

RuggedNet® GXPoE+/Si and GXHPoE/Si

Industrial Unmanaged 30W/60W Gigabit PoE Extender with Smart Voltage-Booster Technology

RuggedNet Industrial GXPoE+/Si and GXHPoE/Si are unmanaged gigabit PoE Extenders that enable the delivery of Ethernet data and Power over Ethernet (PoE) beyond the standard 100 meter limit of twisted pair copper cabling.

RuggedNet Industrial PoE Extenders provide cost-effective distance extension and connectivity to remote PoE devices where external power is not available or hard to provision, or when replacing copper with fiber becomes cost prohibitive.

RuggedNet Industrial PoE Extenders are 10/100/1000BASE-T Ethernet extenders that function as both Powered Devices (PD) and Power Sourcing Equipment (PSE), and require no external AC power. They feature one PoE/PD port and one or two PoE/PSE ports, and can be powered by an IEEE 802.3at or High-Power PoE 60W power source, such as a [RuggedNet GHPoEBT/Si or GHPoEBT/Mi High-Power 60W PSE switch](#).

Utilizing data regeneration and voltage level boosting capabilities, RuggedNet Industrial PoE Extenders can be daisy-chained to break through the Ethernet copper distance barrier and deliver 10/100/1000 data and power to multiple PoE powered devices.

Due to cable resistance, voltage drop across the cabling could lower the voltage below the minimum standard requirement of the attached PD. RuggedNet PoE Extenders have Smart Voltage-Boosting Technology to maintain the required standard compliant PoE voltage levels between hops.

The PoE Extenders automatically negotiate and deliver the power level required by a Powered Device (PD) partner. When a non-PoE device, such as a laptop, is connected to the PoE Extenders for data only applications, no power is applied.

RuggedNet Industrial PoE Extenders are plug-and-play devices that support auto-negotiation of data rates and duplex modes for simple in-line installation to instantly extend industrial network distances. The PoE Extenders are fully operational once a PSE is connected to the PoE/PD port, displaying power and operational status without a PD attached. This facilitates the installation and troubleshooting by ensuring each link is operational.

The RuggedNet Industrial PoE Extenders can be wall or rack mounted with an optional wall mount bracket and DIN-rail mounted using the included DIN-rail mounting bracket.



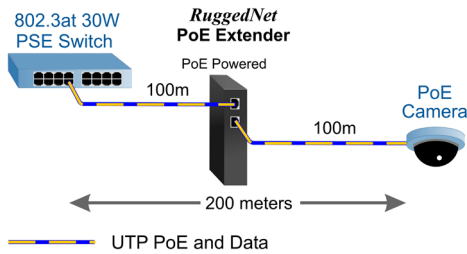
KEY FEATURES

- Industrial unmanaged 30W and 60W Gigabit PoE Extender with Smart Voltage-Booster Technology
- Multiple port configurations:
 - 1 RJ-45 PoE/PD + 1 RJ-45 PoE/PSE
 - 1 RJ-45 PoE/PD + 2 RJ-45 PoE/PSE
- Auto-negotiate PoE power level requested by attached device
- Non-PoE devices are safe to connect and will receive Ethernet data only
- Can be Powered by IEEE 802.3at or High-Power PoE 60W Power Sourcing Equipment
- Can Power IEEE 802.3af, 802.3at or 802.3bt 60W Powered Devices
- Smart Voltage-Boosting Technology guarantees minimum voltage requirement to the Powered Device
- Plug-and-Play installation with auto-negotiation of data rates and duplex modes
- Supports jumbo frames over 9k bytes
- Wall, Rack and DIN-rail mountable
- Industrial (-40 to +75°C) operating temperature range
- Free 24/7/365 Technical Support
- Lifetime warranty
- Made in the USA

APPLICATIONS

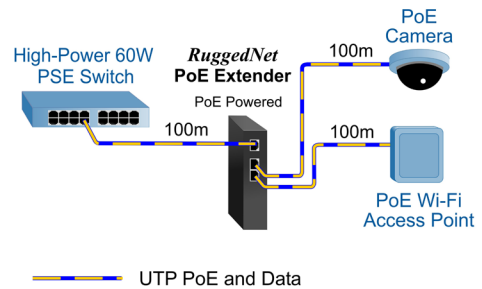
Basic PoE Extender Application

This example shows a RuggedNet PoE Extender powering an 802.3at PoE camera, and achieving a distance of 200 meters (656 feet) between an 802.3at PoE PSE switch and the camera.



PoE Extender with Two Powered Devices Application

This example shows a RuggedNet PoE Extender with two PoE/PSE ports powering an 802.3af camera and an 802.3at Wi-Fi Access Point 200 meters from the High-Power PoE 60W PSE switch.

