EtherWAN

Security IP Surveillance
Quick Reference Guide

Security IP Surveillance Quick Reference Guide

Switches, Media Converters, Ethernet Extenders

This Quick Reference Guide lists EtherWAN's best-selling network connectivity products for security & surveillance. Through a few simple steps, you'll be able to select the right EtherWAN product according to your requirements. If you need further assistance, please don't hesitate to contact our sales department.

Information needed to select the proper PoE (Power over Ethernet) Switch:

1. How many cameras are you connecting?

2. Are the devices 10/100 Fast Ethernet (FE) or 10/100/1000 Gigabit Ethernet?

3. Will you need room for additional cameras (expansion) in the future?

a. It is always a good practice to have some extra PoE ports available for future expansion.

4. Are you connecting an NVR (Network Video Recorder) and network uplink to a central office?

a. If yes, you need an extra port for the NVR and a port for network uplink.
b. If no, and the NVR is somewhere else on the network, you need at least one port for network uplink.
c. Calculate Total Bandwidth requirement for all cameras in order to choose the correct uplink port. (Calculation is based on resolution, frame rate, video compression, number of video streaming sessions)

5. What is the maximum power draw (wattage) of each camera

a. Refer to the datasheet for the camera or the manufacturer's website.
b. If the wattage of all devices is below 15.4W, then an IEEE802.3af PoE switch should be sufficient.
c. If the wattage of any connected device is greater than 15.4W, then choose an IEEE802.3at PoE switch.
d. If the wattage of any device is greater than 30W, then consider purchasing an ultra-PoE switch.
e. Add up total wattage from all cameras. This figure will be used to determine the required PoE power budget.

6. Make sure you select a switch that has a large enough PoE Power Budget to cover the total power draw calculated in #5-e above. It is a good practice to allow for 20% overage on the power budget. Example: Each camera draws 12 Watts x 8 cameras = 96W. After adding a 20% margin, a 115.2W minimum PoE budget is recommended.

7. Managed vs. Unmanaged switch? We always recommend at least Web-Smart management, as this allows for troubleshooting as well as remote power cycling of any individual camera.

8. Installation location:

a. Indoor deployment with air conditioning: Operating Temperature 0 ~ 45°C (0 ~ 113°F).
b. Indoor Deployment without air conditioning: Operating Temperature -10 ~ 60°C (14 ~ 140°F).
c. Outdoor Deployment: Operating Temperature -40 ~ 75°C (-40 ~ 167°F).

9. Consider purchasing a surge protector if the Ethernet cables will be run outside of a building.

10. In addition, you can use this web site to easily search.
http://www.etherwan.com/product-selector/ethernet-switches

Commercial PoE and Non-PoE Switches (0~45°C)

Part #	Ports	Description
EX17008	8 TX PoE+	Web-Managed 8 10/100TX PoE+(30W) Switch, 120W PoE Power Budget, 110 - 240VAC Power Input
EX17016	16 TX PoE+	Web-Managed 16 10/100TX PoE+(30W) Switch, 240W PoE Power Budget, 110 - 240VAC Power Input
EX17082	8 TX PoE+, 2 GE SFP	Web-Managed 8 10/100TX PoE+(30W), 2 GE SFP Combo, 240W Power Budget, 110 - 240VAC Power Input
EX17162	16 TX PoE+, 2 GE SFP	Web-Managed 16 10/100TX PoE+(30W), 2 GE SFP Combo, 240W Power Budget, 110 - 240VAC Power Input
EX17242	24 TX PoE+, 2 GE SFP	Web-Managed 24 10/100TX PoE+(30W), 2 GE SFP Combo, 370W Power Budget, 110 - 240VAC Power Input
EX17908	8 GT PoE+	Web-Managed 8 10/100/1000TX PoE+(30W), 240W PoE Power Budget, 110 - 240VAC Power Input
EX25611	24 GT + 4 10G SFP+	Managed 24 10/100/1000TX + 4 1G/10G SFP+ Combo Ports, 100 - 240VAC Power Input
EX16905	5 GT	Unmanaged 5 10/100/1000TX, Power Adapter Included
EX16914-V	4 GT + 1 GE SFP	Unmanaged 4 10/100/1000TX + 1 GE SFP, Power Adapter Included

Hardened Din Rail PoE Switches (-40~75 °C) Note: Power Supplies Sold Separately for Din-Rail Switches

