



RELY-10TSN12

8 copper ports + 4 SFP ports 10G Time-Sensitive Networking Switch.

Time-Sensitive Networking (TSN) allows combining critical and best-effort traffic in a unique deterministic and interoperable Ethernet network. This offers significant cost reductions in terms of equipment investment, maintenance, seamless integration, and single-vendor dependence reduction.

All these benefits have to lead to the fast expansion of TSN among critical networks and to the success of RELYUM's first TSN switch, RELY-TSN-BRIDGE.

However, as new TSN mechanisms are released, the market demands new products to support them and offer a higher number of switching ports.

In response to these requirements, RELYUM has launched **RELY-TSN-BRIDGE+** platform. Based on SoC-e*'s TSN technology, this device benefits from a robust and field-proven design used in the most

demanding sectors (railway, aerospace, automotive, industrial automation, etc.).

RELY-10TSN12 performs as a **13-port TSN Bridge** providing the following switching ports:

- 8x 10/100/1000Mbps copper ports.
- 4x multi-media 10G ports.
- 1x 1G internal port.

Through all these ports, the device supports the largest number of TSN standards in the market, which makes it suitable for any specific profile.

These key features make **RELY-TSN-BRIDGE+** platform the most reliable and multipurpose networking device for critical environments.

*Selected as one of the 17 key industry players in the Automotive Ethernet Markets to 2024 Report.

Specifications



Communications

- 4x SFP+ 1000Base-X/SGMII TSN Ethernet ports.
- 8x 10BASE-T/100BASE-TX/1000BASE-T TSN Ethernet ports.
- 1 x 10BASE-T/100BASE-TX/1000BASE-T Ethernet Service port.
- Spanning Tree Protocols:
 - » IEEE802.1D (STP).
 - » IEEE802.1w (RSTP).
 - » IEEE802.1s (MSTP).
- LLDP support – IEEE 802.1AB.
- VLAN support.
- Traffic prioritization (QoS), strict priority, and 8-level priority for switching: IEEE 802.1p, IEEE802.1Q VLAN TAG.
- Multicast Filtering / IGMP Snooping.
- IEEE802.1X support.
- 802.1AX-2020 – Static Link Aggregation (under demand).
- Session-based Port Mirroring.
- 1 x PPS output (SMA connector).

TSN features

- IEEE 802.1AS-2020 – Timing and Synchronization (up-to 2 Domains).
- IEEE 802.1Qbv – Time Aware Shaper.
- IEEE 802.1Qav – Credit Based Shaper.
- IEEE 802.1CB – Frame Replication and Elimination for Reliability) *.
- IEEE 802.1Qci – Per-Stream Filtering and Policing *.
- Stream Identification:
 - » Default: **Null** Stream ID, **Source** MAC and VLAN Stream ID, Active Destination MAC, and VLAN Stream ID, **IP** Stream ID.

- » Optional possibility under demand: IEEE 802.1CBdb – Mask and Match.

Processing performance

- On-board UltraScale™ FPGA for high-speed network switching and PTP timestamping.
- Multi-core CPU unit to support autonomous software applications.

Rugged devices

- Fanless design and full metal enclosure.
- Adapter power supply voltage range 100–240 Vac (included):
 - » Max. power consumption: 20.7W.
- Equipment power supply 5V@10A:
 - » Max. power consumption: 20,1W.
- Operating temperature of the set (equipment and adapter): 0°C to +40°C.
- Operating temperature of the device: -35°C to +45°C.
- Storage temperature.: -20°C to +80°C.
- Coldplate mounting possible.
- Dimensions & weight: 202,75x232x76, 2,62kg.

Configuration and Management

- SNMPv3, SSH, Netconf (YANG model-based configuration) support.
- On-board integrated Web Server to provide HTML5-GUI configuration access:
 - » Accessible through HTTP(S).
 - » Configuration profiles and Firmware updates.
 - » Real-time network monitoring.
 - » Compatible with Centralized Configuration Tools (CNC).

* Note: This functionality will be available soon. Stay tuned for updates!