

Coming Soon

DT5216



Features



- **Compact Concentrator Board** for the **FERS-5200** platform — ideal for mid-scale detector systems such as SiPMs, MA-PMTs, Gas Tubes, and Silicon Detectors.
- **Supports up to 8 FERS units** in daisy chain, enabling streamlined and cost-effective setups.
- **Simple synchronization:** TDlink handles data, control, and timing over a single optical connection.
- **Perfect for prototyping** and small-to-medium scale experiments with seamless upgrade path to full FERS-5200 networks.
- **8 TDlink version (DT5215)** available: supports up to **128 FERS units** in daisy chain for large-scale systems.

Description

DT5216 is a compact FERS Data Concentrator featuring a single optical **TDlink** port, capable of managing up to **8 FERS units** in daisy chain. When used with **A5202 / A5203** boards, it provides up to **1024 readout channels**. Data is transferred to the host computer via a high-speed **USB 3.0** connection.

One computer, one Concentrator, thousands of channels

FERS-5200 is a modular and scalable system: the same FERS unit can be used in standalone mode or integrated into a larger readout network, enabling a smooth transition from prototyping to full deployment using the same interface and hardware.

At the heart of this scalability is the **optical TDlink**, which merges data acquisition, slow control, and timing synchronization into a single high-speed connection.

The **DT5216 Concentrator** features **one TDlink** and supports up to **8 FERS front-end units (A520x series) in daisy chain**.

With the **A5202/A5203 front-end modules** (64 channels each), this setup can handle up to **512 channels** with a single DT5216.

Technical Specifications

Mechanical

TBD

Optical I/Os

1 Small Form Factor Pluggable (SFP+) transceiver component for optical connection (3.125 Gbit/s).
TDlink CAEN proprietary protocol allows for multi-board synchronization, slow control and data readout

FERS-5200 Units Synchronization via TDLINK

Clock Propagation

Via the TDlink:

- Clock jitter = 20 ps (Typ.)
- Clock skew = fixed < 6.4 ns, depending on the optical fiber and daisy chain ring lengths.
- Measured and compensated at software level

Acquisition Synchronization

Sync signal propagated through the TDlink for simultaneous reset of the timestamps. Broadcast commands executed at the same time in all boards for Run Start/Stop, Trigger, etc.

Communication Interfaces

USB

- USB3.0 connector, type C
- MAX Readout Rate: 300 MB/s (tested with iPerf)

NOTE: The MAX Readout Rate achievable with the current firmwares and softwares of FERS-5200 units is 80 MB/s. The communication protocol will be optimized with the future firmware and software releases for FERS-5200 boards.

Firmware

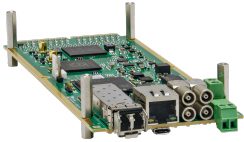
Firmware can be upgraded via USB through the Web Interface

Ordering Options

| Code | Description |
|-------------|---|
| WDT5216XAAA | DT5216 - Compact Concentrator Board for FERS-5200 RoHS |

Related Products

A5204



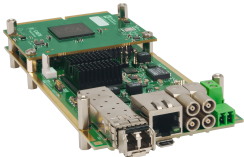
64 Channel Radioroc unit for FERS-5200

DT5202



Desktop 64 Channel Citiroc unit for FERS-5200

A5203



64/128 Channel picoTDC unit for FERS-5200

DT5215



Concentrator Board for FERS-5200

DT5204



64 Channel Radioroc unit for FERS-5200

A5202



64 Channel Citiroc unit for FERS-5200

DT5203



Desktop 64 Channel picoTDC unit for FERS-5200



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