CYGNUS

901 Smart Edge Appliance

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Tor Cygnus

The **Cygnus 901 Smart Edge Appliance** is a next-generation IoT solution designed to redefine edge computing and data processing across diverse industries. Built with industrial-grade reliability, Cygnus delivers **powerful computing, multi-protocol support, and seamless connectivity**, making it the ideal choice for IoT, industrial automation, and commercial applications.

Powered by an Android operating system, Cygnus is built as a robust single-board computer with onboard configurable logic and versatile connectivity options, including USB peripherals, HDMI, Ethernet, CANBUS, LTE CAT4, Bluetooth, and Wi-Fi. With its ability to run advanced AI algorithms at the edge and withstand harsh industrial environments up to 70°C, Cygnus empowers developers and system integrators to drive innovation across multiple domains.

Applications

- Edge computing & IoT gateways
- Industrial automation & control
- Production & shop floor optimization
- Remote monitoring & diagnostics
- Building automation & surveillance
- Retail & Point-of-Sale (POS) solutions
- Smart grid & energy optimization
- EV charging & power management

Benefits

Effortless integration with diverse systems for seamless interoperability and scalability

Preloaded SDK, popular programming language support, and APIs

Enable accurate decision-making with low-latency real-time insights

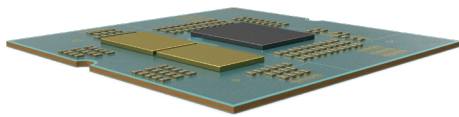Deliver durable performance in harsh environments with a rugged design

Adapt to future business needs with scalable upgrade and expansion support

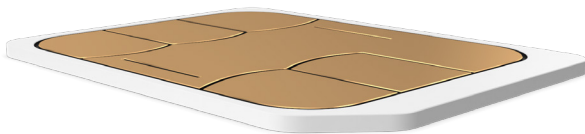Reduce downtime and costs through remote monitoring and control for improved efficiency
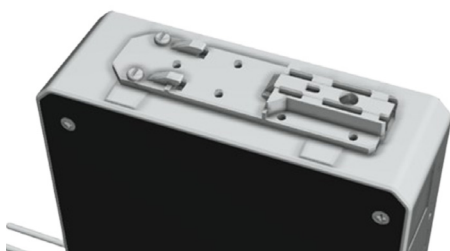
High storage capacity
16GB flash storage and 2GB RAM

Versatile connectivity
USB 2.0, Ethernet (RJ45), RS485 & HDMI

Audio support
3.5 mm AUX port

Multi-network antenna
3 external antennas for GSM, GPS, BLE, and Wi-Fi

4G cellular connectivity
Nano SIM
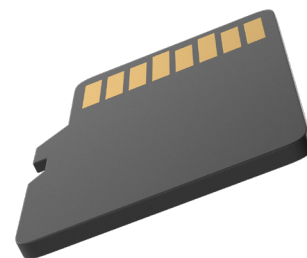
Expandable storage
SD cards support up to 128GB

Wireless communication
Wi-Fi (IEEE 802.11 family) and bluetooth 5.0 (BLE)
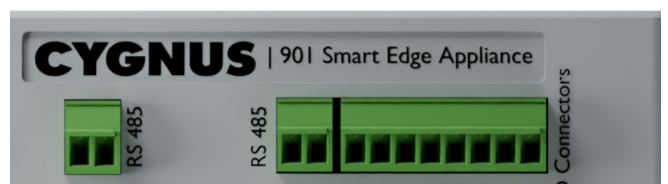
Multiple input & output interfaces
4 digital inputs, 1 analog input, and 4 digital outputs

Flexible mounting options
Supports DIN rail & table top mounting

Compact design
150x115x52 mm

Architecture

Industrial automation

Machine vision

SCADA | PLC

Energy & utilities

Smart grids

Genset

Transportation & logistics

EV charging controller

Fleet management

Smart cities & infrastructure

Smart parking

City surveillance | ITMS

Retail & POS systems

POS systems

Store optimization

Oil & gas

Pipeline monitoring

Detects anomalies

**Modbus:
RS-485, RS-422**

Ethernet

Wi-Fi

BLE 5.0

Display

Private cloud

Data center

On-Prem

Wi-Fi | 4G

Wi-Fi | Ethernet

CYGNUS | 901 Smart Edge Appliance

BLE/WIFI   NT   NT
AUX   POWER
LAN 1
LAN 2   RS 485
Display   RS 485
USB
I/O Connectors
Power

Wired   Wireless

Technical specification

CYGNUS

Model	901

Power Supply

Input Voltage	5 V via SMPS
Power consumption	6A via SMPS
Connector	2 Pin Terminal Block

SDK

Operating System	Linux OS Yocto & Android 13
Processor	Qualcomm® QCM2290 quad-core ARM® Cortex®-A53@2.0 GHz 64-bit processor with built-in Adreno™ 702 GPU
"Supported Programming Languages (for users to develop their own Applications)"	C, C++, Python, Java, Node.js etc.
Flash Available for SDK	32GB
RAM Available for SDK	2GB

Network Protocols

MODBUS (TCP/IP , RTU)
OPCUA (Client)
BACnet (Client)

