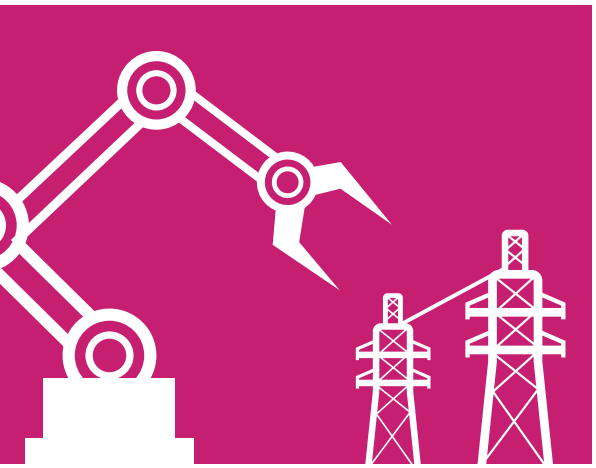
EtherWAN

Connection Guide

When Connectivity is Crucial

- Ethernet Switches
- Media Converters
- Ethernet Extenders
- Surge Protectors
- NIC & Industrial PSUs



About **EtherWAN**

EtherWAN Systems, founded in 1996 in the United States with Pacific Rim headquarters in Taiwan, has become a leader in Ethernet connectivity for IP Surveillance, Intelligent Transportation Systems (ITS), Renewable Energy, Smart Grid, Oil & Mining, Factory Automation, etc.

EtherWAN specializes in designing and manufacturing Ethernet equipment for harsh environments. At EtherWAN, considerations of extreme temperatures, shock and vibration, power surge, and high ESD protection are all part of the most basic and minimal requirements in product design. Our commitment to quality and fault tolerance under extreme environmental conditions continues to drive our engineering capability to higher and higher levels. From Ethernet Switches, Media Converters, Serial Device Servers to Ethernet Extenders EtherWAN offers products and solutions for the most demanding industries.

EtherWAN Systems - When Connectivity is Crucial!

Core Competency

Technology Know-how

- In-house hardware, software and mechanical design team with our own Linux kernel source codes
- Unique α-Ring for network redundancy with recovery time < 15ms
- Specialize in designing hardened Ethernet equipment with superior reliability, long MTBF, redundant power support, wide operating temperature range, EDI, EMI, RFI and surge protection
- Extensive knowledge in internetworking, protocols, and interoperability with products from leading communication manufacturers in the world

Efficient Operation

- Flexible production process to provide various fiber options
- Efficient logistics to organize all size of standard product shipment without MOQ
- Abundant OEM/ODM experience with global leading networking equipment providers
- Effective inventory plan to guarantee the best delivery lead time

Customer-focused Services

- Professional technical support crew, with domain know-how and hands-on experience working with system integrators and solution providers
- The most current technical archives are always available online

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Connection Guide / Ethernet Switches

						2015 Q4	
	EN50155 PoE	EN50155 PoE	60W PoE	60W PoE	PoE	IEC61850-3 EN50121-4	IEC61850-3 EN50121-4

Hardened Managed >>							
Model Name	ER59000	ER58000	EX78900 NEW	EX78602 NEW	EX78000	EX73900 NEW	EX70900
Interface							
Max. 10/100 BASE-TX	16 (M12)	8 (M12)	-	6	8	-	-
Max. 10/100/1000 BASE-T	2	2 (M12)	12	2	2	12	8
Max. 100 BASE-FX	-	-	-	-	4	-	-
Max. 100 BASE-SFP	-	-	-	-	2	-	-
Max. 1000 BASE - SX/LX/BX	2 (LC)	2 (LC)	-	2	2	-	2
Max. 1000 BASE - SFP	-	-	4	2	2	4	2
PoE Ports	8 (30W)	8 (30W)	8 (60W)	4 (30W) + 2 (60W)	8 (15.4W) or 4 (30W) + 4 (15.4W)	-	-
PoE Power Budget	240W	120W	240W	180W	180W	-	-
RS-232 Console Port	√	√	√	√	√	√	√
Alarm Contact	√	√	√	√	√	√	√
Performance							
MAC Address Table Size	8192	8192	16K	8192	8192	16K	4096
Packet Buffer Memory (bits)	2M	2M	12M	2M	2M	12M	1.5M
Jumbo Frame (bytes)	-	-	9216	-	-	9216	9720
Mechanical							
Casing	aluminum	metal	aluminum	aluminum	aluminum	aluminum	aluminum
Installation*	W	P	D, P	D, P	D, P	D, P	D, P
Dimensions (mm) (W x D x H)	258 x 117 x 228	288 x 161.5 x 64	63 x 140 x 170	71.4 x 140 x 170	71.4 x 140 x 170	63 x 140 x 170	66 x 125 x 145
Power Input							
No. of Power Inputs	2	2	2	2	3	2	3
110 - 240VAC	-	-	-	-	-	-	-
Terminal Block	(55VDC) (M23) (PoE) (12 - 48VDC) (M23) (nonPoE)	(24 - 48VDC) (M23)	52 - 57VDC	52 - 57VDC	47 - 57VDC	12 - 48VDC	12 - 48VDC
DC Jack	-	-	-	52 - 57VDC	47 - 57VDC	-	12VDC
AC to DC Adapter	-	-	-	-	-	-	-
Operating Temperature							
-10˚C to 60˚C	-	-	-	-	-	-	-
-40˚C to 75˚C	√	√	√	√	√	√	√
Network Redundancy							
α-Ring / α-Chain	√	√	√	√	√	√	√
STP / RSTP / MSTP	√	√	√	√	√	√	√
Network Management & Control							
	VLAN, QoS, IGMP, GMRP, LLDP, Bandwidth Rate Control, Port Trunking, Port Mirroring, Packet Filtering, DHCP Sever/Client, IEEE802.1x Security, SNMP (v1, v2c, v3), RMON, Web Management, Telnet Management, RS-232 Console Management						
Regulatory Approvals							
CE / FCC	√	√	√	√	√	√	√
UL508	-	-	-	-	√	-	-
ISA12.12.01 / UL1604	-	-	-	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-	-	√	√
EN50155	√	√	-	-	-	-	√
UL60950	-	-	-	-	-	-	-

* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Connection Guide / Ethernet Switches

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	IEC61850-3 EN50121-4	IEC61850-3 EN50121-4	IEC61850-3 EN50121-4	PoE	PoE

Hardened Managed >>						
Model Name	EX77000	EX77900 NEW	EX87000	EX89000	EX75000	EX76000
Interface						
Max. 10/100 BASE-TX	24	-	24	24	24	16
Max. 10/100/1000 BASE-T	4	24	4	4	2	2
Max. 100 BASE-FX	24	-	24	18	-	4
Max. 100 BASE-SFP	24	-	24	-	-	-
Max. 1000 BASE- SX/LX/BX	4	8	4	4	2	2
Max. 1000 BASE-SFP	4	8	4	4	4	-
Max. 10 Gigabit SFP+	-	4	-	-	-	-
PoE Ports	-	-	-	-	MAX. 12 (30W)+2G (30W) MAX. 24 (15.4W)+2G (30W)	16 (30W)
PoE Power Budget	-	-	-	-	420W	480W
RS-232 Console Port	√	√	√	√	√	√
Alarm Contact	-	-	-	√	√	√
Performance						
MAC Address Table Size	8192	16K	8192	8192	8192	8192
Packet Buffer Memory (bits)	3M	12M	3M	3M	3M	2M
Jumbo Frame (bytes)	-	12K	-	-	2048	-
Mechanical						
Casing	metal	metal	metal	metal	metal	metal
Installation*	R	R	R	R	R	R
Dimensions (mm) (W x D x H)	Single Power: 442x250x44 Dual Power: 442x375x44	442 x 375 x 44	Single Power: 442x284x44 Dual Power: 442x375x44	Single Power: 442x343x44 Dual Power: 442x404x44	442 x 343 x 44	442 x 205 x 44
Power Input						
No. of Power Inputs	1 or 2	1 or 2	1 or 2	1 or 2	1	2
110 - 240VAC	√	√	√	√	-	-
Terminal Block	±48VDC, 88 - 370VDC	±48VDC, 88 - 370VDC	±48VDC, 88 - 370VDC	±48VDC, 88 - 370VDC	52 - 57VDC	52 - 57VDC
DC Jack	-	-	-	-	-	-
AC to DC Adapter	-	-	-	-	-	-
Operating Temperature						
-10˚C to 60˚C	-	-	-	-	-	-
-40˚C to 75˚C	√	√	√	√	√	√
Network Redundancy						
α-Ring / α-Chain	√	√	√	√	√	√
STP / RSTP / MSTP	√	√	√	√	√	√
Network Management & Control						
	VLAN, QoS, IGMP, GMRP, LLDP, Bandwidth Rate Control, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1x Security, SNMP (v1, v2c, v3), RMON, Web Management, Telnet Management, RS-232 Console Management					
Regulatory Approvals						
CE / FCC	√	√	√	√	√	√
UL508	-	-	-	-	-	√
ISA12.12.01 / UL1604	-	-	-	-	-	-
IEC61850-3 / IEEE1613	√	√	√	√	-	-
EN50155	-	-	-	-	-	-
EN50121-4	-	√	√	√	-	-
UL60950	-	-	-	-	-	-

* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Connection Guide / Ethernet Switches

