



EtherWAN

Ethernet Connectivity

for ITS & Traffic

Technology

Application

Product

- EN50121-4 / EN50155 compliant
- NEMA TS2 compliant

- Modulized
- Ethernet Extenders
- Managed Ethernet Switches
- Hardened Media Converters
- Hardened Serial Device Servers



Intersection Surveillance

Cities are using Video Vehicle detection and Video Surveillance cameras at traffic intersections. The video and control for intersections is transported to a control center via IP on Ethernet. EtherWAN's Ethernet equipment is designed to sit in the traffic cabinet without conditioning. Connectivity between traffic cabinets may utilize fiber optic, coaxial or twisted pair cable, EtherWAN provides Ethernet connectivity equipment for any of these media.



SE6300

Hardened 2/4-port Serial Device Server

- Serial interface with optical isolation protection
- RS232/422/485 serial communication
- Wide operating temperature for harsh environments



ED3175

Managed Hardened 8-port 10/100BASE-TX Switch with 2-port Copper Pair Extender

- 8 10/100BASE-TX & 2 extender ports over copper pair up to 1900meters (6,232ft)
- Features α -ring for redundancy with recovery time of < 15ms
- Fully managed, Console, Web, Telnet, SNMP



EL910

Hardened 10/100BASE-TX to 100BASE-SX/LX Media Converter

- 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Complies with NEMA TS1 & TS2 environments for traffic control equipment
- Link down alarm and redundant power failure alarm through relay output

Check **EX71000** for field-proven hardened managed Ethernet switch



Freeway / Tollway Management

Ethernet is the technology of choice for incorporating video cameras at traffic intersections and for connecting cameras monitoring highway traffic. Ethernet has always had both bandwidth and cost advantages over other communication technologies but with the proliferation of IP video cameras it is more effective than ever. EtherWAN has wired and wireless solutions ready with robust designs.



EX78000

Managed Hardened 10-port 10/100BASE PoE and 2-port Gigabit Ethernet Switch

- 10-port 10/100BASE-TX/FX/BX/SFP & 2-port Gigabit-TX/SX/LX/SFP
- Features α-ring for redundancy with recovery time of < 15ms
- IEEE802.3af on 8 10/100TX ports (15.4W/ea) or IEEE802.3at on 4 10/100BASE-TX ports (30W/ea)

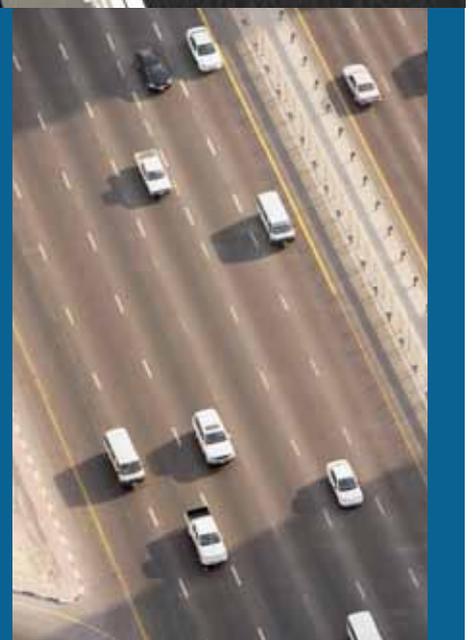
Alternatives :

- **EX73000** 16-port 10/100BASE and 2-port Gigabit combo Ethernet Switch
- **EX74000** 6-port 10/100BASE and 2-port Gigabit SFP (DDM) combo Ethernet Switch

