

Three-Port Network Switch Module with IEEE 1588 Time



Applications

- Networked data acquisition
- IEEE 1588 time distribution over networks

Features

- Three-port Ethernet network switch module for the TTC MnDAU-2000-1 family of products
- Each port supports a 100BASE-T full-duplex Ethernet interface
- Supports IEEE 1588 for distribution of timing information across network components
- Provides upstream and downstream Ethernet chaining for multiple data acquisition units when added to any MnDAU product from TTC
- Pause frames provide symmetrical flow control; allows maximum use of bandwidth and minimizes port contention
- Functions as an unmanaged switch that requires no configuration or initialization; all routing information is preconfigured within the module
- Consumes a maximum of 1.52 W from the host stack
- Compatible with TTC network acquisition and recording systems

Description

The MNSW-503-1 is a three-port 10/100BASE-T Ethernet switch module for use in the TTC MnDAU product line. It provides upstream and downstream Ethernet chaining to any MnDAU stack in which it is installed. The single-height stackable module provides packet switching and IEEE 1588 time distribution to support networked data acquisition components and systems.

The MNSW-503-1 minimizes the use of ports on more expensive switches by allowing more than one MnDAU to share one downstream port on a larger switch. It functions as an unmanaged switch, is preconfigured with all necessary routing information and does not require a MAC or IP address.

The MNSW-503-1 has a switching capacity of up to 1.07 million packets per second and supports an unlimited number of multicast addresses.

The number of data acquisition units that can be daisy-chained together using MNSW-503-1 is dependent upon the total bandwidth produced by each connected MnDAU up to a maximum of 16. Each MNSW-503-1 adds a maximum of 40 nanoseconds of uncertainty to precision time protocol (PTP) time as the timestamp data is switched.

Symmetrical flow control on all ports is implemented using pause frames and guarantees that no packets are dropped due to contention.

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MNSW-503-1 Datasheet

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