IEC61850-3 EN50121-4	ISA 12.12.01		EN50121-4	PoE	PoE	PoE

Hardened Managed >>						***Hardened Web-Smart >>***
Model Name	EX83000	EX73000	EX72000	EX71000	EX74000	EX48000	EX46100
Interface							
Max. 10/100 BASE-TX	16	16	14	8	6	5	8
Max. 10/100/1000 BASE-T	2	2	2	2	2	-	-
Max. 100 BASE-FX	4	4	2	4	-	1	2
Max. 100 BASE-SFP	4	-	-	4	-	-	-
Max. 1000 BASE - SX/LX/BX	2	2	2	2	-	-	-
Max. 1000 BASE - SFP	2	-	2	2	2	-	-
PoE Ports	-	-	-	-	4 (30W)	4 (30W)	4 (30W)
PoE Power Budget	-	-	-	-	120W	120W	120W
RS-232 Console Port	√	√	√	√	√	-	-
Alarm Contact	√	√	-	√	-	√	√
Performance							
MAC Address Table Size	8192	8192	8192	8192	8192	1024	1024
Packet Buffer Memory (bits)	2M	2M	2M	2M	2M	512K	1M
Jumbo Frame (bytes)	-	-	-	-	-	-	-
Mechanical							
Casing	aluminum	aluminum	metal	aluminum	metal	aluminum	aluminum
Installation*	D, P	D, P	P,	D, P, R	R, P	Desktop, W	D, P, R
Dimensions (mm) (W x D x H)	84 x125 x 145	65 x125 x 45	235 x 125 x 50	60 x 125 x 145	200 x 134 x 50	200 x 134 x 35	68 x 135 x 110
Power Input							
No. of Power Inputs	3	3	2	3	1	3	3
110 - 240VAC	-	-	-	-	-	-	-
Terminal Block	12 - 48VDC	12 - 48VDC	12 - 48VDC	12 - 48VDC	52 - 57VDC	47 - 57VDC	47 - 57VDC
DC Jack	12VDC	12VDC	-	12VDC	-	47 - 57VDC	47 - 57VDC
AC to DC Adapter	-	-	-	-	-	-	-
Operating Temperature							
-10˚C to 60˚C	-	-	-	-	-	-	-
-40˚C to 75˚C	√	√	√	√	√	√	√
Network Redundancy							
α-Ring / α-Chain	√	√	√	√	√	-	-
STP / RSTP / MSTP	√	√	√	√	√	-	-
Network Management & Control							
	VLAN, QoS, IGMP, GMRP, LLDP, Bandwidth Rate Control, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1x Security, SNMP (v1, v2c, v3), RMON, Web Management, Telnet Management, RS-232 Console Management					System, IP Configuration, VLAN,QoS, Web Management	
Regulatory Approvals							
CE / FCC	√	√	√	√	√	√	√
UL508	-	√	√	√	-	-	-
ISA12.12.01 / UL1604	-	√	-	-	-	-	-
IEC61850-3 / IEEE1613	√	-	-	-	-	-	-
EN50121-4	√	-	-	√	-	-	-
UL60950	-	-	-	-	-	-	-

* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Connection Guide / Ethernet Switches

	PoE	PoE	PoE		PoE	PoE
Hardened Web-Smart >>		***Hardened Unmanaged >>***				
Model Name	EX49000	ER52000 NEW	EX49000A	EX42900	EX45900 NEW	EX42300
Interface						
Max. 10/100 BASE-TX	16	8 (M12)	16	-	-	4
Max. 10/100/1000 BASE-T	2	2 (M12) Bypass	2	5 / 8	5	1
Max. 100 BASE-FX	-	-	-	-	-	-
Max. 100 BASE-SFP	-	-	-	-	-	-
Max. 1000 BASE - SX/LX/BX	2	-	2	1	1	1
Max. 1000 BASE - SFP	2	-	2	-	1	1
PoE Ports	16 (30W)	8 (30W)	16 (30W)	-	4 (30W)	4 (30W)
PoE Power Budget	480W	120W	480W	-	120W	120W
RS-232 Console Port	-	-	-	-	-	-
Alarm Contact	√	-	√	- / √	√	√
Performance						
MAC Address Table Size	4096	8192	4096	8192 / 4096	8192	8192
Packet Buffer Memory (bits)	2.25M	4M	2.25M	1M / 192K	1M	1M
Jumbo Frame (bytes)	-	9.6K	-	10K / 9720	10K	10K
Mechanical						
Casing	metal	metal	metal	metal	metal	metal
Installation*	R	W	R	D	D	D
Dimensions (mm) (W x D x H)	442 x 205 x 44.2	140 x 228 x 65.8	442 x 205 x 44.2	30 x 70 x 110 30 x 100 x 149	30 x 100 x 149	30 x 100 x 149
Power Input						
No. of Power Inputs	2	2	2	1 / 2	2	2
100 - 240VAC	-	-	-	-	-	-
Terminal Block	47 - 57VDC	(72 - 110VDC)(M12)	47 - 57VDC	12 - 48VDC	24 / 48VDC	24 / 48VDC
DC Jack	-	-	-	-	-	-
AC to DC Adapter	-	-	-	-	-	-
Operating Temperature						
-10˚C to 60˚C	-	-	-	-	-	-
-40˚C to 75˚C	√	√	√	√	√	√
Network Redundancy						
α-Ring / α-Chain	-	-	-	-	-	-
STP / RSTP / MSTP	-	-	-	-	-	-
Network Management & Control						
	System, IP Configuration, VLAN,QoS, Web Management	-				
Regulatory Approvals						
E Mark	-	-	-	-	-	-
CE / FCC	√	√	√	√	√	√
UL508	-	-	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-	-	-
EN50155	-	√ (pending)	-	-	-	-
UL60950	-	-	-	(EX42905 / EX42914)	√	√

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Connection Guide / Ethernet Switches

2015 Q4

PoE

EN50121-4

IEC61850-3

PoE

PoE

Hardened Unmanaged >>

Model Name	EX46900A (NEW)	EX95000	EX47000	EX94000	EX45000	EX48000A
Interface						
Max. 10/100 BASE-TX	-	16	8	8	8	5
Max. 10/100/1000 BASE-T	8	-	-	-	-	-
Max. 100 BASE-FX	-	2	2	2	2	1
Max. 100 BASE-SFP	-	-	-	2	-	-
Max. 1000 BASE - SX/LX/BX	2	-	-	-	-	-
Max. 1000 BASE - SFP	2	-	-	-	-	-
PoE Ports	8 (30W)	-	-	-	4 (15.4W)	4 (15.4W)
PoE Power Budget	120W	-	-	-	61.6W	61.6W
RS-232 Console Port	-	-	-	-	-	-
Alarm Contact	√	√	√	√	√	√
Performance						
MAC Address Table Size	8192	4096	2048	1K	1024	1024
Packet Buffer Memory (bits)	4M	1.625M	448K	448K	1M	512K
Jumbo Frame (bytes)	9.6K	-	-	-	-	-
Mechanical						
Casing	aluminum	aluminum	aluminum	aluminum	aluminum	metal
Installation*	D	D, P, R	D, P	D, P	D, P, R	Desktop, W
Dimensions (mm) (W x D x H)	66.8 x 125 x 145	75.5 x 110 x 135	60 x 125 x 145	50 x 110 x 145	68 x 110 x 135	200 x 134.3 x 35
Power Input						
No. of Power Inputs	2	3	3	2	2	3
110 - 240VAC	-	-	-	-	-	-
Terminal Block	18 - 57VDC	12 - 48VDC	12 - 48VDC	12 - 48VDC	47 - 57VDC	47 - 57VDC
DC Jack	-	12VDC	12VDC	-	47 - 57VDC	47 - 57VDC
AC to DC Adapter	-	-	-	-	-	-
Operating Temperature						
-10˚C to 60˚C	-	-	-	-	-	-
-40˚C to 75˚C	√	√	√	√	√	√
Network Redundancy						
α-Ring / α-Chain	-	-	-	-	-	-
STP / RSTP / MSTP	-	-	-	-	-	-
Network Management & Control						
	-					
Regulatory Approvals						
E Mark	√ (pending)	-	-	-	-	-
CE / FCC	√	√	√	√	√	√
UL508	-	√	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	√ (pending)	-	-
IEC61850-3 / IEEE1613	-	-	√	-	-	-
EN50121-4	-	-	√	-	-	-
UL60950	-	-	-	√ (pending)	-	-

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Connection Guide / Ethernet Switches

