



# antaira®

**HIGH POWER PoE++ bt INJECTORS &  
NETWORK SWITCHES**



**Intelligent Transportation**  
[www.antaira.com/ITS](http://www.antaira.com/ITS)



# ANTAIRA POWERS 95W 802.3bt POE++ CAMERAS FOR TRANSPORTATION APPLICATIONS



## CHOOSING HOW TO BEST POWER THE CAMERA

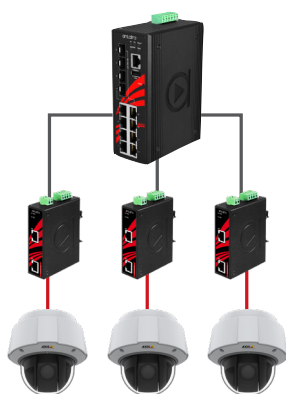
As more Transportation professionals upgrade their existing network and add cameras for remote monitoring at traffic intersections, on freeways and portside; it is common to add a PoE++ bt injector to power the camera at both the IEEE 802.3bt Type 3 (up to 60W) and Type 4 (up to 90W) standards. In addition, Antaira's managed industrial Ethernet bt switches provide an easy solution to power high-power cameras at the IEEE 802.3bt Type 3 and Type 4 PoE power specifications.

### Application Requirements

- Provide up to 97W per port power output to utilize high performance features of connected end devices
- Industrial-grade networking devices with extended operating temperature (-40°C to 75°C)
- Rugged design and fan-less operation for field cabinet installation
- Flexible options for DIN-rail or wall-mount installation (DIN-rail and wall mounting brackets included)
- Managed switch Telnet/ Command Line Interface (CLI) is easy to program
- Five-year warranty; TAA & NDAA Compliant

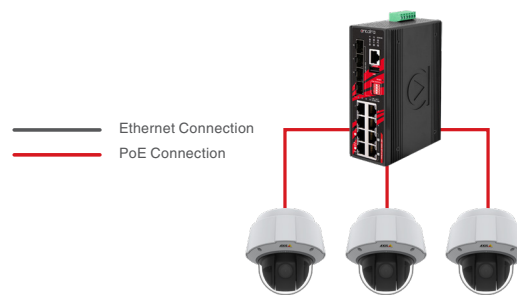
PoE Injectors are commonly used to power high power IP PTZ cameras.

*Figure 1. This topology shows a managed switch connecting to three IEEE 802.3bt 90W injectors that power three connected cameras using PoE++.*

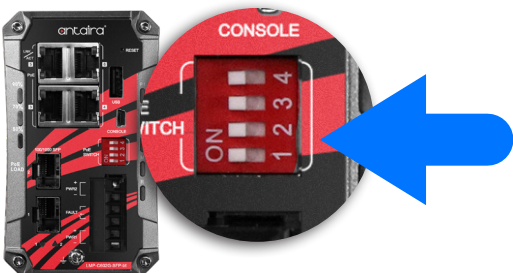


Instead of using a switch plus injector, it is logical to move to an Ethernet switch that is able to provide power to one or more high-power cameras.

*Figure 2. This topology shows a managed IEEE 802.3bt switch that powers three connected cameras using PoE++.*



## PoE++ bt WITH SAFE POE DISCONNECT



### PoE++ bt with Safe PoE Disconnect

- A hardware safety feature where ITS engineers can easily turn on/off power to a single 802.3BT PoE port using a front panel DIP switch.
- Disconnecting the PoE port for a high-powered device adds a further level of protection against a failure possible when disconnecting the device while the PoE port is still providing power.

