TBOX
AN OVARRO TECHNOLOGY

TBOXLT2

Secure, intelligent and IIoT-ready automation

The TBox LT2 from Ovarro is an all-in-one, Internet-ready remote telemetry unit (RTU) for automation and monitoring. Users can monitor and control applications in OT, IT and industrial internet of things (IIoT) environments with their mobile devices and PCs - anytime, anywhere.

With the TBox LT2, companies have achieved savings of up to 50 percent over alternative systems that combine PLC, communications and SCADA components. This self-contained system gives you everything needed to create high-performance yet economical automation and monitoring installations.

FEATURES & BENEFITS AT A GLANCE:

Web Server Technology

- Built-In web server technology eliminates the need for complex SCADA software and costly HMI displays.
- Connect with your phone, tablet or laptop with no software to download - perfect for technicians, troubleshooting, and more.

Cyber-Secure Platform

- All TBox devices and connected assets are Protected by a state-of-the-art cyber-security suite with multi-level authority, authentication, encryption, firewall, SSL/TLS & X.509 Certificates, IEEE802.1, , HTTPS, SMTPS SFTP/FTPS and VPN.

Smart Data Logging

- Special routines, configurable within the TBox TG2, only log the necessary events with their appropriate time stamps
- Reports in CSV, text or XML formats are quickly configured using Ovarro's Report Studio and are readily available via email attached files and FTP

Advanced Extensibility

- Equipped with an optional C/C++ advanced development kit (ADK) TBox has the connectivity and flexibility to meet the existing and future needs of your on premise, and cloud based system requirements including Azure and AWS based systems.

Alarm Management

- Built in Alarm functionality enables the TBox to send multimedia messaging, utilizing recipient groups, escalation rules and shift management
- Without waiting for a poll, the TBox initiates messages via email, FTP, and SMS to immediately notify users of alarms and the live condition of their remote assets
- Recipients can then acknowledge alarms and initiate logic operations from their smartphones or tablet devices

Connectivity and Communications

- The TBox Platform provides over 40 industrial communications protocols at no additional charge including:
- ModBus TCP/IP, Modbus (RTU/ASCII), Ethernet/IP, Allen Bradley DF-1, Fisher-ROC (8), Siemens ISO-on-CTP
- DNP3-S, IEC-61850, IEC-60870-5-101/104
- OPC-UA, MQTT(S), and many more.
- Many more...

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CASE STUDY - A SIMPLE UPGRADE

Lake Cities Municipal Utility Authority (http://lcmua.org) is located in Lake Dallas, Texas and provides superior drinking water, fire protection, and pressure to the Shady Shores, Lake Dallas, and Hickory Creek areas (together known as the Tri-Cities).

LCMUA had an aging infrastructure system with hardware and software from several different manufacturers, much of which was more than 25 years old. A significant amount of LCMUA's budget at the time was spent on callouts, false alarms, and maintaining or repairing failing equipment.

Like many utilities, LCMUA wanted a reliable and robust system, but they also recognized the need for it to be flexible, scalable, and secure. Perhaps most importantly, the new system needed to be able to connect to much of the legacy equipment to allow for a phased deployment to minimize disruption to their customers. To accomplish these requirements, LCMUA chose the TBox LT2 platform.

PROCESOR, MEMORY AND POWER

The TBox LT2 offers you powerful new processing technology perfectly suited to a wide range of applications. Its power is supported by a backup battery charger.

Processor	32 bits ARM9, 400MHz
Clock	Real-time clock with lithium battery backup
Memory	32MB NOR Flash 64MB DDR2 SDRAM 1MB SRAM with lithium battery backup Industrial grade µSD card to 32GB (see our price list)
Toggle switch	Run - stop - reset
Power supply	DC powered, 9 to 30VDC, solar panel can be used. Consumption is typically 1.2W @ 24VDC
Power supply	Embedded battery charger, 13.8VDC temperature compensated. For sealed lead acid batteries only; recommended model: 12V, 7Ah

PHYSICAL AND ENVIRONMENTAL

The industrial-grade RTU offers highly-resilient automation and outstanding levels of cyber-security and functionality from a single compact, rugged unit.