EX27000

Managed 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options

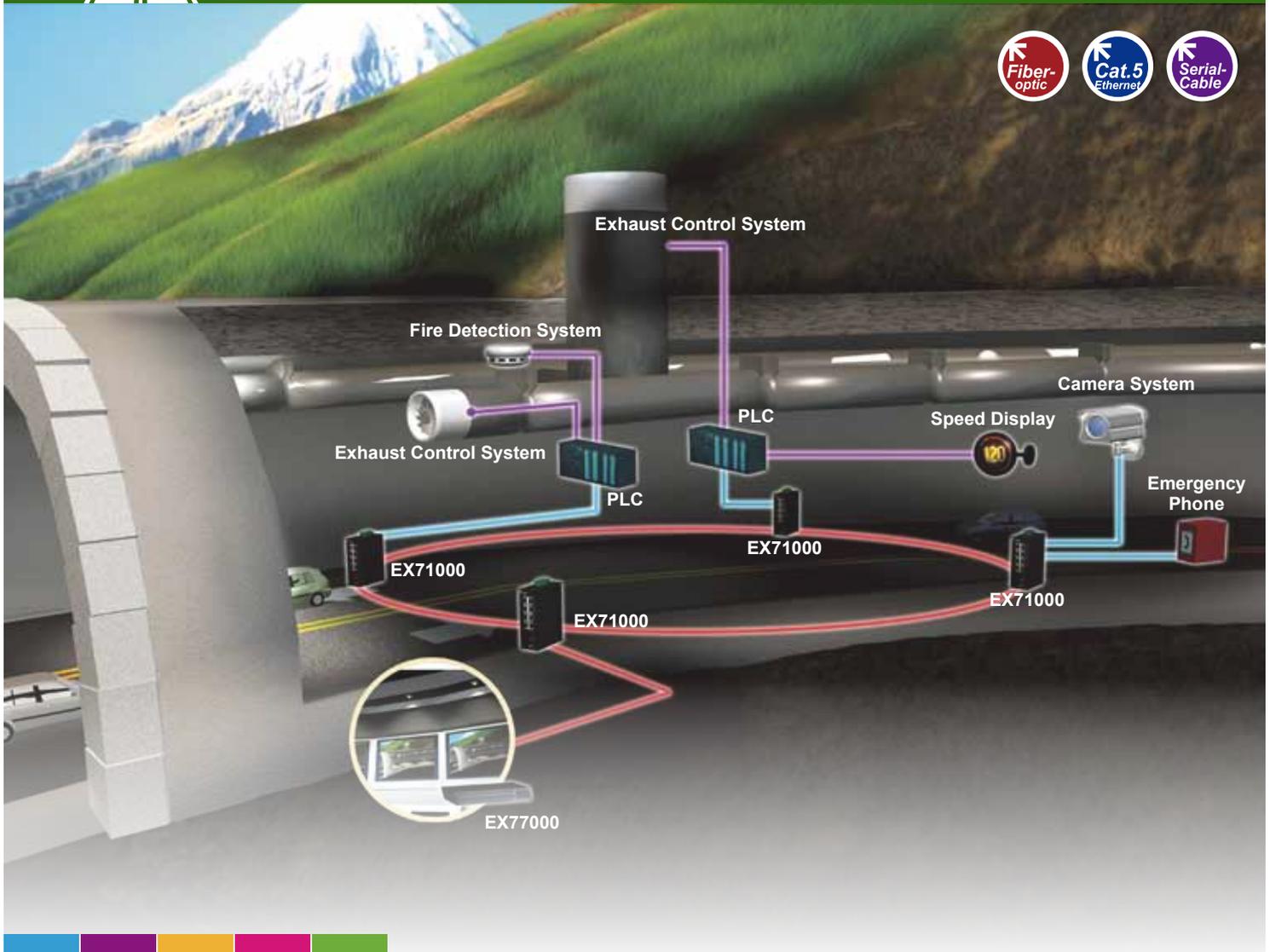
- 24-port 10/100BASE-TX/FX/BX/SFP and 4-port Gigabit-TX/SX/LX/BX/SFP
- Features α-ring for redundancy with recovery time of < 15ms
- Fanless design to minimize maintenance hassles



Intelligent Tunnel Solutions



How to design and install effective and reliable underground communications for safety monitoring and control systems? The applications involved in tunnel systems are voice, video and data communications for air flow control, collision prevention fire and safety systems, etc. TCP/IP is the communication protocol of choice, used by system designers. EtherWAN's Hardened Ethernet is the backbone of choice for TCP/IP communication systems.



