Making Data Acquisition Easy

White Paper: PoE Injector and Splitter

Power over Ethernet or PoE provides an efficient way for ad-hoc systems to pass electric power along with data on twisted pair Ethernet cabling. A standard Ethernet cable can be used to provide both data connection and electric power to devices such as access points, IP cameras, and VoIP phones.

IEEE 802.3af and IEEE 802.3at standards have given manufacturers guidelines to manufacture products compliant with PoE. Inside a CAT5 cable, two of the four signal pairs are used to provide power. The positive voltage runs along pins 4 and 5, and the negative along pins 7 and 8. IEEE 802.3af (called PoE from 2003 on) specifies that each port can provide up to 15.4W power. The updated standard, IEEE 802.3at (known from 2009 as PoE+), specifies that each port can deliver up to 25.5W to devices.

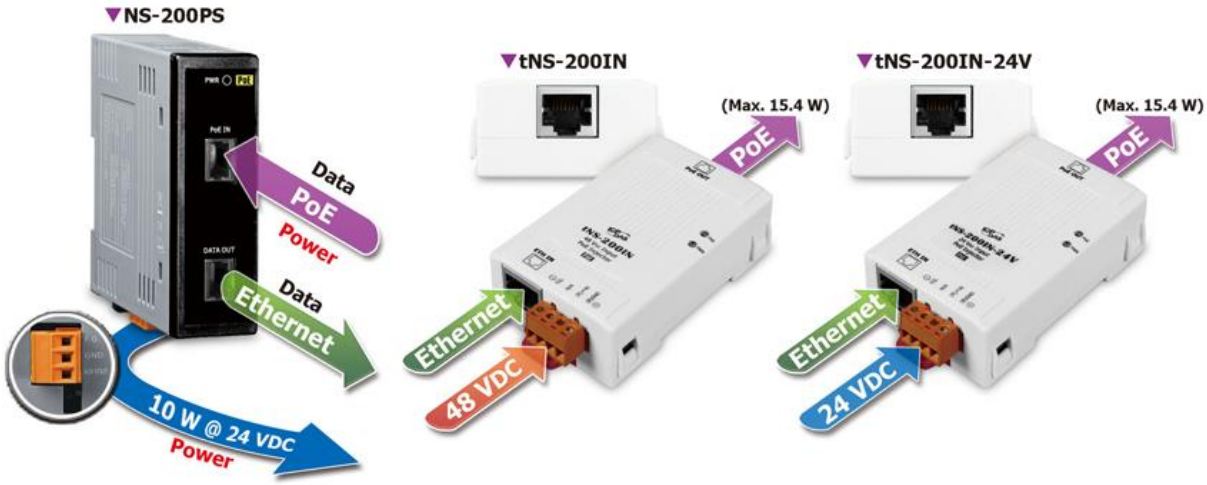
There are three main components in a PoE system: power sourcing equipment, Ethernet cable, and powered device. The most common power sourcing equipment is a PoE switch or PoE injector. Powered devices are the devices consuming power, such as access points, IP cameras, and VoIP phones. CAT 5 or higher Ethernet cable is also required to transmit power over PoE.

PoE injector

tNS-200IN/tNS-200GIN ***tNS-200IN-24V/tNS-200GIN-24V***

ICP DAS USA has tNS-200IN/tNS-200GIN series Single Port PoE Injector supports PoE powered devices in industrial environments. The tNS-200IN/tNS-200GIN series delivers both data and power over a single standard Ethernet cable to a PoE Powered Device designed to receive both Data and Power through its RJ-45 port connector. In addition, the tNS-200IN-24V/tNS-200GIN-24V is designed with +24 VDC to +48 VDC boost for PoE application where +48 VDC power supply is not available. tNS-200GIN and tNS-200GIN-24V can also inject PoE power up to 30W for high power consumption powered devices.

PoE Splitter



NS-200PS

ICP DAS's NS-200PS PoE splitter can split up power from PoE cable. 24VDC, 10W DC power output can be used to power up other industrial devices. It could be useful for applications that require power in remote location. For example, if there is external device needs to be installed right next to an IP camera in remote location and regular power supply is not available. User can use NS-200PS to extract DC power from PoE cable and use it to power the external device.

The NS-200PS plays the role of powered device (PD), and splits the data signal and power signal that are transmitted from the PoE. The NS-200PS plays a dual role of providing power to industrial devices, and enabling Ethernet connections.

If you have other PoE requirements or have some questions, we can certainly help you to choose the best solution. Please call our technical support team at (310) 517-9888 ex.102