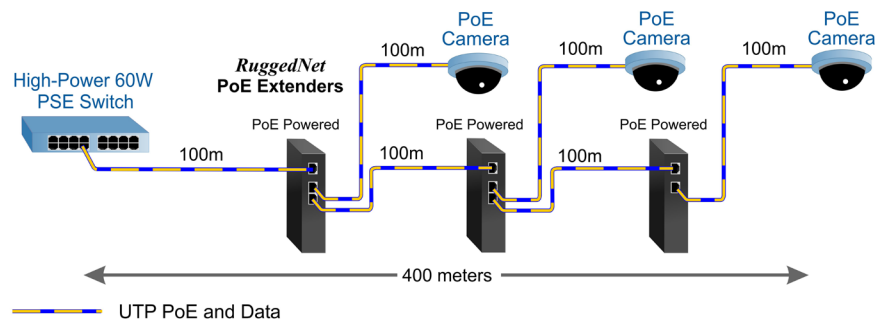


PoE Drop-and-Extend Application

In this example, three RuggedNet PoE Extenders are deployed in a daisy chain that is powered by a High-Power 60W PSE switch. PoE cameras are dropped off at the first

and second PoE Extender locations using models with one RJ-45 PoE/PD port and two RJ-45 PoE/PSE ports.

The daisy chain continues to the third PoE Extender, and to the final PoE camera for a distance of 400 meters (1,312 feet).



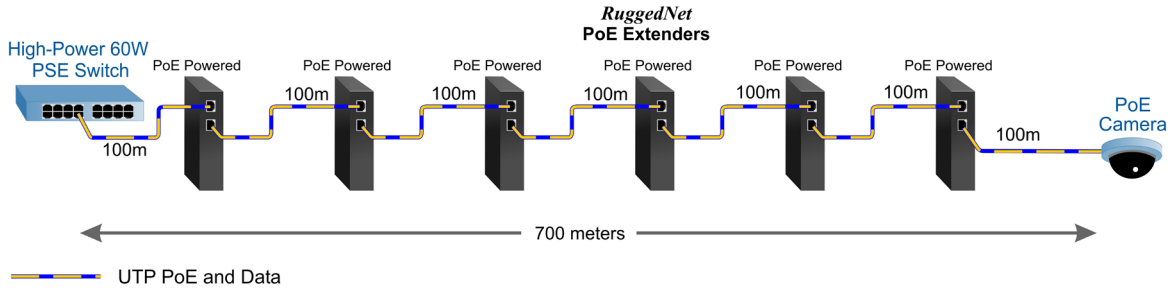
APPLICATIONS

PoE Extender Daisy Chain Applications

In this example (A), six RuggedNet PoE Extenders are deployed in a daisy chain extending the distance between a High-Power PoE PSE switch and an 802.3af PoE camera. The total distance between the switch and the camera is

700 meters (2,296 feet). With Omnitron's exclusive Smart Voltage-Boosting Technology, the input voltage at the PoE camera is guaranteed to meet the IEEE standard (see Distance and Power table).

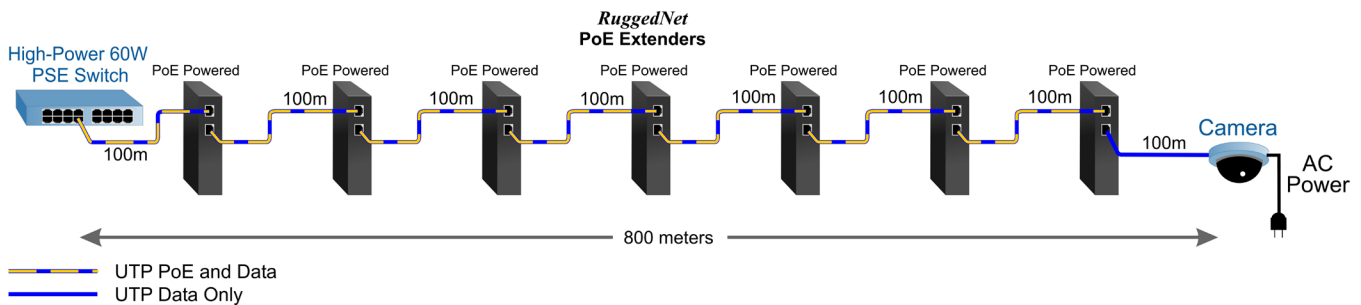
(A)



In this example (B), an Ethernet data only application is shown. The camera at the end of the daisy chain is AC powered from a local source. A combination of GXHPoE+/Si or GXPoE+/Si Extenders can achieve a distance of up to

800 meters with a High-Power PoE 60W power source, such as a RuggedNet GHPoEBT/Si or GHPoEBT/Mi High-Power 60W PSE switch, at the head end.