IEC61850-3 EN50121-4

IEC61850-3 EN50121-4

PoE

Industrial Managed >>						Industrial Web-Smart >>
Model Name	EX27000	EX29000	EX63000	EX61000A	EX62000	EX38000
Interface						
Max. 10/100 BASE-TX	24	24	16	8	14	5
Max. 10/100/1000 BASE-T	4	4	2	2	2	-
Max. 100 BASE-FX	24	18	4	4	2	1
Max. 100 BASE-SFP	24	-	-	4	-	-
Max. 1000 BASE - SX/LX/BX	4	4	2	2	2	-
Max. 1000 BASE - SFP	4	4	-	2	2	-
PoE Ports	-	-	-	-	-	4 (30W)
PoE Power Budget	-	-	-	-	-	120W
RS-232 Console Port	√	√	√	√	√	-
Alarm Contact	-	√	-	√	-	√
Performance						
MAC Address Table Size	8192	8192	8192	8192	8192	1024
Packet Buffer Memory (bits)	3M	3M	2M	2M	2M	512K
Jumbo Frame (bytes)	-	-	-	-	-	-
Mechanical						
Casing	metal	metal	metal	metal	metal	metal
Installation*	R	R	D, P, R	D, P, R	D, P, R	Desktop, W
Dimensions (mm) (W x D x H)	Single Power: 442x343x44 Dual Power: 442x375x44	Single Power: 442x343x44 Dual Power: 442x404x44	59 x 125 x 45	54 x 125 x 145	235 x 125 x 50	200 x 134.3 x 35
Power Input						
No. of Power Inputs	1 or 2	1 or 2	3	3	2	3
110 - 240VAC	√	√	-	-	-	-
Terminal Block	±48VDC, 88 - 370VDC	±48VDC, 88 - 370VDC	12 - 48VDC	12 - 48VDC	12 - 48VDC	47- 57VDC
DC Jack	-	-	12VDC	12VDC	12VDC	47- 57VDC
AC to DC Adapter	-	-	-	-	-	-
Operating Temperature						
-10˚C to 60˚C	√	√	√	√	√	√
-40˚C to 75˚C	-	-	-	-	-	-
Network Redundancy						
α-Ring / α-Chain	√	√	√	√	√	-
STP / RSTP / MSTP	√	√	√	√	√	-
Network Management & Control						
	VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1x Security, SNMP (v1, v2c, v3), RMON, Web Man agement, Telnet Management, RS232 Console Management (expect EX26262 and EX26182)					System, IP Configuration, VLAN,QoS, Web Management
Regulatory Approvals						
CE / FCC	√	√	√	√	√	√
UL508	-	-	-	√	-	-
ISA12.12.01 / UL1604	-	-	-	-	-	-
IEC61850-3 / IEEE1613	√	√	-	-	-	-
EN50121-4	√	√	-	-	-	-
UL60950	-	-	-	-	-	-

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Connection Guide / Ethernet Switches

Fanless

PoE

Industrial Unmanaged >>

Model Name	EX39924 NEW	EX32900	EX35000	EX33000	EX34000	EX43000
Interface						
Max. 10/100 BASE-TX	-	-	-	16	8	8
Max. 10/100/1000 BASE-T	24	5 / 8	8	-	-	-
Max. 100 BASE-FX	-	-	-	2	2	2
Max. 100 BASE-SFP	-	-	-	-	-	2
Max. 1000 BASE - SX/LX/BX	-	1	2	-	-	-
Max. 1000 BASE - SFP	4 (Combo) / 16 (Combo)	-	2	-	-	-
PoE Ports	-	-	-	-	4 (15.4W)	-
PoE Power Budget	-	-	-	-	61.6W	-
RS-232 Console Port	-	-	-	-	-	-
Alarm Contact	-	- / √	√	√	√	√
Performance						
MAC Address Table Size	8192	8192 / 4096	8192	4096	1024	1K
Packet Buffer Memory (bits)	512K	1M / 192K	1.125M	1.625M	1M	448K
Jumbo Frame (bytes)	16379	10K / 9720	-	-	-	-
Mechanical						
Casing	metal	plastic	aluminum	metal	metal	metal
Installation*	R	D	D, P	D, P, R	D, P, R	D, P
Dimensions (mm) (W x D x H)	210 x 440 x 44	26 x 70 x 110 30 x 86 x 149	68 x 110 x 135	69.5 x 110 x 135	62 x 110 x 135	43.6 x 110 x 135
Power Input						
No. of Power Inputs	1	1 / 2	3	3	3	2
100 - 240VAC	√	-	-	-	-	-
Terminal Block	-	12 - 48VDC	12 - 32VDC	12 - 48VDC	47- 57VDC	12 - 48VDC
DC Jack	-	-	12VDC	12VDC	47- 57VDC	-
AC to DC Adapter	-	-	-	-	-	-
Operating Temperature						
-10˚C to 60˚C	√	√	-20˚C to 60˚C	√	√	-20˚C to 60˚C
-40˚C to 75˚C	-	-	-	-	-	-
Network Redundancy						
α-Ring / α-Chain	-	-	-	-	-	-
STP / RSTP / MSTP	-	-	-	-	-	-
Network Management & Control						
			-			
Regulatory Approvals						
CE / FCC	√	√	√	√	√	√
UL508	-	-	√	√	-	-
ISA12.12.01 / UL1604	-	-	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-	-	-
EN50121-4	-	-	-	-	-	-
UL60950	-	(EX32905 / EX32914)	-	-	-	√ (pending)

* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Connection Guide / Ethernet Switches

PoE

PoE

PoE

Industrial Unmanaged >>		*Commercial Managed >>*			
Model Name	EX42000	EX25611	EX26262	EX26182	EX24402 NEW
Interface					
Max. 10/100 BASE-TX	5	-	-	-	16
Max. 10/100/1000 BASE-T	-	24	24	18	2
Max. 100 BASE-FX	1	-	-	-	-
Max. 100 BASE-SFP	-	-	-	-	-
Max. 1000 BASE - SX/LX/BX	-	-	-	-	-
Max. 1000 BASE - SFP	-	4 (Combo)	2	2	2
Max. 10 Gigabit SFP+	-	4	-	-	-
PoE Ports	-	-	24 (30W)	18 (30W)	16 (15.4W)
PoE Power Budget	-	-	190W	190W	195W
RS-232 Console Port	-	√	-	-	√
Alarm Contact	√	-	-	-	√
Performance					
MAC Address Table Size	1K	32K	8192	8192	8192
Packet Buffer Memory (bits)	448K	256M	64M	64M	2M
Mechanical					
Casing	plastic	metal	metal	metal	metal
Installation*	D	R	R	R	R
Dimensions (mm) (W x D x H)	26 x 70 x 110	442 x 300 x 44	440 x 350 x 44	440 x 350 x 44	443.6 x 285 x 44
Power Input					
No. of Power Inputs	1	1	1	1	1
100 - 240VAC	-	√	√	√	√
Terminal Block	12 - 48VDC	-	-	-	-
DC Jack	-	-	-	-	-
AC to DC Adapter	-	-	-	-	-
Operating Temperature					
0˚C to 45˚C	-	0˚C to 40˚C	0˚C to 50˚C	0˚C to 50˚C	√
-10˚C to 60˚C	√	-	-	-	-
-40˚C to 75˚C	-	-	-	-	-
Network Redundancy					
α-Ring / α-Chain	-	-	-	-	√
STP / RSTP / MSTP	-	√	√	√	√
Network Management & Control					
	-	VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1x Security, SNMP (v1, v2c, v3), RMON, Web Man agement, Telnet Management, RS232 Console Management (expect EX26262 and EX26182)			
Regulatory Approvals					
CE / FCC	√	√	√	√	√
UL508	-	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-	-
EN50121-4	-	-	-	-	-
UL60950	√	-	√	√	-

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Connection Guide / Ethernet Switches

	PoE	PoE	PoE	

Commercial Web-Smart >>

Model Name	EX17242	EX17162	EX17016	EX1616W
Interface				
Max. 10/100 BASE-TX	24	16	16	16
Max. 10/100/1000 BASE-T	2	2	-	-
Max. 100 BASE-FX	-	-	-	1
Max. 100 BASE-SFP	-	-	-	-
Max. 1000 BASE - SX/LX/BX	-	-	-	-
Max. 1000 BASE - SFP	2 (Combo)	2 (Combo)	-	-
PoE Ports	24(15.4W)	16 (15.4W)	16 (15.4W)	-
PoE Power Budget	369.6W	246.4W	246.4W	-
RS-232 Console Port	-	-	-	-
Alarm Contact	-	-	-	-
Performance				
MAC Address Table Size	4096	4096	4096	4096
Packet Buffer Memory (bits)	2.75M	2.75M	1.5M	1.5M
Mechanical				
Casing	metal	metal	metal	metal
Installation*	R	R	R	R
Dimensions (mm) (W x D x H)	440 x 330 x 44	440 x 330 x 44	440 x 330 x 44	440 x 207 x 44
Power Input				
No. of Power Inputs	1	1	1	1
110 - 240VAC	√	√	√	√
Terminal Block	-	-	-	-
DC Jack	-	-	-	-
AC to DC Adapter	-	-	-	-
Operating Temperature				
0˚C to 45˚C	√	√	√	√
-10˚C to 60˚C	-	-	-	-
-40˚C to 75˚C	-	-	-	-
Network Redundancy				
α-Ring / α-Chain	-	-	-	-
STP / RSTP / MSTP	-	-	-	-
Network Management & Control				
	System, IP Configuration, VLAN, QoS, Web Management			
Regulatory Approvals				
CE / FCC	√	√	√	√
UL508	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-
EN50121-4	-	-	-	-
UL60950	-	√	√	-

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Connection Guide / Ethernet Switches

	PoE	PoE	PoE

Commercial Web-Smart >>			
Model Name	EX17908	EX17082	EX17008
Interface			
Max. 10/100 BASE-TX	-	8	8
Max. 10/100/1000 BASE-T	8	2	-
Max. 100 BASE-FX	-	-	-
Max. 100 BASE-SFP	-	-	-
Max. 1000 BASE - SX/LX/BX	-	-	-
Max. 1000 BASE - SFP	-	2 (Combo)	-
PoE Ports	8 (30W)	8 (30W)	8 (15.4W)
PoE Power Budget	240W	240W	123.2W
RS-232 Console Port	-	-	-
Alarm Contact	-	-	-
Performance			
MAC Address Table Size	8192	4096	1024
Packet Buffer Memory (bits)	1M	2.75M	512K
Mechanical			
Casing	metal	metal	metal
Installation*	Desktop	R	Desktop
Dimensions (mm) (W x D x H)	266 x 160 x 44	440 x 220 x 44	266 x 160 x 44
Power Input			
No. of Power Inputs	1	1	1
110 - 240VAC	√	√	√
Terminal Block	-	-	-
DC Jack	-	-	-
AC to DC Adapter	-	-	-
Operating Temperature			
0˚C to 45˚C	0˚C to 40˚C	√	√
-10˚C to 60˚C	-	-	-
-40˚C to 75˚C	-	-	-
Network Redundancy			
α-Ring / α-Chain	-	-	-
STP / RSTP / MSTP	-	-	-
Network Management & Control			
		System, IP Configuration, VLAN, QoS, Web Management	
Regulatory Approvals			
CE / FCC	√	√	√
UL508	-	-	-
ISA12.12.01 / UL1604	-	-	-
IEC61850-3 / IEEE1613	-	-	-
EN50121-4	-	-	-
UL60950	-	-	√

