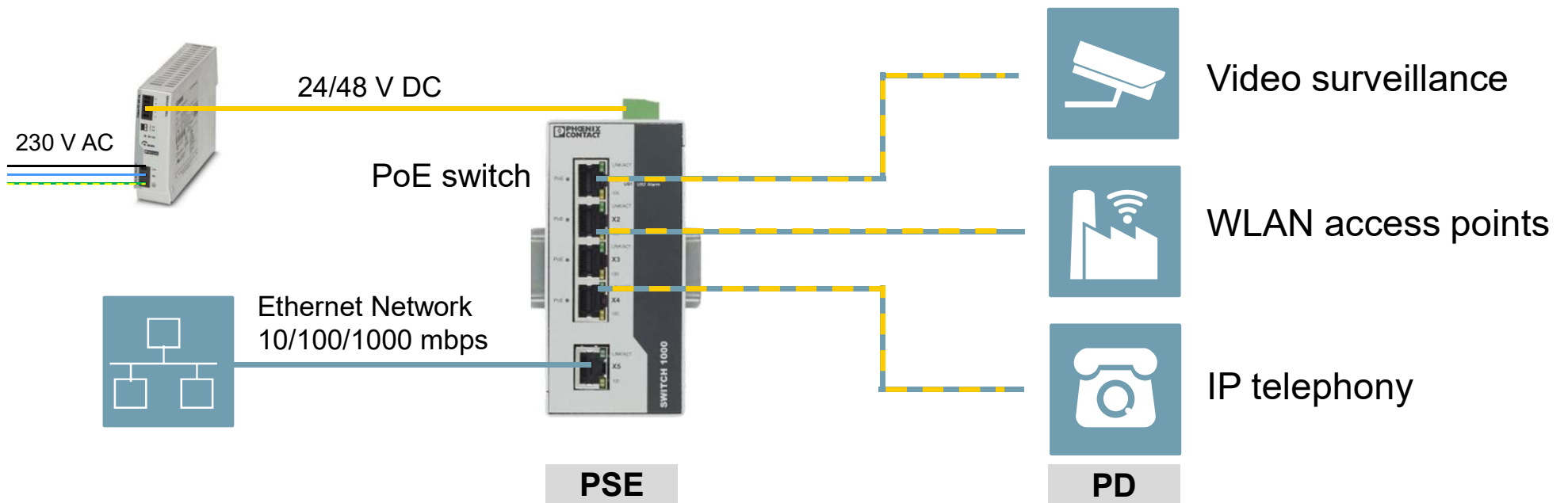
Basics

Terminology



Basics

Terminology

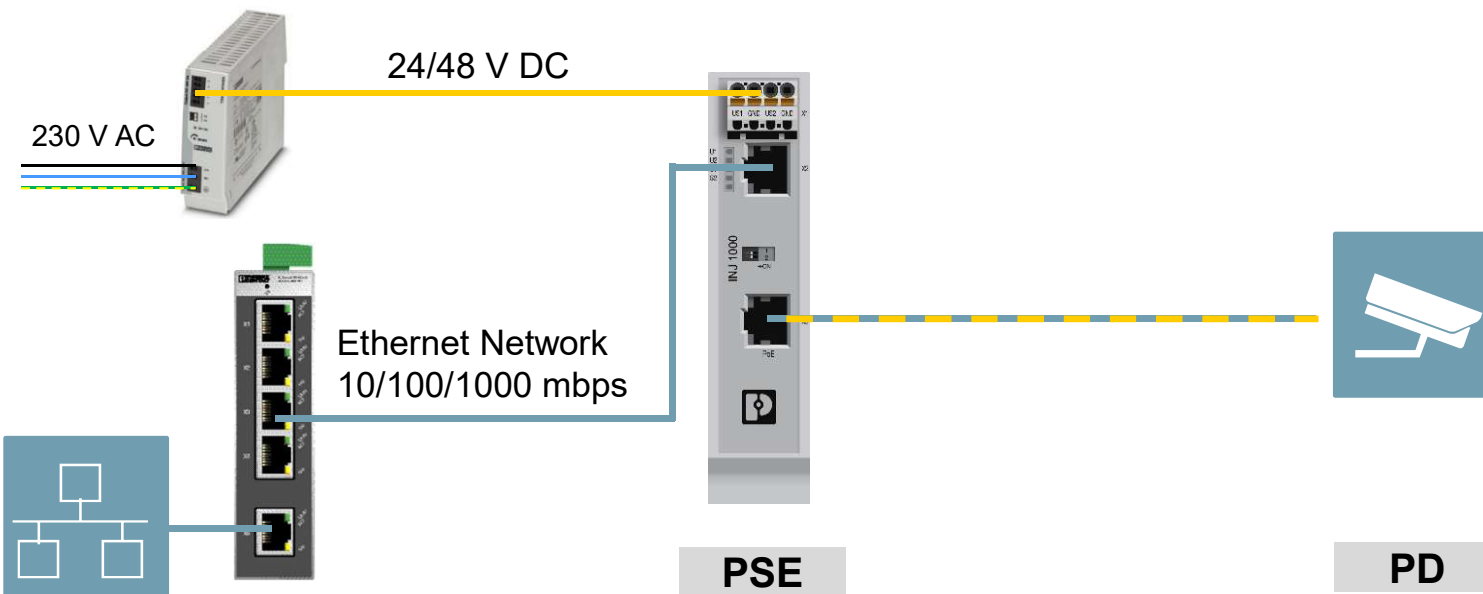


PoE Switch:
"Endspan" device

→ Active power supply

Basics

Terminology



Non PoE-capable
switch

PoE Injector:
"Midspan" device

→ Passive power supply

Standards and performance classes

IEEE Standard for PoE → 3 Standards - Overview

PoE	Standard	max. power from PSE	max. power at PD
PoE	IEEE 802.3 af - 2003	15,4 W	12,95 W
PoE+	IEEE 802.3 at - 2009	30 W	25,5 W
PoE++ (4PPoE) [four pair PoE]	IEEE 802.3 bt - 2018	90 W	71 W

Standards and performance classes

IEEE standard for PoE → Types

	Type	Standard	Maximum current	Powered data pairs	max. power from PSE	max. power at PD
PoE	Type 1	IEEE 802.3 af - 2003	350 mA	2	15,4 W	12,95 W
PoE+	Type 2	IEEE 802.3 at - 2009	600 mA	2	30 W	25,5 W
PoE++ (4PPoE) [four pair PoE]	Type 3	IEEE 802.3 bt - 2018	600 mA	4	60 W	51 W
PoE++ (4PPoE) [four pair PoE]	Type 4	IEEE 802.3 bt - 2018	960 mA	4	90 W	71 W

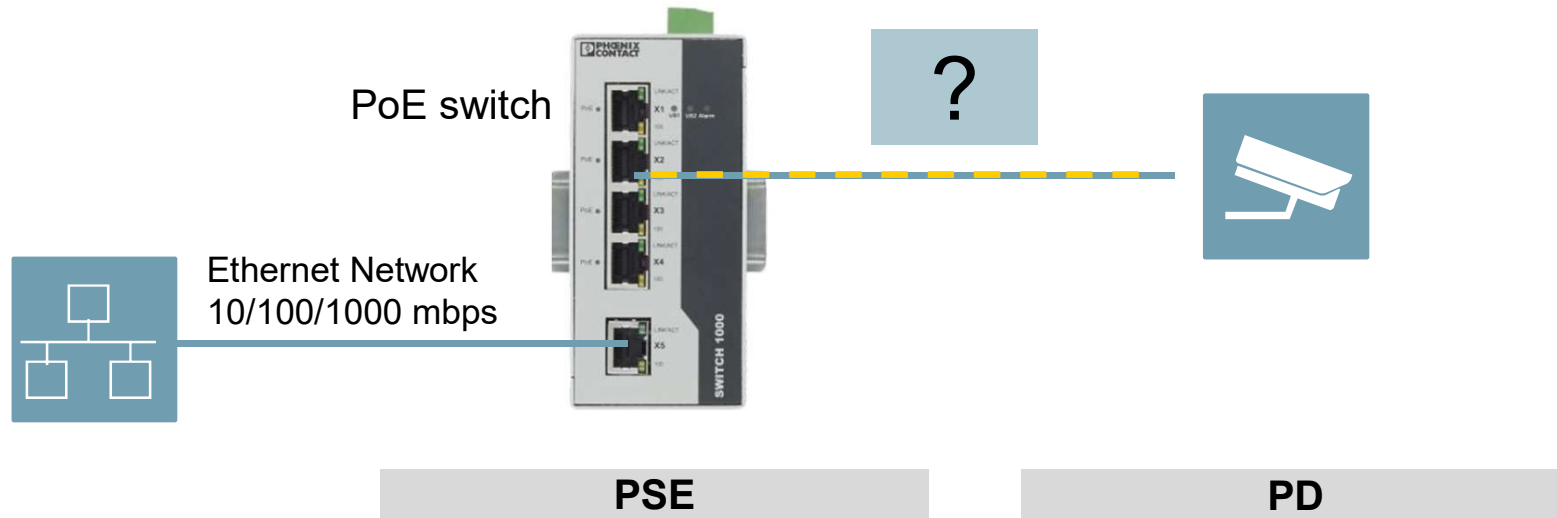
Standards and performance classes

IEEE standard for PoE → Classes

	Type	Standard	Class	Maximum current	Powered data pairs	max. power from PSE	max. power at PD
PoE	Type 1	IEEE 802.3 af - 2003	0 1 2 3	350 mA 350 mA	2 2 2 2	15,4 W 4,0 W 7,0 W 15,4 W	12,95 W 3,84 W 6,49 W 12,95 W
PoE+	Type 2	IEEE 802.3 at - 2009	4	600 mA	2	30 W	25,5 W
PoE++ (4PPoE) [four pair PoE]	Type 3	IEEE 802.3 bt - 2018	5 6	600 mA	4 4	45 W 60 W	40 W 51 W
PoE++ (4PPoE) [four pair PoE]	Type 4	IEEE 802.3 bt - 2018	7 8	960 mA	4 4	75 W 90 W	62 W 71 W

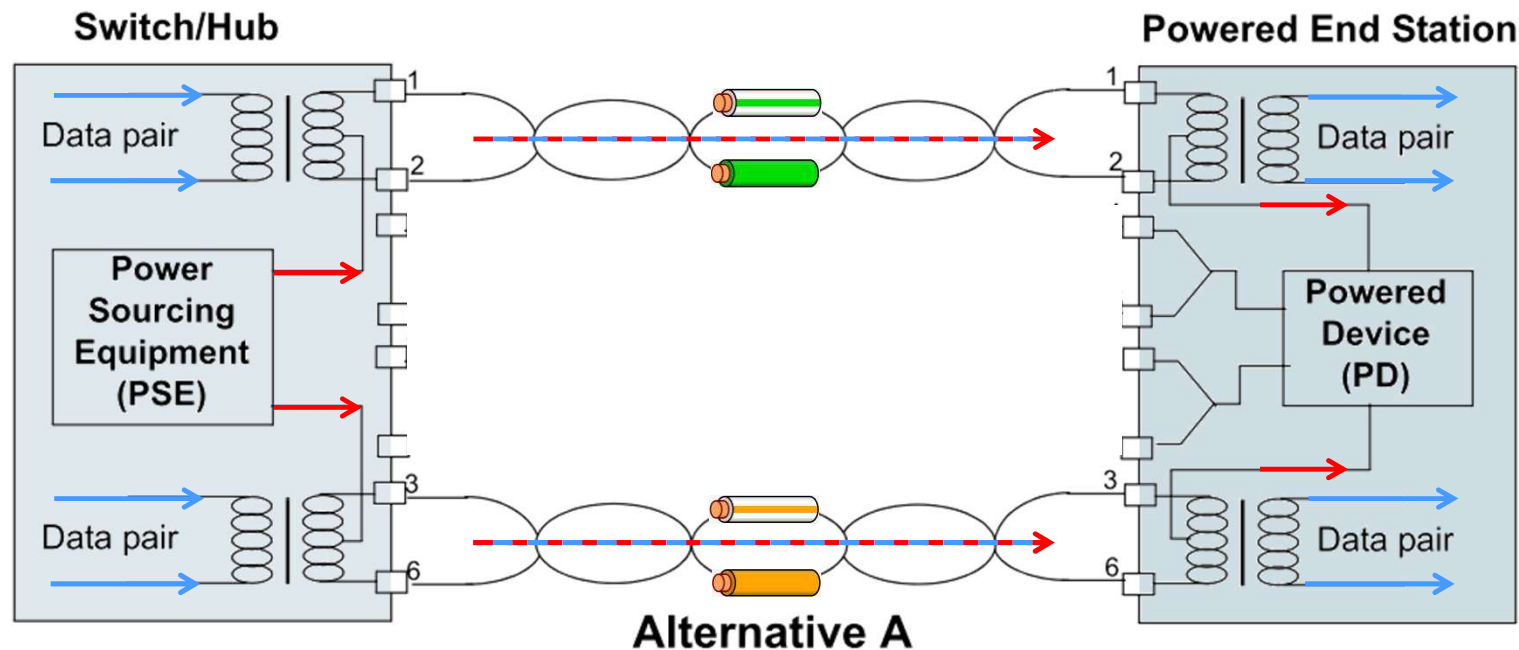
Transmission modes

PoE af / at



Transmission modes

PoE af / at → Mode A - "Phantom Power"



