

Radiocrafts Product Flyer

TinyMesh Product Flyer

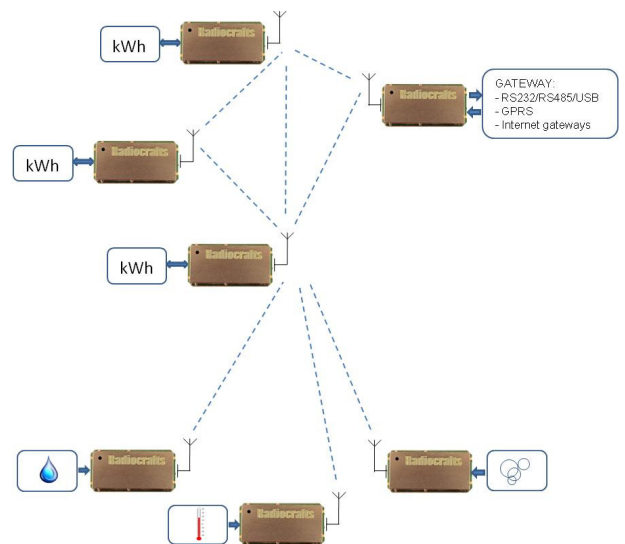
Mesh Networking RF Modules

Tinymesh

Summary:

- Complete mesh protocol embedded in a tiny module
- Self configuring and self healing
- Acknowledge and retransmission
- Out-of the box operation
- Bidirectional wireless communication in a multi-hop mesh network
- Self configuring
- Self healing
- Control and monitoring of individual nodes
- Acknowledge
- Retransmission(s)
- AES 128 encryption in hardware (optional)
- LBT (Listen Before Talk)

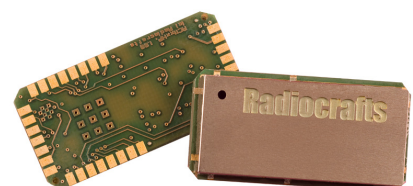
Powerful multi-hop mesh protocol



TinyMesh is a powerful multi-hop mesh protocol with bidirectional wireless communication for control and monitoring of individual nodes. The network data packages are 120 byte. The protocol is transparent and may carry application layers like for instance Wireless M-Bus (European norm), MODBUS, DLMS/COSEM and KNX RF

Complete protocol in tiny module

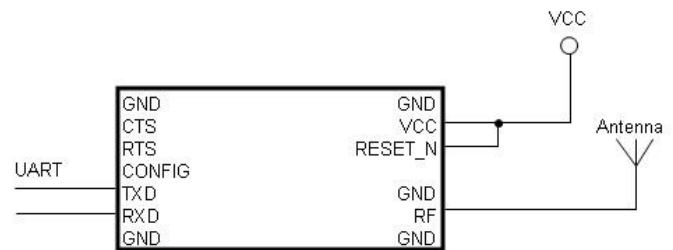
- Shortest time to market
- UART in - RF out
- Completely shielded
- 12.7 x 25.4 x 3.5 mm
- CE / FCC / G.S.R. compliant



Communication and configuration

Few electrical connections for easiest in-design:

- VCC and GND
- one-pin antenna interface
- two-pin UART serial interface



The UART (with hardware handshake) is used for (optional) configuration and serial data communication.

Minimum on-site deployment time is secured via self configuring:

- Power up the gateway
 - Build the network by adding nodes with wireless connections to the gateway
 - Observe LED indicators to control link quality and path redundancy during installation
 - Send data transparently from the nodes to the gateway or:
 - Send addressed data or I/O control - commands to any node from the gateway.
- 8-pin configurable digital and analogue input/output

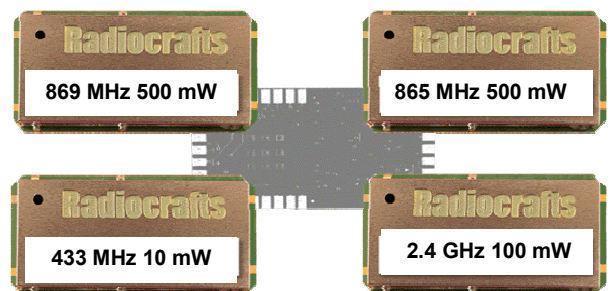
*Pin-compatible
modules for
world-wide
usage*

Same hardware, multiple frequencies

Radiocrafts' wide range of pin-compatible modules has been extended with the TinyMesh network protocol. The embedded protocol is available on several hardware platforms, still with the same pin-out and easy-to-use UART interface and one-pin antenna connection.