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Connection Guide / Ethernet Switches

	PoE	PoE	PoE	PoE	PoE
Commercial Unmanaged >>					
Model Name	EX17162A	EX17016A	EX17908A	EX17082A	EX17044A
Interface					
Max. 10/100 BASE-TX	16	16	-	8	8
Max. 10/100/1000 BASE-T	2	-	8	2	-
Max. 100 BASE-FX	-	-	-	-	-
Max. 100 BASE-SFP	-	-	-	-	-
Max. 1000 BASE - SX/LX/BX	-	-	-	-	-
Max. 1000 BASE - SFP	2 (Combo)	-	-	-	-
PoE Ports	16 (15.4W)	16 (15.4W)	8 (30W)	8 (30W)	4 (15.4W)
PoE Power Budget	246.4W	246.4W	240W	240W	59W
RS-232 Console Port	-	-	-	-	-
Alarm Contact	-	-	-	-	-
Performance					
MAC Address Table Size	4096	4096	8192	4096	1024
Packet Buffer Memory (bits)	2.75M	1.5M	1M	2.75M	512K
Mechanical					
Casing	metal	metal	metal	metal	metal
Installation*	R	R	Desktop	R	Desktop
Dimensions (mm) (W x D x H)	440 x 330 x 44	440 x 220 x 44	266 x 160 x 44	440 x 220 x 44	266 x 160 x 44
Power Input					
No. of Power Inputs	1	1	1	1	1
110 - 240VAC	√	√	√	√	√
Terminal Block	-	-	-	-	-
DC Jack	-	-	-	-	-
AC to DC Adapter	-	-	-	-	-
Operating Temperature					
0˚C to 45˚C	√	√	0˚C to 40˚C	√	√
-10˚C to 60˚C	-	-	-	-	-
-40˚C to 75˚C	-	-	-	-	-
Network Redundancy					
α-Ring / α-Chain	-	-	-	-	-
STP / RSTP / MSTP	-	-	-	-	-
Network Management & Control					
			-		
Regulatory Approvals					
CE / FCC	√	√	√	√	√
UL508	-	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-	-
EN50121-4	-	-	-	-	-
UL60950	√	√	-	-	√

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Connection Guide / Ethernet Switches

PoE

Commercial Unmanaged >>				
Model Name	EX17008A	EX16900	EX16916 NEW	EX16926 NEW
Interface				
Max. 10/100 BASE-TX	8	-	-	-
Max. 10/100/1000 BASE-T	-	5 / 8	16	24
Max. 100 BASE-FX	-	-	-	-
Max. 100 BASE-SFP	-	-	-	-
Max. 1000 BASE - SX/LX/BX	-	1	-	-
Max. 1000 BASE - SFP	-	1	-	2
PoE Ports	8 (15.4W)	-	-	-
PoE Power Budget	123.2W	-	-	-
RS-232 Console Port	-	-	-	-
Alarm Contact	-	-	-	-
Performance				
MAC Address Table Size	1024	2048 / 4096	8K	4K
Packet Buffer Memory (bits)	512K	1M / 192K	256K	4.1M
Jumbo Frame (bytes)	-	9K / 9720	9K	10K
Mechanical				
Casing	metal	metal	metal	metal
Installation*	Desktop	Desktop	R, W	R
Dimensions (mm) (W x D x H)	266 x 160 x 44	160 x 80.5 x 28	216 x 133 x 42	441 x 131 x 44
Power Input				
No. of Power Inputs	1	1	1	1
110 - 240VAC	√	-	√	√
Terminal Block	-	-	-	-
DC Jack	-	5VDC	-	-
AC to DC Adapter	-	√	-	-
Operating Temperature				
0˚C to 45˚C	√	√	0˚C to 50˚C	0˚C to 50˚C
-10˚C to 60˚C	-	-	-	-
-40˚C to 75˚C	-	-	-	-
Network Redundancy				
α-Ring / α-Chain	-	-	-	-
STP / RSTP / MSTP	-	-	-	-
Network Management & Control				
	-			
Regulatory Approvals				
CE / FCC	√	√	√	√
UL508	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-
EN50121-4	-	-	-	-
UL60950	√	√	-	-

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Connection Guide / Media Converters

		ISA 12.12.01		2015 Q4 PoE	
Gigabit >>					
Model Name	EL9100	EL9000	EL9020	EL2242 NEW	EL2321
Interface					
Max. 100 BASE-T	-	-	-	-	-
Max. 10/100 BASE-TX	-	-	-	-	-
Max. 1000 BASE-T	-	1	-	-	-
Max. 10/100/1000 BASE-T	1	-	1	1	1
Max. 100 BASE-FX/BX WDM	-	-	-	-	1
Max. 100 BASE-SFP	-	-	-	-	-
Max. 1000 BASE-SX/LX/BX	1	1	-	1	1
Max. 1000 BASE-SFP	-	-	1	1	-
Max. PoE Ports	-	-	-	PSE (30W)	-
Web Management	-	-	-	-	√
Alarm Contact	√	√	√	-	-
Mode of Operations					
Auto-negotiation, Auto-MDI/MDI-X	√	√	√	√	√
Flow Control	√	-	√	√	√
Store & Forward	√	-	√	-	√
Link Fault Pass Through	√	√	√	√	√
Mechanical					
Casing	aluminum	aluminum	aluminum	aluminum	aluminum
Installation*	D, P, R	D, P, R	D, P, R	D	C, W
Dimensions (mm) (W x D x H)	50 x 110 x 135	50 x 110 x 135	50 x 110 x 135	42 x 90 x 100	80.3 x 109.2 x 23.8
Power Input					
No. of Power Inputs	3	2/1	3	2	1
Terminal Block	12 - 48VDC	12 - 48VDC	12 - 48VDC	48 - 57VDC	-
DC Jack	12VDC	12VDC	12VDC	-	12VDC
AC to DC Adapter	-	-	-	-	√
Operating Temperature					
0˚C to 50˚C	-	-	-	-	√
-10˚C to 60˚C	-	-	-	-	-
-40˚C to 75˚C	√	√	√	√	-
Regulatory Approvals					
CE / FCC	√	√	√	√	√
VCCI	√	√	√	√	√
UL508	√	-	√	-	-
ISA12.12.01 / UL1604	-	√	-	-	-
EN50121-4	-	-	-	-	-
UL/cUL 60950-1	-	√	-	√	-

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Connection Guide / Media Converters

Gigabit >>						
Model Name	EL2211	EL2315	EM1100 EM2100	EM1000S EM2000S	EM1000 EM2000	EM1020
Interface						
Max. 100 BASE-T	-	-	-	-	-	-
Max. 10/100 BASE-TX	-	-	-	-	-	-
Max. 1000 BASE-T	-	-	-	-	1	1
Max. 10/100/1000 BASE-T	1	1	1	-	-	-
Max. 100 BASE-FX/BX WDM	-	-	-	-	-	-
Max. 100 BASE-SFP	-	1	-	-	-	-
Max. 1000 BASE-SX/LX/BX	1	-	1	2	1	-
Max. 1000 BASE-SFP	-	1	-	-	-	1
Max. PoE Ports	-	-	-	-	-	-
Web Management	-	-	-	-	-	-
Alarm Contact	-	-	-	-	-	-
Mode of Operations						
Auto-negotiation, Auto-MDI/MDI-X	√	√	√	-	√	√
Flow Control	√	√	√	-	-	-
Store & Forward	√	√	√	-	-	-
Link Fault Pass Through	√	√	-	-	√	√
Mechanical						
Casing	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
Installation*	C, W	C, W	C, W	C, W	C, W	C, W
Dimensions (mm) (W x D x H)	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8
Power Input						
No. of Power Inputs	1	1	1	1	1	1
Terminal Block	-	-	-	-	-	-
DC Jack	12VDC	12VDC	12VDC	12VDC	12VDC	12VDC
AC to DC Adapter	√	√	√	√	√	√
Operating Temperature						
0˚C to 45˚C	√	√	√	√	√	√
-10˚C to 60˚C	-	-	-	-	-	-
-40˚C to 75˚C	-	-	-	-	-	-
Regulatory Approvals						
CE / FCC	√	√	√	√	√	√
VCCI	√	√	√	√	√	√
UL508	-	-	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-	-	-
EN50121-4	-	-	-	-	-	-
UL/cUL 60950-1	-	-	-	-	-	-

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Connection Guide / Media Converters

