

# cnMatrix™ TX 1K Tower/ WISP Switches Port Connectivity Guide



**CAMBIUM NETWORKS' CNMATRIX SWITCHES ENHANCE PERFORMANCE, SECURITY AND END-USER SATISFACTION WHILE REDUCING COSTS. THE TX 1K TOWER/WISP SWITCH SERIES IS A FULLY INTEGRATED SOLUTION WITH AUTOMATED CONFIGURATION THAT SIMPLIFIES TOWER DEPLOYMENT AND IMPROVES EFFICIENCY.**

Our cnMatrix TX 1K switch series is a new family of switches that are purpose built for wireless ISP (WISP) tower deployments. Designed based on the specific needs of wireless ISPs, the [cnMatrix TX series of switches](#) provides a fully integrated switching solution that simplifies deployment operations while improving network performance.

The TX 1K series of switches supports many types of PoE and enables you to connect a wide variety of both Cambium products as well as third party devices. This guide will help you understand the PoE capabilities of the switch and necessary configurations.

These TX 1K switches support:

- 802.3af/at/bt standards based PoE (up to 90W)
- 54V Passive PoE (up to 90W)
- 24V Passive PoE (up to 30W)



In most cases, zero configuration is possible to get the device to power up correctly using PoE. This is especially true when the 'Auto Detect' mode is enabled. The 'Auto Detect' mode is enabled by default but can be disabled if desired. By default, the PoE mode of a port is set to '802.3af/at/bt' mode. Most devices can be powered up when the port is in this mode. However, some devices need to be in one of the 'Passive PoE' modes. In some cases, the 'Auto Detect' mode will automatically change the port's PoE mode for you. For example, the PMP 450m requires the port to be in a passive mode (hybrid). You can leave the port in the default '802.3af/at/bt' mode and the auto detect feature will automatically configure the port mode for proper connectivity.

For these TX 1K switches, the ports have the following PoE capability:

- Ports 1 and 2 support:
  - 802.3af/at/bt (up to 30W)
- Ports 3 and 4 support:
  - 802.3af/at/bt (up to 90W)
  - 54V Passive mode (up to 90W)
- Ports 5-8 support:
  - 802.3af/at/bt (up to 30W)
  - 54V Passive mode (up to 30W)
  - 24V Passive mode (up to 15W)



Please note, the TX 1K switches do not support devices that require reverse polarity power. Some older devices do require this. In this case, you will need to use a power injector.

For detailed configuration commands for PoE or any other capability of the switch via the CLI, Web GUI and cnMaestro, please see the appropriate document.

The table below gives examples for Cambium radios.

Series	Radio	Powers via PoE	Required PoE Mode Setting of Port		Ports
			With Auto-Detect Enabled	With Auto-Detect Disabled	
CANOPY 450	450m AP - 5Ghz	Yes	802.3 (default mode)	Hybrid	Ports 3 or 4
	450m AP - 3Ghz	No (Requires DC)	NA	NA	NA
	450i AP	Yes	802.3 (default mode)	802.3 (default mode)	Any Port
	450 AP	No (old Canopy power)	NA	NA	NA
	450b MicroPoP AP	Yes	802.3 (default mode)	802.3 (default mode)	Any Port
	450b Connectorized AP	Yes	802.3 (default mode)	802.3 (default mode)	Any Port
CANOPY 450 PTP	PTP 450b BHM	Yes	Passive 24V	Passive 24V	Ports 5-8
	PTP 450b Retro BHM	Yes	Passive 24V	Passive 24V	Ports 5-8
	PTP 450 BHM	No (old Canopy power)	NA	NA	NA
ePMP SERIES	ePMP 2000 AP	Yes	802.3 (default mode)	802.3 (default mode)	Any Port
	ePMP 3000 AP	Yes	802.3 (default mode)	802.3 (default mode)	Any Port
	PTP 550 BHM	Yes	802.3 (default mode)	802.3 (default mode)	Any Port
POINT TO POINT	PTP 650 BHM	Yes	Passive 54V	Passive 54V	Ports 3 or 4
	PTP 670 BHM	Yes	Passive 54V	Passive 54V	Ports 3 or 4
	PTP 700 BHM	Yes	Passive 54V	Passive 54V	Ports 3 or 4
LICENSED POINT TO POINT	PTP 820C	Yes	Passive 54V	Passive 54V	Ports 3 or 4
	PTP 820E	Yes	Passive 54V	Passive 54V	Ports 3 or 4
	PTP 820S	Yes	Passive 54V	Passive 54V	Ports 3 or 4
	PTP 850C	Yes	Passive 54V	Passive 54V	Ports 3 or 4
	PTP 850E	Yes	Passive 54V	Passive 54V	Ports 3 or 4
cnWave	V1000	Yes	802.3 (default mode)	802.3 (default mode)	Any Port
	V3000	Yes	802.3 (default mode)	Hybrid	Ports 3 or 4
	V5000	Yes	802.3 (default mode)	Hybrid	Ports 3 or 4

Cambium Networks' full range of solutions are available through its [global network of partners](#).

## ABOUT CAMBIUM NETWORKS

Cambium Networks delivers wireless communications that work for businesses, communities and cities worldwide. Millions of our radios are deployed to connect people, places and things with a unified wireless fabric that spans multiple standards and frequencies of fixed wireless and Wi-Fi, all managed centrally via the cloud. Our multi-gigabit wireless fabric offers a compelling value proposition over traditional fiber and alternative wireless solutions. We work with our Cambium certified ConnectedPartners to deliver purpose-built networks for service provider, enterprise, industrial, and government connectivity solutions in urban, suburban, and rural environments, with wireless that just works.

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