Mode A

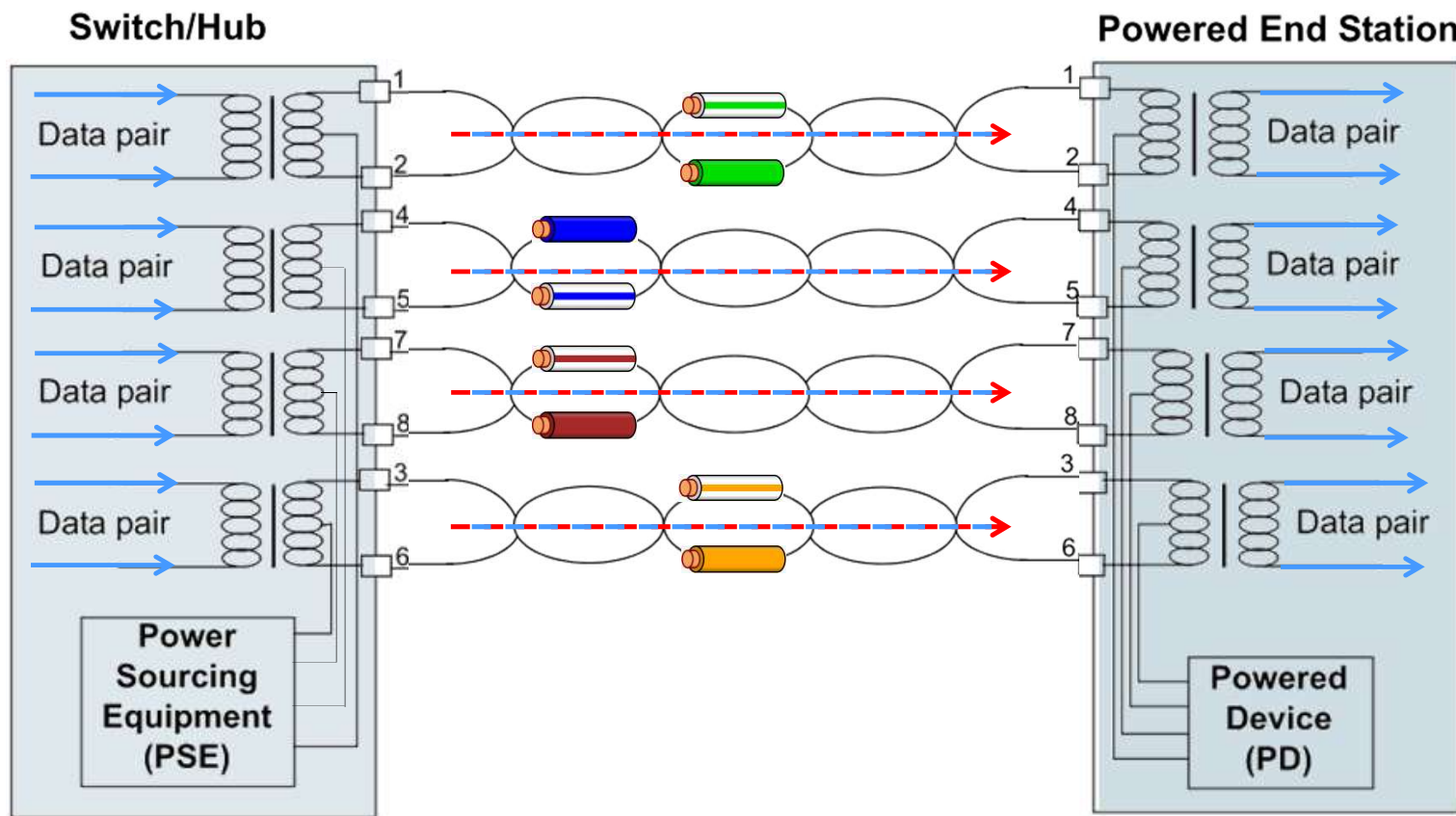
Voltage is modulated via the data lines

- "Phantom power"
- 2-pair mode

10BASE-T/100BASE-TX Endpoint PSE location overview

Transmission modes

PoE bt → 4 data pair mode

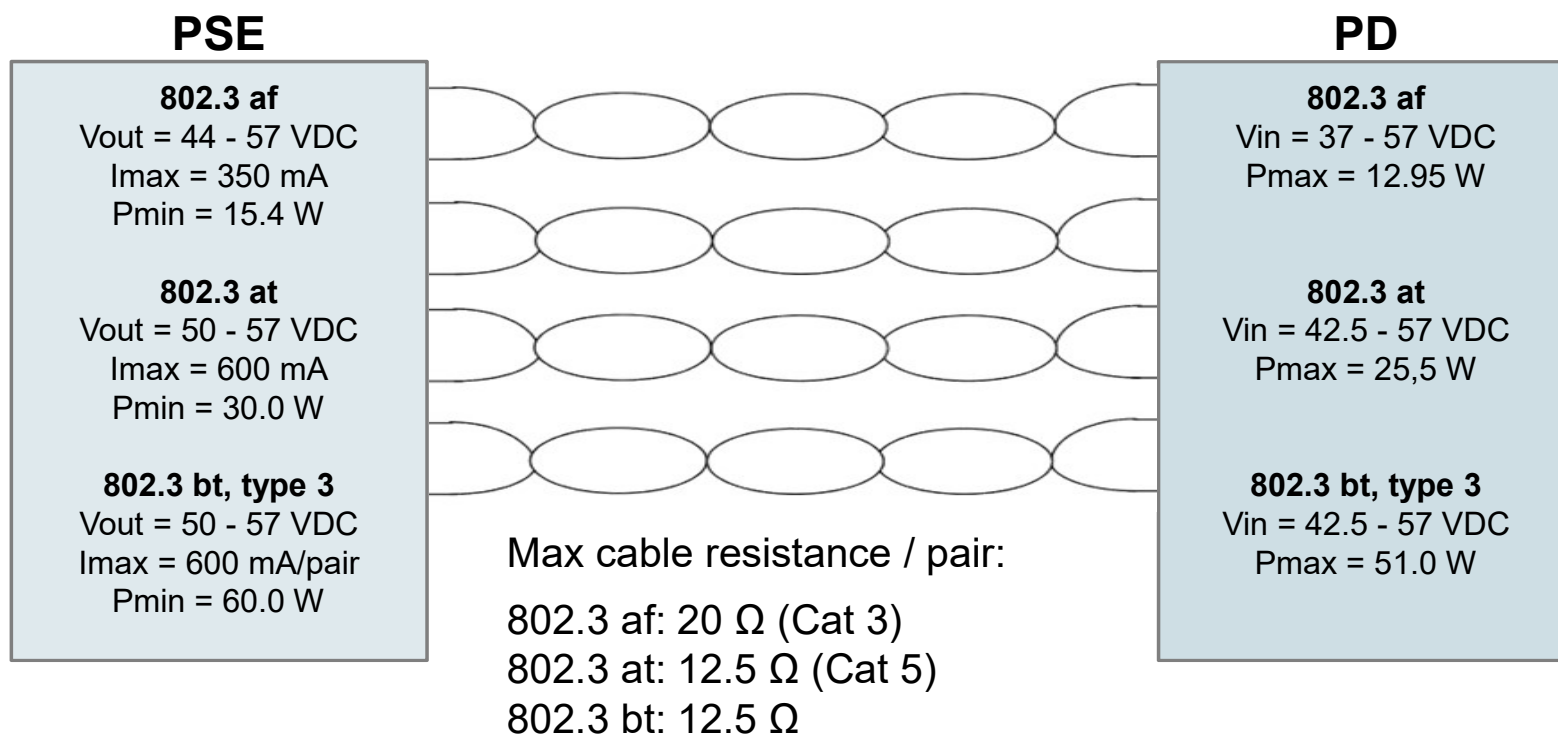


4-pair mode
Power is modulated
on all data pairs

1000/2,5G/5G/10GBASE-T 4-pair Endpoint PSE location overview

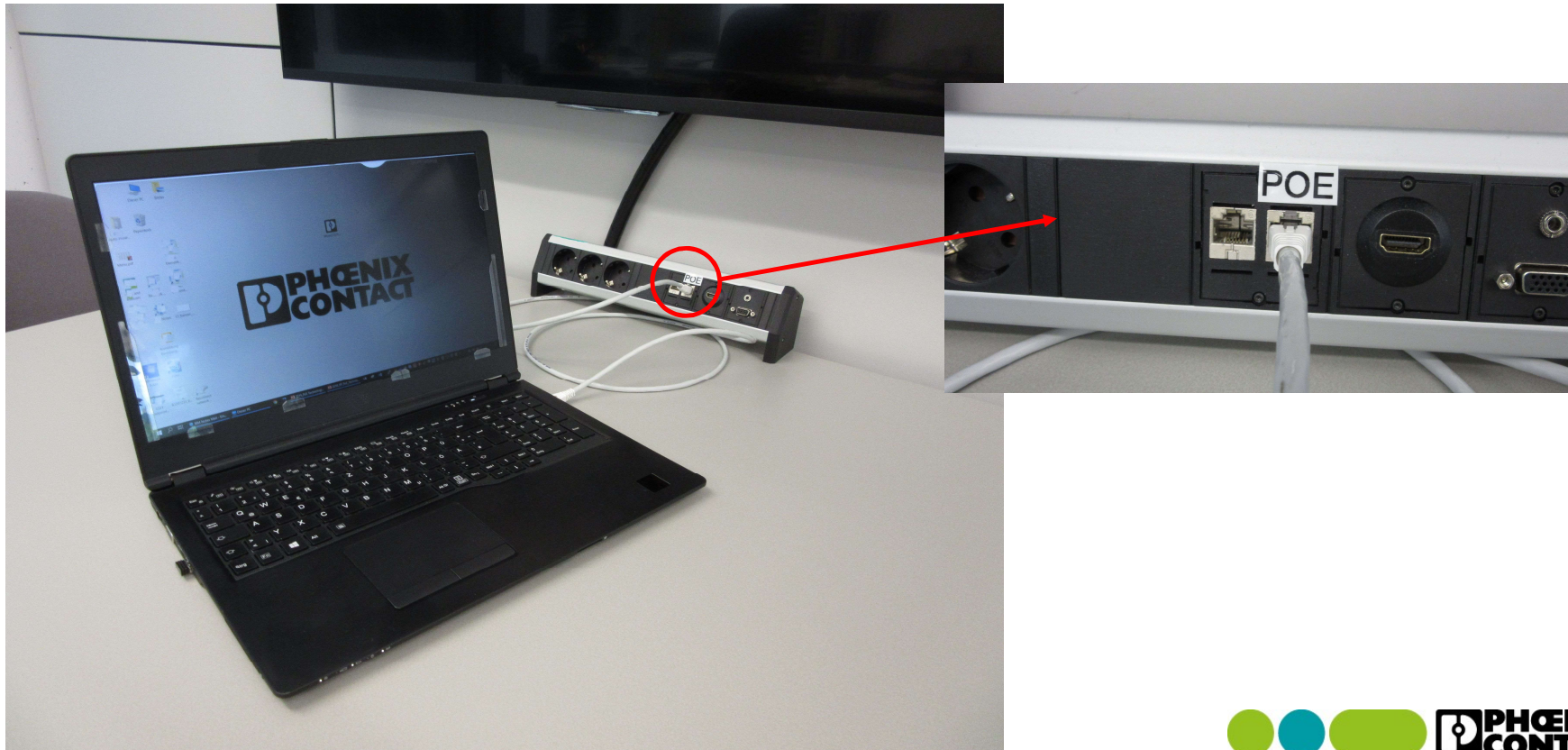
Transmission modes

Parameters



Detection and classification

Non-PoE-capable devices at the PoE connection



Detection and classification

Non-PoE-capable devices at the PoE connection



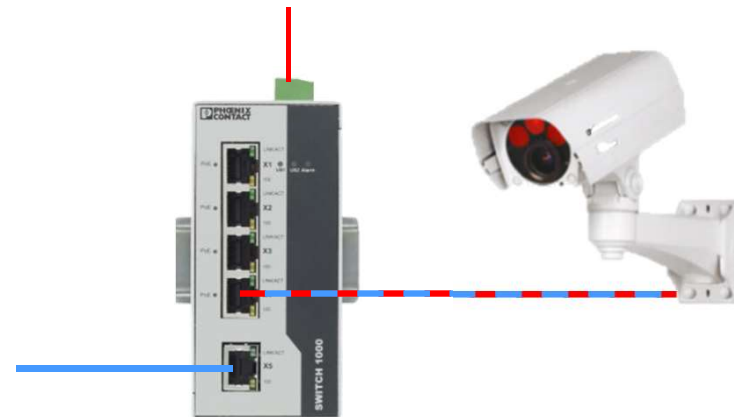
- No danger of overvoltage damage
 - Protective mechanism existing
 - Regular intervals for identification the valid signature of a PD
 - No identification → No voltage
- „Resistive Power Directory (Discovery)“

Detection and classification

PoE detection

→ Resistive power directory

- 1. Detection
PSE – measurement circuit for the internal resistant and capacity of the connected PD
- If the values are in the range,
power will be activated
- 2. Classification
PSE – measurement circuit for the
power class



Detection and classification

PoE Detection and Classification

Stage	Action	Volts specified [V]	
		802.3af	802.3at
Detection	PSE detects if the PD has the correct signature resistance of 19–26.5 kΩ	2.7–10.1	
Classification	PSE detects resistor indicating power range	14.5–20.5	
Mark 1	Signals PSE is 802.3at capable. PD presents a 0.25–4 mA load.	-	7-10
Class 2	PSE outputs classification voltage again to indicate 802.3at capability	-	14,5-20,5
Mark 2	Signals PSE is 802.3at capable. PD presents a 0.25–4 mA load.	-	7-10
Startup	start-up voltage	> 42	> 42
Normal operation	Supply power to device	37-57	42,5-57

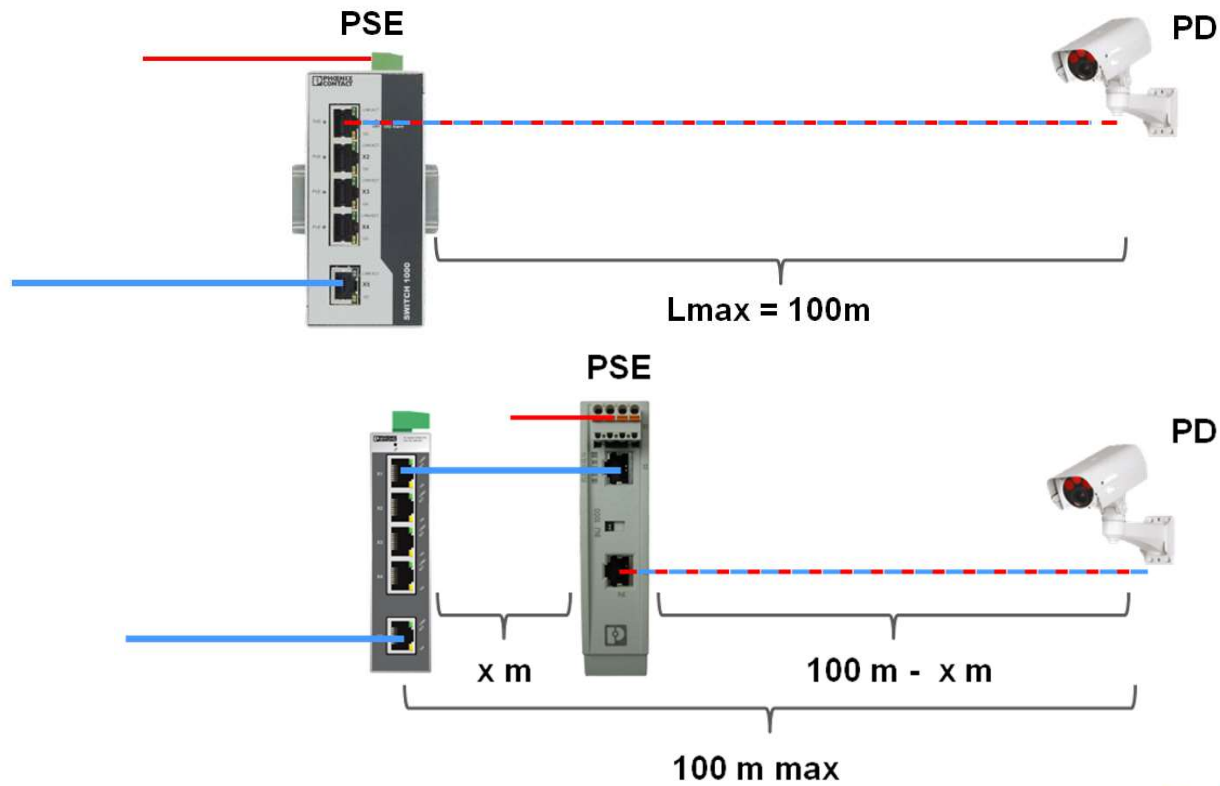
Detection and classification

Physical layer classification

Standard	Class	Type	Classification Current	Max. Power by PSE	Max. Power at PD
IEEE 802.3 af	0	default	0 - 4 mA	15,4 W	0,44 - 12,95 W
IEEE 802.3 af	1	optional	9 - 12 mA	4,0 W	0,44 – 3,84 W
IEEE 802.3 af	2	optional	17 - 20 mA	7,0 W	3,84 – 6,49 W
IEEE 802.3 af	3	optional	26 - 30 mA	15,4 W	6,49 – 12,95 W
IEEE 802.3 at	4	optional	36 - 44 mA	30,0 W	12,95 – 25,50 W

Detection and classification

maximum distance



Product Portfolio

Phoenix Contact PoE Portfolio



Product Portfolio

From the Injector to the Splitter



Injectors



Unmanaged Switches



Managed Switches



Splitter



Smart Camera Box

Product Portfolio

PoE- Injector or switch



Injector

- Plug and play one port
- Hi Power (60W)
- Price advantage by one port
- Patch Panel technology
- Surge protection
- Shield current diagnostics
- galvanic isolation

Unmanaged Switch

- Plug and play several ports
- SFP fiber ports
- Remote monitoring of connected PDs

