

# MTX-T














## Basic 4G/3G programmable IoT modem

MTX-T is an innovative and powerful all-in-one solution. Thanks to its set of interfaces (RS232, RS485, USB, digital I/O...) and the embedded MTX-Tunnel firmware that provides the MTX-T with a basic router-like functionality, this modem can be used in most of IoT applications with no need for further hardware, shortening the time-to-market and providing a very cost-effective solution.

MTX-T can be also programmed in JavaJ2ME, for those customers who want to embed their own firmware on it.



## Main Features

 4G/3G/2G	 USB 2.0	 RS232	 RS485	 Digital input	 Legacy communic.	 Cervello Stem
 4G/3G/2G serial gateway	 GPIO management	 DynDNS No-IP	 MQTT/s	 Modbus & datalogger	 SMS control	

■ HARDWARE ■ SOFTWARE

## Strenghts & Benefits

- Complete set of interfaces
- Embedded MTX-Tunnel firmware
- Programmable in JavaJ2ME for customers with their own hardware
- Compatible with Cervello Stem IoT platform

## Applications

- Modem for most IoT applications with no need for further hardware
- All-in-one solution

# Specifications

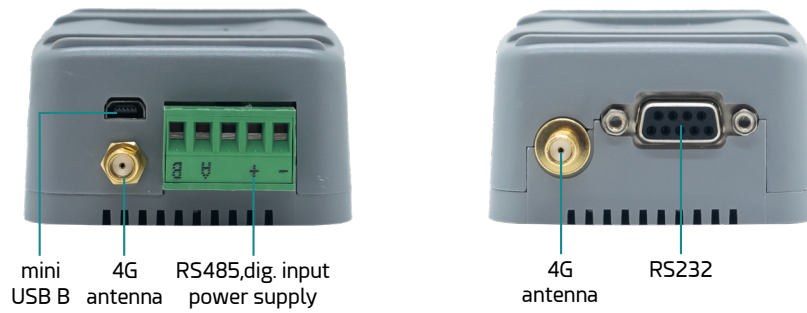
MTX-T 4G	MTX-T 3G	MTX-T 2G
<p><b>EUROPE:</b> Penta-Band LTE: Bands 1, 3, 8, 20, 28 (700, 800, 900, 1800, 2100 MHz); Dual-Band UMTS/HSPA+: Bands 8, 1 (900, 2100 MHz); Dual-Band GSM: 900 and 1800 MHz</p> <p><b>USA:</b> Quad-Band LTE: Bands 2, 4, 5, 12 (700, 850, 1700/2100 (AWS) and 1900 MHz); Tri-Band UMTS: Bands 5, 4, 2 (WCDMA/FDD 850, 1700/2100 (AWS) and 1900 MHz)</p> <p><b>AUSTRALIA:</b> Quad-Band LTE: Bands 3, 5, 8, 28 (1800, 850, 900, 700 MHz); Tri-Band UMTS: Bands 1, 5, 8 (WCDMA/FDD 2100, 850, 900 MHz)</p>	<p><b>Five Bands UMTS (WCDMA/FDD) Bands:</b> 800, 850, 900, 1900 and 2100 MHz</p> <p><b>Quad-Band GSM Bands:</b> 850, 900, 1800 and 1900 MHz</p>	<p><b>GSM 4 Bands</b> (850, 900, 1800, 1900MHz), release 6</p>
<p><b>LTE Cat. 1 DL:</b> max. 10.2 Mbps, UL: max. 5.2 Mbps</p>		
<p><b>HSPA+ Cat.8</b> data rates DL: max. 7.2 Mbps, UL: max. 5.76 Mbps</p>	<p><b>HSDPA Cat.8/HSUPA Cat.6</b> data rates DL: max. 7.2 Mbps, UL: max. 5.76 Mbps</p>	
<p><b>GPRS Class 12</b> DL: max. 85.6 kbps, UL: max 85.6 kbps</p>	<p><b>EDGE Class 12</b> data rates DL: max. 237 kbps, UL: max. 237 kbps</p> <p><b>GPRS Class 12</b> data rates DL: max. 85.6 kbps, UL: max. 85.6 kbps</p>	<p><b>EDGE Class 12 data rates, DL:</b> max. 237 kbps, UL: max. 237 kbps</p> <p><b>GPRS Class 12 data rates, DL:</b> max. 85.6 kbps, UL: max. 85.6 kbps</p>
	<p>CSD data transmission up to 9.6 kbps, V.110, non-transparent</p>	<p>CSD data transmission up to 9.6 kbps, V.110, non-transparent</p>
<p>SMS text and PDU mode support</p>	<p>SMS text and PDU mode support</p>	<p><b>SMS:</b> text and PDU mode support, point-to-point MO and MT, cell broadcast</p>

## Interfaces

- 4G/3G/2G connectivity
- RS232
- RS485
- 1x digital input

## Connectors

- 2x SMA F antenna connector: 4G
- 1x SMA F antenna connector: 3G/2G
- Mini USB B
- DB9 female connector: RS232
- 5-way plug-in: RS485, power supply and digital input
- SIM card 1.8V and 3V



