



RELY-TSN12

8 copper ports + 4 SFP ports 1G Time-Sensitive Networking Switch.

Time-Sensitive Networking (TSN) allows to combine 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 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 capable to support them and to 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-TSN12 performs as a **13-port TSN Bridge** providing the following switching ports:

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

Though 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.
- IEEE 802.1P Traffic prioritization (QoS):
 - » PCP Based Priorities.
 - » DSCP Based Priorities.
- Multicast Filtering / IGMP Snooping.
- Port Mirroring.
- IEEE802.1X support.
- 802.1AX-2020 – Static Link Aggregation*.
- 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.
- IEEE 802.1Qcc – Enhancements for Stream Reservation Protocol.

- Stream Identification:
 - » Destination MAC and VLAN Stream.
 - » 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: 18.35W.
- Equipment power supply 5V@10A:
 - » Max. power consumption: 17.75W.
- 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!