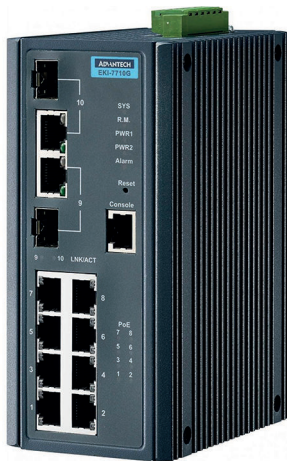


# PRA-ES8P2S Ethernet switch, 8xPoE, 2xSFP

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**BOSCH**  
Invented for life



- ▶ 8 x Gigabit ports with PoE
- ▶ 2 x Gigabit combo ports with SFP sockets for glass fiber transceivers
- ▶ Network redundancy via STP/MSTP/RSTP
- ▶ Dual power supply connections
- ▶ Fault relay

The PRA-ES8P2S is a compact DIN-rail mounted Ethernet switch with eight Gigabit copper ports, supporting Power over Ethernet (PoE) and two Gigabit SFP combo ports. This Ethernet switch is an OEM switch, made for Bosch by Advantech for use in Bosch Public Address and Voice Alarm systems. It is a preconfigured version of the EKI-7710G-2CPI-AE switch, optimized for PRAESENSA. The PRA-ES8P2S is certified for EN 54-16 in combination with PRAESENSA systems. It can be used in addition to the switch ports of the PRAESENSA system controller and multifunction power supply. This is especially convenient in large systems where more SFP ports are needed for long distance interconnections on glass fiber or more PoE-enabled ports are needed to power PRAESENSA call stations.

- Comes with pre-installed and pre-configured firmware for quick installation and optimum performance.
- Certified for EN 54-16 in combination with Bosch PRAESENSA systems.

#### Advanced features

- Managed switch, configurable via web browser, with eight Gigabit copper ports with PoE and two SFP combo ports for PRA-SFPLX single mode and/or PRA-SFPSX multimode fiber transceiver modules.
- Deactivated Energy Efficient Ethernet (EEE) mode on all ports to avoid problems in combination with audio clock synchronization (IEEE 1588) in combination with OMNEO, Dante and AES67.
- Wire speed switching in hardware to avoid variable latency that may cause audio streaming problems.
- Full Quality of Service (QoS) through differentiated services (DiffServ) on all ports, compatible with OMNEO Docent diagnostic tool.
- Support for Rapid Spanning Tree Protocol (RSTP) according to IEEE 802.1d to create redundant loops.
- Fault output relay for fault reporting into PA/VA system.
- Large MAC-address table (8k-addresses) for large system broadcasting.
- Support for Simple Network Management Protocol (SNMP) and Link Layer Discovery Protocol (LLDP).

#### Functions

##### Intended for PA/VA systems

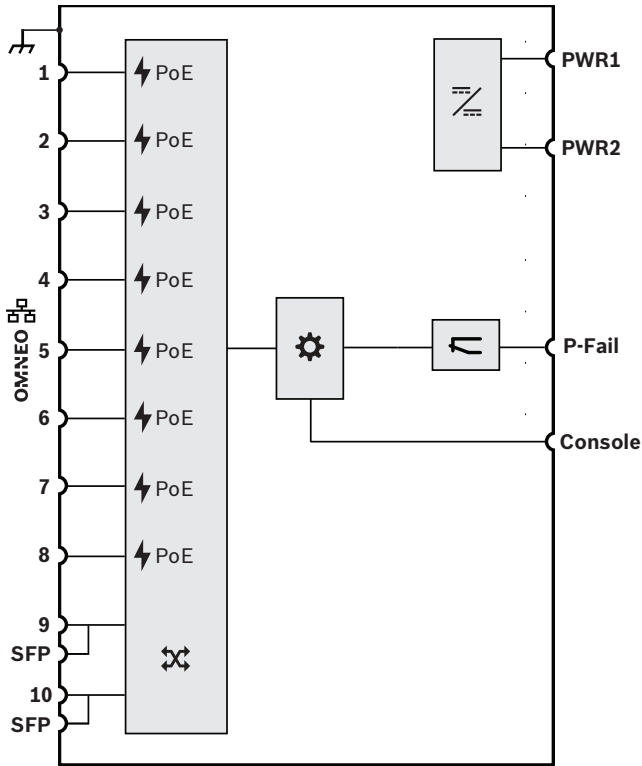
- Managed industrial Gigabit Ethernet switch with convection cooling and DIN-rail mounting, designed for long term continuous operation.
- Redundant wide range DC power input.
- Protected against overloads and short circuits.