EX77000

Managed Hardened 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options

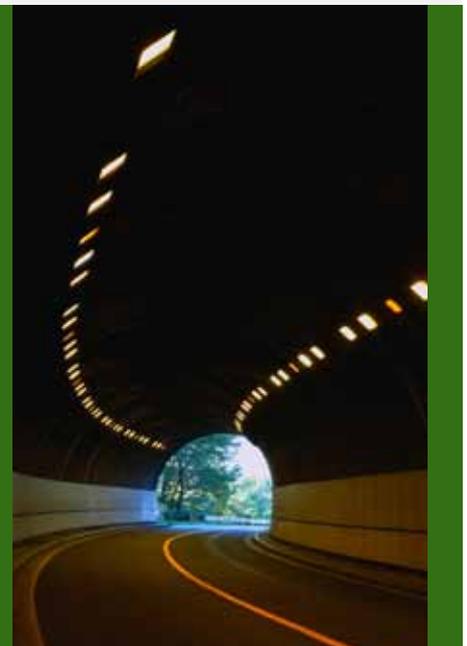
- 24-port 10/100BASE-TX/FX/BX/SFP plus 4-port Gigabit-TX/SX/LX/SFP
- Features α -ring for redundancy with recovery time of < 15ms
- IP multicast filtering through IGMP snooping V1, V2 & V3
- Completely fan-less design



EX71000

Managed Hardened 8-port 10/100BASE and 2-port Gigabit Ethernet Switch with SFP options

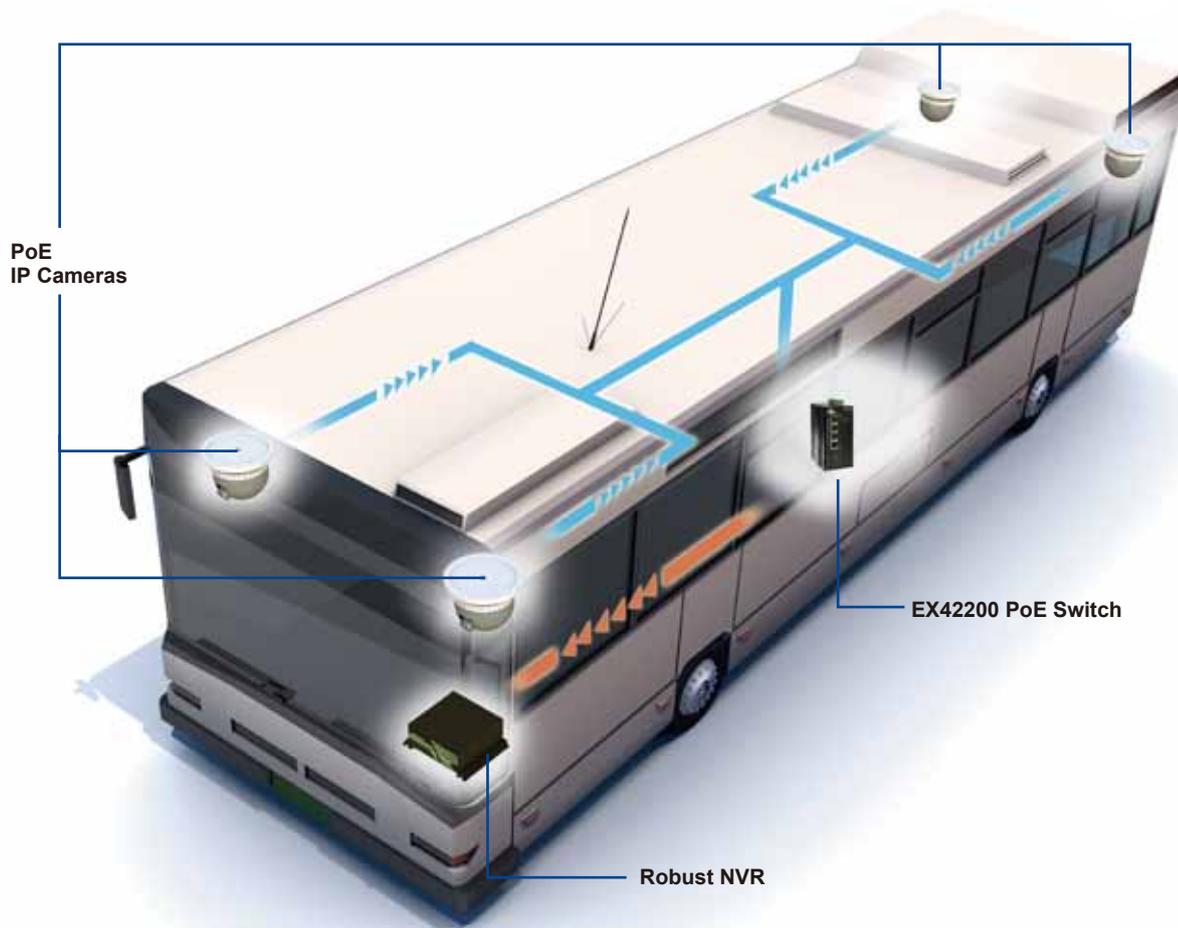
- 8-port 10/100BASE-TX/FX/BX/SFP plus 2-port Gigabit-TX/SX/LX/SFP
- Features α -ring for redundancy with recovery time of < 15ms
- Optional LAN Bypass support