Managed Switch

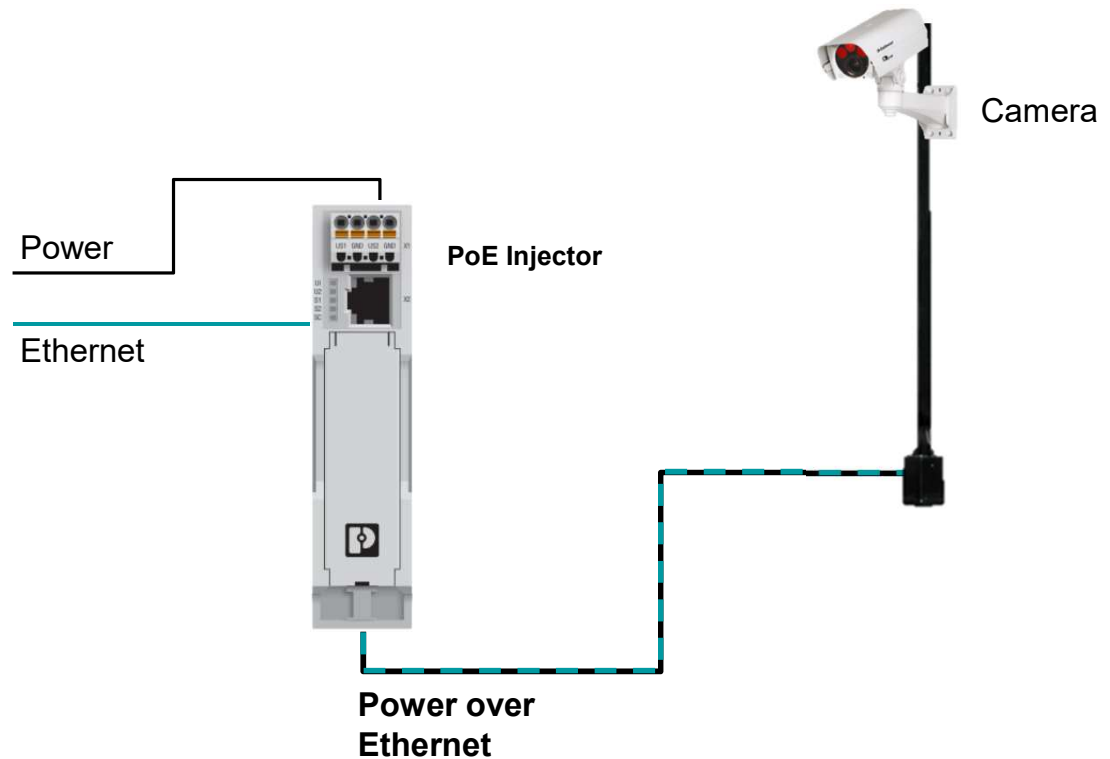
- Managed features like redundancy, monitoring, configuration, security
- SFP fiber ports
- Hi Power (60W)
- Prioritize PDs
- Remote control of PDs
- PoE Watchdog
- Force power to non-compliant PDs

Product Portfolio

PoE Injectors

Injector

- Plug and play one port
- Hi Power (60W)
- Price advantage by one port
- Patch Panel technology
- Surge protection
- Shield current diagnostics
- galvanic isolation



Product Portfolio

PoE Injectors

Surge protection

shield current
monitoring on the PoE
cable side.
An LED indicates
differences in potential
or other shield currents
caused by the effects of
EMC

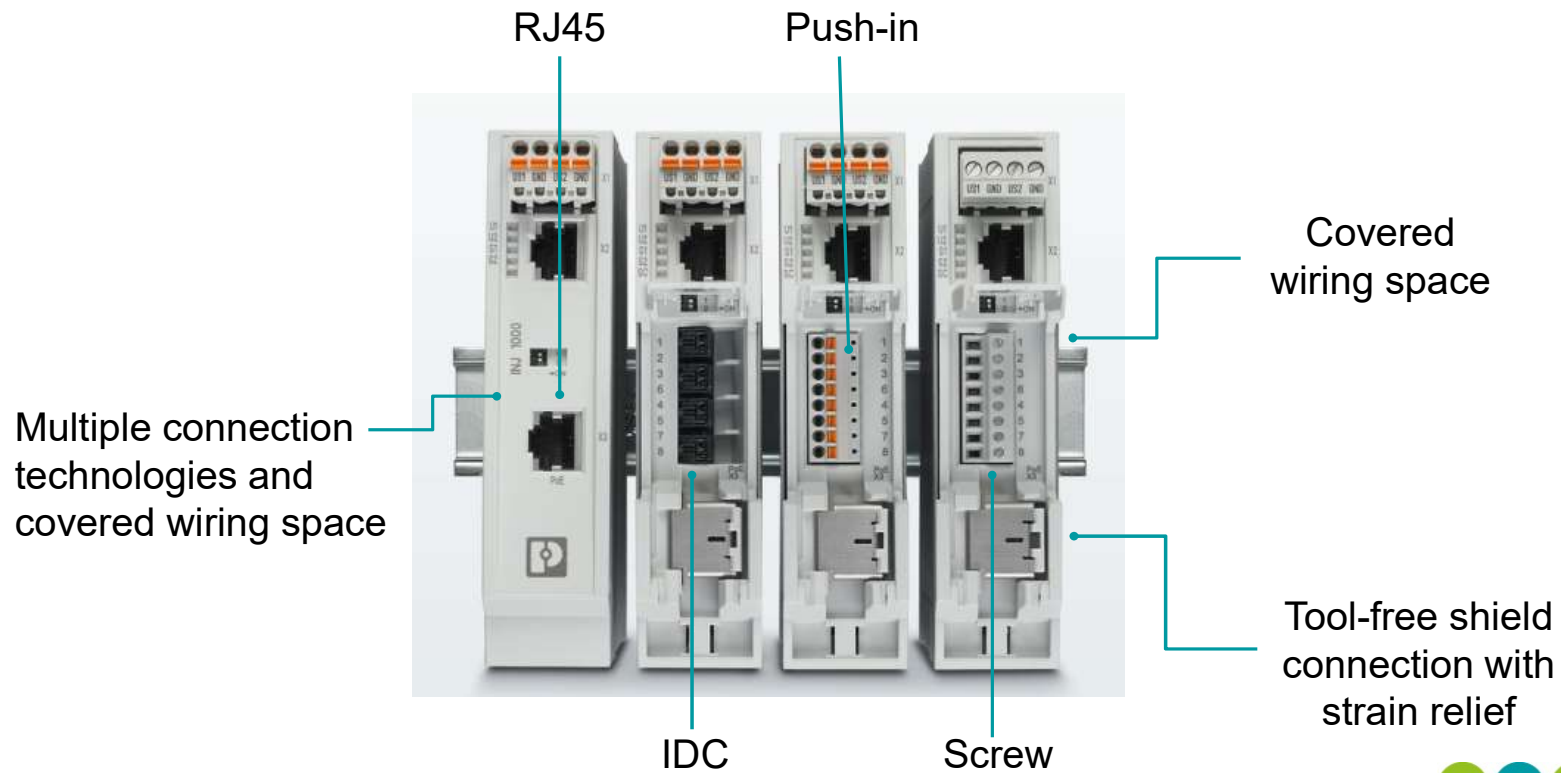


Different performance
standards,
temperature range and
power classes

Electrical isolation,
→ Power supply and
PoE port are electrically
isolated

Product Portfolio

PoE Injectors



Product Portfolio

PoE Injectors

i Webcode: #1789



Description

**PoE Injector
INJ 1000**

**PoE Injector
INJ 2000**

Interfaces

RJ45 / RJ45

RJ45 / RJ45

RJ45 / RJ45

RJ45 / IDC

RJ45 / Push-in

RJ45 / Screw

Temperature range

0 °C ... +60 °C

-40 °C ... +75 °C

-40 °C ... +75 °C

-40 °C ... +75 °C

-40 °C ... +75 °C

-40 °C ... +75 °C

Galvanic isolation

No

Yes

Surge protect., shield cur.

No

Yes

Typ
Art.-Nr. PoE at/af, 15/30W

INJ 1000
2703005

INJ 1000-T
2703006

INJ 1100-T
2703009

INJ 2102-T
2703012

INJ 2103-T
1004065

INJ 2101-T
2703011

Typ
Art.-Nr. PoE++ 60W

INJ 1010
2703007

INJ 1010-T
2703008

INJ 1110-T
2703010

INJ 2112-T
2703014

INJ 2113-T
1004066

INJ 2111-T
2703013

PoE-Injector with
2 Port PoE
10/100 mbps, 2x15W

FL IF 2PSE
2-Port-PoE-Injector,
Extension module for
FL SWITCH GHS
10/100 mbps, 2x15W

Product Portfolio

Unmanaged PoE-Switches







	FL SWITCH 1708 M12 POE
Ports	8 POE+
Temperature Range	-40 ... +70°C
Power supply	24 V DC (18-30 VDC)
Protection	IP 67
Max Power Data Rate	200 W / 30W max/Port 10/100/1000 mbps

	FL SWITCH 1001- 4POE
Ports	4 POE+
Temperature Range	-40 ... +75°C
Power supply	18-57 VDC
Protection	IP 20
Max Power Data Rate	120 W / 30W per Port 10/100 mbps

Product Portfolio

1000 Series Unmanaged PoE Switch

* USP

1000 Series Unmanaged				
Description	FL SWITCH 1000T-2POE-GT-2SFP	FL SWITCH 1001T-4POE-GT	FL SWITCH 1001T-4POE-GT-SFP	FL SWITCH 1000T-8POE-GT-2SFP
Article	1026765	1026937	1026932	1026929
Ports	2 RJ45 POE x 2 SFP	5 RJ45 (4 POE)	5 RJ45 (4 POE) x 1 SFP	8 RJ45 POE x 2 SFP
Speed	10/100/1000 Mbit/s *	10/100/1000 Mbit/s *	10/100/1000 Mbit/s *	10/100/1000 Mbit/s *
Power Port/Module	30 Watt / 60 Watt	30 Watt / 120 Watt	30 Watt / 120 Watt	30 Watt / 120 Watt
Input Voltage	52 – 57 VDC	18 - 57 VDC *	18 - 57 VDC *	18 - 57 VDC *
Dimensions	42.8 x 100 x 100 *	30 x 149 x 108	30 x 149 x 108	64 x 145 x 136

Surveillance Infrastructure

PoE portfolio






PoE switches for video monitoring
PHOENIX CONTACT

Video PoE products

4000 Series Managed PoE Switch

* USP

4000 Series Managed			
Description	FL SWITCH 4000T-SFP	FL SWITCH 4000T-8POE-2SFP	FL SWITCH 4004T-8POE-4SFP
Article	1026924	1026923	1026922
Ports	4 RJ45 POE, 1 SFP	8 RJ45 POE, 2 SFP	12 RJ45 (8 POE), 4 SFP
Speed	10/100 Mbit/s RJ45 1000 Mbit/s SFP	10/100 Mbit/s RJ45 1000 Mbit/s SFP	10/100/1000 Mbit/s*
Power Port/Module	60 Watt / 180 Watt*	60 Watt / 180 Watt*	60 Watt / 240 Watt*
Input Voltage	52 – 57 VDC	52 – 57 VDC	52 – 57 VDC
Dimensions	75 x 170 x 152	75 x 170 x 152	68 x 170 x 152 *

Product Portfolio

4000 Series Managed PoE Switch

* USP

4000 Series Managed			
Description	FL SWITCH 4000T-SFP	FL SWITCH 4000T-8POE-2SFP	FL SWITCH 4004T-8POE-4SFP
Article	1026924	1026923	1026922
Ports	4 RJ45 POE, 1 SFP	8 RJ45 POE, 2 SFP	12 RJ45 (8 POE), 4 SFP

- Power management for each port
- PoE Watchdog
- Diagnostics and alert
- Auto/Forced Modes
- Power Priority
- Power Down Alarm
- Time management to save energy costs

4000 Series Managed Features



Introducing 3 New Managed Features

- PoE Configuration
 - Allows configuration of all PoE functions, by port
- PoE Scheduling
 - Allows PoE power to be scheduled by hour of day and day of week
- PoE Watchdog
 - Allows connected PDs to be monitored, and automatically rebooted or powered off in the event of a failure

PoE Configuration

View overall PoE system settings such as power supply, consumption, and configuration of power budget

Enable/Disable PoE per port

Configure the power budget by port

Set port power priority by port in event of power requirements exceeding “System Power Budget”

PoE Configuration

PoE System Status

Main Supply Voltage

47.00 (V)

Actual Power Consumption

0.00 (W)

System Power Budget

180.00 (W)

The value of 'System Power Budget' should greater than the sum of all port's 'Consumption'.

PoE Port Setting

Port	Operating Mode	Fixed Power Limit (W)	Power Priority	Power Down Alarm	Status	PD Class	Current (mA)	Consumption (W)
1	Enable	30.00	High	<input type="checkbox"/>	Searching	N/A	0	0
2	Enable	30.00	High	<input type="checkbox"/>	Searching	N/A	0	0
3	Enable	30.00	High	<input type="checkbox"/>	Searching	N/A	0	0
4	Enable	30.00	High	<input type="checkbox"/>	Searching	N/A	0	0
5	Enable	30.00	High	<input type="checkbox"/>	Searching	N/A	0	0
6	Enable	30.00	High	<input type="checkbox"/>	Searching	N/A	0	0
7	Enable	30.00	High	<input type="checkbox"/>	Searching	N/A	0	0
8	Enable	30.00	High	<input type="checkbox"/>	Searching	N/A	0	0

To activate Power Down Alarm, PoE Power Down must be enabled on the [Alarm Contact](#) page.