ISA 12.12.01

Fast Ethernet >>		
Model Name	EL900	EL950 NEW
Interface		
Max. 100 BASE-T	-	-
Max. 10/100 BASE-TX	1	1
Max. 1000 BASE-T	-	-
Max. 10/100/1000 BASE-T	-	-
Max. 100 BASE-FX/BX WDM	1	1
Max. 100 BASE-SFP	-	-
Max. 1000 BASE-SX/LX/BX	-	-
Max. 1000 BASE-SFP	-	-
Max. PoE Ports	-	-
Web Management	-	√
Alarm Contact	√	√
Mode of Operations		
Auto-negotiation, Auto-MDI/MDI-X	√	√
Flow Control	√	√
Store & Forward	√	√
Link Fault Pass Through	√	√
Mechanical		
Casing	aluminum	aluminum
Installation*	D, P, R	D
Dimensions (mm) (W x D x H)	50 x 110 x 135	42 x 90 x 100
Power Input		
No. of Power Inputs	2 / 1	3
Terminal Block	10 - 48VDC	12 - 48VDC
DC Jack	12VDC	12VDC
AC to DC Adapter	-	-
Operating Temperature		
0˚C to 45˚C	-	-
-10˚C to 60˚C	-	-
-40˚C to 75˚C	√	√
Regulatory Approvals		
CE / FCC	√	√
VCCI	√	√
UL508	-	-
ISA12.12.01 / UL1604	√	-
IEC61850-3	-	-
EN50121-4	-	-
UL/cUL 60950-1	√	√

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Connection Guide / Media Converters

	PoE	IEC61850-3 EN50121-4	

Fast Ethernet >>			
Model Name	EL1032T	EL1141	EX42011
Interface			
Max. 100 BASE-T	-	-	-
Max. 10/100 BASE-TX	1	1	1
Max. 1000 BASE-T	-	-	-
Max. 10/100/1000 BASE-T	-	-	-
Max. 100 BASE-FX/BX WDM	1	1	1
Max. 100 BASE-SFP	-	-	-
Max. 1000 BASE-SX/LX/BX	-	-	-
Max. 1000 BASE-SFP	-	-	-
Max. PoE Ports	PSE (30W)	-	-
Web Management	-	-	-
Alarm Contact	-	√	-
Mode of Operations			
Auto-negotiation, Auto-MDI/MDI-X	√	√	√
Flow Control	√	√	√
Store & Forward	√	√	√
Link Fault Pass Through	√	√	-
Mechanical			
Casing	aluminum	aluminum	plastic
Installation*	D, P	D, P, R	D
Dimensions (mm) (W x D x H)	70 x 110 x 30	50 x 110 x 135	26 x 110 x 70
Power Input			
No. of Power Inputs	2	3	1
Terminal Block	48 - 57VDC	12 - 48VDC	12 - 48VDC
DC Jack	48VDC	12VDC	12VDC
AC to DC Adapter	-	-	-
Operating Temperature			
0˚C to 45˚C	-	-	-
-10˚C to 60˚C	√	-	√
-40˚C to 75˚C	-	√	-
Regulatory Approvals			
CE / FCC	√	√	√
VCCI	√	√	√
UL508	-	√	-
ISA12.12.01 / UL1604	-	-	-
IEC61850-3	-	√	-
EN50121-4	-	√	-
UL/cUL 60950-1	-	-	√

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Connection Guide / Media Converters

Fast Ethernet >>					
Model Name	EL200	EL100	EM120	EL50	EL50 (AC)
Interface					
Max. 100 BASE-T	1	1	-	-	-
Max. 10/100 BASE-TX	1	1	-	1	1
Max. 1000 BASE-T	-	-	-	-	-
Max. 10/100/1000 BASE-T	-	-	-	-	-
Max. 100 BASE-FX/BX WDM	1	1	2	1	1
Max. 100 BASE-SFP	-	-	-	-	-
Max. 1000 BASE-SX/LX/BX	-	-	-	-	-
Max. 1000 BASE-SFP	-	-	-	-	-
Max. PoE Ports	-	-	-	-	-
Web Management	-	-	-	-	-
Alarm Contact	-	-	-	-	-
Mode of Operations					
Auto-negotiation, Auto-MDI/MDI-X	√	√	-	√	√
Flow Control	√	√	-	√	√
Store & Forward	√	√	-	√	√
Link Fault Pass Through	√	√	-	-	-
Mechanical					
Casing	aluminum	aluminum	aluminum	metal	metal
Installation*	C, W	C, W	C, W	W	W
Dimensions (mm) (W x D x H)	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	54.2 x 80.3 x 21.9	54.2 x 80.3 x 21.9
Power Input					
No. of Power Inputs	1	1	1	1	1
Terminal Block	-	-	-	-	24VAC
DC Jack	12VDC	12VDC	12VDC	12VDC	-
AC to DC Adapter	√	√	√	√	-
Operating Temperature					
0˚C to 45˚C	√	√	√	√	√
-10˚C to 60˚C	-	-	-	-	-
-40˚C to 75˚C	-	-	-	-	-
Regulatory Approvals					
CE / FCC	√	√	√	√	√
VCCI	√	√	√	√	√
UL508	-	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-	-
EN50121-4	-	-	-	-	-
UL/cUL 60950-1	√	√	-	-	-

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Connection Guide / Media Converters

Multiple Channel >>			
Model Name	EMC1600	EMC400 NEW	EMC1200R
Interface			
Max. 100 BASE-T	16	4	12
Max. 10/100 BASE-TX	16	4	12
Max. 1000 BASE-T	16	4	12
Max. 10/100/1000 BASE-T	16	4	12
Max. 100 BASE-FX/BX WDM	32	8	24
Max. 100 BASE-SFP	16	4	12
Max. 1000 BASE-SX/LX/BX	32	8	24
Max. 1000 BASE-SFP	16	4	12
Max. PoE Ports	-	-	-
Web Management	-	-	-
Alarm Contact	-	-	-
Mode of Operations			
Auto-negotiation, Auto-MDI/MDI-X	√	√	√
Flow Control	√	√	√
Store & Forward	√	√	√
Link Fault Pass Through	√	√	√
Mechanical			
Casing	metal	metal	metal
Installation*	R	D	R
Dimensions (mm) (W x D x H)	440 x 276 x 90	130 x 164 x 92	440 x 243 x 45
Power Input			
No. of Power Inputs	2	2	2
100 - 240VAC	√	-	√
Terminal Block	±48VDC	12VDC	±48VDC
DC Jack	-	-	-
AC to DC Adapter	-	-	-
Operating Temperature			
0˚C to 45˚C	√	√	√
-10˚C to 60˚C	-	-	-
-40˚C to 75˚C	-	-	-
Regulatory Approvals			
CE / FCC	√	√	√
VCCI	√	√	-
UL508	-	-	-
ISA12.12.01 / UL1604	-	-	-
EN50121-4	-	-	-
UL/cUL 60950-1	√	-	-

* C: Chassis, D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Connection Guide / Ethernet Extenders

PoL

PoL

PoL

Power over Link >>			
Model Name	ED3638	ED3538	ED3238
Interface			
10/100 BASE-TX	1	1	1
Max. PoE Ports	1 (30W)	1 (30W)	1 (15.4W)
Extension Interface			
RJ-11	-	1	-
RJ-48	-	-	-
Terminal Block	-	1	-
BNC	1	-	1
Mode of Operations			
Auto-negotiation, Auto-MDI/MDI-X	√	√	√
Store & Forward	√	√	√
Mechanical			
Casing	aluminum	aluminum	aluminum
Installation*	D	D	C
Dimensions (mm) (W x D x H)	50 x 110 x 135	50 x 110 x 135	46 x 98 x 25
Power Input			
No. of Power Inputs	3	3	1
Terminal Block	46 - 57VDC	46 - 57VDC	-
DC Jack	48VDC	48VDC	57VDC
AC to DC Adapter	-	-	√
Operating Temperature			
-10˚C to 50˚C	-	-	√
-40˚C to 75˚C	√	√	-
Management Function			
RS-232 console Port	-	-	-
Web Management	-	-	-
α-Ring / α-Chain	-	-	-
Layer 2 Features**	-	-	-
Regulatory Approvals			
CE / FCC	√	√	√
VCCI	√	√	√
UL508	-	-	-
ISA12.12.01 / UL1604	-	-	-
IEC61850-3 / IEEE1613	-	-	-
UL/cUL 60950-1	√	√	√
EN50121-4	-	-	-
EN50155	-	-	-

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** Layer 2 Features include STP/RSTP/MSTP, VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, LACP, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1xSecurity, RMON

Connection Guide / Ethernet Extenders

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Copper >>	
Model Name	ED3575 NEW
Interface	
10/100 BASE-TX	6
Max. 10/100/1000BASE-T	2
Max. 100/1000BASE-SFP	2
Extension Interface	
RJ-11	2
RJ-48	-
Terminal Block	2
BNC	-
Mode of Operations	
Auto-negotiation, Auto-MDI/MDI-X	√
Store & Forward	√
Mechanical	
Casing	aluminum
Installation*	D
Dimensions (mm) (W x D x H)	60 x 125 x 145
Power Input	
No. of Power Inputs	2
Terminal Block	12 - 48VDC
DC Jack	-
AC to DC Adapter	-
Operating Temperature	
-10˚C to 60˚C	-
-40˚C to 70˚C	-
-40˚C to 75˚C	√
Management Function	
RS-232 console Port	√
Web Management	√
α-Ring / α-Chain	√
Layer 2 Features**	√
Regulatory Approvals	
CE / FCC	√
VCCI	√
UL508	-
ISA12.12.01 / UL1604	-
IEC61850-3 / IEEE1613	-
UL/cUL 60950-1	√
EN50121-4	-
EN50155	-

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Connection Guide / Ethernet Extenders