In-vehicle Surveillance



Mobile video surveillance is becoming more common, as more police departments, ambulance services, and transportation companies see the benefits it can bring. With PoE switches installed in a vehicle, it eliminates the need for an electrician to install an outlet near a powered device. PoE brings efficiency to Ethernet-based communications in mobility by providing power through the Cat-5 LAN cable. EtherWAN's Ethernet solutions bring reliability and robustness to mobile IP applications.



EX42200

Hardened Unmanaged 5-port 10/100BASE (4 xPoE) Ethernet Switch

- Provides flexibility of 5 Ethernet ports that can be configured in combinations of copper and fiber optic interfaces
- 4-port 10/100BASE-TX with IEEE802.3at (30W/ea) PoE/PSE
- Wide power input range 18 to 57VDC and dual DC Terminal Block power input
- Power failure alarm by relay output
- Auto-MDI-X and Auto-negotiation function on copper ports

ER58000

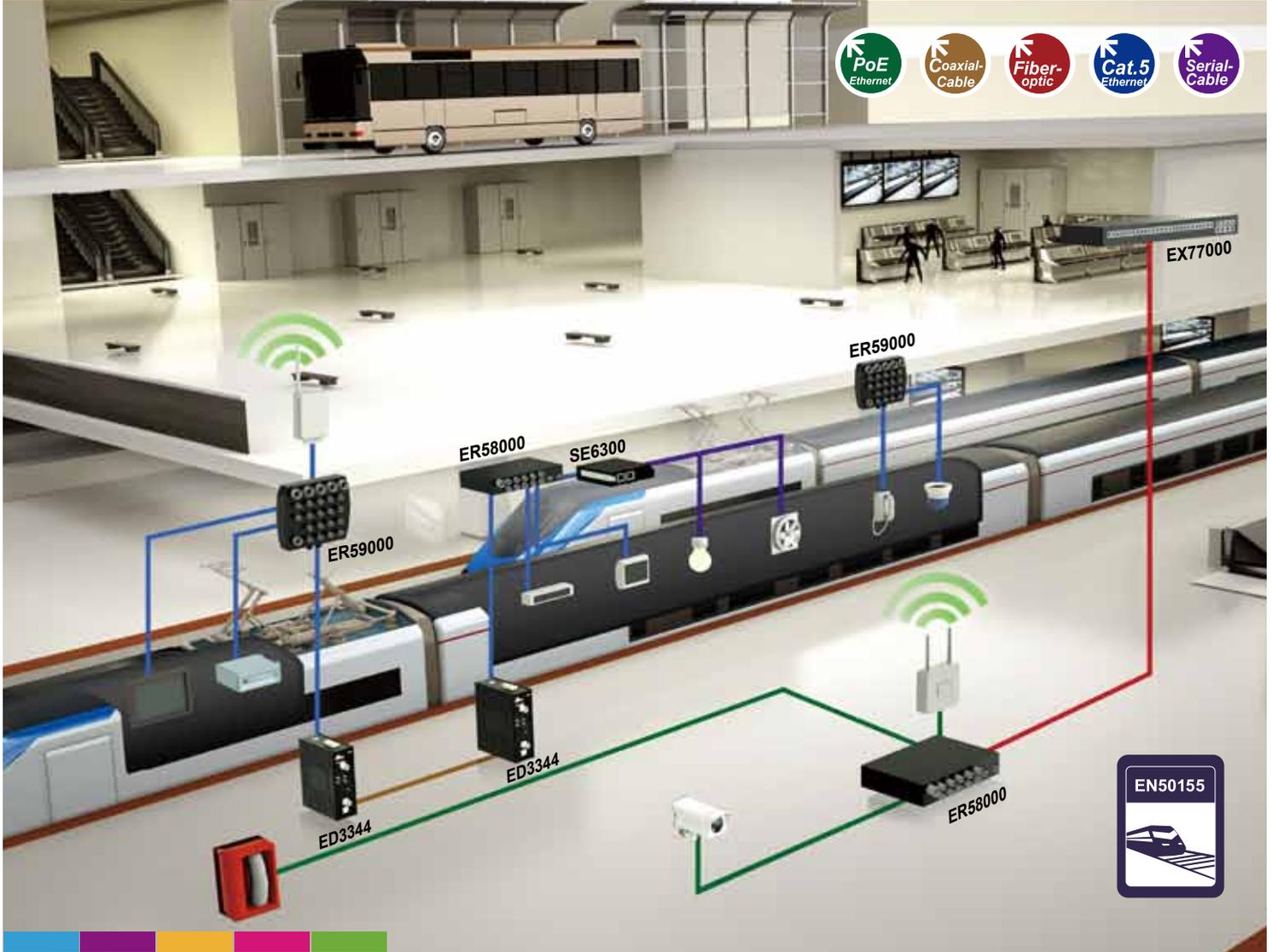
Managed Hardened 8-port 10/100BASE M12 PoE with 2-port Gigabit M12/LC Ethernet Switch