Interfaces

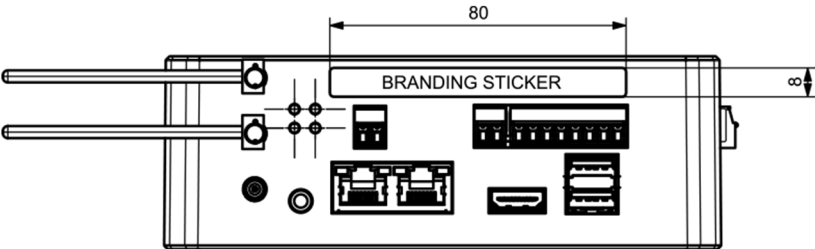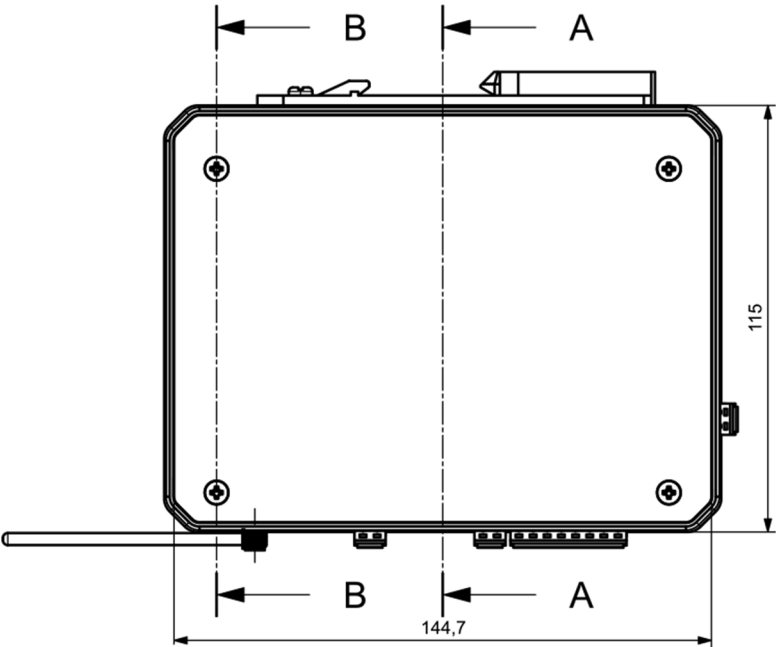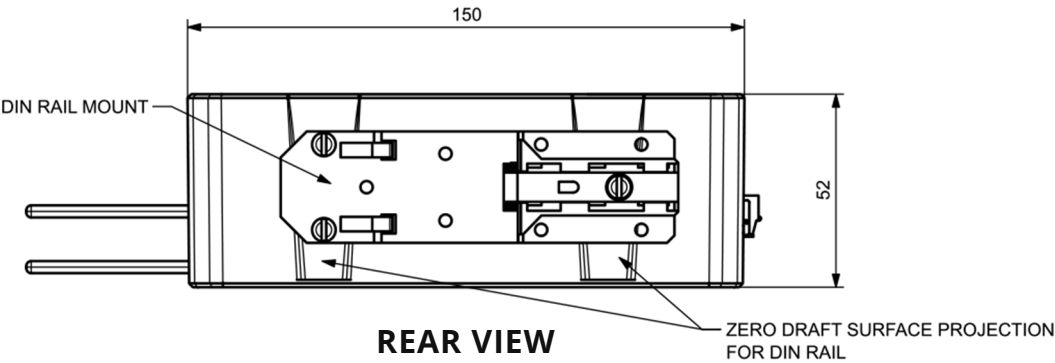|	
USB	USB 2.0 - 2nos.
Ethernet	RJ45 - 2nos.
Serial	RS485 - 2 Unit
HDMI	HDMI port - 1 Unit
Analog Input	2 Nos.(Voltage & Resistive) Volatge 0 to 10V; Resistive - Thermistor(ex. PT100) Resolution: 15-bit
Digital Input	4 Nos. (5 to 24 VDC) Types: Positive, Negative & Floating
Digital Output	4 Nos: Sinking Mode
Audio	3.5 mm AUX to support stereo speaker
Antenna	3 Units External Antenna - (GSM, GPS, BLE/WIFI)
Cellular	4G
SIM Slot	Nano SIM - 1 unit
Location Services	GNSS/GPS
Wifi	IEEE 802.11 family of standards
BLE	BLE 5.0
led Indicators	Power, Network(outbound service)

Physical Specification

Dimension	150x108x60 mm
Mountig	Din Rail

Operating Environment

Additional Features	Application Updates
	Use SDK library to create custom packages and build custom firmware images
VPN & Tunneling Protocols	Available
Operating Temp	-10°C to 60°C

Enclosure dimensions

150

DIN RAIL MOUNT

52

REAR VIEW

ZERO DRAFT SURFACE PROJECTION
FOR DIN RAIL

B   A

115

B   A

144,7

TOP VIEW

SD CARD

BOTTOM VIEW

80

BRANDING STICKER

8

FRONT VIEW
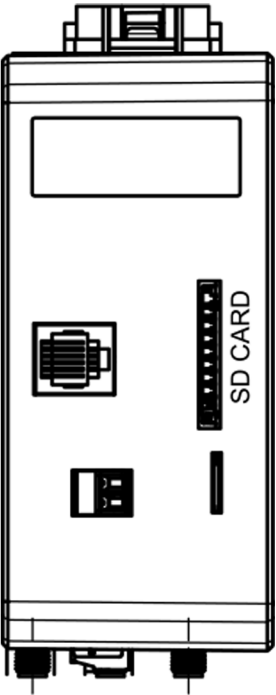
Capabilities

1 RnD

Technology refinement by 100+ inhouse team of engineers and subject matter experts in embedded systems, hardware development, type testing - validation, application and platform development.

2 Application & Analytics

Expertise in developing and deploying customized applications with platform and database development along with managing infrastructure and security.

3 Manufacturing

Our hardware is manufactured in state-of-the-art pick and place setup for board building along with code burning bank for building multiple boards in parallel.

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