

# MTX-Router-Titan-3G-mini

*Industrial Router with GSM/GPRS/3G and RF options*



Cellular Router  
Five Band  
UMTS (WCDMA)  
HSPA+



Wi-Fi b/g/n  
Access Point



Ethernet



Cellular to serial  
gateway  
USB/RS232/485/422



Relay output



ModBus & ISM  
sensors monitoring



DynDNS/No-IP  
compatible



GPS



SMS alarms and  
control



Extended  
Temperature  
Range



The MTX-Router-Titan-3G-mini is an innovative industrial router with unlimited that comprises a complete set of wireless and wired interfaces powered by an ARM9 processor module. By providing an easy integration and powerful interfaces, it avoids further hardware components.

Plenty of interfaces: Ethernet, WiFi, USB, RS232, 1-Wire, I2C, GPIOs and relays; it can be used in infinite M2M and IoT applications. A 3G (UMTS/HSPA) modem is attached internally.

The MTX-Router-Titan-3G-mini also includes advanced functionalities such as:

DHCP server, NAT, WiFi Access Point, CSD call manager, 3G to RS232/USB gateways, external sensor dataloggers (temperature, distance, Modbus RTUs), DynDNS/NoIP client, relay control, GSM cell positioning, remote firmware upgrade, among others.

## General features

- 3G router
  - UMTS/HSPA+ : Five-Band  
800/850/900/1900/2100MHz
  - GSM/GPRS/EDGE: : Quad band  
850/900/1800/1900MHz
- 3G connectivity supervisor to maintain connection always active
- DHCP server (for Ethernet and WiFi interfaces)
- NAT / IP Firewall
- Up to 4 3G-to-RS232/USB simultaneous gateways
- CSD call manager (for metering applications)
- External device manager:
  - Temperature sensors  
Datalogger, SMS alarms, relay activation, etc. Data can be sent to a webservice in JSON format
  - Distance sensors  
Datalogger, SMS alarms, relay activation, etc. Data can be sent to a webservice in JSON format
  - Modbus RTU devices.  
Datalogger. Data can be sent to a webservice in JSON format
  - Waveflow 868MHz Wavenis  
Datalogger. Data can be sent to a webservice in JSON format
- Modem control via AT commands (Hayes, TS 27.007, TS 27.005)
- DynDNS, NoIP and Private DNS services
- Remote relay control
- GSM cell positioning
- Programmable autoreset
- Internal configuration webserver (all logos and pictures can be customized by user)
- Operating status LEDs
- NTP time/date synchronization
- User permissions and configuration backup
- Remote firmware upgrade
- Supply voltage range:
  - DC input (3G mode): +7Vdc to +50Vdc
  - DC input (2G mode): +9Vdc to +50Vdc
- Operating temperature range: -40°C to +85°C
- Dimensions, excluding connectors: 78.1 x 66.8 x 37.2mm
- Weight: <500 g

## Optional modules and expansions

- Waveport 25/500mW (for RF metering applications)
- MTX-Temp (temperature sensor)
- Maxbotix (distance sensor)

## Interfaces

- Ethernet 10/100 BaseT (RJ45 connector)
- Internal Wi-Fi b/g/n (AP support) (SMA F RP connector)
- USB 2.0 (compatible with FTDI and ACM USB devices) (micro AB connector)
- HD-Dsub15 female connector
  - 2x RS232 (2-wire)
  - 1x RS232 (4-wire) / RS485
  - 1x Digital input
  - 1x Relay (1A)
  - 1x 1-Wire BUS
- Power supply (2-way plug-in terminal block)
- Operating status LEDs
- SIM card interface 1.8V/3V

## Specifications

- **HSPA (3GPP Release 6,7)**
  - DL 7.2Mbps, UL 5.7Mbps
  - HSDPA Cat.8 / HSUPA Cat.6 data rates
  - Compressed mode (CM) according to 3GPP TS25.212
- **UMTS (3GPP Release 4)**
  - PS data rate – 384 kbps DL, UL 384kbps
  - CS data rate – 64 kbps DL, UL 64kbps
- **HSPA (3GPP Release 6,7)**
  - DL 7.2Mbps, UL 5.7Mbps
  - HSDPA Cat.8 / HSUPA Cat.6 data rates
- **GPRS**
  - GPRS class 12
  - Mobile station class B
  - PBCCH support
  - Coding schemes CS 1-4
- **EGPRS**
  - Multislot class 12
  - EDGE E2 power class for 8PSK
- **CSD data transmission**
  - Up to 9.6kbps
  - V.110
  - Non-transparent mode
  - USSD support
- **SMS**
  - Point-to-point MO and MT
  - SMS cell broadcast
  - Text and PDU mode

## Ordering information

<b>MTX-Router-Titan-3G-mini:</b>	199802116
<b>MTX-Router-Titan-3G-GPS-mini:</b>	199802140
<b>MTX-Router-Titan-4G-GPS-mini:</b>	199802142

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## Detailed Special Features

### Serial gateways

- 3 simultaneous 2G/3G/Eth/Wifi <-> 232/485/USB gateways
- Modes: TCP Server / TCP Client
- SSH encryption enabled
- Accept incoming CSD call for metering applications

### Modbus

- Modbus TCP / Modbus RTU Gateway
- Modbus TCP / RTU to SNMP gateway (SNMP connectivity for any Modbus device)
- Modbus slave for management from PLCs (send/receive SMS, Email, SNMP traps...)
- User scripts

### Datalogger

- Data from sensors (temperature, distance, pulse counter, ...)
- Serial data collected by RS232, RS485 or USB
- Automatic data sending (HTTP / HTTPS / FTP) with JSON format

### Sensors

- Externals: temperature, distance, any Modbus RTU/TCP device
- Compatible with Wavenis RF Sensors (WaveFlow, WaveSense, WaveTherm) using an external Waveport.
- Movement sensor, digital input / pulse counter
- 1-Wire temperature compatible (DS18S20, DS1822, DS18B20, DS1825, DS28EA00)
- Jamming detection

### Internal Relays

- Control & activation by: web UI, timetable, SMS, astronomical clock, temperature, distance, jamming, movement, modbus read values, snmp, ...
- Watchdog for external devices (relay is activated if ping doesn't respond)

### SMS

- Full control by SMS with phone number authorizations
- Relay activation by custom SMS message
- Alarms (digital input, temperature, modbus data read, ...)
- Allows send / receive SMS by ModbusTCP (for PLC)

### VPN

- OpenVPN with client / server mode
- Permanent or activated by SMS, AT command, Modbus, snmp, serial, ...

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## Other

- Compatible with DynDNS / No-IP and Private DNS
- GSM Cell Location
- Programmable autoreset (schedule, timer, ...)
- Multioperator SIM utilities (integrated rssi scanning tool)
- Time synchronization (NTP) with timezones
- Over The Air firmware upgrade
- Full management with AT Command by serial, socket, sms, modbus, snmp, ...
- NAT, Firewall, DHCP, etc. and other standard router characteristics
- Clear and understandable application notes with examples (OpenVPN, Serial gateways, Modbus, Datalogger, SMS, Metering, SNMP, ...)

## Customization

- Configurable Logos and text from web UI
- Personalized menus for different users.
- Firmware can be personalized with custom features (\*depending on number of devices)