- Complies with EN50155/EN50121-3-2/EN50121-4 railway applications
- Built-in 8-port 10/100BASE M12 plus 2-port Gigabit M12 or LC connector
- 8-port 10/100BASE-TX with IEEE802.3at (30W/ea) PoE/PSE
- Features α -ring for redundancy with recovery time of < 15ms



Rolling Stock Network

EtherWAN's EN50121-4 certified products are designed for railway applications and guarantee electromagnetic compatibility in the rail environment. The EN50155 certified products comply with the robust requirements of rolling stock applications, such as shock and vibration and humidity and temperature. M12 connectors are available on those products that are installed in the most extreme environments.



ER59000

IP67 Managed Hardened 16-port 10/100BASE-TX M12 and 2-port Gigabit Ethernet Switch

- Complies with EN50155/EN50121-3-2/EN50121-4 standards for rolling stock applications
- All 10/100BASE-TX ports with M12 type and 2 Gigabit ports with waterproof RJ-45 or LC connectors
- Features α -ring for redundancy with recovery time of < 15ms
- 8-port 10/100BASE-TX with IEEE802.3at (30W/ea) PoE/PSE



ED3344

Hardened 10/100BASE-TX M12 Ethernet Extender Over Coaxial Cable

- Complies with EN50155 standard for rolling stock applications
- 10/100BASE-TX port with M12 type
- Extender port over coaxial cable up to 2,600 meters (8,530ft)



