

DATASHEET

WebHMI Pro — Universal Data Gateway & Full-Scale SCADA System

Intelligent data gateway for industrial automation and Industry 4.0 solutions

**Realtime monitoring**

Live data visualization and instant system insights

**Data analytics**

Historical data, trends and performance analysis

**Remote web access**

Access and control from anywhere, anytime

**Cloud integration**

Seamless connectivity with cloud platforms and services



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Product Datasheet

WebHMI is an all-in-one hardware-software integration controller designed to provide an autonomous, full-scale SCADA and Web-HMI solution. Packaged in a compact industrial enclosure, it arrives pre-configured and ready for deployment. The system is brand-agnostic, application-independent, and serves as a universal open gateway bridging disparate automation environments into a single infrastructure.

WebHMI Pro is the next evolution of our proven universal data gateway, now redesigned around a completely modernized component base. It is engineered specifically to extend the lifecycle of your automation solutions while unlocking powerful new capabilities, enhanced security, and superior software performance.

Core Architecture & System Advantages:

- **Full-Scale Autonomous SCADA:** Functions as a comprehensive supervisory control, data acquisition, and multi-user visualization platform. Delivers real-time data monitoring and control via fully customizable interactive dashboards with deep historical logging, alarming, and advanced local analytics.
- **All-in-One Ready Solution:** A turnkey, fully integrated device with all necessary software components pre-installed and pre-configured. It requires no on-site assembly or OS setup—ready for deployment straight out of the box.
- **Brand-Agnostic Ecosystem:** Free from vendor lock-in and not restricted to any specific automation niche or hardware manufacturer. Native multi-protocol support ensures seamless, reliable interoperability with the vast majority of popular industrial controllers and systems on the market.
- **Pure Web Architecture:** 100% web-based runtime and development environment. Configuration, system tuning, and monitoring are executed via a standard web browser on any device with no proprietary software installation.
- **On-line Engineering:** Real-time project configuration, dashboard editing, and logic modification directly on the live device hardware.
- **No Licensing Limitations:** No limits on the number of tags, variables, historical logs, or concurrent connected web users. No hidden software module fees or subscription costs.
- **Velocity & Scalability:** Optimized for fast deployment in small to medium projects, yet natively scales to handle 5–10K registers with high polling frequencies.

Key Enhancements of the Pro Version:

- **Product Lifecycle & Compatibility:** Built on a modernized component base and an updated OS layer to ensure long-term availability and support. 100% backward compatible with legacy WebHMI projects—migration is performed via a standard project export/import sequence.
- **Performance Boost:** Modernized hardware and optimized native software execution layer deliver a multi-fold increase in processing performance, data throughput, and interface responsiveness compared to previous generations.

Technical Specifications

PARAMETER	SPECIFICATION
System Platform	Ultra-compact fanless single-board MIPS computer. Hardened Embedded OpenWRT Linux, native software execution layer, updated libraries, and security patches
Storage Topology	Triple-Option Storage Strategy: 1. Primary: pSLC / High-Endurance Industrial SD Card (Long-Life Data Log Storage) 2. Internal: Built-in eMMC storage (4GB base capacity; modification-dependent*) 3. External: Support for high-capacity external USB SSD
Network Interfaces	- Ethernet: 2 x Ethernet 100 BASE-T (RJ45), galvanic isolation, ESD 3 kV - Wireless: 1 x WLAN Wi-Fi 802.11b/g/n (2.4GHz, 300Mbps, 100mW), RP-SMA
Cellular Connectivity	Native support for external USB 3G/4G/LTE cellular modems for primary or redundant WAN
Serial Ports & Expansions	1 x RS-485 (multi-protocol concurrent mode). 9600 bps to 250 Kbps Isolation: 2500 V, ESD: 8 kV <i>Expansion: via USB converters to add extra RS-485, RS-232, 1-Wire, or M-Bus lines</i>
USB Interface	1 x USB2.0 with switched power core (up to 900mA, USB3.0 power standard compliant for stable support of most external SSD drives). Full short-circuit, over current, thermal, and ESD protection (15kVair/8kVcontact)
Network & Security	Edge industrial router: firewall, NAT/routing, VPN clients, native HTTPS, and GUI certificate management
IoT & Cloud Integration	- Level2 Cloud Service: Native edge-streaming for instant data, maps, and charts. Ready-to-use cloud dispatching and monitoring platform - IoT Platforms: Native MQTT (Client/Broker) telemetry data exchange - AI & DB Sync: Automated replication to external MySQL for PowerBI analytics, IT infrastructure, and AI/ML processing pipelines - API & Web Layer: REST API & Web hooks for MES/ERP. HTTP POST/GET web requests via LUA core
Watchdogs & Hardware I/O	Internal hardware Watchdog. 2 x SSR outputs (125mA, 240V) for fault signaling or hardware reboot of external equipment. Hardware-controlled switched power on USB
Power Supply & Consumption	24 VDC (18 – 32 V range; 12 – 24 V future hardware option*) Consumption: 4 W (typical) / 10W (max, with peak USB load)

PARAMETER	SPECIFICATION
Integrated UPS	Built-in short-term UPS (upto5min) for micro-black out/ride-through, seamless power switching, and safe OS shutdown
Protocol Support	Simultaneous multi - protocol processing: - Industrial: Modbus (RTU/ASCII/TCP), BACnet, Allen-Bradley DF1, Siemens PPI, Siemens S7 Iso-Over-TCP, Mitsubishi MELSEC - Energy & Infrastructure: Native IEC60870-5-104 telecontrol protocol - Custom Protocols: Scriptable non-standard telegram frames (Metasys N2, DLMS, M-Bus, DMX) via built-in LUA library
Enclosure & Environment	Industrial ABS housing, DIN – rail mount. IP40. 101 x 35 x 120mm. ~300g. Operating temperature: 0°C to 50°C
Regulatory Compliance	CE Certified (Distributed Data Systems, Ltd.): - EMC (2014/30/EU): EN IEC 61000-6-2, EN IEC 61000-6-4 - LVD (2014/35/EU): EN IEC 62368-1 - RoHS (2011/65/EU) & (EU) 2015/863

**Note: Specifications marked with an asterisk are subject to hardware configuration options.*

Dimensional drawing