Submit

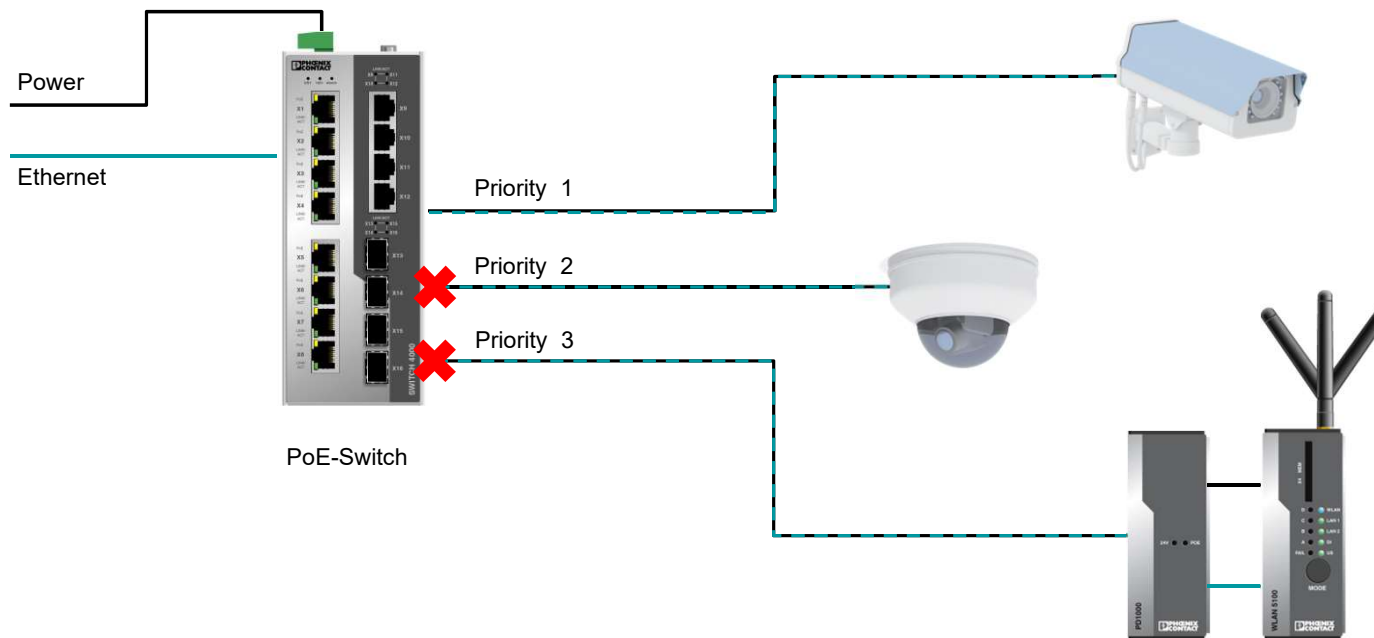
Check this box to trigger an alarm in PoE power is not being delivered to the PD

Displays the operating status of the PoE port

Displays monitoring data for the attached PDs in the form of PD class, current draw, and current consumption

Product Portfolio

4000 Series Managed – PoE Prioritization



Surveillance Infrastructure

INJ and PoE

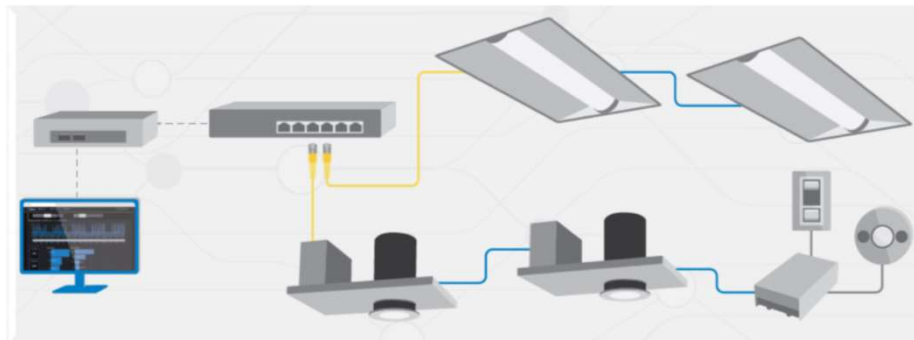


Video presentation of INJ Injector and PoE products

IEEE 802.3 bt - the new standard

IEEE Standard → PoE bt

- PTZ cameras, PanTilt Zoom with infrared lighting and heating
- Monitors
- PCs / HMI
- Kiosks
- POS terminals
- thin clients
- LED lighting



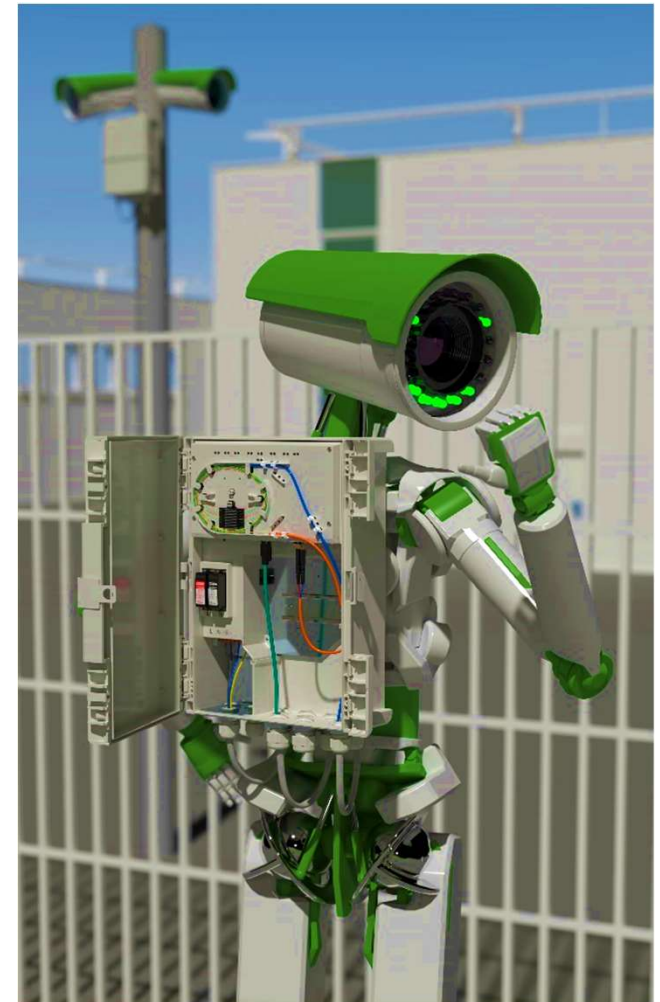
IEEE 802.3 bt - the new standard

IEEE Standard → PoE bt

The Smart Camera Box - More than just an outdoor PoE switch

It connects PoE devices to Ethernet networks,
such as IP cameras to a video server.

The compact all-in-one device replaces modular control
cabinet solutions and
saves time during planning and installation.



IEEE 802.3 bt - the new standard

SCX → All-in-One device

The Smart Camera Box connects cameras installed in the field with the local network to transmit camera images to the video center.

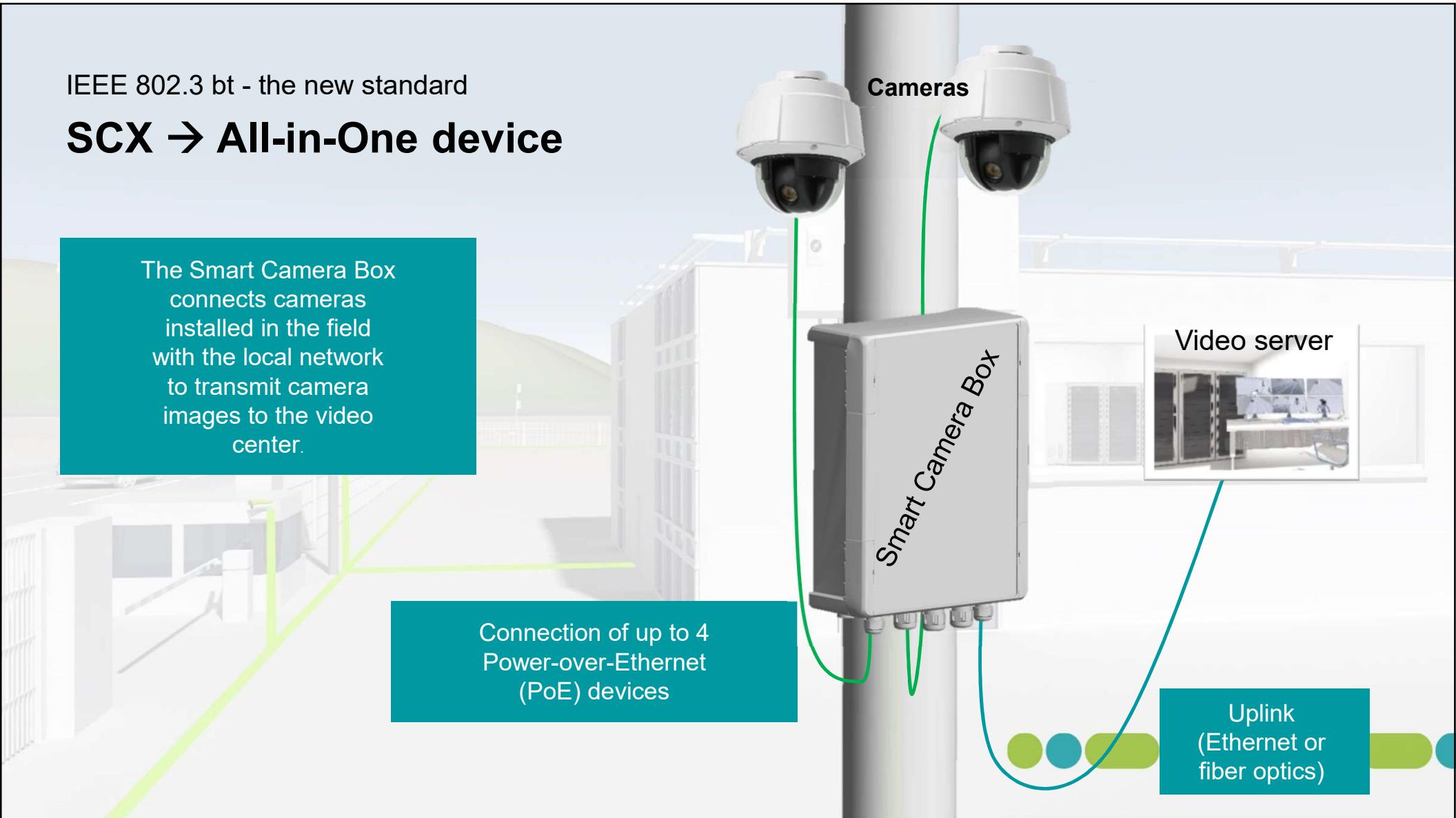
Connection of up to 4 Power-over-Ethernet (PoE) devices

Cameras

Smart Camera Box

Video server

Uplink
(Ethernet or
fiber optics)

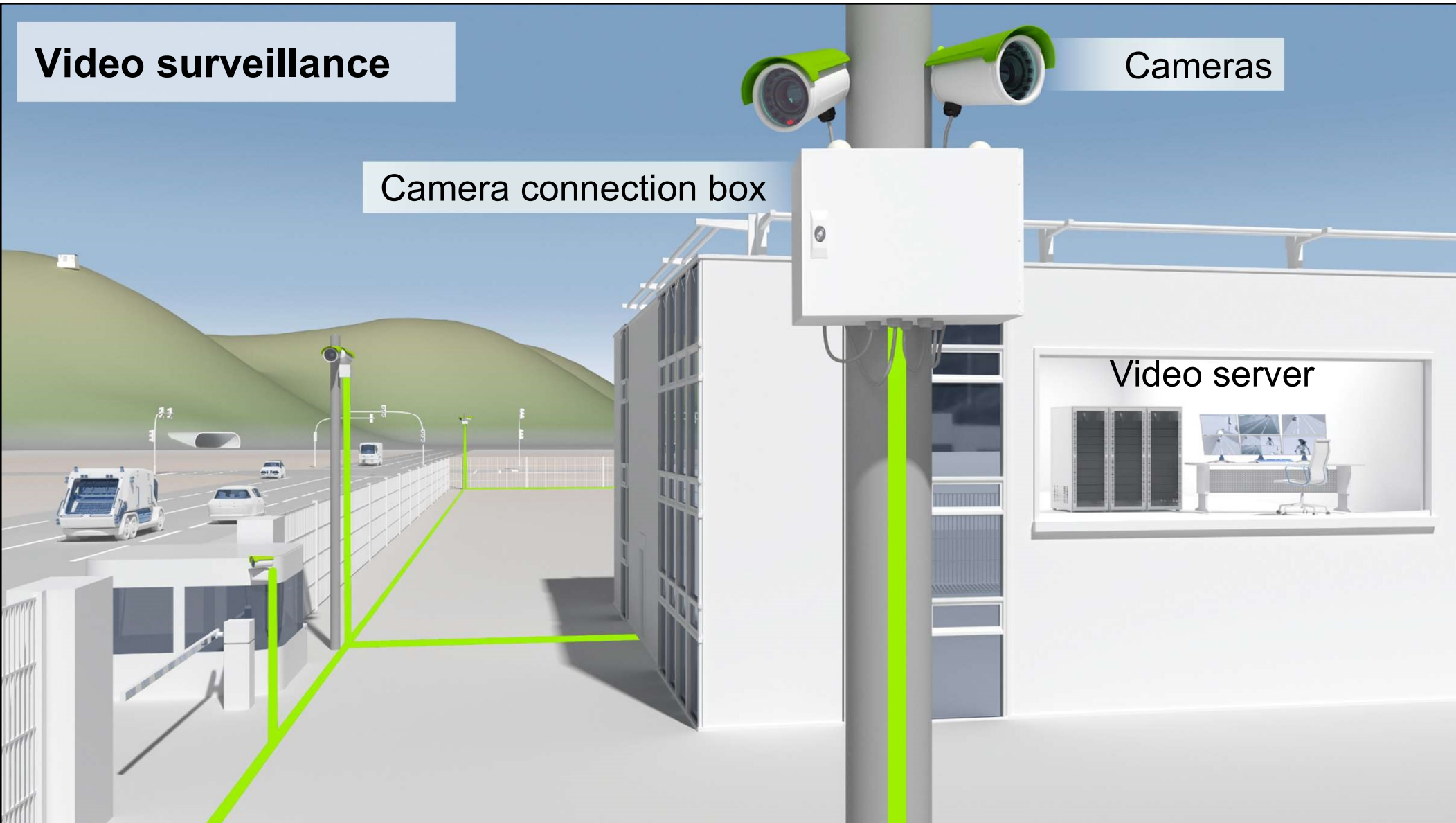


Video surveillance

Cameras

Camera connection box

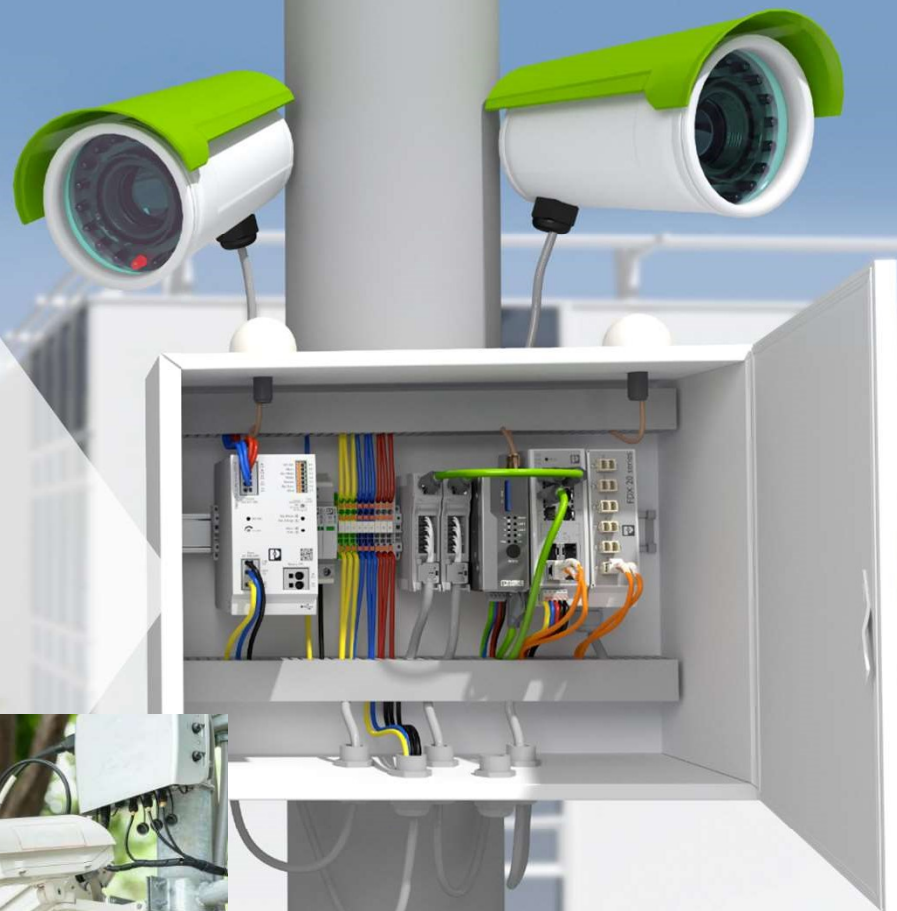
Video server



Control cabinet solution

... typical camera connection box

- Switches
- Power supplies
- FO splice boxes
- Surge protection
- Patch Panels
- Data cables
- Device plug
- ...