- All copper ports provide PoE (IEEE 802.3 af/at) to power PRAESENSA call stations or other devices.

**Fault tolerance**

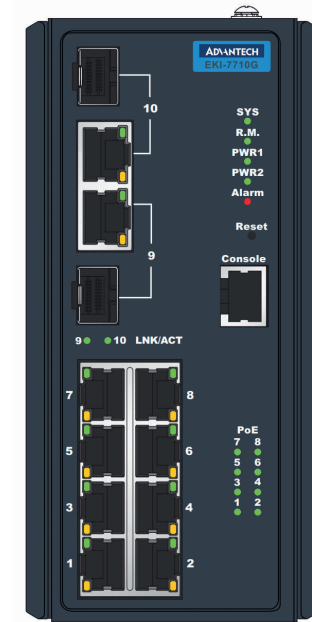
- All ports support RSTP for loop connections to adjacent devices with recovery from a broken link.
- Dual redundant 24 to 48 V DC-inputs.

**Connection and functional diagram**



	Power over Ethernet power source		DC to DC converter
	Controller		Fault relay
	Socket for SFP module		OMNEO network switch

**Front view**



**Front panel indicators**

Port 1-10 ^	Link activity	Green
Port 1-10 v	100 Mbps network 1 Gbps network	Yellow Green
PoE 1-8	PoE activated	Green
SYS	System is operating normally	Green
R.M.	Active when determining ring master	Green
PWR1	Power on power supply input 1	Green
PWR2	Power on power supply input 2	Green
Alarm	SFP port disconnected or link down	Red

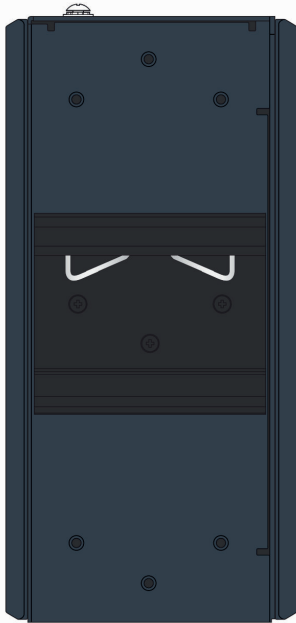
**Front panel control**

Reset	System soft reset or factory reset	Switch
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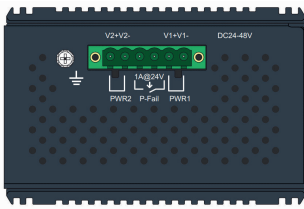
**Front panel connections**

Port 1-8	Network port 1-8 with PoE	
Port 9-10	Network combo port 9-10	
Console	Console serial RS232 cable COM port	

**Rear view**



**Top view**



**Top panel connections**

	Chassis ground	
PWR1	24 to 48 VDC input 1	
PWR2	24 to 48 VDC input 2	
P-Fail	Fault relay	

**Architects' and engineers' specifications**

The Ethernet switch shall be a managed 10-port Gigabit switch with eight ports providing PoE and two ports providing SFP sockets for glass fiber transceivers. The switch shall have dual redundant, wide range DC power supply inputs for 24 to 48 V. It shall supervise its DC power supply inputs and port links, and have a fault relay output for fault reporting. The Ethernet switch shall be DIN rail mountable with convection cooling. It shall be certified for EN 54-16 in combination with Bosch PRAESENSA systems for public address and voice alarm purposes. The switch shall be marked for UL and CE and be compliant with

the RoHS directive. Warranty shall be three years minimum. The Ethernet switch shall be a Bosch PRA-ES8P2S.

**Certifications and approvals**

**Emergency standard certifications**

Europe	EN 54-16
International	ISO 7240-16

**Regulatory areas**

Safety	UL 508
Immunity	EN 55024 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6 EN 61000-4-8
Emissions	EN 55032 class A EN 61000-6-4 FCC-47 part 15B class A
Environment	EN 50581
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
Maritime applications	DNV-GL Type Approval

**Conformity declarations**

Europe	CE/CPR
USA/Canada	FCC/c-UL
Korea	KE

**Parts included**

Quantity	Component
1	10-port industrial Ethernet switch
1	Screw connector
2	Wall-mounting bracket
1	DIN-rail mounting bracket and screws
1	Startup manual

**Technical specifications**

	PRA-ES8P2S Ethernet switch, 8xPoE, 2xSFP
Operating voltage (VDC)	16,8 - 62,4 VDC
Power consumption (W)	140 W maximum

