

## Specification

Designation	Industrial-grade remote terminal unit (RTU)
Processor	32 bits ARM9, 400MHz
Redundancy	Power supply, communications, processor level (cold start)
Clock	Real-time clock with battery backup — GPS synchronization (optional)
Memory	32MB NOR Flash 64MB DDR2 SDRAM 1MB SRAM with lithium battery backup Industrial grade SD / $\mu$ SD card to 32GB (see our price list)
Backplane rack	Passive backplane. Available for 3, 5, 10, 15 and 20 slots
Communication	Ethernet (10/100), 3 x USB, PSTN, GSM/GPRS/3G/LTE, Serial (RS-232/RS-485), and many more
I/O cards	MS-16DI 16 digital inputs, 12-60VDC MS-48DI 48 digital inputs, 12-60VDC — no LED MS-10DI-HS 10 digital inputs, 5-30VDC, Counting (50KHz), Quad inputs, SOE, Debounce filter, Isolated 1/1 MS-16DO 16 digital outputs, 12-60VDC, max 200 mA, Current Sinking, Protected MS-16DIO 16 digital inputs + outputs, 12-60VDC, max 200 mA, Current Sinking, Protected MS-RELAY 8 digital outputs relay, 230VAC or 30VDC max 3A, Isolated 1/1 MS-8AI4V 8 analogue inputs voltage -10/+10 V, -20 mA/+20 mA, 4-20 mA, 14-bit — 2 inputs out of the 8 can be configured with Pt100 or Pt1000 (2 wires) MS-4AI420 4 analogue inputs 4-20 mA, 14-bit, Isolated 1/1 MS-8AI420 8 analogue inputs 4-20 mA, 14-bit, Isolated 1/1 MS-4AOVC 4 analogue outputs, 12-bit, 4-20 mA, -10 V/+10 V, Active, Isolated 1/1 MS-COMBO-18 DI (12-60VDC) + 4 DO (12-60VDC, max 200mA) + 3 AI (4-20mA) MS-PSTN PSTN 56K modem + 1 RS-232/RS-485 MS-GSM-3G Quad Band GSM/GPRS/3G Modem + 1 RS232/RS485 MS-ETHER-4 Ethernet (10/100) with 4 ports embedded industrial switch MS-SERIAL 2 RS-232/RS-485 ports
Comms cards	MS-GPS GPS time synchronisation and positioning module + 1 RS-232/RS-485 MS-IO-SIMUL Simulation + test: 8 DI (switches), 8 DO (LEDs), 4 AI (potentiometers), 4 AO (LEDs) All cards
Special cards	LinuxRT (real-time) based Via TwinSoft Suite (including WebForm Studio and Report Studio) Ladder logic, Basic & Function blocks (IEC 61131-3) and optional C/C++ add-ons Smart alarm management with embedded calendar Smart data logging: Sampling tables (periodic) + digital & analogue chronologies (event) TView, InTouch, iFix, WIZCON, CITECT, Topkapi, Cube, Labview, Panorama, Scope-X ...
Hot swapping	Up to firmware level
Operating System	HTTP, FTP, SMTP & POP3, SNMP, IP forwarding, DynDNS, NTP
Programming	Support for over 40 protocols, including Modbus (master/slave, RTU/TCP/ASCII), DNP 3.0, IEC 60870-5, Siemens ISO-TCP, Allen Bradley DF1, EtherNet/IP, IEC 61850 and many more
Languages	"IP Security" with: Firewall, HTTP log-in, HTTPS, SFTP, FTPS, SMTPS, VPN, SSH
Alarm handling	AC: 85 to 265 VAC (50 or 60Hz) — DC: 90 to 375 VDC DC: +8 to +30 VDC and -60 to -24 VDC (railways -48VDC) Intelligent battery charging
Data logging	Storage: -40°C to +80°C / -40°F to 176°F Working: -40°C to +70°C / -40°F to +158°F
SCADA compatible	0-95% non-condensing
Remote upload	Proprietary aluminum enclosure, Alodine coating for corrosion
IT features	CE, UL/CSA, FCC, RCM, RED
Protocol support	>400,000 hours, statement available upon request
Security	
Power supplies	
Temperature	
Humidity	
Material	
Approvals	
MTBF	

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 **TBoxMS**

Market leading modular remote control and automation solution.

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[www.servelec-technologies.com](http://www.servelec-technologies.com)

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## Welcome to the web generation of telemetry. TBox MS provides:

Real-time remote access and control of your site, using the latest web server technology.

Multi-communications capability to suit virtually any process.

Innovative push technology for instant notifications, allowing you to keep key people informed and reduce overheads.

Access to historical data and trending charts anytime, anywhere.

Servelec Technologies' TBox MS features 'plug and go' technology, allowing you to distribute your full site configuration on an SD card or via USB connection, enabling your maintenance team to deploy it without switching on a computer. The TBox MS system includes:



Onboard web server technology, eliminating the need for complex SCADA software and costly HMI displays.



Real-time access to alarm management and event logs.



Ability to connect multiple clients to the same TBox MS device, avoiding costly software licensing fees.



Intelligent alarm management with instant multiple-recipient notifications, integrated escalation and scheduled team reporting.

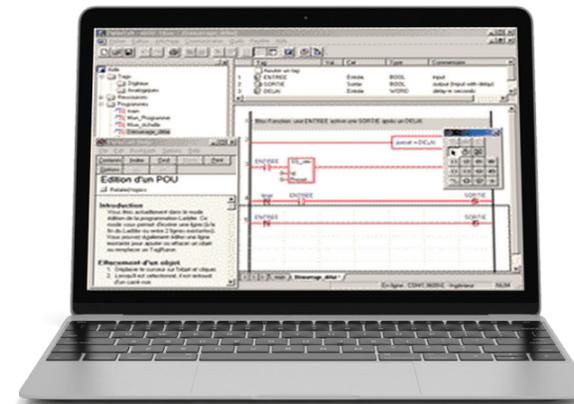


A built-in cyber-security suite with state-of-the-art authentication and encryption technology.



A robust, all-alloy construction which withstands the harshest environments and provides noise immunity and a -40 - +70°C operating temperature range.

Built within every TBox device is Servelec Technologies' 30 years of experience in the telemetry industry. TBox products can provide everything you need to create high-performing yet economical SCADA and control applications for critical functions. The TBox range of scalable products also includes state-of-the-art, user-centric software packages and additional hardware to transform your measurement and control aspirations into time and cost saving solutions.



### Intuitive configuration

#### - TWinSoft

Designed with a Windows-style menu, TWinSoft is an easy-to-use and intuitive tool to configure TBox hardware. The wizard, simple dialogue boxes and predefined variables allow users to rapidly complete their applications and dynamically control communication, alarms, data logging and logic, locally or remotely, in complete security. TWinSoft also includes WebForm Studio which allows users to create dynamic embedded web pages without any coding knowledge.



### Control and monitor your network on the move

#### - TConnect

TConnect is a secure software package that simplifies remote access, configuration, monitoring and control of all TBox hardware. With TConnect you can access any TBox hardware connected to a GSM/ cellular network without the need for a fixed and costly IP address or a dynamic DNS. TConnect takes care of registration automatically, removing the need to manage a VPN network.