Camera connection box

- Switches
- Power supplies
- UPS
- FO splice boxes
- Data cables (meter/config.)
- device plugs
- patch panels
- Terminal blocks
- surge protection
- circuit breakers
- WLAN
- Mobile routers
- Industrial PC



Pan-Tilt-Zoom Camera (PTZ)



Day/Night Camera



Thermal Camera



Camera connection box



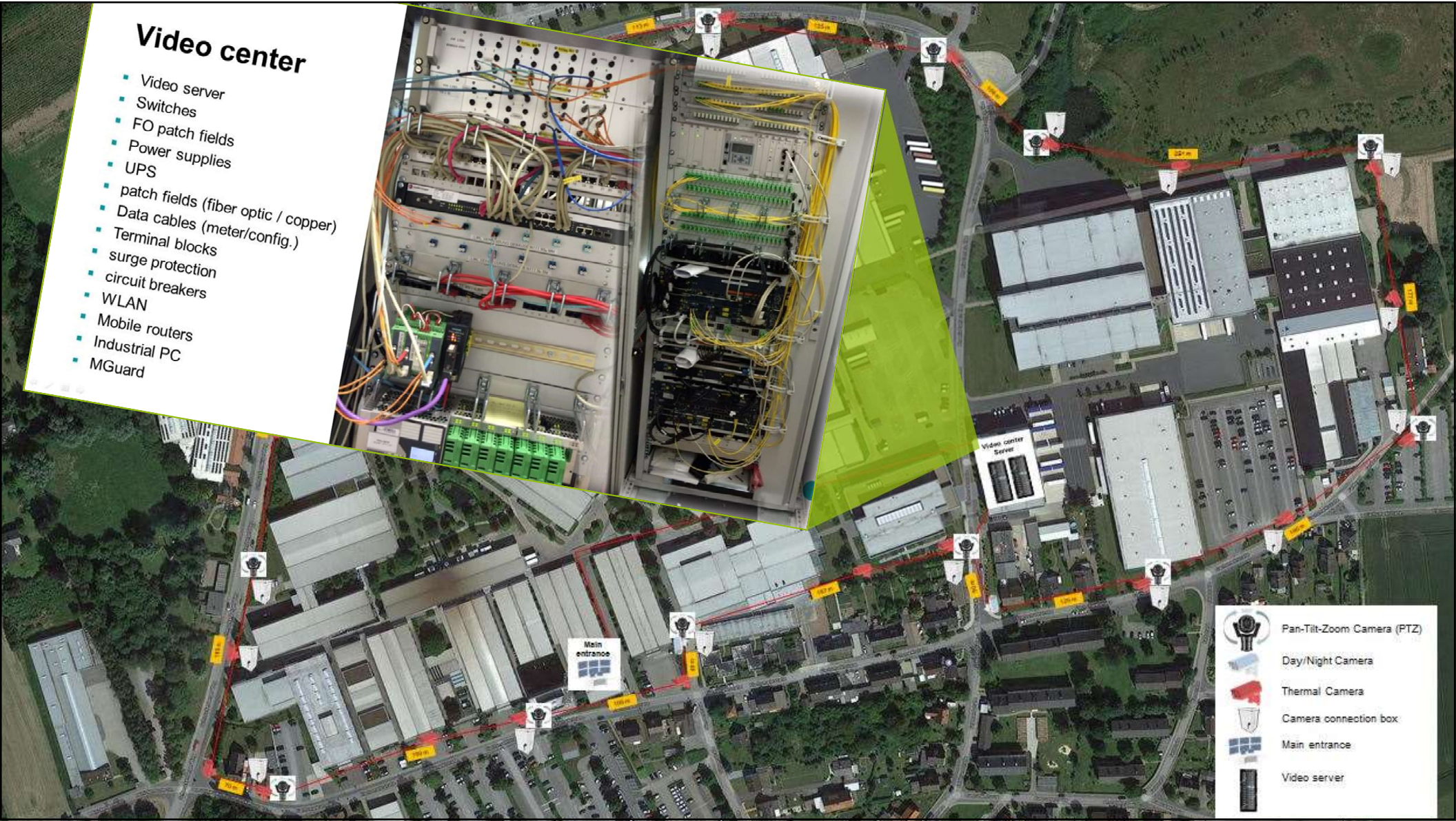
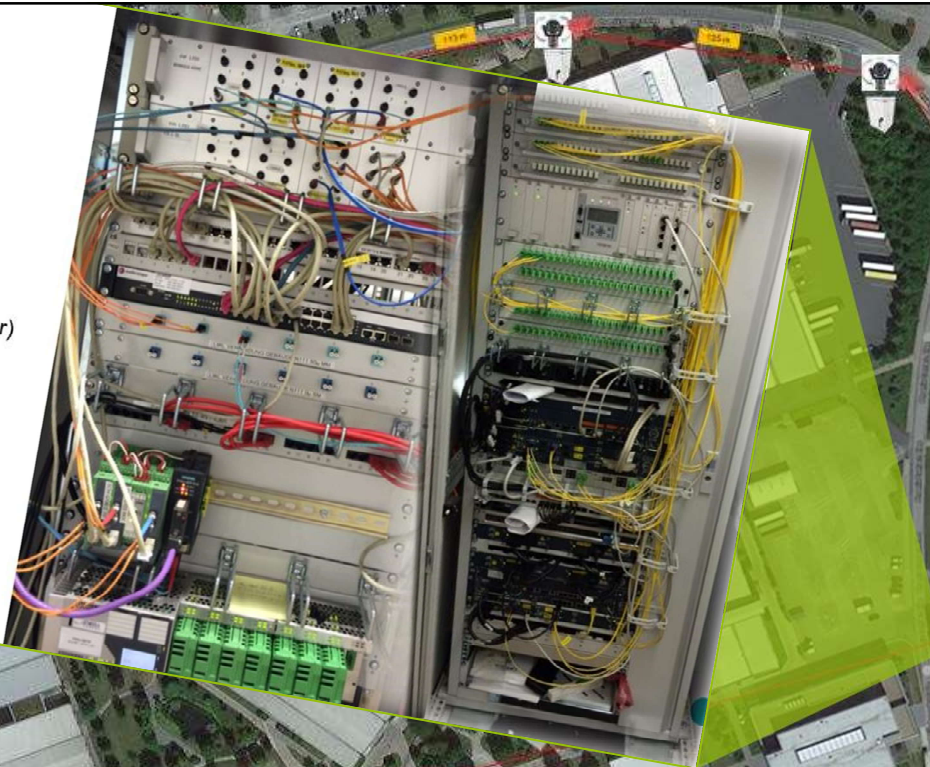
Main entrance



Video server

Video center

- Video server
- Switches
- FO patch fields
- Power supplies
- UPS
- patch fields (fiber optic / copper)
- Data cables (meter/config.)
- Terminal blocks
- surge protection
- circuit breakers
- WLAN
- Mobile routers
- Industrial PC
- MGuard



-  Pan-Tilt-Zoom Camera (PTZ)
-  Day/Night Camera
-  Thermal Camera
-  Camera connection box
-  Main entrance
-  Video server

Some examples of surveillance applications



Smart Camera Box

All-in-one device

The Smart Camera Box connects cameras installed in the field with the local network to transmit camera images to the video center.

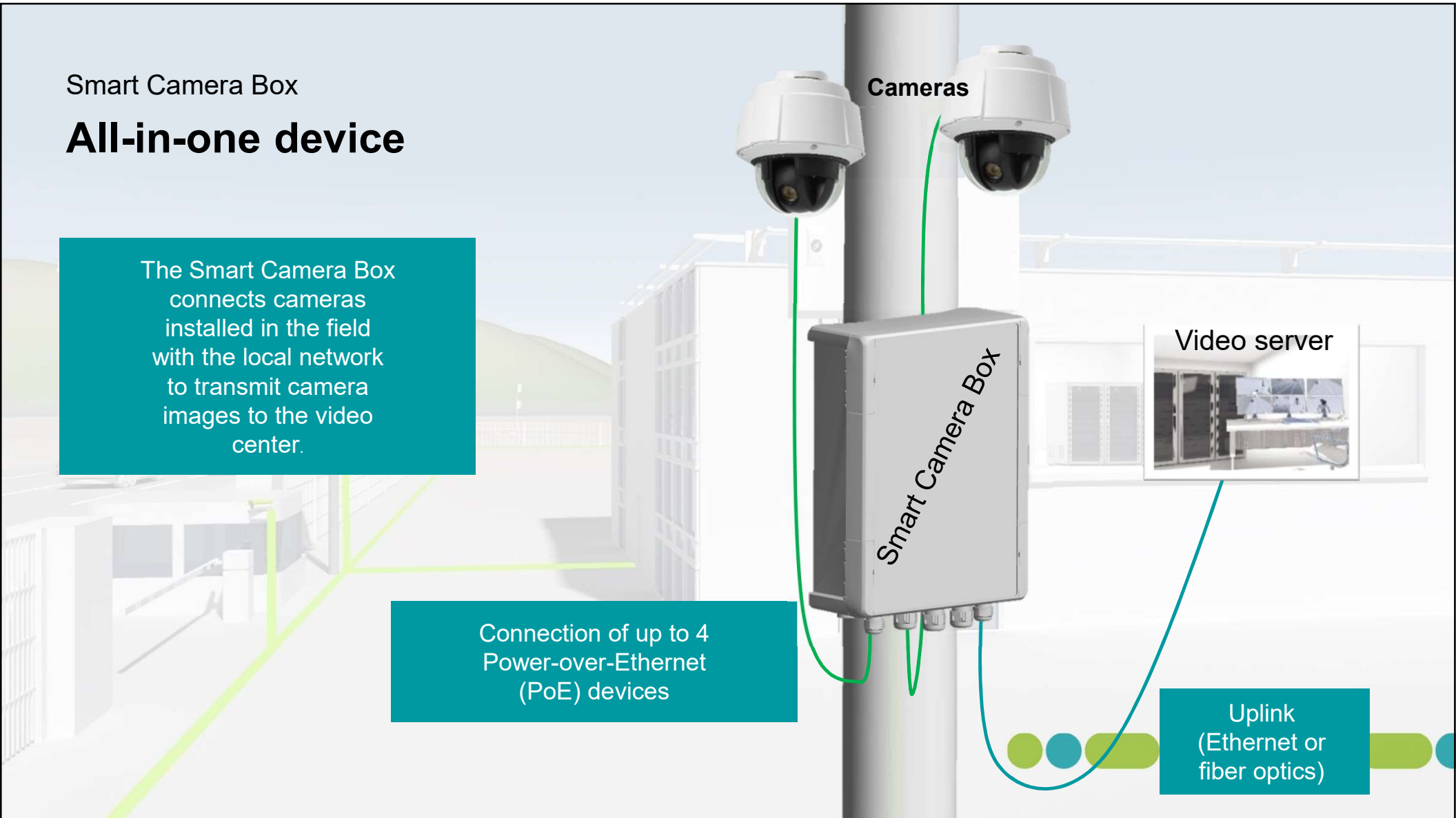
Connection of up to 4
Power-over-Ethernet
(PoE) devices

Cameras

Smart Camera Box

Video server

Uplink
(Ethernet or
fiber optics)



Smart Camera Box

All-in-one device

Cameras

Up to 4 Power-over-Ethernet (PoE) devices
(max. 90 W per port)

Reliable data
communication
RSTP, VLAN
Multicast filtering

Video server

Uplink
(Ethernet or
fiber optics)

Smart Camera Box

Features

The Smart Camera Box is a
All-in-one device
which contains all the
functionalities of a standard
camera box



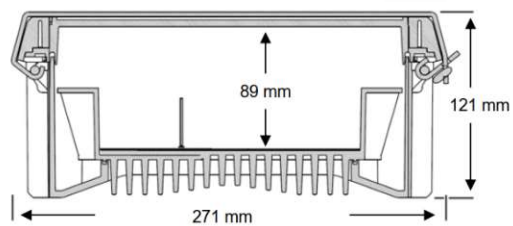
**PHOENIX
CONTACT**
INSPIRING INNOVATIONS

Smart Camera Box

Overview

Housing for outdoor
use
IP65/IP67
IK10

Mounting adapter
for pole and wall



Smart Camera Box

Housing

Front view



Wall mounting
Holes for direct mounting
on a wall

Back view



**Lightweight,
robust casing**

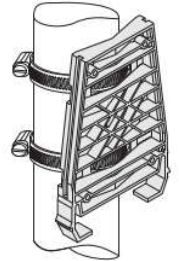
IP65 / IP67 - Outdoor housing
IK10 - Vandalism proof

Mounting adapter

Provides secure fit
Hidden release mechanism,
can only be released with a tool

Smart Camera Box

Mounting adapter



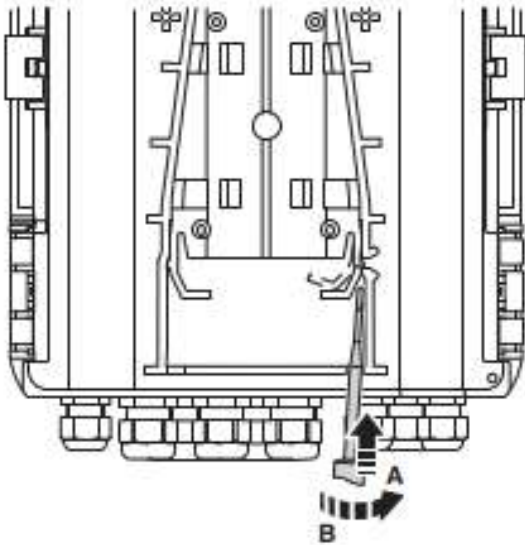
Mounting adapter for pole and wall

Smart Camera Box

Installation - mounting - mounting adapter

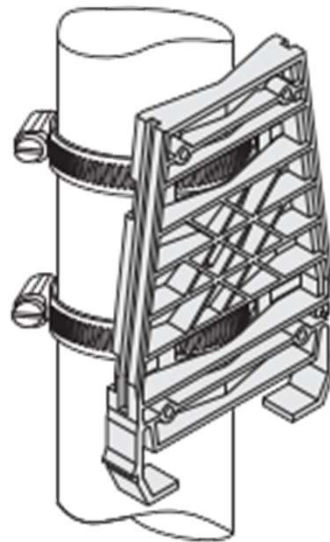
Installation with mounting adapter

1. Attach the mounting adapter
2. Click the box on the adapter
3. Connect the cables
4. Done!



Disassembly

Pry open the latch with a screwdriver



Mounting adapter for
pole and wall



Smart Camera Box

Mechanical safety

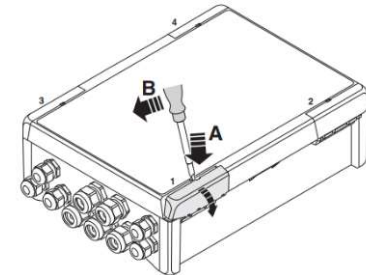
Door bolt with locking tab
Accessories SCX-DOOR-
LOCK Part No.: 1184401



Metal door interlock
Enables safe locking of the door

Smart Camera Box

Flexible door mounting



Door hinge right



Door hinge left



Door removable

Smart Camera Box

Overview

Housing for outdoor use
IP65/IP67
IK10

Mounting adapter
for pole and wall

Power supply
100 VAC... 240 VAC

Temperature range
-40°C ... +70°C

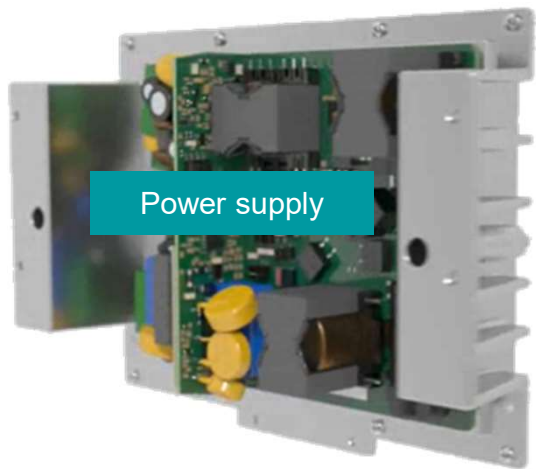


Smart Camera Box Features

Reliability - Heat sink

Integrated heat sink

- Enables reliable use in harsh environments
- Temperature range **-40° C ... +70° C**



Smart Camera Box

Overview

Housing for outdoor use
IP65/IP67
IK10

Mounting adapter
for pole and wall

Power supply
100 VAC... 240 VAC

Temperature range
-40°C ... +70°C



Cable entry

Smart Camera Box

Installation - Cable entry

Direct connection of pre-assembled patch cables

- Due to the slotted seal, the connectors fit directly through the cable glands
- Error-free and fast !