Size	150 mm (H) x 83 mm (D) x 29 mm (W)/5.91" x 3.27" x 1.4"
Weight	515 gr/18.17 oz
Mounting	DIN Rail (Included)
Temperature	Storage: -40 °C to +80 °C / -40 °F to 176 °F Working: -40 °C to +70 °C / -40 °F to +158 °F
Humidity	0-95% non-condensing
Altitude	Max. 4000m / 13,125 ft
Material	Proprietary aluminium enclosure, Alodine coating against corrosion
Certifications	CE, UL/CSA, FCC, IC, RCM, RED, Class I Div.2, IEC 60068-2-6/27/31/64
MTBF	>1,000,000 Hours (Calculated)

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INPUTS AND OUTPUTS

In a compact footprint, the TBox LT2 includes Ethernet, RS232, RS485, USB, a communications option such as 4G, and up to 26 input/output (I/O) points. For installations requiring additional I/O, the TBox LT2 readily expands using the TBox RM2 Remote I/O compact modules interfaced through Ethernet or RS-485.

Communication	Ethernet (10/100), USB, Serial (RS-232/RS-485) and optional LTE/4G modem
Protocol support	Support for over 40 protocols, including Modbus (master/slave, RTU/TCP/ASCII), DNP 3.0, IEC 60870-5-101/104, OPC UA, MQTT(S), Siemens ISO-on-TCP, Allen Bradley DF1 & EtherNET/IP, IEC-61850 (MMS) and many more.
Security	Firewall, 4 levels of authority, HTTP Session Authentication, SSL/TLS & X.509 Certificates, IEEE802.1X
LT2-xxx-4W	12 bands LTE(4G), 7 bands UMTS/HSPA+ (3G), 4 bands GPRS/EDGE (2G)
LT2-xxx-S	One additional full RS232 serial port
Inputs/Outputs LT2-530	16 digital inputs or outputs (3 DI can be counter inputs) 8 analog inputs (4-20mA or 0-10VDC)
Inputs/Outputs LT2-532	Adds 2 analog outputs (4-20mA) to the I/O count above
Inputs/Outputs LT2-540	16 digital inputs or outputs (3 DI can be counter inputs) 6 analog inputs (4-20mA or 0-10VDC) 2 temperature inputs (Pt1000)
Inputs/Outputs LT2-542	Adds 2 analog outputs (4-20mA) to the I/O count above
Inputs/Outputs LT2-562	24 digital inputs or outputs (3 DI can be counter inputs) 1 analog inputs (4-20mA or 0-10VDC) 1 analog output (4-20 mA)
Connectors	Spring-cage terminal blocks for power, I/O, RS-232 and RS-485

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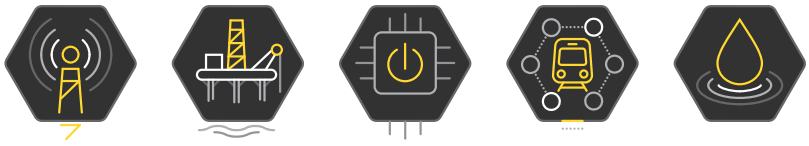
PROGRAMMING

All TBox devices are programmable with the same software suite, TWinSoft, which allows for standard applications to create matching site specific requirements. It also allows for the creation of interactive webpages, where users will be able to monitor and control their site assets. Users can quickly complete their applications and dynamically control communication, alarms, data logging and logic, locally or remotely, in complete security.

Operating System	Linux Kernel with TBox Telecontrol stack
Programming	With TWinSoft Suite (including WebForm Studio 2.0 and Report Studio)
Languages	Ladder logic, Basic & Function blocks (IEC 61131-3) and optional C/C++ add-ons via Advanced Development Kit (ADK)
Alarm handling	Smart alarm management with embedded calendar
Data logging	Smart data logging: Sampling tables (periodic) + digital & analogue chronologies (event)
SCADA compatible	Aveva, Emerson, GE Digital, ICONICS, Ignition, Rockwell, Schneider Electric, Siemens, VTScada, and more...
Remote upload	Up to firmware level
IT features	HTTP(S), FTP(S), SMTP(S) & POP3(S), SNMP, IP forwarding, DynDNS, NTP, SSH/SCP/SFTP

SUITABLE APPLICATIONS



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