TBOX
AN OVARRO TECHNOLOGY

TBOX LT2

Secure, intelligent and IoT-ready automation

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

With the TBox LT2, companies have achieved savings of up to 50 per cent 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:

The TBox LT2 supports thousands of applications. It's used to control and monitor broadcasts to millions of people around the globe, control building systems - including world-renowned landmarks - and monitor supply levels of essential commodities such as oil, gas and water. The TBox LT2 is capable of doing it all.

- **GSM (4G) option**
  - The TBox LT2 is compatible with a SIM card, so its data can be accessed with standard interfaces including mobile devices, tablets or PCs. The RTU can quickly integrate with IT and IoT systems, providing your mobile workforce with easy access to data.
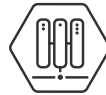
- **Alarm management**
  - The TBox LT2 RTU can automatically use push notifications to send multimedia messages to multiple recipients. This includes mobile-friendly reports with live and historical information, alarms and event notifications - so it's possible to reduce asset downtime through speedier response. Smart alarm management is supported by an embedded calendar.

- **IoT team ready**
  - The TBox LT2 is equipped with an advanced development kit (ADK) which includes C, C++ add-ons, and is Azure and AWS compatible. The box has the connectivity and flexibility to meet the existing and future needs of your IoT team's requirements and infrastructure.

- **Web server technology**
  - The TBox LT2 remote telemetry unit comes with 4G or LTE modem options, providing real-time remote access and control of your assets using VPN for cybersecure connections.
  - On-board web server technology eliminates the need for complex SCADA software and costly HMI displays.

- **Multiple ports and Ethernet**
  - Data in the TBox LT2 can be accessed with standard interfaces. The TBox can quickly integrate with IT and IoT systems and provide mobile workers with easy access to data.
  - The TBox LT2 has flexibility to meet the existing and future needs of your infrastructure.

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All TBox devices and connected assets are protected by a state-of-the-art cybersecurity suite including authentication, encryption, firewall, SSL/TLS, HTTPS, SMTPS, SFTP/FTPS and VPN. Now all remote assets and processes are under your control and within reach.

CASE STUDY - A SIMPLE UPGRADE

When Air Selangor, which manages the distribution of water in the State of Selangor, Malaysia, undertook a major SCADA upgrade, downtime, slippage and possible loss of monitoring or control had to be avoided at all costs during the switchover.

The customer chose the TBox TL2. In addition to traditional SCADA functionality, the TBox is continuously modernised for current, IT protocols and cybersecurity features, which ensures compatibility with older systems and ongoing new projects. The TBox's ease-of-use has also greatly reduced the customer's training requirements.

WHAT'S IN THE BOX?

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 Card 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

COMPACT, RUGGED UNIT

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 fixing
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
Material	Proprietary aluminium enclosure, Alodine coating against corrosion

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 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 analogue inputs (4-20mA or 0-10VDC)
Inputs/Outputs LT2-532	Adds 2 analogue 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 analogue inputs (4-20mA or 0-10VDC) 2 temperature inputs (Pt1000)
Inputs/Outputs LT2-542	Adds 2 analogue 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 analogue inputs (4-20mA or 0-10VDC) 1 analogue 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.

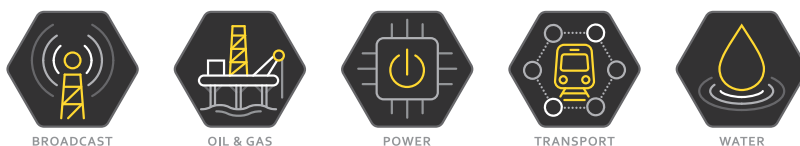|	
Operating System	Linux Kernel with TBox Telecontrol stack
Programming	With TWinSoft Suite (including WebForm Studio 2.0 and Report Studio)
Languages	Ladder logic, Basic & Function blocks (IEC 61131-3) and optional C/C++ add-ons
Alarm handling	Smart alarm management with embedded calendar
Data logging	Smart data logging: Sampling tables (periodic) + digital & analogue chronologies (event)
SCADA compatible	TView, InTouch, iFix, Control Maestro, CITECT, Topkapi, Cube, Labview, Panorama, Scope-X, VTScada
Remote upload	Up to firmware level
IT features	HTTP(S), FTP(S), SMTP(S) & POP3(S), SNMP, IP forwarding, DynDNS, NTP, SSH/SCP/SFTP

APPROVALS

The TBox LT2 meets the CE, UL/CSA, FCC, IC, RCM, RED, Class I Div.2, IEC 60068-2-6/27/31/64 standards. It has a mean time between failures (MTBF) of more than one million hours, for which a statement is available upon request.

Find an authorised Ovarro partner to make sure the TBox is part of your next project by visiting Ovarro.com

SUITABLE APPLICATIONS:

BROADCAST   OIL & GAS   POWER   TRANSPORT   WATER

OUR SOLUTIONS | MONITORING & CONTROL | RTU's

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