Copper >>		
Model Name	ED3541 NEW	ED3501 NEW
Interface		
10/100 BASE-TX	1	1
Max. PoE Ports	-	-
Extension Interface		
RJ-11	1	1
RJ-48	-	-
Terminal Block	1	1
BNC	-	-
Mode of Operations		
Auto-negotiation, Auto-MDI/MDI-X	√	√
Store & Forward	√	√
Mechanical		
Casing	aluminum	aluminum
Installation*	D	C, D, W
Dimensions (mm) (W x D x H)	42 x 190 x 100	80.3 x 109.2 x 23.8
Power Input		
No. of Power Inputs	2	1
Terminal Block	12 - 48VDC	-
DC Jack	-	12VDC
AC to DC Adapter	-	√
Operating Temperature		
-10˚C to 60˚C	-	√
-40˚C to 70˚C	-	-
-40˚C to 75˚C	√	-
Management Function		
RS-232 console Port	-	-
Web Management	-	-
α-Ring / α-Chain	-	-
Layer 2 Features**	-	-
Regulatory Approvals		
CE / FCC	√	√
VCCI	√	√
UL508	-	-
ISA12.12.01 / UL1604	√ (pending)	-
IEC61850-3 / IEEE1613	-	-
UL/cUL 60950-1	√	√
EN50121-4	-	-
EN50155	-	-

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Connection Guide / Ethernet Extenders

EN50155

EN50155

Coaxial >>			
Model Name	ED3341	ED3344	ED3331
Interface			
10/100 BASE-TX	1	1 (M12)	1
Max. PoE Ports	-	-	-
Extension Interface			
RJ-11	-	-	-
RJ-48	-	-	-
Terminal Block	-	-	-
BNC	1	1	1
Mode of Operations			
Auto-negotiation, Auto-MDI/MDI-X	√	√	√
Store & Forward	√	√	√
Mechanical			
Casing	aluminum	aluminum	aluminum
Installation*	D, P, R	D, P, R	C, D, W
Dimensions (mm) (W x D x H)	50 x 110 x 135	50 x 110 x 135	80.3 x 109.2 x 23.8
Power Input			
No. of Power Inputs	3	3	1
Terminal Block	12 - 48VDC	12 - 48VDC	-
DC Jack	12VDC	12 - 48VDC	12VDC
AC to DC Adapter	-	-	√
Operating Temperature			
-10˚C to 60˚C	-	-	√
-40˚C to 70˚C	√	-	-
-40˚C to 75˚C	-	√	-
Management Function			
RS-232 console Port	-	-	-
Web Management	-	-	-
α-Ring / α-Chain	-	-	-
Layer 2 Features**	-	-	-
Regulatory Approvals			
CE / FCC	√	√	√
VCCI	√	√	√
UL508	√	√	√
ISA12.12.01 / UL1604	-	-	-
IEC61850-3 / IEEE1613	-	-	-
UL/cUL 60950-1	-	-	-
EN50121-4	√	√	-
EN50155	√	√	-

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Connection Guide / Accessories

Nic Cards >>			
Model Name	GE3100	EN301	EN400
Ethernet Interface			
Max. 10/100 BASE-TX	-	-	-
Max. 100 BASE-FX	-	1	1
Max. 100BASE SFP	-	-	1
Max. 1000 BASE-T	1	-	-
Max. 1000 BASE-SX/LX	1	-	-
Max. 1000BASE SFP	1	-	-
Bus Interface			
PCI Express	√	-	√
PCI	-	√	-
Mode of Operations			
Auto-negotiation, Auto-MDI/MDI-X	√	-	-
Flow Control	√	√	√
Store & Forward	-	-	-
Mechanical			
Dimensions (mm) (L x W)	125 x 121	133 x 117.5 / 133 x 80	80 x 119.2 / 117.5 x 119.2
Management Function			
ACPI*	√	√	√
Wake-on -LAN remote wake-up	√	-	√
IEEE802.1Q VLAN	√	√	√
IEEE802.1P Layer 2 Priority Tagging	√	√	√
NDIS5 Checksum Offload	√	√	√
RFC1157 SNMP v1	√	-	-
Preboot Execution Environment	√	-	-
Cable Diagnostic Utility	√ (Only TX model)	-	-
Jumbo Frame	√ (Only TX model)	-	-
Operating Temperature			
0˚C to 45˚C	√	√	√
Driver Supports			
Windows	Windows Vista, Windows 2003, Windows XP, Windows 2000, Windows 7/8	Windows XP, Windows 2000, Windows ME, Windows 98, Windows 95, Windows NT 3.51/4.0, Work Group 3.11	Microsoft Windows 98, Windows ME, Windows XP, Windows 2000, Windows 2003, Windows 2008, Windows Vista, and Windows 7
Novell	-	Netware 3.11, 3.12, 4.x, 5.x, 6.0 Clinet 32, Netware Client	Novell server driver (Support OS 6.x, 5.x), client for DOS (ODIdriver)
Unix	Linux 2.4/2.6/3.x	RedHat Linux 6.2, 7.0, 7.1 UnixWare 8.0, SCO UNIX 5.0	SCO Unix 5.0.6/5.0.7, SCO OpenServer 6, UnixWare 7.1.x and Linux kernel 2.6.x and 2.4.x (Support x86 and x64)
Others	Mac OS, 10.4, 10.5, 10.6 and 10.7 (Intel-based)	LAN Manager, LANtastic, PC-NFC, NCSA Telnet, FreeBSD 3.2, 4.0, 4.11, 4.2	MacOS 10.4/10.5 on Intel-based Mac computer, 10.6 on Intel-based Mac computer, FreeBSD 7.x/8.0
Regulatory Approvals			
CE / FCC	Class B	Class B	Class B

* Advanced Configuration & Power Interface

Connection Guide / Accessories

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Surge Protector >>		
Model Name	PD1041 NEW	PD3041 NEW
Interface		
Max. Continuous Operating Voltage Uc	≤ 3.3VDC	≤185VDC
Max. Continuous Operating Voltage Uc, PoE	± 60VDC	-
Nominal Discharge Surge Current I_n (8/20) μs (Core-Core)	100A	≤5KA
Nominal Discharge Surge Current I_n (8/20) μs (Core-Earth)	2KA (per signal pair)	≤5KA
Total Surge Current (8/20) μs	10KA	10KA
Nominal Pulse Current I_{an} (Core-Core)	≤ 40A, (10/700) μs	100A, (10/1000) μs
Nominal Pulse Current I_{an} ((Core-Earth)	≤ 160A, (10/700) μs	100A, (10/1000) μs
Connector input/output	RJ45 / RJ45	RJ11 / RJ11 Terminal Block / Terminal Block
Mechanical		
Casing	aluminum	aluminum
Installation*	D	D
Dimensions (mm) (W x D x H)	30 x 63 x 100	30 x 63 x 100
Operating Temperature		
-40˚C to 75˚C	√	√
Regulatory Approvals		
CE / FCC / VCCI	√	√
UL497B	√	√
EN / IEC61643-21 (pending)	√	√

* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Connection Guide / Accessories

Industrial Power Supplies >>							
Model Name	DD-85-48	DD-85-55	DR-30-24	DR-30-12 NEW	DR-60-24	DR-75-24	DR-120-24
Output							
DC Voltage	48VDC	55VDC	24VDC	12VDC	24VDC	24VDC	24VDC
Current Range	0 - 1.78A	0 - 1.55A	0 - 1.5A	0 - 2A	0 - 2.5A	3.2A	0 - 5A
Rated Power	85W	85W	36W	24W	60W	76.8W	120W
Input							
12 - 36VDC	√	√	-	-	-	-	-
85 - 264VAC / 120 - 370VDC	-	-	√	√	√	√	-
88 - 132VAC / 176 - 264VDC	-	-	-	-	-	-	√
90 - 264VAC	-	-	-	-	-	-	-
Protection							
Over Voltage Protection	58V	60V	27.6 - 32.4V	13.8 - 16.2V	27.6 - 32.4V	29 - 34V	29 - 33V
Overload Protection	110 - 160%	110 - 180%	105 - 160%	105 - 160%	105 - 160%	105 - 150%	105 - 150%
Constant Current Limiting	-	-	√	√	√	-	√
Mechanical							
Casing	aluminum	aluminum	plastic	plastic	plastic	aluminum	aluminum
Installation*	D, P	D, P	D	D	D	D	D
Dimensions (mm) (W x D x H)	50 x 148 x 165	50 x 148 x 165	78 x 56 x 93	78 x 56 x 93	78 x 56 x 93	55.5 x 100 x 125.2	65.5 x 100 x 125.2
Operating Temperature							
-10˚C to 60˚C	√	√	-	-	-	√	√
-20˚C to 60˚C	-	-	√	√	√	-	-
-20˚C to 75˚C	-	-	-	-	-	-	-
-40˚C to 75˚C	-	-	-	-	-	-	-
Regulatory Approvals							
CE / FCC	√	√	√	√	√	√	√
UL60950-1	√	√	√	√	√	-	-
UL508	-	-	-	-	-	√	√
E Mark	√	-	-	-	-	-	-

* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Connection Guide / Accessories