	<b>PRA-ES8P2S Ethernet switch, 8xPoE, 2xSFP</b>
PoE/PoE + power budget	120 W maximum
PoE/PoE + power per port	20 W maximum
PoE/PoE + standard	IEEE 802.3 af/at
Switch type	Managed
Number of PoE ports	10
Number of RJ45 interfaces with PoE	8
Number of SFP ports	2
MAC table size	8k
Fault output	Relay
Additional features	Pre-configured for PRAESENSA
Ethernet type	100BASE-TX; 1000BASE-T
Cooling	Convection
Mounting type	rail-mounted; wall-mounted
Protection	Watchdog; RSTP; Rate limiting; Storm control
Degree of protection (IEC 60529)	IP30
Operating temperature (°C)	-40 - 75°C
Dimension (H x W x D mm)	152 x 74 x 105 mm
Weight (kg)	1,30 kg

## Electrical

### Power transfer

Power supply input PWR1-2 Input voltage Input voltage tolerance	24 to 48 VDC 16.8 to 62.4 VDC
Power consumption (48 V) Active mode, no PoE Active mode, with PoE	12 W < 140 W
Power over Ethernet Standard Output power, all ports together Output power, per port (1-8)	IEEE 802.3 af/at < 120 W < 30 W

### Supervision

Redundant power failure	P-Fail relay / Alarm LED
Port link down	P-Fail relay / Alarm LED
Fiber link down	P-Fail relay / Alarm LED
Device status reporting	SNMP, SMTP

<b>Network interface</b>	
Ethernet Speed	100BASE-TX 1000BASE-T
Ports 1-8 Ports 9-10	RJ45 RJ45/SFP combo
Console Standard Port	RS232 RJ45

### Reliability

MTBF	> 800.000 h
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### Functional

<b>Switching</b>	
MAC-address table size	8k
VLAN Group Arrange	IEEE 802.1Q 256 (VLAN ID1-4094) Port based, Q-in-Q, GVRP
Multicast	IGMP snooping v1/v2/ v3, MLD snooping, IGMP immediate leave
Energy Efficient Ethernet	IEEE 802.3az EEE
Redundancy	IEEE 802.1D-STP IEEE 802.1s-MSTP IEEE 802.1w-RSTP

### QoS

Priority queue scheduling	SP, WRR
Class of service (CoS)	IEEE 802.1p, DiffServ (DSCP)
Rate limiting	Ingress, Egress
Link aggregation	IEEE 802.3ad Static, Dynamic (LACP)

### Security

Port security	Static, Dynamic
Authentication	IEEE 802.1X, port based
Storm control	Broadcast, Unknown multicast, Unknown unicast

### Management

DHCP	Client, Server
Access	SNMP v1/v2c/v3, RMON, Telnet, SSH, HTTP(S), CLI

**Management**

Software upgrade	TFTP, HTTP (dual image)
NTP	SNTP client

**Environmental****Climatic conditions**

Temperature Operating	-40 to +75 °C (-40 to 167 °F)
Storage and transport	-40 to +85 °C (-40 to 185 °F)
Humidity (non condensing)	5 to 95 %

**Mechanical****Enclosure**

Dimensions (WxHxD)	74 x 152 x 105 mm (2.9 x 6.0 x 4.1 in)
Ingress protection	IP30

**Enclosure**

Mounting	TS35 DIN Rail (EN 60715), Wall-mounting
Case	Aluminum
Weight	1.3 kg (2.7 lb)

**Ordering information**

**PRA-ES8P2S Ethernet switch, 8xPoE, 2xSFP**  
Managed 10-port Ethernet switch with PoE and SFP.  
Order number **PRA-ES8P2S**

**Represented by:**

**Europe, Middle East, Africa:**  
Bosch Security Systems B.V.  
P.O. Box 80002  
5600 JB Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
emea.securitysystems@bosch.com  
emea.boschsecurity.com

**Germany:**  
Bosch Sicherheitssysteme GmbH  
Robert-Bosch-Ring 5  
85630 Grasbrunn  
Germany  
www.boschsecurity.com

**North America:**  
Bosch Security Systems, LLC  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
onlinehelp@us.bosch.com  
www.boschsecurity.us

**Asia-Pacific:**  
Robert Bosch (SEA) Pte Ltd, Security Systems  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2808  
Fax: +65 6571 2699  
apr.securitysystems@bosch.com  
www.boschsecurity.asia