## PoE STANDARDS OVERVIEW

Type	Class	Standard	PSE Power Output	PD Power Input
Type 1	Class 0-3	IEEE 802.3af	15.4W	Up to 12.95W
Type 2	Class 4	IEEE 802.3at	30W	Up to 25.5W
Type 3	Class 5	IEEE 802.3bt	45W	Up to 45W
	Class 6	IEEE 802.3bt	60W	Up to 60W
Type 4	Class 7	IEEE 802.3bt	75W	Up to 75W
	Class 8	IEEE 802.3bt	90W	Up to 90W

IEEE 802.3bt Type 3 and Type 4 PoE power standards are used by end devices from 45W to 90W. The Antaira bt switch is able to power PoE Classes 0 through 8, meeting standards IEEE802.3af, IEEE802.3at, and IEEE 802.3bt Classes 5 through 8. The Antaira -BOS series handshakes power up to 95W. It is important to match up 802.3bt max wattage of end devices to the max wattage per switch or injector port.

## PoE STATUS

The Web Graphical User Interface (GUI) proves effective and useful for identifying the PD Class of the powered device with power requested clearly indicated. The power allocation calculates to the Total Power. This feature automatically identifies power requested, allocated and used by the connected PoE devices.

Power Over Ethernet Status

Auto-refresh ☐ Refresh

Local Port	PD Signature	PD class	Power Requested	Power Allocated	Power Used	Current Used	Priority	Port Status	DIP Switch Status
1	Single	7	75 [W]	75 [W]	18.8 [W]	370 [mA]	Low	PoE turned ON	ON
2	Single	5	45 [W]	45 [W]	12.6 [W]	252 [mA]	Low	PoE turned ON	ON
3	Single	4	30 [W]	30 [W]	4.2 [W]	92 [mA]	Low	PoE turned ON	ON
4	Single	7	75 [W]	75 [W]	24.1 [W]	464 [mA]	Low	PoE turned ON	ON
5	-	-	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected	-
6	-	-	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected	-
7	-	-	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected	-
8	-	-	0 [W]	0 [W]	0 [W]	0 [mA]	Low	No PD detected	-
Total			225 [W]	225 [W]	59.7 [W]	1178 [mA]			

## PoE++ bt WITH PING ALIVE

### PoE Ping Alive

Port	Enable	IP Address	Interval (sec)
*	<input type="checkbox"/>	0.0.0.0	90
1	<input checked="" type="checkbox"/>	10.196.34.18	120
2	<input checked="" type="checkbox"/>	10.196.34.23	180
3	<input checked="" type="checkbox"/>	10.196.34.24	300
4	<input type="checkbox"/>	0.0.0.0	90
5	<input type="checkbox"/>	0.0.0.0	90
6	<input type="checkbox"/>	0.0.0.0	90
7	<input type="checkbox"/>	0.0.0.0	90
8	<input type="checkbox"/>	0.0.0.0	90
9	<input type="checkbox"/>	0.0.0.0	60
10	<input type="checkbox"/>	0.0.0.0	60

### Ping Alive for Managed 802.3bt Switches

Automatic reboot of a single PoE port

- A simple yet powerful feature that gives engineers and technicians control over failed communication of edge devices.
- The feature pings the activity or inactivity of Powered Devices (PDs) and allows for an automatic reboot when a connected device becomes unresponsive, saving the traffic engineer from visiting the site for troubleshooting.

## PoE++ bt WITH PERSISTENT POE

### Persistent PoE for Managed 802.3bt Switches

Keeps supplying power to the end device during firmware upgrade

- This feature provides powered devices with uninterrupted PoE power, thus keeping the network stable while securely capturing critical moments in the event of a firmware upgrade or switch reboot.



### Persistent PoE Configuration





Port	Enable
*	<input checked="" type="checkbox"/>
1	<input type="checkbox"/>
2	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>

## LOW-VOLTAGE POWER SOURCE 12VDC

### Application: First Responder Vehicles

- High-power PoE applications that require 802.3bt send data and power (57VDC) over an Ethernet cable to supply data and power to devices, such as PTZ cameras or wireless transmitters.
- Automobile applications with only 12 volts of DC power available can use Antaira's low voltage PoE solutions to boost the 12VDC to the required 57VDC.