Slotted seal

Smart Camera Box

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Temperature range
-40°C ... +70°C



Device switch on/off

Cable entry

Smart Camera Box

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100 VAC... 240 VAC

Temperature range
-40°C ... +70°C

Overvoltage protection
for 230 V AC supply
Exchangeable and status via
SNMP



Device switch on/off

Cable entry

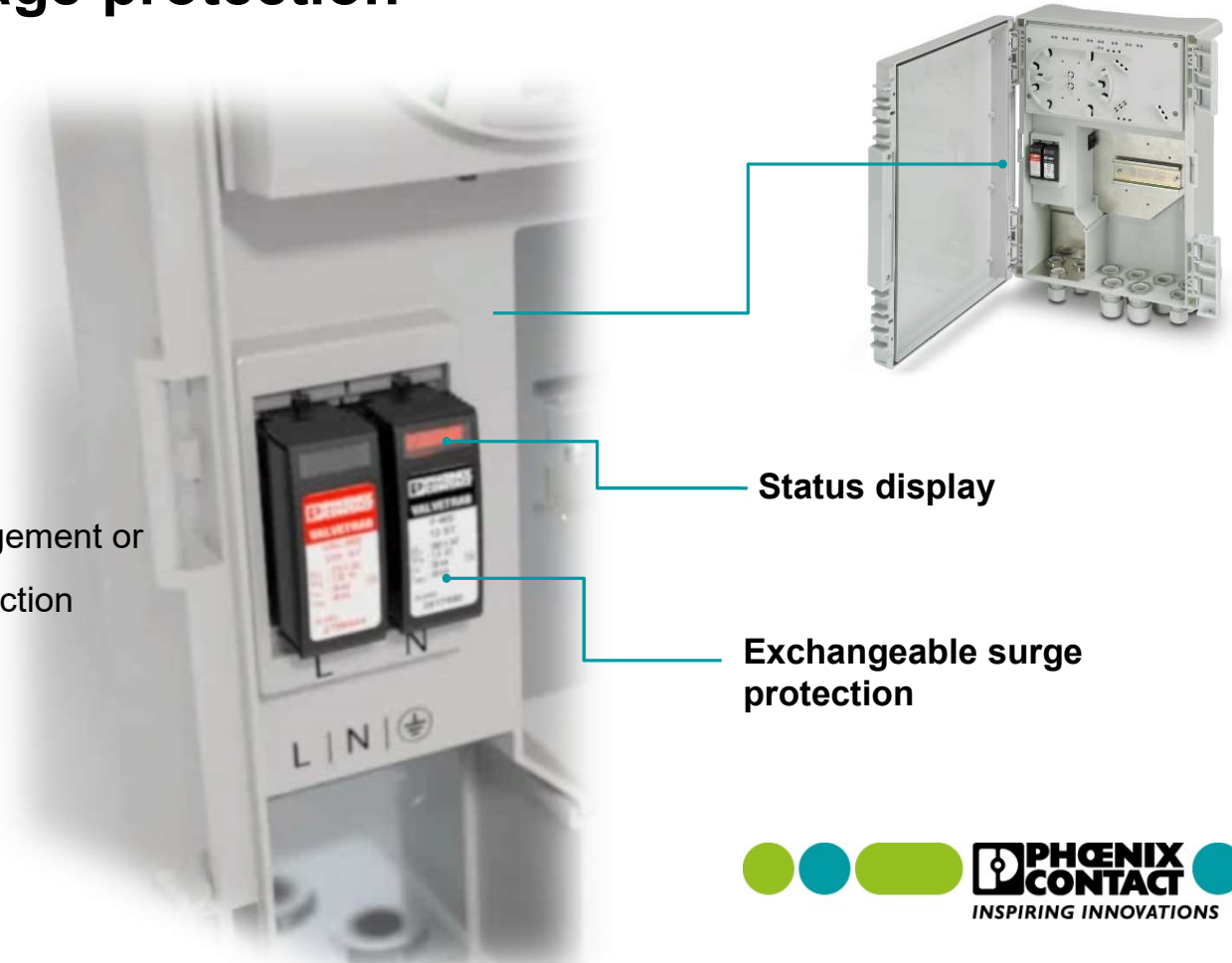
Smart Camera Box

Reliability - Overvoltage protection

Integrated overvoltage protection

- Exchangeable, pluggable
- Alarm message via Web-based management or SNMP in case of defective surge protection

Surge protection modules:
VAL-MS 230 ST, item no. 2798844
VAL-MS 350 VF ST, item no. 2856595



Status display

Exchangeable surge protection

Smart Camera Box Overview

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for 230 V AC supply
Exchangeable and status via
SNMP



managed Ethernet switch
10/100/1000 Mbps
Up to 4 PoE camera connections
and 2 uplink ports
Up to 90 W per port (IEEE802.3bt)
Flexible power management

Uplink to the Video Center (variants)
2 x FO with SFP adapter or
2 x standard Ethernet

Device switch on/off

Cable entry

Smart Camera Box

Ethernet Management

Reliable networks

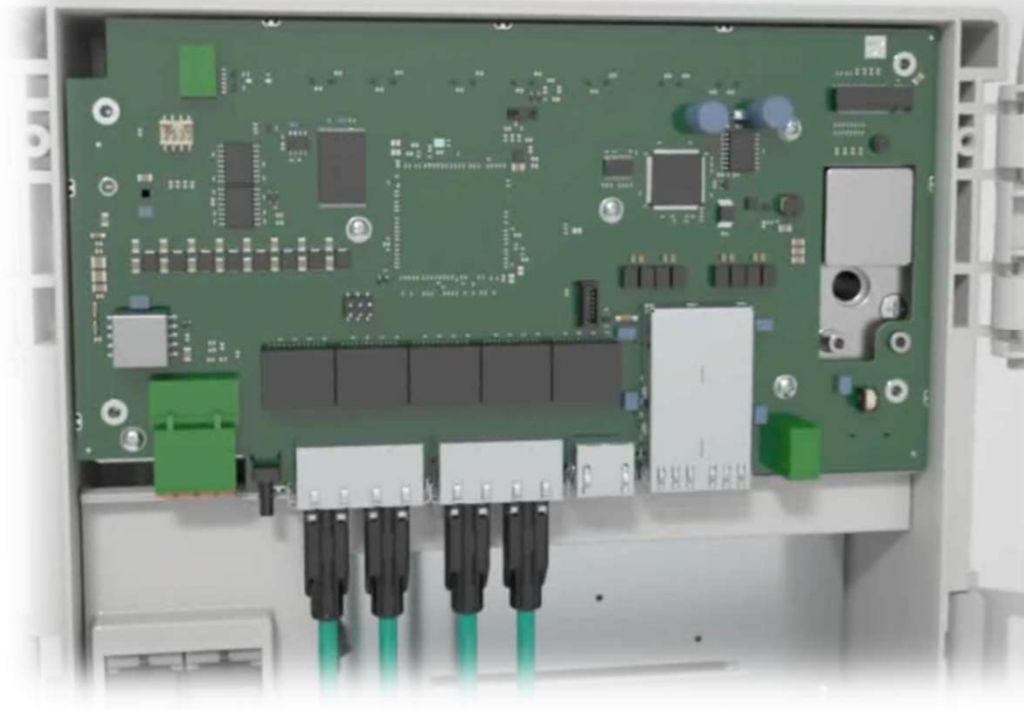
- ✓ Redundancy for fail-safe networks
- ✓ VLANs
- ✓ Multicast filtering

Power-over-Ethernet

- ✓ Power supply of cameras with up to **90 W** per connection (new standard IEEE802.3bt)
- ✓ **Alarm message** when the temperature or power budget is exceeded

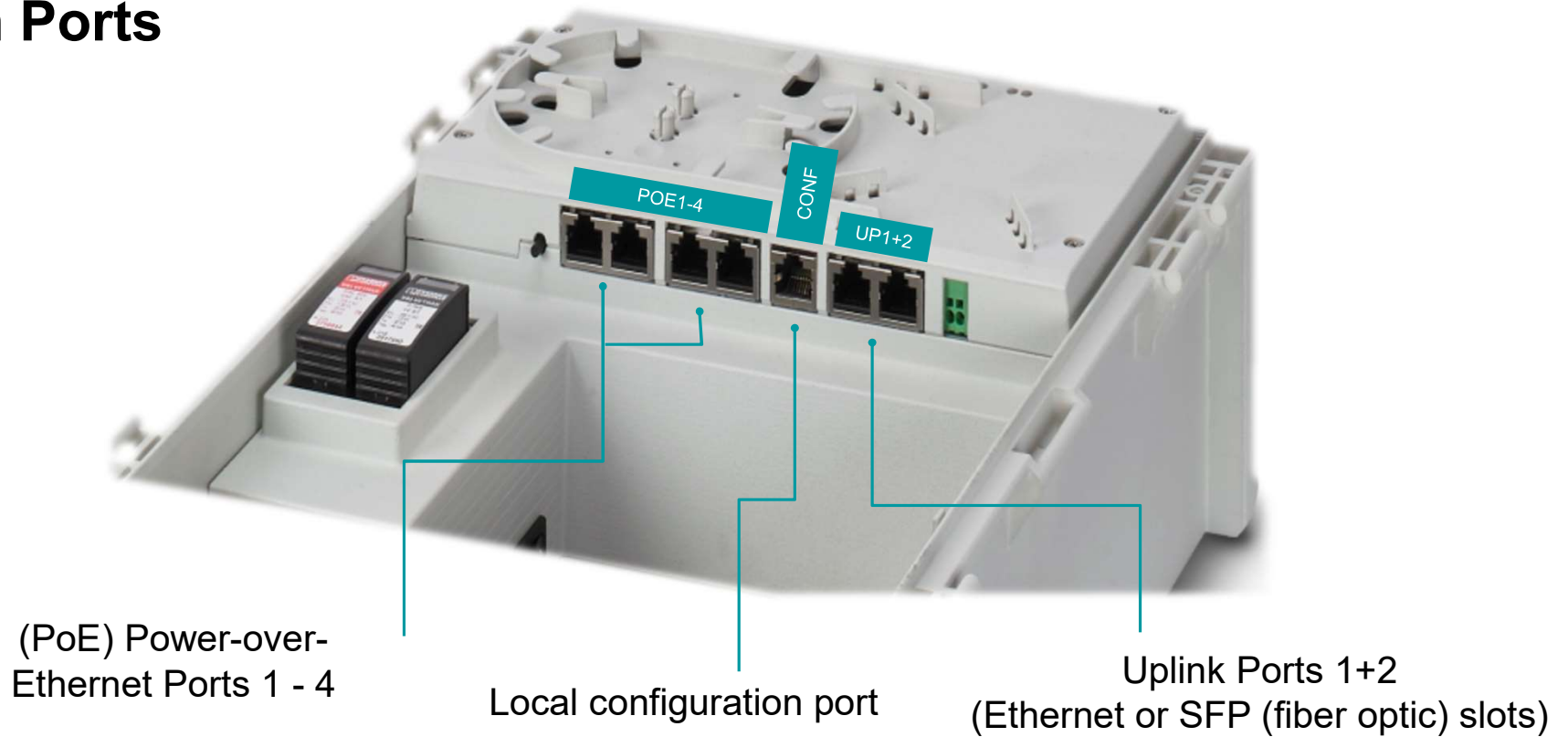
Flexible configuration options

- ✓ web-based management
- ✓ FL NETWORK Manager software support
- ✓ SNMP, CLI



Smart Camera Box

Switch Ports



Smart Camera Box Overview

Housing for outdoor use
IP65/IP67
IK10

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for pole and wall

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100 VAC... 240 VAC

Temperature range
-40°C ... +70°C

Integrated splice cassette
for FO cable

managed Ethernet switch
10/100/1000 Mbps
Up to 4 PoE camera connections
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Up to 90 W per port (IEEE802.3bt)
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Device switch on/off

Overvoltage protection
for 230 V AC supply
Exchangeable and status via
SNMP

Cable entry

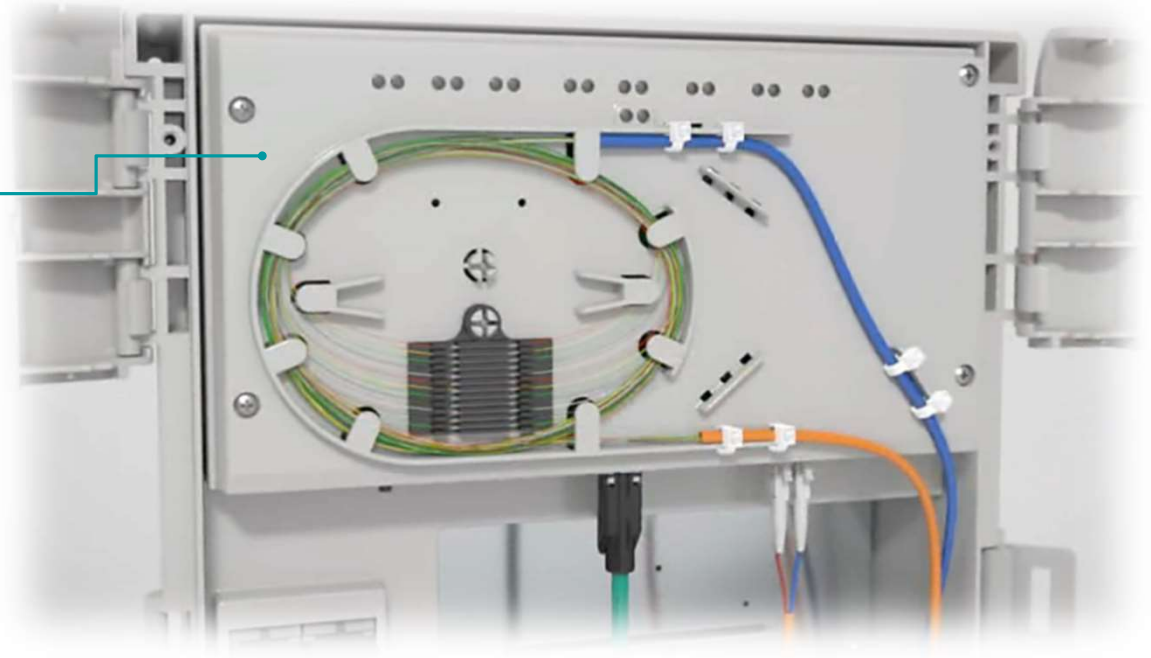


Smart Camera Box

Installation - Splice Box

Integrated FO splice cassette

- No additional splice box required
- Secure connection of all fibre optic cables
- Improved cable routing within the box



Smart Camera Box Overview

Housing for outdoor use
IP65/IP67
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managed Ethernet switch
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Up to 4 PoE camera connections
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Up to 90 W per port (IEEE802.3bt)
Flexible power management

Uplink to the Video Center (variants)
2 x FO with SFP adapter or
2 x standard Ethernet

