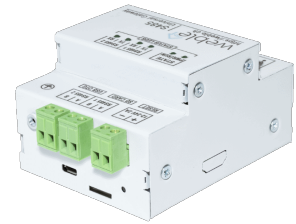


WBox S485

Universal Control Unit

Overview

The WBox S485 is a versatile industrial universal control unit built on a low-power ARM platform for excellent stability and performance. Running a Linux (Armbian) operating system with two dedicated RS-485 ports, it is an ideal solution for the control and regulation of smart-building systems, HVAC, industrial automation and smart-home management. It also serves as a gateway for energy monitoring, data collection and cloud storage, and excels at bridging IP/IoT protocols with serial RS-485 protocols such as BACnet MS/TP and Modbus RTU.



Features

- 2 × RS-485 ports for Modbus / BACnet communication
- RS-485 hot-swap capability eliminates false transitions on power-up or live insertion
- RS-485 extended ESD protection; up to 128 transceivers per bus
- Fully configurable RS-485 bus termination and biasing (via jumpers)
- 3 × USB 2.0 ports + 1 × USB-OTG (Ethernet emulation on 22.22.22.22)
- 1 × Ethernet port (10/100 Mbps)
- 1 × SD-card slot, Armbian OS
- Highly accurate real-time clock (RTC) with battery backup
- Reset button (restores IP 192.168.1.99 and the default admin account)
- LED status indicators for power, run, RS-485 receive & transmit
- Steel case, DIN-rail mount

Specifications

Hardware System	
CPU	H3 Quad-core Cortex-A7 (H.265/HEVC 4K)
GPU	Mali-400 MP2 @ 600 MHz (OpenGL ES 2.0)
Memory	1 GB DDR3 (shared with GPU)
Storage	TF / MMC card slot
Operating system	Linux (Armbian)
Interfaces	
Ethernet	1 × RJ45, 10/100 Mbps

RS-485	2 × ports, up to 500 kbps, up to 128 transceivers per bus
RS-485 protection	Hot-swap, extended ESD protection, configurable termination & biasing
USB	3 × USB 2.0 + 1 × USB-OTG (Ethernet emulation)
Real-time clock	±2 ppm (0 °C to +40 °C), battery backup

Power Supply

Recommended input	12-24 V DC, 2 A
Supply voltage	Min. 8 V, Max. 35 V
Supply current	< 0.8 A @ 12 V, < 0.4 A @ 24 V

Physical

Dimensions (W×H×D)	70.8 × 90.6 × 52.1 mm (excl. terminals & mount)
Weight	0.6 kg
Enclosure	Steel case
Mounting	35 mm DIN rail
Grounding	Dedicated grounding terminal (M3)

Software & Protocols

Field protocols	Modbus RTU/TCP, BACnet MS/TP & BACnet/IP, M-Bus, MQTT, HTTP and 20+ licence-activated Weble drivers
Edge software	Weble suite: logic module, supervision, secure remote-access VPN
Management	Built-in web server, REST API

Standards & Certification

Compliance	CE, EMC tested
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