Part #	Ports	Description
EX78931-0VB	12 GT(8 x PoE++), + 4 GE SFP	Managed 12 GT (8 PoE++ 60W), + 4 GE SFP, 240W Power Budget , 52 – 57VDC Power Input
EX78162-0VB	16 TX PoE+, + 2 GE SFP	Managed 16 10/100TX PoE+(30W), 2 GE SFP, 240W Power Budget , 47 – 57VDC Power Input
EX78802-0VB	8 TX PoE+, + 2 GE SFP	Managed 8 10/100TX PoE+(30W), 2 GE SFP, 180W Power Budget , 47 – 57VDC Power Input
EX78602-01B	6 TX PoE++, + 2 GT	Managed 6 10/100TX PoE++(4x 30W+2x 60W) + 2 GT, 180W Power Budget, 52 – 57VDC Power Input
EX46908A-0-J	8 GT PoE+	Unmanaged 8 GT PoE+(30W) 120W PoE Power Budget, 18 - 57VDC Power Input
EX46928A-V-J	8 GT PoE+ , + 2 GE SFP	Unmanaged 8 GT PoE+(30W) + 2 GE SFP, 120W PoE Power Budget, 18 - 57VDC Power Input
EX45905	5GT (4 x PoE+)	Unmanaged 5 GT (4 ports PoE+ 30W) , 120W PoE Power Budget, 24/48VDC Power Input
EX45915-V	5GT (4 x PoE+) + 1 GE SFP	Unmanaged 5 GT (4 ports PoE+ 30W) + 1 GE SFP, 120W PoE Power Budget, 24/48VDC Power Input
EX42305	5TX (4 x PoE+)	Unmanaged 4 10/100TX (4 ports PoE+ 30W)+ 1GT, Din-Rail, 120W Power Budget, 24/48VDC Power Input
EX42315-V	5TX (4 x PoE+) + 1GE SFP	Unmanaged 4 10/100TX (4 ports PoE+ 30W)+ 1GT +1 GE SFP, 120W Power Budget, 24/48VDC Power Input

Media Converters Note: Power Supplies Sold Separately for Din-Rail Media Converters

Part #	Ports	Description
EL2242	1 GT PoE+, 1 Dual 100/1000 SFP	Hardened Unmanaged 1 GT PoE+(30W) to 1 Dual Speed 100/1000 SFP, 48 - 57VDC Power Input
EL100C	1 TX, 1 Fiber MM 2Km SC	Commercial Unmanaged 10/100TX to 100FX Multi-Mode 2Km SC, Power Adapter Included
EL100C-20	1 TX, 1 Fiber SM 20Km SC	Commercial Unmanaged 10/100TX to 100FX Single-Mode 20Km SC, Power Adapter Included
EX42011-1A-1-A	1 TX, 1 Fiber MM 2Km SC	Industrial Unmanaged 10/100TX to 100FX Multi-Mode 2Km SC, Power Adapter Included
EX42011-2A-1-A	1 TX, 1 Fiber SM 20Km SC	Industrial Unmanaged 10/100TX to 100FX Single-Mode 20Km SC, Power Adapter Included
EL900-A-B-1-A	1 TX, 1 Fiber MM 2Km SC	Hardened Din-Rail Unmanaged 10/100TX to 100FX Multi-Mode 2Km SC, 10-48VDC Power Input
EL900-A-N-1-A	1 TX, 1 Fiber SM 20Km SC	Hardened Din-Rail Unmanaged 10/100TX to 100FX Single-Mode 20Km SC, 10-48VDC Power Input
EL2211	1 GT, 1 GE Fiber LX 10Km SC	Commercial Unmanaged 10/100/1000TX to GE Fiber Single-Mode 10Km SC, Power Adapter Included
EL2315	1 GT, 1 100BASE/1000BASE-X SFP	Commercial Unmanaged 10/100/1000TX to 100BASE/1000BASE-X Dual Rate SFP, Power Adapter Included
EL9100-A1B	1 GT, 1 GE LX 10Km SC	Hardened Din-Rail Unmanaged 10/100/1000TX to GE Fiber Single-Mode 10Km SC, 12-48VDC Power Input

EMC1600	16-Bay	Commercial Media Converter Chassis. 19" Rack Mount Redundant Power Supplies, 100VAC - 260VAC

Ethernet Extenders Note: Power Supplies Sold Separately for Din-Rail Ethernet Extenders

Part #	Ports	Description
ED3501-U	1 TX, 1 Copper pair	Unmanaged 1 10/100TX Port to 1 Copper Pair, Power Adapter Included
ED3541-00B	1 TX, 1 Copper pair	Hardened Din-Rail Unmanaged 10/100TX Port to 1 Copper Pair, PSU Sold Separately
ED3638	1 TX PoE+, 1 Coaxial	Hardened Din-Rail Unmanaged 10/100TX PoE+ (30W) Ethernet Extender over RG6, RG11, or RG59 Coaxial Cable, included one ED3638T, one ED3638R , PSU Sold Separately
ED3538	1 TX PoE+, 1 Copper	Hardened Din-Rail Unmanaged 10/100TX PoE+ (30W) Ethernet Extender over Copper pair , included one ED3538T, one ED3538R, PSU Sold Separately