Device switch on/off

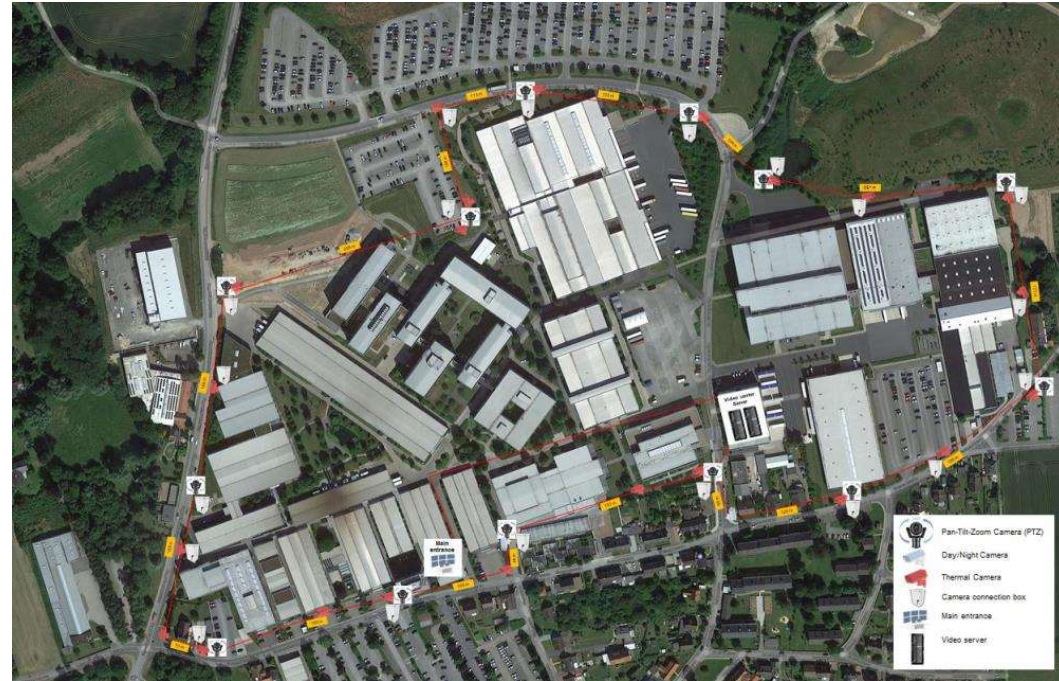
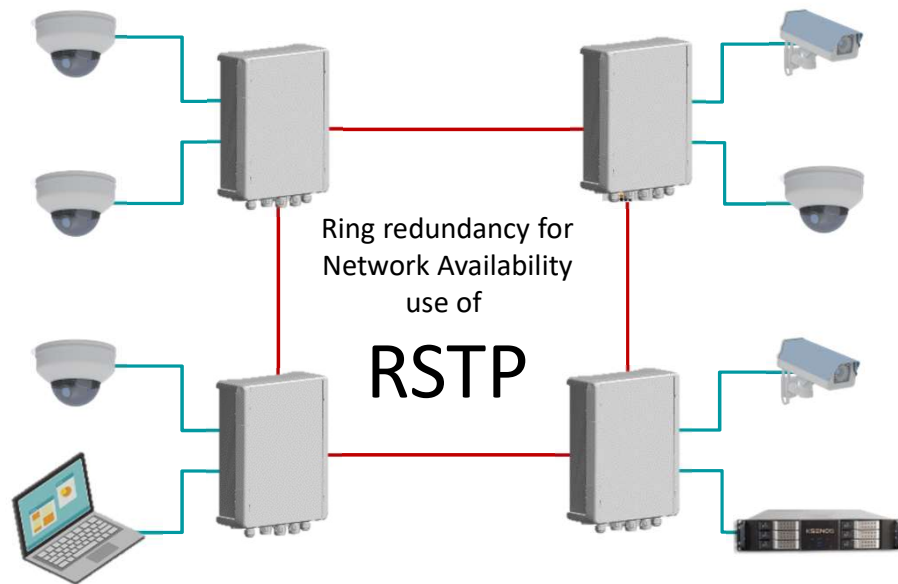
Reliable data communication
RSTP, VLAN
Multicast filtering

Overvoltage protection
for 230 V AC supply
Exchangeable and status via
SNMP

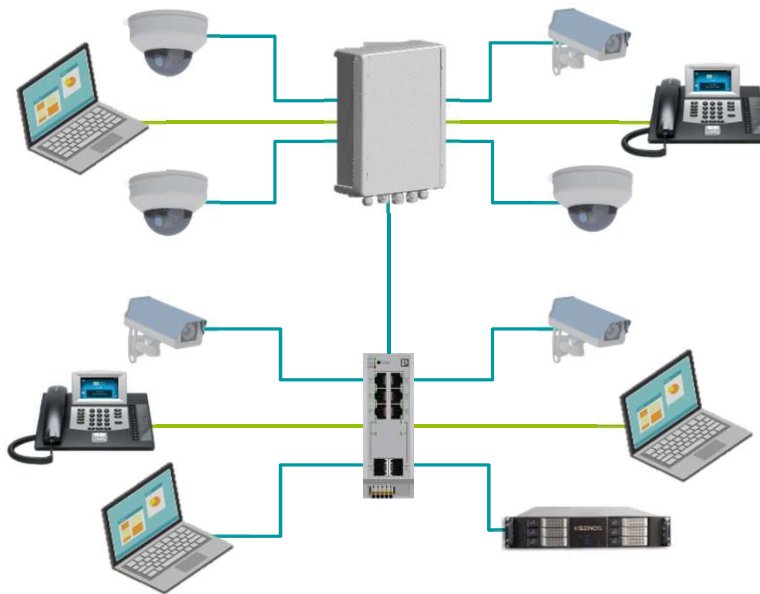
Cable entry



Smart Camera Box Network structure



Smart Camera Box Network structure



Video Security

Office

Combination of both networks

Use of **VLAN** for

Safety and
Priority setting

Smart Camera Box Overview

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Device switch on/off

Reliable data communication
RSTP, VLAN
Multicast filtering

Flexible configuration
web-based management
Configuration software (FL NETWORK MANAGER)
SNMP, CLI
Smart mode button

Overvoltage protection
for 230 V AC supply
Exchangeable and status via
SNMP

Cable entry

Smart Camera Box

web-based management



Basic Setup Administration Configuration Diagnostics Information

Homepage

Home > Basic Setup

Basic Setup	
IP Address Assignment	STATIC
IP Address	Please enter 192.168.0.61
Network Mask	Please enter 255.255.0.0
Default Gateway	Please enter 0.0.0.0

IP address:

- STATIC: Enter static IP address manually
- BOOTP: IP address assignment via BootIP
- DHCP: IP address assignment via DHCP, delivery status



- basic setup
- Administration
- Configuration
- Diagnosis
- Information

Smart Camera Box

web-based management

Port Configuration

Home > Configuration > Port Configuration

Port Configuration						
Name ⓘ	Status	Mode	Jumbo Frames	MTU [byte]	Default Priority ⓘ	Flow Control
UP1	Enabled ▼	Auto ▼	Disabled ▼	1536	0 ▼	Disabled ▼
UP2	Enabled ▼	Auto ▼	Disabled ▼	1536	0 ▼	Disabled ▼
CONF	Enabled ▼	Auto ▼	Disabled ▼	1536	0 ▼	Disabled ▼
POE1	Enabled ▼	Auto ▼	Disabled ▼	1536	0 ▼	Disabled ▼
POE2	Enabled ▼	Auto ▼	Disabled ▼	1536	0 ▼	Disabled ▼
POE3	Enabled ▼	Auto ▼	Disabled ▼	1536	0 ▼	Disabled ▼
POE4	Enabled ▼	Auto ▼	Disabled ▼	1536	0 ▼	Disabled ▼

Smart Camera Box

web-based management

[Home](#) > [Configuration](#) > [Power Over Ethernet](#)

Power Budget Alarm

PoE Power Threshold [%]

Please enter

90

Name ⓘ	Port State ⓘ	Port Mode ⓘ	Power Pairs ⓘ	Power Priority ⓘ	Max Power Class ⓘ
POE1	Enabled ▼	Auto ▼	Both ▼	High ▼	Class 8 or 5D (90 W) ▼
POE2	Enabled ▼	Auto ▼	Both ▼	High ▼	Class 8 or 5D (90 W) ▼
POE3	Enabled ▼	Force ▼	Both ▼	High ▼	Class 8 or 5D (90 W) ▼
POE4	Enabled ▼	Force ▼	Signal ▼	High ▼	Class 4 or 3D (30 W) ▼

Power-over-Ethernet Configuration

Smart Camera Box

web-based management

Home > Configuration > SNMP

SNMP				Trap List
<div>IN</div> <div>IN</div> <div>En</div> <div>Tr</div>	Index			
	1	11	Firmware Status Changed	<input checked="" type="checkbox"/>
	2	12	Ip Conflict Persisted	<input checked="" type="checkbox"/>
	3	13	Configuration Difference Detected	<input checked="" type="checkbox"/>
	4	14	PoE Port on/off	<input checked="" type="checkbox"/>
	5	15	PoE Power Threshold Exceeded	<input checked="" type="checkbox"/>
	6	16	PoE Power Threshold Undershot	<input checked="" type="checkbox"/>
	7	17	PoE Controller Thermal Shutdown	<input checked="" type="checkbox"/>
	8	18	PoE Port Thermal Shutdown	<input checked="" type="checkbox"/>
	9	19	Controller budget exhausted	<input checked="" type="checkbox"/>
	10	20	Controller temp Critical	<input checked="" type="checkbox"/>
		21	PoE watchdog event was triggered	<input checked="" type="checkbox"/>
		22	Vitals state changed	<input checked="" type="checkbox"/>

Simple Network
Management
Protocol

SNMP Traps

Smart Camera Box

web-based management

Home > Configuration > VLAN

VLAN Configuration

VLAN Mode

Management VLAN

VLAN Port Members

VLAN ID

1

100

200

VLAN Port Configuration Table

Port	VLAN ID	Default Priority	Filter
UP1	1	0	Disabled (check)
UP2	1	0	Disabled (check)
CONF	1	0	Disabled (check)
POE1	100	0	Enabled (secure)
POE2	100	0	Enabled (secure)
POE3	100	0	Enabled (secure)
POE4	100	0	Enabled (secure)

VLAN ID	VLAN Name	T	T	U	-	-	-	-	DELETE
1	VLAN 1	T	T	U	-	-	-	-	DELETE
100	Gas	T	T	-	U	U	U	U	DELETE
200	Water	T	T	-	-	-	-	-	DELETE

VLAN

Smart Camera Box

web-based management

Home > Configuration > Network Redundancy

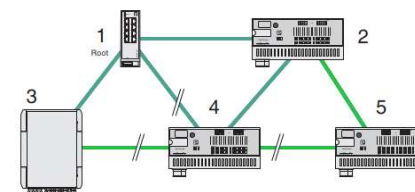
Spanning-Tree Configuration

RSTP Port Configuration Table

Name ⓘ	RSTP Enable ⓘ	Admin Path Cost ⓘ	Auto Edge ⓘ	Admin Edge ⓘ	Priority ⓘ
UP1	Enabled ▼	0	Enabled ▼	Non-Edge ▼	128
UP2	Enabled ▼	0	Enabled ▼	Non-Edge ▼	128
CONF	Enabled ▼	0	Enabled ▼	Non-Edge ▼	128
POE1	Enabled ▼	0	Enabled ▼	Non-Edge ▼	128
POE2	Enabled ▼	0	Enabled ▼	Non-Edge ▼	128
POE3	Enabled ▼	0	Enabled ▼	Non-Edge ▼	128
POE4	Enabled ▼	0	Enabled ▼	Non-Edge ▼	128

15

RSTP Rapid Spanning Tree Protocol



Smart Camera Box

Security - Sabotage Alarm

Integrated sensor

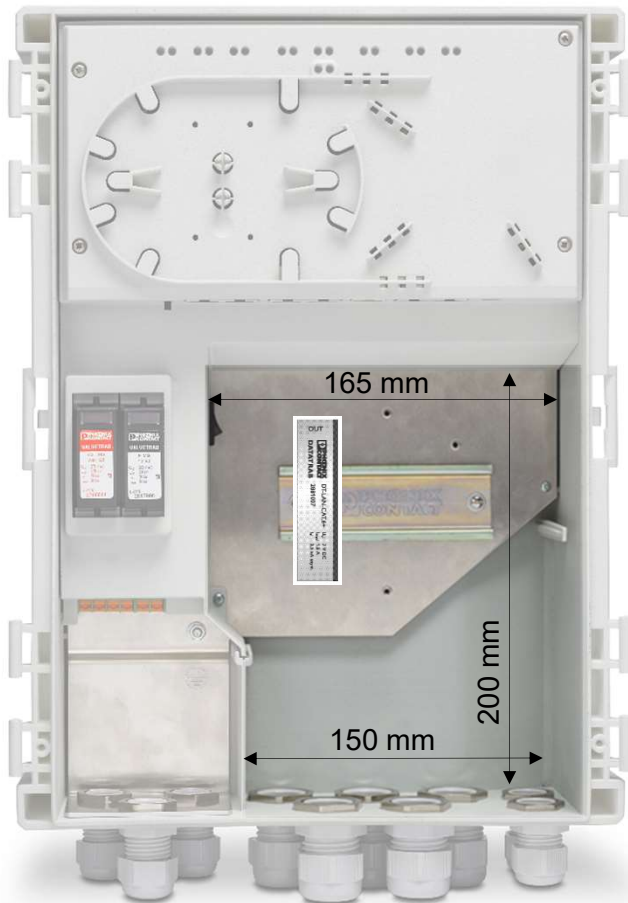
- Detects open and closed doors
- Alarm message via Ethernet (SNMP) as soon as the door is opened

Optical sensor



Smart Camera Box

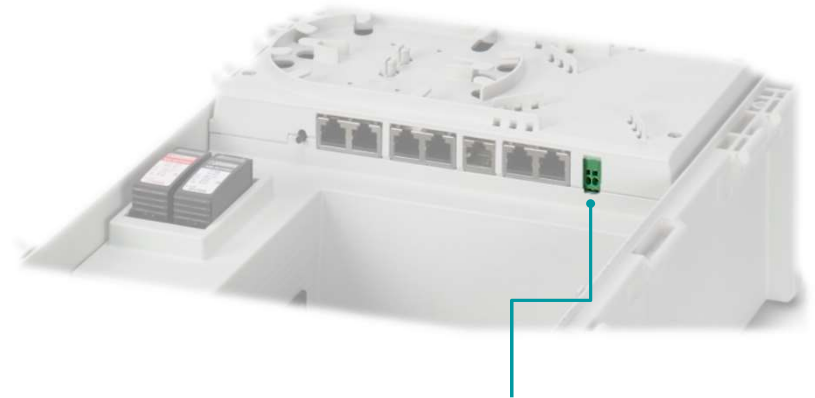
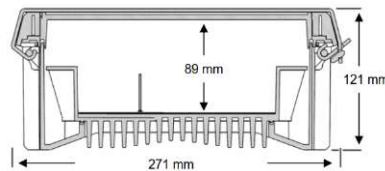
Individual extension



Integrated DIN rail

Allows the use of additional equipment, e.g.