Industrial Power Supplies >>

Model Name	DR-75-48	DR-120-48	SDR-120-48	SDR-240-48	SDR-480-48	MDR-40-48
Output						
DC Voltage	48 - 53VDC	48 - 53VDC	48 - 55VDC	48 - 55VDC	48 - 55VDC	48 - 56VDC
Current Range	0 - 1.6A	0 - 2.5A	2.5A	5A	10A	0 - 0.83A
Rated Power	76.8W	120W	120W	240W	480W	39.8W
Input						
12 - 36VDC	-	-	-	-	-	-
85 - 264VAC / 120 - 370VDC	√	-	-	-	-	√
88 - 264VAC / 120 - 370VDC	-	-	√	√	√	-
88 - 132VAC / 176 - 264VDC	-	√	-	-	-	-
Protection						
Over Voltage Protection	58 - 65V	58 - 65V	56 - 65V	56 - 65V	56 - 65V	57.6 - 64.8V
Overload Protection	105 - 150%	105 - 150%	110 - 150%	110 - 150%	110 - 150%	105-150%
Constant Current Limiting	√	√	√	√	√	√
Mechanical						
Casing	aluminum	aluminum	aluminum	aluminum	aluminum	plastic
Installation*	D	D	D	D	D	D
Dimensions (mm) (W x D x H)	55.5 x 125.2 x 100	65.5 x 125.2 x 100	40 x 125.2 x 113.5	63 x 125.2 x 113.5	85 x 125.2 x 128.5	40 x 100 x 90
Operating Temperature						
-10˚C to 60˚C	√	√	-	-	-	-
-20˚C to 70˚C	-	-	-	-	-	√
-25˚C to 70˚C	-	-	√	√	√	-
-40˚C to 75˚C	-	-	-	-	-	-
Regulatory Approvals						
CE / FCC	√	√	√	√	√	√
UL60950-1	-	√	-	-	-	√
UL508	√	√	√	√	√	√
E Mark	-	-	-	-	-	-

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Connection Guide / Accessories

Power Adapters >>		
Model Name	GS120A-48	41-136042
Output		
DC Voltage	48VDC	12VDC
Current Range	0 - 2.5A	0 - 3A
Rated Power	120W	36W
Input		
90 - 264VDC	√	√
Mechanical		
Casing	plasitc	plastic
Installation*	-	-
Operating Temperature		
0˚C to 55˚C	√	-
-40˚C to 75˚C	-	√
Output Connector		
DC Jack with Latch	√	-
Open Wire for Terminal Block	-	√
DC Plug	-	-

Power Adapters >>			
Model Name	41-136043	41-136044	41-136046
Output			
DC Voltage	12VDC	12VDC	12VDC
Current Range	0 - 3A	0 - 3A	0 - 3A
Rated Power	36W	36W	36W
Input			
90 - 264VDC	√	√	√
Mechanical			
Casing	aluminum	aluminum	aluminum
Installation*	W	W	W
Operating Temperature			
0˚C to 55˚C	-	-	-
-40˚C to 75˚C	√	√	√
Output Connector			
DC Jack with Latch	-	√	-
Open Wire for Terminal Block	-	-	√
DC Plug	√	-	-

* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

TransRack Series

Value

- Mount DIN-Rail devices inside a standard 19" rack or cabinet
- Unique depth adjustment feature to fit any size of equipment
- One standard 35mm (1.38") DIN-Rail track included

Features

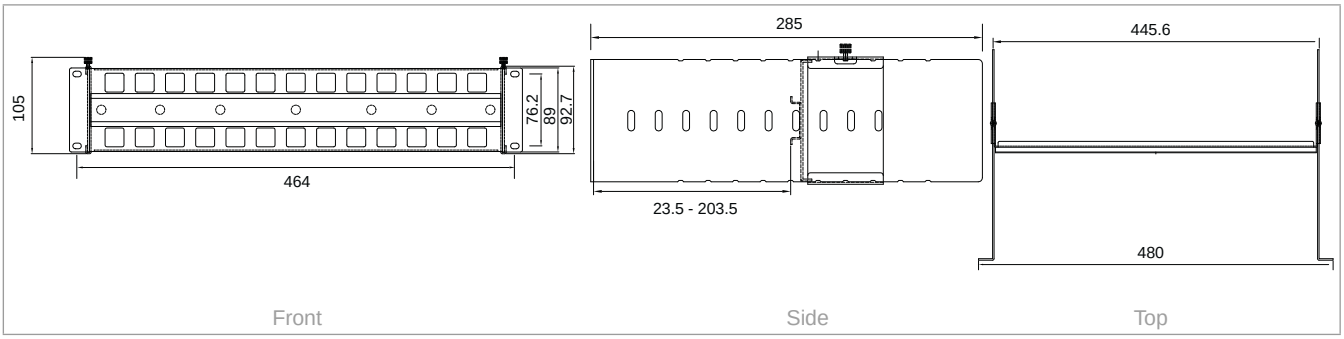
- Patent-pending design
- Heavy-duty cold-rolled steel
- Adjustable in depth from 50mm (2") to 210mm (8.25")
- Dimensions : 464mm (19") x 105mm (4.13") x 285mm (11.22") (W x H x D)

Ordering Information

TransRack	KR-DINRAILB

Diagrams

Unit: mm



Mounting Kits

KR-BKEL900

19" Rack mount kit (Black)
For EX43000, EL900, EL9000, EL9020, EL9100, EL1141, ED3341, ED3344 and EX94000 series

KR-BK71000

19" Rack mount kit (Black)
For EX61000A, EX71000 and ED3575 series

KR-BK72-400

19" Rack mount kit (Black)
For EX72000 and EX62000 series

KR-BK74-400

19" Rack mount kit (Black)
For EX74000 series

KR-AE612-400

19" Rack mount kit (Black)
For EX1616W, EX27000 (Single Power), EX29000 (Single Power), EX49000A, EX75000, EX76000, EX77000 (Single Power), EX87000 (Single Power), EX89000 (Single Power) and EMC1200R series

KR-BK1600R-410

19" Rack mount kit (Black)
For EMC1600 series

KR-BK17

19" Rack mount kit (Black)
For EX17008, EX17008A, EX17908 and EX17908A series

KP-BK6212

Panel mount kit (Black)
For EX74000, EX72000, EX62000 and DD-85-48 series

KP-AA96-480

Panel mount kit
For EX33000, EX34000, EX35000, EX43000, EX45000, EX46100, EX47000, EX61000A, EX63000, EX70900, EX71000, EX73000, EX73900, EX78000, EX78602, EX78900, EX94000, EX95000, EL900, EL9000, EL9020, EL9100, EL1141, ED3341 and ED3344 series

KD-31003

DIN-Rail mount kit
For ED3501 and ED3331 series
(Can be mounted using hardware version V3 and above with holes on the bottom cases)

KD-AA5100

DIN-Rail mount kit
For EL1032T and EX42900 series

KD-AA78000

Din-Rail mount kit
For EX73900, EX78000, EX78602, EX78900 and DD-85-48 series

KD-AA96000

DIN-Rail mount kit
For EX33000, EX34000, EX35000, EX43000, EX45000, EX46100, EX47000, EX61000A, EX63000, EX70900, EX71000, EX73000, EX83000, EX94000, EX95000, EL1141, EMC400, EL900, EL9000, EL9100, ED3538, ED3638 and ED3575 series

KD-AAEL950

DIN-Rail mount kit
For EL950 series

KD-BK1360

DIN-Rail mount kit
For 41-136043, 41-136044 and 41-136046 series

SFP Fiber Transceivers Series

Spotlight

- All SFPs have been tested with the best operating performance on EtherWAN switches
- The characteristics are performed in accordance with Telcordia Specification GR-468-CORE
- Single +3.3V Power Supply
- RoHS Compliant and Lead-free
- AC/AC Differential Electrical Interface
- Eye Safety Designed to meet Laser Class 1 compliant with EN60825-1
- Compliant with Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP)
- EMC requirement meets FCC in the United States and CENELEC EN55022 (CISPR 22) in Europe

Ordering Information

100BASE SFP Series*

Non-Hardened (Operating Temperature : 0°C to 70°C / 32°F to 158°F)

Model Name	Distance	Cable Type	Connector Type	Wavelength	Link Budget**	Optical Output Power	Sensitivity
EXFE-R1S4-05H1	100 m	-	TX	-	-	-	-
EX-0155NSP-MB2L	2 Km	62.5 / 125 µm, MM	Duplex LC	1310 nm	13 dbm	-19 to -14 dBm	-32 dbm
EX-LM38-TC-N-B3	2 Km	62.5 / 125 µm / 50 / 125 µm, MM	Single LC	TX:1310 nm / RX:1550 nm	18 dBm	-10 to 0 dbm	-28 dbm
EX-LM48-TC-N-B5	2 Km	62.5 / 125 µm / 50 / 125 µm, MM	Single LC	TX:1550 nm / RX:1310 nm	18 dBm	-10 to 0 dbm	-28 dbm
EX-0155TSP-MB5L	15 Km	9 / 125 µm, SM	Duplex LC	1310 nm	17 dbm	-15 to -8 dBm	-32 dbm
EX-0155TBP-MB5L	20 Km	9 / 125 µm, SM	Single LC	TX:1310 nm / RX:1550 nm	18 dBm	-14 to -8 dBm	-32 dbm
EX-0155TBP-LB5L	20 Km	9 / 125 µm, SM	Single LC	TX:1550 nm / RX:1310 nm	18 dBm	-14 to -8 dBm	-32 dbm
EX-0155TSP-MB6L	40 Km	9 / 125 µm, SM	Duplex LC	1310 nm	29 dBm	-5 to 0 dBm	-34 dbm
EX-0155TBP-MB6L	40 Km	9 / 125 µm, SM	Single LC	TX:1310 nm / RX:1550 nm	26 dBm	-8 to -3 dbm	-34 dbm
EX-0155TBP-KB6L	40 Km	9 / 125 µm, SM	Single LC	TX:1550 nm / RX:1310 nm	26 dBm	-8 to -3 dbm	-34 dbm

100BASE SFP Series*

Hardened (Operating Temperature : -40°C to 85°C / -40°F to 185°F)