EN50121-4



PoE

PoE



EN50155

EN50121-4

PoE



PoE



Model Name	EX71000 / EX73000			EX78000	EX76000	EX77000	ER59000	ER58000
Interface								
Max. 10/100BASE Ports	8	/	16	10	16	24	16	8
Max. 10/100/1000BASE Ports	2			2	2	4	2	2
Max. PoE Ports	-			8 (15.4W) or 6 (30W)	16 (15.4W)	-	8 (30W)	8 (30W)
Max. 100BASE SFP	4	/	-	2	-	24	-	-
Max. 1000BASE SFP	2	/	-	2	-	4	-	-
Mechanical								
Installation*	D, P, R			D, P	R	R	W	P
Dimensions (WxDxH mm)	60x125x145 / 65x125x145			65x145x165	442x205x44	Single Power: 442x250x44 Dual Power: 442x375x44	258x228x117	288x161.5x64
Dimensions (WxDxH inch)	2.36"x4.92"x5.7" / 2.56"x4.92"x5.7"			2.56"x5.71"x6.5"	17.4"x8.07"x1.73"	Single Power: 17.4"x9.8"x1.74" Dual Power: 17.4"x14.7"x1.74"	10.15"x8.97"x4.6"	11.3"x6.4"x2.5"
Power Input								
No. of Power Input	3			3	2	1 or 2	2	2
110 - 240VAC	-			-	-	✓	-	-
Terminal Block	12 - 48VDC			47 - 57VDC	47 - 55VDC	± 48VDC, 88 - 370VDC	M23:55VDC	M23:24-48VDC
DC Jack	12VDC			48VDC	-	-	-	-
Operating Temperature	-40°C - 75°C			-40°C - 75°C	-40°C - 75°C	-40°C - 75°C	-40°C - 75°C	-40°C - 75°C
Network Redundancy								
α-Ring / α-Chain	✓			✓	✓	✓	✓	✓
STP / RSTP / MSTP	✓			✓	✓	✓	✓	✓
Network Mgmt & Ctrl								
	VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, LACP, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1x Security, DHCP Server, DHCP Client, SNMP (v1, v2c, v3), RMON, Web Management, Telnet Management, RS-232 Console Management, SSH / SSL							
Regulatory Approvals								
CE / FCC / VCCI	✓			✓	✓	✓	✓	✓
UL508	✓			✓	✓	-	-	-
ISA12.12.01 / UL1604	-	/	✓	-	-	-	-	-
EN50155	-			-	-	-	✓	✓
EN50121-4	✓	/	-	-	-	-	✓	✓
E Mark	-			-	-	-	-	-

EN50155

EN50121-4



DNP3.0 Transparency



Model Name	EX42200	Model Name	ED3175	ED3344	EL910	Model Name	SE6300
Interface		Interface				Interface	
Max. 10/100BASE Ports	5	Max. 10/100BASE Ports	8	1 (M12)	1	Max. 10/100BASE-TX	2 (Redundancy)
Max. PoE Ports	4 (30W)	Max. Extender Ports	2 (RJ11)	1 (BNC)	-	Max. 100BASE-FX	2 (Redundancy)
Max. 100BASE FX	1	Max. 100BASE FX	-	-	1	1.5KV Mangetic Isolation	✓
Mechanical		Mechanical				Ethernet Redundancy	✓
Installation*	D	Installation*	D, P, R	D, P, R	D	Serial Interface	
Dimensions (WxDxH mm)	61x78x118	Dimensions (WxDxH mm)	60x125x145	50x110x135	42x90x100	RS-232/422/485	4
Dimensions (WxDxH inch)	2.4"x3.12"x4.72"	Dimensions (WxDxH inch)	2.36"x4.92"x5.7"	1.97"x4.33"x5.31"	1.65"x3.54"x3.94"	RS-422/485	2 (SE6320)
Power Input		Power Input				Connector Type	DB9 / TB / RJ50
No. of Power Input	2	No. of Power Input	3	3	3	ESD Protection	✓
Terminal Block	18 - 57VDC	Terminal Block	12 - 48VDC	12 - 48VDC	12 - 48VDC	2KV Serial Line Isolation	SE6320
DC Jack	-	DC Jack	12VDC	12VDC	12VDC	Speed	50bps - 460.8kbps
Operating Temperature	-40°C - 75°C	Operating Temperature	-40°C - 75°C	-40°C - 75°C	-40°C - 75°C	Software	
Regulatory Approvals		Regulatory Approvals				Operation Modes	TCP, UDP, Pair Connection
CE / FCC / VCCI	✓	CE / FCC / VCCI	✓	✓	✓	COM Driver Support	Windows 2000/XP/2003/Vista/7
		UL508	✓	✓	-	Configuration Options	Web, Telnet Console, SNMP
		ISA12.12.01 / UL1604	-	-	-	Mechanical	
		EN50155	-	✓	-	Installation*	D, P
		EN50121-4	-	✓	-	Dimensions (WxHxD)	100x125x30
		UL60950-1	-	-	✓	Dimensions (WxDxH inch)	3.94"x4.92"x1.18"
						Power Input	
						No. of Power Input	3
						Terminal Block	12 - 32VDC
						DC Jack	12 VDC
						Operating Temperature	-25°C - 70°C
						Regulatory Approvals	
						CE / FCC / VCCI	✓

* D: DIN Rail Mounting, R: Rack Mounting, P: Panel Mounting

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