- Overvoltage protection for data cables
- Relay for switching external lights etc.
- 4G router
- WLAN access point



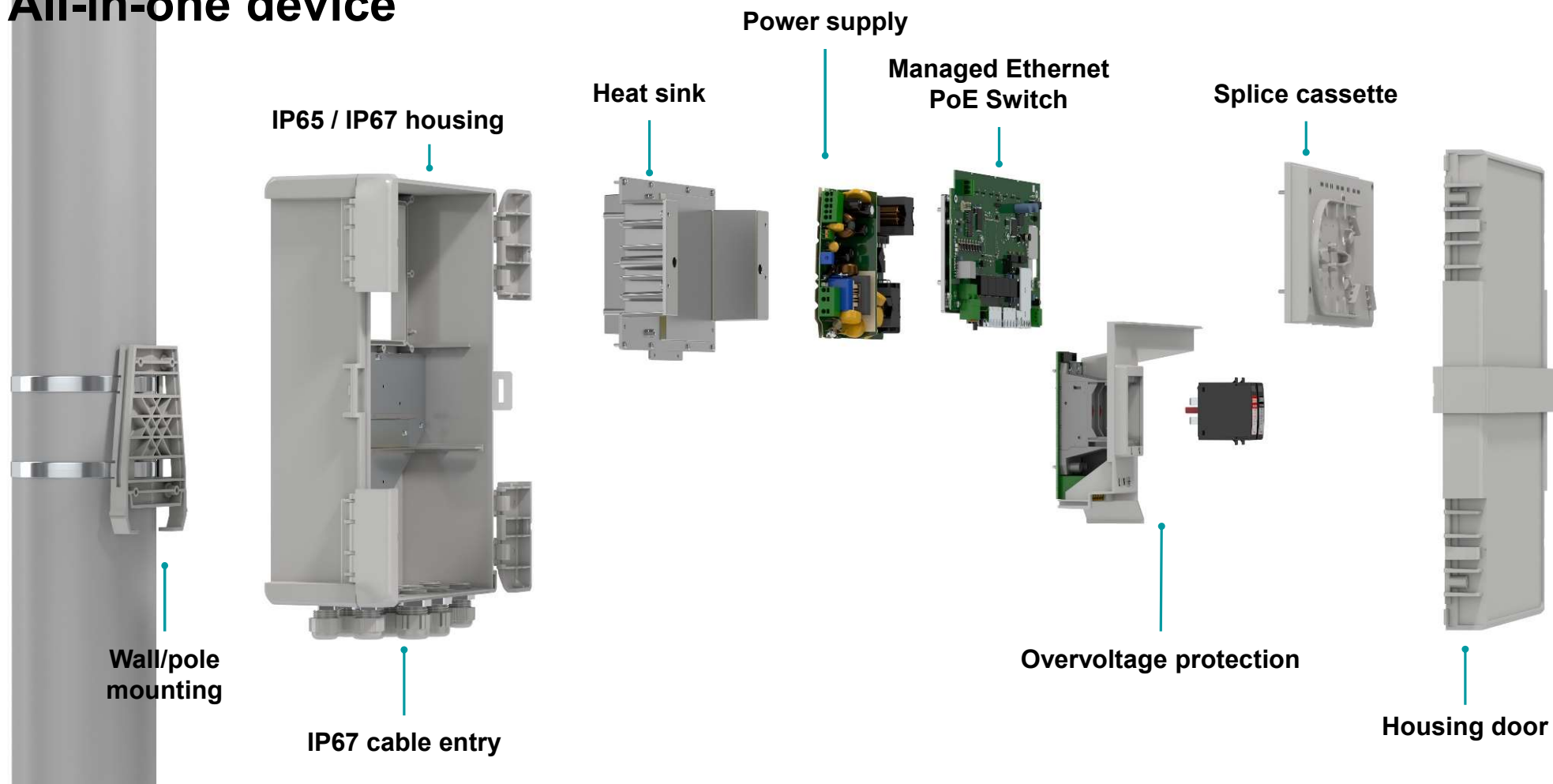
24 V DC output

- Power supply of additional devices
- Switchable via WBM and SNMP

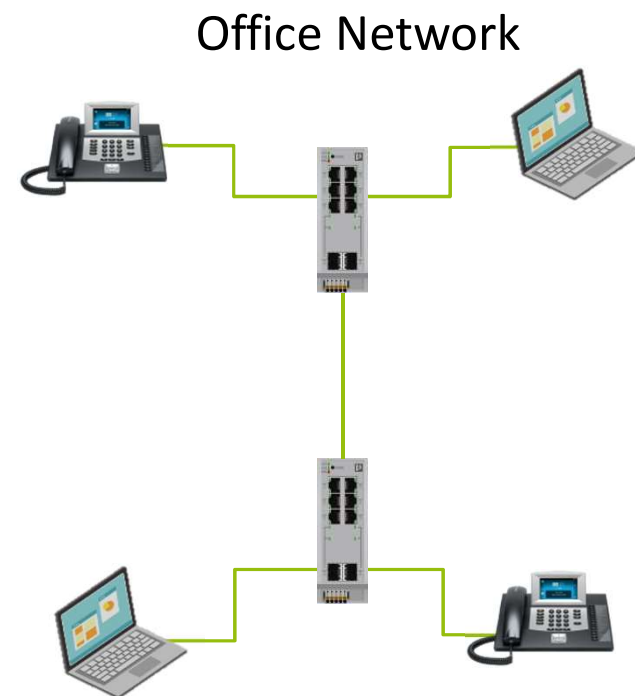
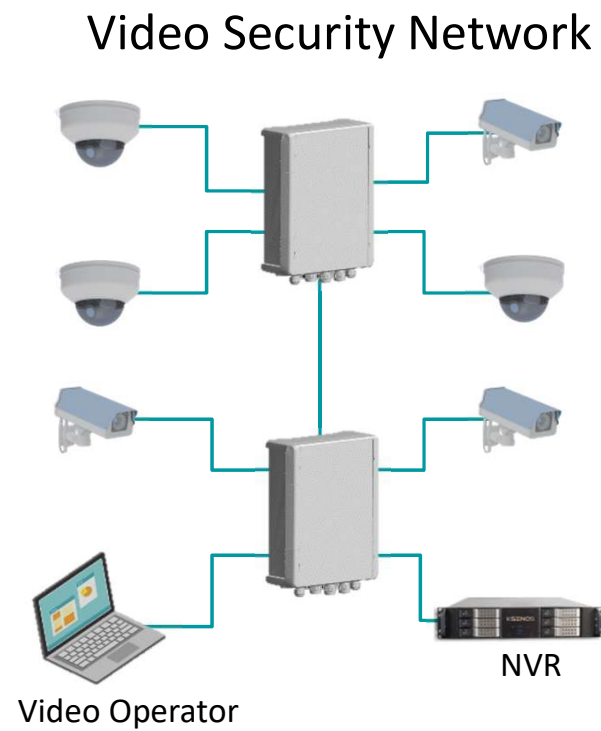


Smart Camera Box

All-in-one device



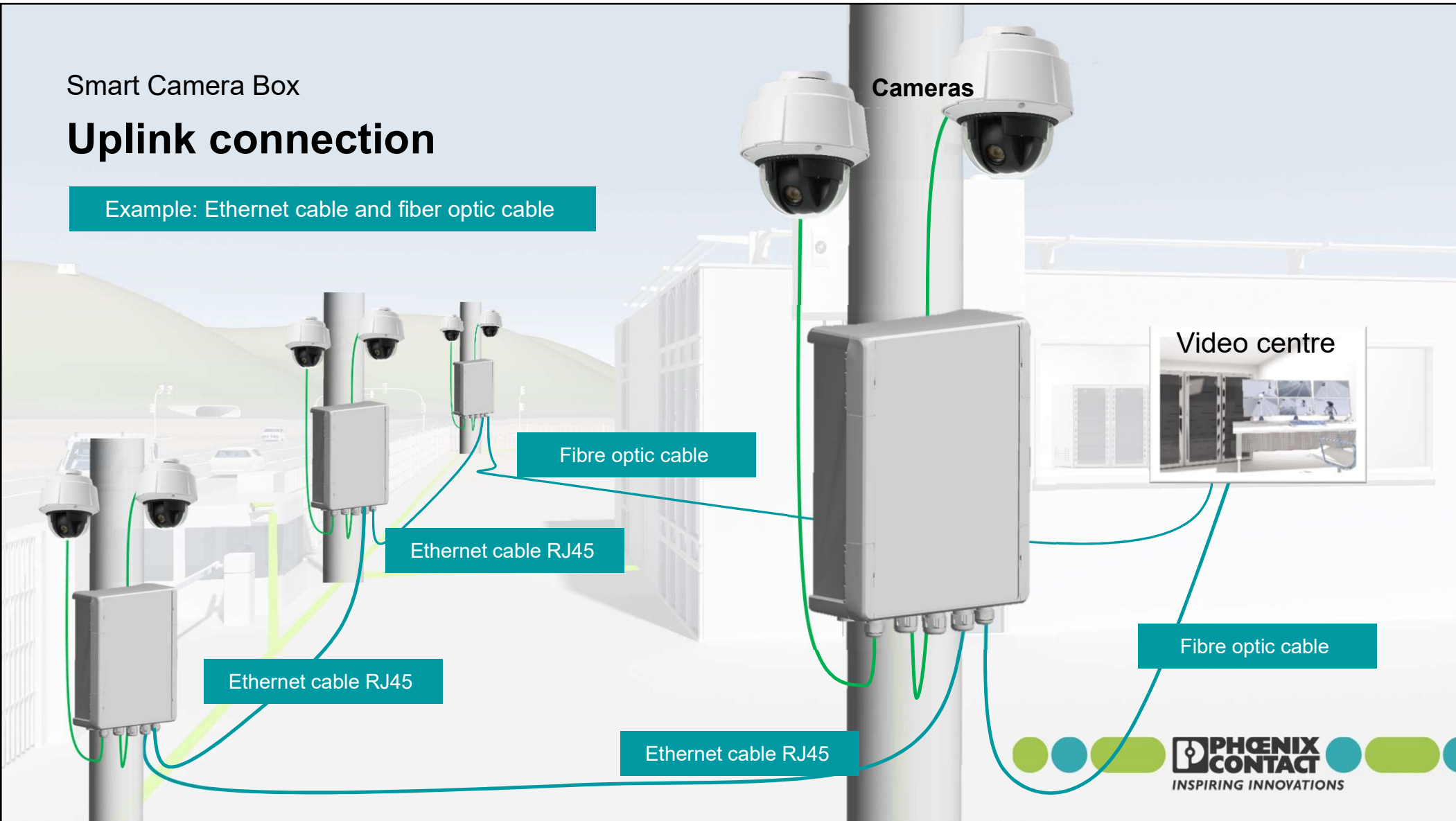
Smart Camera Box Network structure



Smart Camera Box

Uplink connection

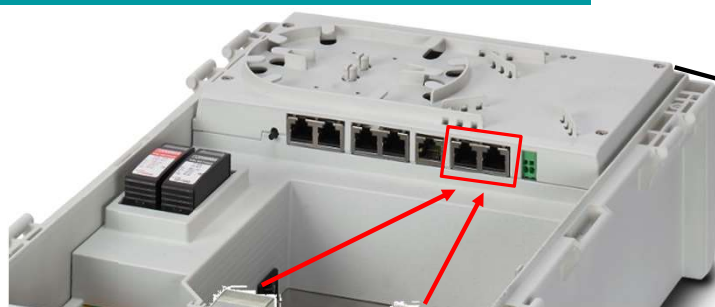
Example: Ethernet cable and fiber optic cable



Smart Camera Box

Uplink connection

Example: Ethernet cables and optical fibres



UP1

UP2

SFP Module

FL SFP GT - 2989420

With a data transmission rate of 1000 MBit/s at a maximum transmission length of 100 m.

SFP Module

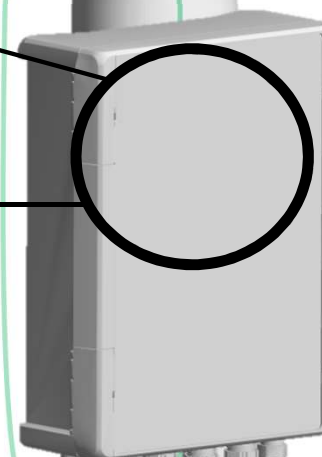
FL SFP SX2 - 2702397

With a data transmission rate of 1000 MBit/s at a wavelength of 1310 nm and a maximum transmission length of 2 km.

Other SFP modules are available!



Cameras



Video centre



Ethernet cable RJ45

Fibre optic cable

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INSPIRING INNOVATIONS

Smart Camera Box

Customer benefits

Quick and easy installation

- ✓ You **only** need to manage **one part number** instead of many devices
- ✓ Saves up to 70% installation time through innovative wall and pole mounting adapter
- ✓ Small and lightweight housing to allow installation by only one person instead of two

Time saving

- ✓ No need to **plan** a complete cabinet with different devices
- ✓ No need to **install** and **wire** different devices in one cabinet

Cost saving

- ✓ The Smart Camera Box is cheaper than standard camera boxes - All-In-One solution



End customer



Video Installer







Wholesaler



System Integrator

Smart Camera Box

Product portfolio

				
	SCX 4POE 2LX	SCX 2POE 2LX	SCX 4POE 2T	SCX 2POE 2T
Uplink ports	2 x fibre optic cable	2 x fibre optic cable	2 x Ethernet copper	2 x Ethernet copper
PoE ports	4	2	4	2
Item no.	1102626	1108543	1108542	1108544

Smart Camera Box

Accessories

Accessories	Type	Order No.	Pcs./Pkt.
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 clamp with quick mounting connection for installation on masts with a diameter of 51 ... 127 mm	SCX-CLAMP 14X51-127	1175556	2
Mast clamp with quick mounting connection for installation on masts with a diameter of 102 ... 254 mm	SCX-CLAMP 14X102-254	1188634	2
Multi-mode OM4 duplex jumper, LC-LC, UPC polishing, length 5 m	FOC-LC:PA-LC:PA-OM4:D01/5	1115621	1
Single-mode OS2 duplex jumper, LC-LC, UPC polishing, length 5 m	FOC-LC:PA-LC:PA-OS2:D01/5	1115626	1
Locking	SCX-DOOR-LOCK	1184401	1
Gigabit SFP WDM module for transmission up to a maximum of 10 km on a single fiber with a wavelength of 1550/1310 nm.	FL SFP WDM10-B	2702441	1
Gigabit SFP module for transmission up to 2 km with a wavelength of 1310 nm.	FL SFP SX2	2702397	1
Gigabit SFP WDM module for transmission up to a maximum of 10 km on a single fiber with a wavelength of 1310/1550 nm.	FL SFP WDM10-A	2702440	1
Gigabit SFP module for transmission up to 10 km with a wavelength of 1310 nm.	FL SFP LX10-B	1025401	1
FL Network Manager, SNMP-based configuration and firmware update software, for easy startup of Managed Switches	FL NETWORK MANAGER BASIC	2702889	1

Smart Camera Box


Fast Installation
Ready to use



Video SMART CAMERA BOX

Smart Camera Box

Product page




Industrial Ethernet Switch - SCX 4POE 2LX - 1102626 new

Smart Camera Box to connect PoE end devices, four PoE ports, two uplink ports (SFP slots), Managed Switch, integrated surge protection and splice tray, supply voltage 100 ... 240 V AC, wall or mast mounting

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Industrial Ethernet Switch - SCX 2POE 2LX - 1108543 new

Smart Camera Box to connect PoE end devices, two PoE ports, two uplink ports (SFP slots), Managed Switch, integrated surge protection and splice tray, supply voltage 100 ... 240 V AC, wall or mast mounting

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Industrial Ethernet Switch - SCX 4POE 2T - 1108542 new

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

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Industrial Ethernet Switch - SCX 2POE 2T - 1108544 new

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

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Smart camera box for video surveillance



All-in-one device

Video surveillance for industrial and commercial applications.

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SERVICE

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- [Worldwide remote access to machines and systems \[PDF, 50.83 MB\]](#)

Video surveillance landing page



Smart camera box for video surveillance



All-in-one device

Video surveillance for industrial and commercial applications.

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The smart camera box securely connects IP surveillance cameras to the video server. It integrates the functions from conventional connection boxes assembled with standard DIN rail devices in a single compact device. This saves time during planning and installation. The integrated mounting adapter for wall and mast mounting makes installation much easier and quicker. Numerous management and monitoring functions ensure reliable operation of the video system.

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Smart Camera Box



All-in-one-device for video surveillance.

New brochure
incl. Smart Camera Box
MNR 1128136/2020-01-30/01



Video surveillance for industrial applications

Reliable camera networks for a secure world

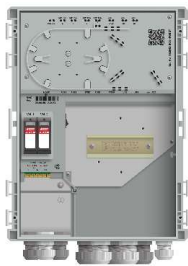


Video



Surveillance Infrastructure

Phoenix Contact



Video Infrastructure Summary Cabinets

Webinar IMA 2020

Mayor información



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