Low-Voltage Power Source 12VDC External DC to AC Power Supply Sold Separately			
	<b>LMP-0702G-SFP-BT-24-T-V2</b> 4*10/100/1000Tx (90W/Port), 1*10/100/1000Tx + 2*100/1000 SFP Slots 90W Total Power Budget @ 12VDC		<b>INJ-C201G-BT-24-T</b> 1*10/100/1000Base-Tx (90W/Port) + 1*10/100/1000Tx 90W Total Power Budget @ 12~55VDC
	<b>LMP-1204G-SFP-BT-24-T</b> 4*10/100/1000Tx (90W/Port), 4*10/100/1000Tx (30W/Port) + 4*100/1000 SFP Slots 90W Total Power Budget @ 12VDC		<b>INJ-C201G-BT-H-100-24-T</b> 1*10/100/1000Base-Tx (100W/Port) + 1*10/100/1000Tx 90W Total Power Budget @ 12VDC

## LOW-VOLTAGE POWER SOURCE 24VDC

### Application: Remote Solar

- Solar cells produce a wide range of voltage based on how much sun is hitting the solar panel. The power is collected by a regulator which typically controls the voltage and use it to charge a bank of batteries. In many cases, 24VDC batteries are used for this purpose.
- In high-power PoE 802.3bt (up to 100 Watts) applications, Antaira's low voltage PoE solutions boost power from 24VDC to the required 57VDC for a streamlined simple solution.





Low-Voltage Power Source 24VDC External DC to AC Power Supply Sold Separately			
	<b>LMP-0702G-SFP-BT-24-T-V2</b> 4*10/100/1000Tx (90W/Port), 1*10/100/1000Tx + 2*100/1000 SFP Slots 180W Total Power Budget @ 24VDC		<b>INJ-C201G-BT-24-T</b> 1*10/100/1000Base-Tx (90W/Port) + 1*10/100/1000Tx 90W Total Power Budget @ 12~55VDC
	<b>LMP-1204G-SFP-BT-24-T</b> 4*10/100/1000Tx (90W/Port), 4*10/100/1000Tx (30W/Port) + 4*100/1000 SFP Slots 180W Total Power Budget @ 24VDC		<b>INJ-C201G-BT-H-100-24-T</b> 1*10/100/1000Base-Tx (100W/Port) + 1*10/100/1000Tx 100W Total Power Budget @ 24VDC

## POWER SOURCE 48~55VDC

### Application: Traffic Cabinets

- Traffic cabinet provides AC power to a DC-to-AC power supply sold as an accessory with the injector and Ethernet switch.



Power Source 48~55VDC External DC to AC Power Supply Sold Separately			
	<b>LMP-C602G-SFP-BT-T-V2</b> 4*10/100/1000Tx (90W/Port) + 2*100/1000 SFP Slots 240W Total Power Budget @ 48~55VDC		<b>INJ-C201G-BT-T</b> 1*10/100/1000Base-Tx (90W/Port) + 1*10/100/1000Base-Tx 90W Total Power Budget @ 48~55VDC
	<b>LMP-0702G-SFP-BT-T-V2</b> 4*10/100/1000Tx (90W/Port), 1*10/100/1000Tx + 2*100/1000 SFP Slots 240W Total Power Budget @ 48~55VDC		<b>INJ-C200G-BT-T</b> 1*10/100/1000Base-Tx (97W/Port) + 1*10/100/1000Base-Tx 97W Total Power Budget @ 48~55VDC
	<b>LMP-1204G-SFP-BT-T</b> 4*10/100/1000Tx (90W/Port), 4*10/100/1000Tx (30W/Port) + 4*100/1000 SFP Slots 240W Total Power Budget @ 48~55VDC		<b>INJ-C201G-BT-100-T</b> 1*10/100/1000Base-Tx (100W/Port) + 1*10/100/1000Base-Tx 100W Total Power Budget @ 48~55VDC
Power Source 48~55VDC External DC to AC Power Supply Sold Separately			
	<b>NDR-120-48</b> For DIN-rail up to 120W		<b>SDR-120-48</b> For DIN-rail up to 120W
	<b>SDR-240-48</b> For DIN-rail up to 240W		<b>PWRCORD2-US</b> AC Power Cord