SFP Modules

Part #	Ports	Description
EX-1250TSP-MB2L-AS	1 GE SFP	SFP Module, Hardened (-40°C - 85°C) Gigabit, Duplex LC, 1310nm, 2Km
EX-1250TSP-MB4L-AS	1 GE SFP	SFP Module, Hardened (-40°C - 85°C) Gigabit, Duplex LC, 1310nm, 10Km
EX-1250TSP-MB5L-AS	1 GE SFP	SFP Module, Hardened (-40°C - 85°C) Gigabit, Duplex LC, 1310nm, 20Km

Power Supplies

Part #	Volts/Watts	Description
SDR-240-48	48-55VDC/240W	Hardened Din-Rail PSU 88-264VAC(47-63Hz) or 124-370VDC Input, 48-55VDC Output
SDR-480-48	48-55VDC/480W	Hardened Din-Rail PSU 90-264VAC(47-63Hz) or 124-370VDC Input, 48-55VDC Output

Surge Protector

Part #	Description
PD1041	Hardened RJ45 Surge Protection Device
PD3041	Hardened Copper Wire RJ11 Surge Protection Device

Why choose EtherWAN?

- Products undergo a strict quality assurance testing process to minimize failures in the field.
- Full PoE power budgets ensure sufficient power to maintain IP surveillance system reliability.
- All switches and media converters are designed, manufactured, and tested for maximum quality, minimizing troubleshooting and maintenance time.

EtherWAN — When Connectivity is Crucial

Indoor IP Surveillance System PoE Switch Selector

Number of Cameras, 1 NVR, 1 Uplink	Recommend
Up to 6 Cameras, 1 NVR, 1 Uplink Port	EX17008 Web-Managed PoE +Switch
8 Cameras, 1 NVR, 1 Uplink Port	EX17082 Web-Managed PoE +Switch
9-14 Cameras, 1NVR, 1 Uplink Port	EX17016 Web-Managed PoE +Switch
16 Cameras, 1 NVR, 1 Uplink Port	EX17162 Web-Managed PoE +Switch
17-24 Cameras, 1 NVR, 1 Uplink Port	EX17242 Web-Managed PoE +Switch
Ethernet cables outside of a building	PD1041 Hardened RJ45 Surge Protection Device

Outdoor IP Surveillance System PoE Switch/Media Converter Selector

Number of Cameras, 1 NVR, 1 Uplink	Recommend
• 4 PTZ Cameras, 2-4 Non PTZ Cameras, 4 Uplinks • 4 APs with heater, 4 Uplinks (Choose 60W PoE Switch for over 30W PoE PD camera or AP)	EX78931-0VB Managed 12 10/100/1000TX PoE++ (8x60W) + 4 GE SFP uplinks, 240W Power Budget (-40~75°C)
• 2 PTZ Cameras + 2-4 Non PTZ Cameras, 2 Uplinks • 2 APs with heater+ 2-4 Non PTZ Cameras, 2 Uplinks (Choose 60W PoE Switch for over 30W PoE PD camera or AP)	EX78602-0VB Managed 6 10/100TX PoE++(4x 30W+ 2x60W) + 2 GE SFP uplinks, 180W PoE Power Budget (-40~75°C)
Up to 8 Cameras or Wireless APs with PoE, 2 Uplinks	EX78802-0VB-T Managed 8 10/100TX PoE+(30W) + 2 GE SFP, 180W PoE Power Budget (-40~75°C)
Up to 4 Cameras or Wireless APs With PoE, 1 Uplink	EX45915-V Unmanaged 5 10/100/1000TX (4 x PoE+ 30W) + 1 GE SFP, 180W PoE Power Budget (-40~75°C)
Up to 4 Non PTZ Cameras, 1 Uplink	EX42305 Unmanaged 5 10/100/1000TX (4 x PoE+ 30W)+ 1GT, 120W PoE Power Budget (-40~75°C)
1 PTZ or Non PTZ Cameras, 1 Uplink	EL2242 Unmanaged Media Converter 1 GT PoE+ 30W to 1 Dual Speed 100/1000 SFP(-40~75°C)
Ethernet cables outside of a building	PD1041 Hardened RJ45 Surge Protection Device