



RELYUM CPPS platform

RELYUM CPPS platform meets the needs of critical applications, in terms of reliability, availability and security, combining sensor data acquisition, computing and networking in the same device.

The CPPS family simplifies connectivity at the Edge by implementing a flexible multi-vendor input switchboard. It supports IoT protocols like OPC-UA and MQTT, reducing significantly the workload for integration with Enterprise and Cloud-based applications.

RELYUM devices embed multi-core programmable SoC architectures enabling on the field upgrades of hardware and software processing modules, offering powerful computing means at Edge level.

Time-aware networking and *Plug&Work* operation for Gigabit Ethernet fiber optic or copper rings is fully implemented in a FPGA technology, based on IEEE1588, IEC 61850-9-3 and IEC 62439-3 standards, to support the most rigorous requirements.

On top of this, RELYUM follows *cybersecurity by design* concept in the development of all its products. This implies introducing security mechanisms, from the device up to the application layer, to guarantee an integral protection of the customers facilities.

Specifications



Communication interfaces

- 4 x SFP cages for 10/100/1000BaseTX Ethernet copper or 100BaseFX/1000BaseX fiber
- 1 x 10/100/1000BaseTX Ethernet copper port
- 1 x half and full duplex RS485 port
- 2 x USB type A
- 1 x HDMI

Supported protocols

- Input Switchboard: Modbus TCP/RTU, Profibus, S7,...
- Output Switchboard: Modbus TCP, MQTT, OPC-UA, DSS,...

Processing performance

- ZYNQ Xilinx FPGA with embedded dual-core ARM9 processor

Security features

- Secure boot
- Embedded gyroscope and anti-tampering sensors
- Power monitoring
- Encrypted, authenticated and signed software files
- Wire-speed encrypted communication
- SIEM agent
- IEEE802.1X access control for port based and MAC based authentication, MAC-Port binding and authentication for login security

Supported standards

- IEC62439-3 – Clause 4/5 PRP/HSR
- IEEE1588v2 PTP Default, Power Profile and IEC 61850-9-3; IRIG-B.
- IEEE802.3 10BaseT, IEEE802.3u 100BaseTX, IEEE802.z 1000BaseX, IEEE802.1Q VLAN Tagging, IEEE802.1D STP, IEEE802.1w RSTP, IEEE802.1p (CoS), IEEE802.1ab LLDP, SNTP RFC4330

Optional pluggable modules

- Sensor module:
 - » 3 Digital inputs: Up to 3, 0-24 V
 - » 1 Analog input: 0/4-20mA
 - » 1 Potential-free relay output 250 VAC max
 - » Temperature sensor interfaces: 1 three-wire RTD (PT100) and 1 thermocouple Type K
 - » 1 Integrated electronic piezoelectric (IEPE) accelerometer input
- IO Link module
- AD Converter module
- Wireless module: 802.11 b/g/n and Bluetooth
- 256GB SSD module

Optional functional modules

- Internal port mirroring for SIEM analysis
- Software microservices
- Hardware microservices

Power Supply

6VDC to 30 VDC redundant power

Operating temperature

-40°C to +70°C

Mounting

DIN rail