

T-Mesh 4G Wi-Fi Cellular Router

388-0002





T·Mesh is Nestlawn's hybrid NextG/4G/Wi-Fi machine communication device. Machines are automatically connected to a central computer via 3.5G, 4G or Wi-Fi. All machines can receive GPS corrections from a VRS network such as AllDayRTK.

Designs and updates can be rapidly downloaded. The locations and status of all machines can be quickly ascertained.

Operation of T·Mesh is entirely automatic. The device can be set to power up whenever the earth moving equipment is started. Connection to a pre set computer is automatic.

T·Mesh is preconfigured to integrate into GPS enabled RTK machine control system and integrate into networks such as Tokara®

Designed for continuous reliable operation in the harsh environments typically found on hard working mining and earthmoving machines.

Application

- Remote connectivity to earthmoving equipment
- Added Wi-Fi coverage in fringe cellular locations
- Transmission of GPS corrections
- Monitoring equipment
- Collection and analysis of data
- Connection to proprietary networks
- Server controlled modem application update support



388-0002 T-Mesh Technical Specifications

Processor and Storage

- Powerful 720Mhz ARM Cortex A8 processor with 128MByte DDR2 RAM
- 256MByte Flash memory storage (~120MB available on board space for user storage)
- MicroSD card slot for expandable storage
- OPERATING SYSTEM - Embedded Linux & Software Development Kit (SDK)

Cellular Bands

- LTE: (4G)
- HSPA+ (3.5G)
- HSPA (3G)
- Edge (2.5G)
- GPRS (2G)

Connectivity

- 1 x MS311212-10P 10/100/1000 Base-T Ethernet port with Auto MDIX POE
- 1 x IP67 RJ45 10/100/1000 Base-T Ethernet port
- 1 x Configurable I/O pin *

I/O PINS*

- 1 x Ignition sense Pin
- NAMUR (EN 60947-5-6 / IEC 60947-5-6) compatible sensor input
- Analogue 0V to 30V input
- Digital input (through measurement of voltage above/below threshold)
- Open collector output

Antenna Connectors

- 1 x Ntype connectors for 3G/4G
- 1 x Reverse TNC connectors for Wireless LAN
- 1x SMA connector for GPS

LED Indicators

- Tri-colour (Red/Amber/Green) LEDs. Power, WLAN,
- Mobile Broadband, Service Type and Signal Strength indicators
- Easy, clear LED status display for connection status, connected network type, and connection errors

Cellular

- IP67 rated Profile managed packet data connections
- NAT Disable for framed route configuration
- SIM Security Management (PIN configuration, enable and disable)
- Automatic and manual cellular band selection
- Automatic and manual operator selection

GPS

- Embedded GPS receiver (1575.42Mhz)
- Glonass compatible
- SMA Connector for external passive or active

GPS Antenna

- Active antenna voltage: 3.05V
- Maximum current: 50mA
- Tracking sensitivity under open sky: -161dBm
- Acquisition sensitivity under open sky: -145dBm
- Cold start sensitivity: -145dBm
- Time to first fix (TTFF): Cold 32s, Warm 29s, Hot 1s

Wi-Fi/WLAN

- High throughput and extended range 802.11n 2T2R WiFi with transmission speeds up to 300Mbps

Network and Routing

- Static Routing, RIP (v1/v2), Port Forwarding
- DHCP Server, including :
- Address reservation by MAC address
- Custom DNS server definitions
- DHCP list display in Web-UI
- Advanced DHCP Option configuration (Option 42 NTP, Option 66 TFTP, Option 150, Option 160)

Network and Routing

- Tokara compliant VPN
- Tokara Configuration bundle unloadable via Web Browser (Certificate and configuration files)
- GPS Poller (GPS Location, Sim ID Signal Strength)
- Remote upgrade via Tokara Server
- Mac Address reporting.
- Preconfigured with test certificates

Administration and Configuration

- Web-based User Interface (HTTP/HTTPS) for full device status and configuration
- Telnet Command Line Interface for status monitoring, configuration and control
- Ping watchdog -Reset connection on repeated ping failure
- Diagnostic Log Viewer (remote and local)
- System Status and Security Logs

Firmware Management

- Firmware Upgrade locally via LAN or remotely Over-The-Air
- Multiple firmware image storage on device and dynamic install

Temperature

- Module Manufacturer's Recommended Operating Temperature: -40oC to +85oC
- Storage Temperature: -40°C to +85°C

Power Supply

- Module Manufacturer's Recommended Operating Temperature: -40oC to +85oC
- Storage Temperature: -40°C to +85°C