(B)



SPECIFICATIONS

Description	RuggedNet GXPoE+/Si and GXHPoE/Si 10/100/1000BASE-T Ethernet PoE/PD to PoE/PSE Extenders	
Standard Compliances	IEEE 802.3, IEEE 802.3at PoE+, IEEE 802.3bt, HPoE 60W	
Environmental	REACH, RoHS and WEEE	
PoE/PD Mode	IEEE Alternate A (Alt A)	
Frame Size	Over 9k bytes	
Port Types	Copper:	10/100/1000BASE-T (RJ-45)
Cable Types	Copper:	EIA/TIA 568A/B, Cat 5 UTP and higher
Power Requirements	PoE/PD (input): PoE/PSE (output):	+/-42.5 to +/-57VDC (per IEEE) +/-50 to +/-57VDC (per IEEE) 56VDC (typical)
Dimensions (W x D x H)	1.5" x 5.5" x 5.5" (38.1 mm x 139.7 mm x 139.7 mm)	
Weight	1.56 lb. (708 grams)	
Operating Temperature*	Extended:	-40 to +75°C
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m (operational)	
MTBF (hours)	1xPD Port + 1xPSE Port: 375,000 1xPD Port + 2xPSE Ports: 317,000	
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

* For commercial (0 to +50°C) and wide (-40 to +60°C) operating temperature ranges, refer to the [OmniConverter PoE Extender](#).

STANDARDS AND COMPLIANCES

Safety	UL 62368-1, UL 60950-1, IEC 62368-1, IEC 60950-1, EN 62368-1, EN 60950-1, CAN/CSA C22.2 No. 62368-1-14, CAN/CSA C22.2 No. 60950-1, CE Mark
EMC	EN 55032/24 CE Emissions/Immunity, IEC 61000-6-4 Industrial Emissions, IEC 61000-6-2 Industrial Immunity
EMI	CISPR 32, FCC 47 Part 15 Subpart B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m (passed industrial rating of 10V/m), IEC 61000-4-4 EFT: Power: 1 kV (passed industrial rating of 2 kV), IEC 61000-4-4 EFT: Signal: 0.5 kV (passed industrial rating of 1 kV), IEC 61000-4-5 Surge: Power: 1 kV (passed industrial rating of 2 kV), IEC 61000-4-5 Surge: Signal: 1 kV, IEC 61000-4-6 CS: Signal: 3 Vrms (passed industrial rating of 10 Vrms)
IP Rating	IP40 Protection

DISTANCE AND POWER

PSE Source Power	Number of Extenders	Distance Meters / Feet	Available Power for PD per Cable Type		
			Category 5	Category 5e	Category 6
802.3at 30W	1	200m / 656 ft.	17.6 watts	18.6 watts	19.9 watts
	2	300m / 984 ft.	11.3 watts	12.2 watts	13.5 watts
	3	400m / 1,312 ft.	6.0 watts	6.7 watts	7.9 watts
	4	500m / 1,640 ft.	1.2 watts	1.8 watts	2.9 watts
High-Power 60W	1	200m / 656 ft.	38.8 watts	40.8 watts	43.5 watts
	2	300m / 984 ft.	29.2 watts	31.1 watts	34.0 watts
	3	400m / 1,312 ft.	21.4 watts	23.2 watts	25.9 watts
	4	500m / 1,640 ft.	14.8 watts	16.6 watts	19.0 watts
	5	600m / 1,968 ft.	9.1 watts	10.7 watts	12.9 watts
	6	700m / 2,296 ft.	4.0 watts	5.4 watts	7.4 watts
	7	800m / 2,624 ft.	-	Data Only	2.4 watts

Distances are based on a daisy chain topology with no drop locations along chain. Distances also based on using certified Cat 5, Cat 5e or Cat 6 cabling with no patch cables or panels.

ORDERING INFORMATION

Model Number	Description
2200-11Z	GXPoE+/Si, 1 RJ-45 30W PoE/PD, 1 RJ-45 30W PoE/PSE, Industrial Temperature
2200-12Z	GXPoE+/Si, 1 RJ-45 30W PoE/PD, 2 RJ-45 30W PoE/PSE, Industrial Temperature
2201-11Z	GXHPoE/Si, 1 RJ-45 60W PoE/PD, 1 RJ-45 802.3bt 60W PoE/PSE, Industrial Temperature
2201-12Z	GXHPoE/Si 1 RJ-45 60W PoE/PD, 2 RJ-45 802.3bt 60W PoE/PSE, Industrial Temperature
Operating Temperature:	
Z = Industrial temperature (-40 to 75°C)	

Accessories	
Model Number	Description
8260-0	19" 1U Rack Mount Shelf (up to 2 RuggedNet Extenders using Wall/Rack Mount Plate)
8260-3	Wall/Rack Mount Plate



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