Model Name	Distance	Cable Type	Connector Type	Wavelength	Link Budget**	Optical Output Power	Sensitivity
EX-0155NSP-MB2L-A	2 Km	62.5 / 125 µm, MM	Duplex LC	1310nm	13 dBm	-19 to -14 dbm	-32 dbm
EX-LM38-TI-N-B3	2 Km	62.5 / 25 µm / 50 / 125 µm, MM	Single LC	TX: 1310 nm / RX:1550 nm	18 dbm	-10 to 0 dbm	-28 dbm
EX-LM48-TI-N-B5	2 Km	62.5 / 125 µm / 50 / 125 µm, MM	Single LC	TX: 1550 nm / RX:1310 nm	18 dbm	-10 to 0 dbm	-28 dbm
EX-0155TSP-MB5L-A	15 Km	9 / 125 µm, SM	Duplex LC	1310nm	19 dbm	-15 to -8 dbm	-34 dbm
EX-0155TBP-MB5L-A	20 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX:1550 nm	18 dBm	-14 to -8 dbm	-32 dbm
EX-0155TBP-LB5L-A	20 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX:1310 nm	18 dBm	-14 to -8 dbm	-32 dbm
EX-0155TSP-MB6L-A	40 Km	9 / 125 µm, SM	Duplex LC	1310nm	30 dbm	-5 to 0 dbm	-35 dbm
EX-0155TBP-MB6L-A	40 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX:1550 nm	26 dbm	-8 to -3 dbm	-34 dbm
EX-0155TBP-KB6L-A	40 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX:1310 nm	26 dbm	-8 to -3 dbm	-34 dbm

** More SFP options upon the request*

*** Link Budget data is based on pair of the same SFP modules*

Gigabit SFP Series*

Non-Hardened (Operating Temperature : 0°C to 70°C / 32°F to 158°F)

Model Name	Distance	Cable Type	Connector Type	Wavelength	Link Budget**	Optical Output Power	Sensitivity
EX-1250NSP-SB1L S	275 m / 550 m	62.5 / 125 µm / 50 / 125 µm, MM	Duplex LC	850 nm	7.5 dBm	-9.5 to -4 dBm	-17 dBm
EX-1250TBP-MB1L S	550 m	62.5 / 125 µm / 50/125 µm, MM	Single LC	TX: 1310 nm / RX: 1550 nm	7 dBm	-10 to -4 dBm	-17 dBm
EX-1250TBP-LB1L S	550 m	62.5 / 125 µm / 50 / 125 µm, MM	Single LC	TX: 1550 nm / RX: 1310 nm	7 dBm	-10 to -4 dBm	-17 dBm
EX-1250TSP-MB2L S	2 Km	62.5 / 125 µm, MM	Duplex LC	1310 nm	13.5 dBm	-9.5 to -3 dBm	-23 dBm
EX-1250TSP-MB4L S	10 Km	9 / 125 µm, SM	Duplex LC	1310 nm	11.5 dBm	-9.5 to -3 dBm	-21 dBm
EX-1250TBP-MB4L S	10 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX: 1550 nm	12 dBm	-9 to -3 dBm	-21 dBm
EX-1250TBP-KB4L S	10 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX: 1310 nm	12 dBm	-9 to -3 dBm	-21 dBm
EX-1250TSP-MB5L S	20 Km	9 / 125 µm, SM	Duplex LC	1310 nm	15 dBm	-9 to -3 dBm	-24 dBm
EX-1250TBP-MB5L S	20 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX: 1550 nm	15 dBm	-8 to -3 dBm	-23 dBm
EX-1250TBP-KB5L S	20 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX: 1310 nm	15 dBm	-8 to -3 dBm	-23 dBm
EX-LS38-C3L-TC-N-EB (DDM)	40 Km	9 / 125 µm, SM	Duplex LC	1310 nm	20 dBm	-3 to +2 dBm	-23 dBm
EX-LS38-C3L-TC-N-CE (DDM)	40 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX: 1550 nm	20 dBm	-3 to +2 dBm	-23 dBm
EX-LS48-C3L-TC-N-CE (DDM)	40 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX: 1310 nm	20 dBm	-3 to +2 dBm	-23 dBm
EX-LS38-C3U-TC-N-CE (DDM)	60 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX: 1550 nm	24 dBm	0 to +5 dBm	-24 dBm
EX-LS48-C3U-TC-N-CE (DDM)	60 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX: 1310 nm	23 dBm	-2 to +4 dBm	-25 dBm
EX-LS48-C3U-TC-N-EB (DDM)	70 Km	9 / 125 µm, SM	Duplex LC	1550 nm	23 dBm	0 to +5 dBm	-23 dBm
EX-LS48-C3U-TC-N51-CE (1510 nm) (DDM)	80 Km	9 / 125 µm, SM	Single LC	TX: 1510 nm / RX: 1570 nm	24 dBm	-2 to +3 dBm	-26 dBm
EX-LS48-C3U-TC-N57-CE (1570 nm) (DDM)	80 Km	9 / 125 µm, SM	Single LC	TX: 1570 nm / RX: 1510 nm	24 dBm	-2 to +3 dBm	-26 dBm

Gigabit SFP Series*

Hardened (Operating Temperature : -40°C to 85°C / -40°F to 185°F)

Model Name	Distance	Cable Type	Connector Type	Wavelength	Link Budget**	Optical Output Power	Sensitivity
EXGT-R154-05H3	100 m	TX	TX	-	-	-	-
EX-1250NSP-SB1L-A S	275 m/ 550 m	62.5 / 125 µm/ 50/125 µm, MM	Duplex LC	850 nm	7.5 dBm	-9.5 to -4 dBm	-17 dBm
EX-1250TBP-MB1L-A S	550 m	62.5 / 125 µm/ 50/125 µm, MM	Single LC	TX: 1310 nm / RX: 1550 nm	7 dBm	-10 to -4 dBm	-17 dBm
EX-1250TBP-LB1L-A S	550 m	62.5 / 125 µm/ 50/125 µm, MM	Single LC	TX: 1550 nm / RX: 1310 nm	7 dBm	-10 to -4 dBm	-17 dBm
EX-LM38-C3S-TI-N-CE (DDM)	550 m	62.5 / 125 µm, MM	Single LC	TX: 1310 nm / RX: 1550 nm	8 dBm	-10 to +2 dBm	-18 dBm
EX-LM48-C3S-TI-N-CE (DDM)	550 m	62.5 / 125 µm, MM	Single LC	TX: 1550 nm / RX: 1310 nm	10 dBm	-8 to 0 dBm	-18 dBm
EX-1250TSP-MB2L-A S	2 Km	62.5 / 125 µm, MM	Duplex LC	1310 nm	13.5 dBm	-9.5 to -3 dBm	-23 dBm
EX-1250TSP-MB4L-A S	10 Km	9 / 125 µm, SM	Duplex LC	1310 nm	11.5 dBm	-9.5 to -3 dBm	-21 dBm
EX-1250TBP-MB4L-A S	10 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX: 1550 nm	12 dBm	-9 to -3 dBm	-21 dBm
EX-1250TBP-KB4L-A S	10 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX: 1310 nm	12 dBm	-9 to -3 dBm	-21 dBm
EX-1250TSP-MB5L-A S	20 Km	9 / 125 µm, SM	Duplex LC	1310 nm	15 dBm	-9 to -3 dBm	-24 dBm
EX-1250TBP-MB5L-A S	20 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX: 1550 nm	15 dBm	-8 to -3 dBm	-23 dBm
EX-1250TBP-KB5L-A S	20 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX: 1310 nm	15 dBm	-8 to -3 dBm	-23 dBm
EX-LS38-C3L-TI-N-CE (DDM)	40 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX: 1550 nm	20 dBm	-3 to +2 dBm	-23 dBm
EX-LS48-C3L-TI-N-CE (DDM)	40 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX: 1310 nm	20 dBm	-3 to +2 dBm	-23 dBm
EX-LS38-C3U-TI-N-CE (DDM)	60 Km	9 / 125 µm, SM	Single LC	TX: 1310 nm / RX: 1550 nm	24 dBm	0 to +5 dBm	-24 dBm
EX-LS48-C3U-TI-N-CE (DDM)	60 Km	9 / 125 µm, SM	Single LC	TX: 1550 nm / RX: 1310 nm	23 dBm	-2 to +4 dBm	-25 dBm
EX-LS38-C3L-TI-N-EB (DDM)	40 Km	9 / 125 µm, SM	Duplex LC	1310 nm	20 dBm	-3 to +2 dBm	-23 dBm
EX-LS48-C3U-TI-N-EB (DDM)	70 Km	9 / 125 µm, SM	Duplex LC	1550 nm	23 dBm	0 to +5 dBm	-23 dBm

** More SFP options upon the request*

*** Link Budget data is based on pair of the same SFP modules*

10GBASE SFP Series*

Non-Hardened (Operating Temperature : 0°C to 70°C / 32°F to 158°F)

Model Name	Distance	Cable Type	Connector Type	Wavelength	Link Budget**	Optical Output Power	Sensitivity
EX-LM28-H3S-TC-N	30 m / 80 m	662.5 / 125 µm / 50 / 125 µm, MM	Duplex LC	850nm	2.8 dBm	-7.1 to -1 dBm	-9.9 dBm
EX-LS38-H3S-TC-N	10 Km	SMF	Duplex LC	1310nm	8.4 dBm	-6 to 0.5 dBm	-14.4 dBm

** More SFP options upon the request*

*** Link Budget data is based on pair of the same SFP modules*

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69G-EW15020AC