## Characteristics

- Status LEDs
- DC input: 6.5 to 40 Vdc
- Temperature range: -30 - 85°C
- Dimensions: 78.1x66.8x37.2mm
- Weight: <190gr.
- Certifications: CE, FCC, PTCRB, RoHS, ISO9001

## Processor

- Flash: 4G 31MB; 3G/2G 10MB
- RAM: 4G 18MB; 3G/2G 10MB
- CPU: ARM11

## References

### PRODUCTS

- |                       |                     |
|-----------------------|---------------------|
| ■ MTX-T [2-N]         | <b>000199801421</b> |
| ■ MTX-T [3-N]         | <b>000199801422</b> |
| ■ MTX-T [4-N] (4G/2G) | <b>000199801424</b> |
| ■ MTX-T [4-N]         | <b>000199801445</b> |

### [X-Options]

2: 2G	<b>N:</b> no options
3: 3G/2G	
4: 4G/3G/2G	

# MTX-Tunnel Software Features

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## CONNECTIVITY

- 4G/3G/2G serial gateways: TCP client, TCP server, UDP client/server, accept incoming CSD calls, up to 2 simultaneous tunnel
- IP connectivity mode: permanent 100% time, under request (SMS, missed call), change on a digital input, analog input out of level, serial data on RS232/RS485 port, scheduled date/hour/time

## TCP SERVICES

- Web server, Telnet, SNMP, Tacacs+, NTP
- Datalogger: MQTT, MQTTS, HTTP, HTTPs, FTP
- Shows the status of digital and analog inputs
- Change digital output level and relays
- Execute AT commands remotely: Telnet, MQTT/MQTTS, SMS, HTTP

## SECURITY

- Authorized phone numbers
- Firewall IP, SSL/TLS connections, encrypted config
- Secure OTAP (remote FW upgrade)
- Watchdog hardware

## ALARMS AND CONTROL

- Send SMS/MQTT alarm when the level of digital or analog input change
- SMS can be sent to up to 10 remote users
- Execute remote AT commands
- Change the status of digital outputs & relays
- Customizable SMS commands

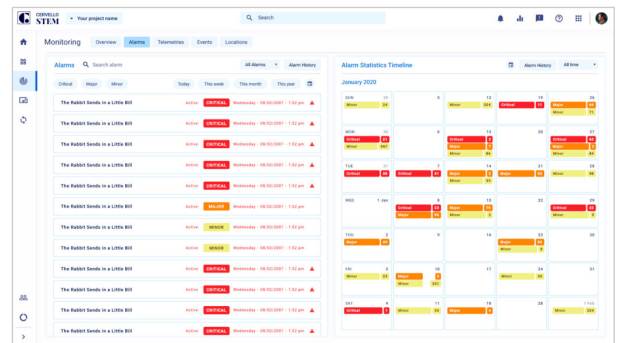
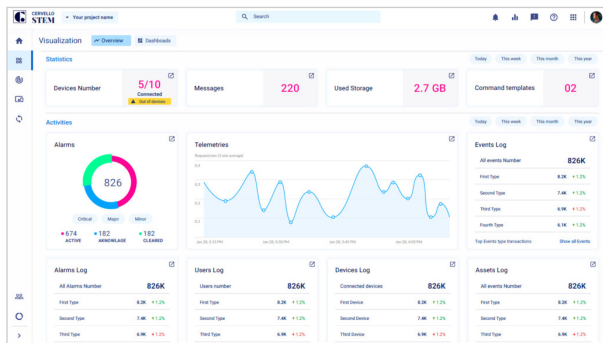
## SOLUTIONS FOR DYNAMIC IP

- IP session using a SMS or missed call
- DynDNS and NoIP
- Private DNS

## METERING, MODBUS, SENSORS...

- 868 MHz remote monitoring sensors (Wavenis)
- Master for modbus RTU devices, Modbus TCP slave, Modbus TCP to RTU gateway
- Relays control
- Access to serial devices using 2G/3G/4G and GSM
- Astronomical clock

# Cervello Stem - IoT Platform



## GENERAL FEATURES

- Up to unlimited devices
- Autoprovisioning
- Real time dashboards
- Remote control
- Monitoring engine
- Alarms and alerts
- Rules engine
- Remote update
- Connect engine\*
- API Keys\*
- Analytics\*
- Multi-tenant\*
- White labeling\*
- Custom admin role\*

## MONITOR

- Alarms, Events and Incidents
- Tracking\*

## CONTROL

- Command template
- OTA

\*Upgrade required

\*\*Available with compatible devices with MTX-Tunnel or MTX-Titan

## DEVICES INVENTORY

- Add single from template
- Add Bulk from template and from autoprovisioning
- Manage: Device template, Groups, Assets and Bulk actions

## CONNECT

- Topics\*
- Transformation\*
- Integration keys\*

## VISUALIZE

- Dashboards
- Reports

## AUTOMATE

- Rules Engine
- Actions
- Triggers

## SECURITY

- 2-factor authentication
- SSL for end user application
- Custom admin roles\*

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