The available frequency ranges and output powers are:

- 433 MHz (10mW), world wide
- 869.5 MHz (500mW), Europe
- 865-867 MHz (500mW), India
- 902-928 MHz (10mW*), USA (*output power regulative apply)
- 2400 MHz (100 mW), world-wide

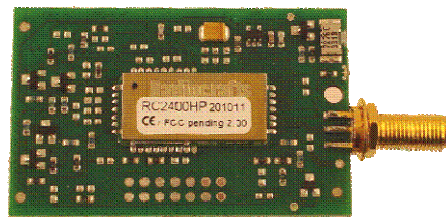
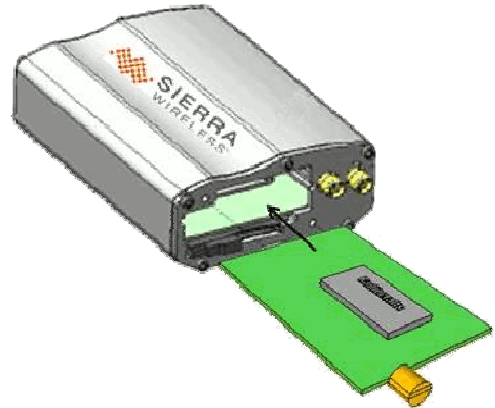


Same footprint, multiple frequencies

GPRS Gateways

Radiocrafts module portfolio is available for the Sierra Wireless AirLink GPRS/GSM/EDGE modem. Sierra Wireless is the leading provider of M2M modems. The combination of Radiocrafts' RF modules and Sierra Wireless GPRS modems makes an easy to use out-of-the-box gateway solution with full TCP/IP capability and processing power for extensive embedded applications. The Xtend directly connects to Radiocrafts I/O on the internal IESM card. The Open AT IDE is easy to use and the development tools are free of charge with extensive application support inside the Open-AT Software Suite.

This will give a cost competitive, high performance combination. The slot-in-card works with all types of Radiocrafts modules. A Radio Test Gateway (RTG) software for local connection to the RS232 port of the modem or for enabling transparent GPRS connection via AT-commands is available free of charge.



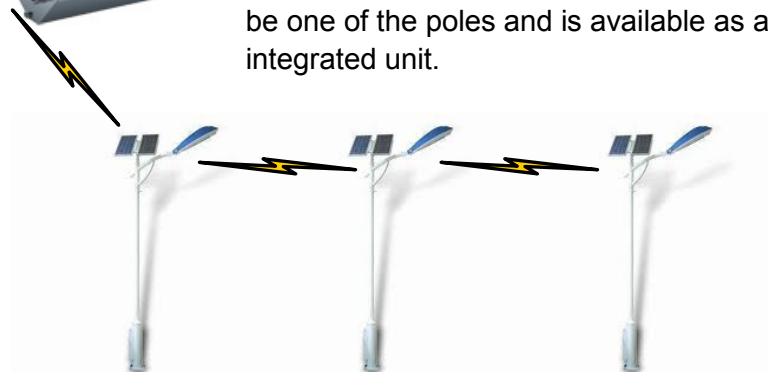
GPRS gateway from leading M2M partner.

Internet enabled AMR via Ethernet gateway

Street Lighting Application



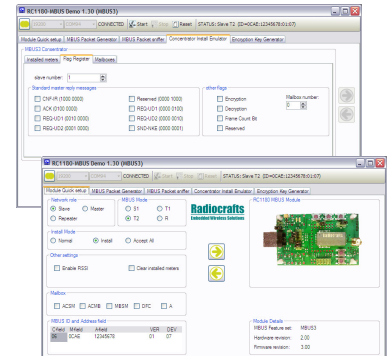
GPRS backbone



TinyMesh is the optimum protocol for street lighting applications where a large number of hops as well as redundancy is required. Together with the configurable I/Os, a fully embedded control- and monitoring solution is available. A GPRS access point will normally be one of the poles and is available as an integrated unit.

Demo kits and PC-Tools

Demo kits with USB connectivity and PC Tools for configuration and communication are available for all versions of the module. The demo kits provide out-of-the-box operation and are enabling rapid evaluation and shortest in-design time.



About Radiocrafts and TinyMesh

Radiocrafts offers RF modules for operation in the licence-free ISM bands at 300-2450 MHz. The compact modules are easy to integrate and use, for shortest possible time-to-market and lowest total cost of ownership for the end product. Radiocrafts participates actively in the standardization work for radio communication (via the OMS group and the TC 294 committee) and is a member of Figawa and the ZigBee Alliance.

Tiny Mesh provides dedicated, OEM- and general purpose low power RF protocols for intelligent applications requiring simple installation and reliable data collection and control. Tiny Mesh is an active participant in the Norwegian Centre of Expertise, Smart Energy Markets initiative. TinyMesh is a trademark of Tiny Mesh as.

- FREE review of customer schematics and PCB layout
- FREE support for optimum antenna design
- Quick support response time support@radiocrafts.com
- Custom hardware- and software designs
- Application specific designs
- Standard module modifications
- Turn-key solutions and volume deliveries
- Gateway solutions for GPRS/Ethernet, RS232/RS485 and USB
- Pilot- and demo systems for control- and monitoring