

Tinymesh

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Mesh networking made simple

TinyMesh

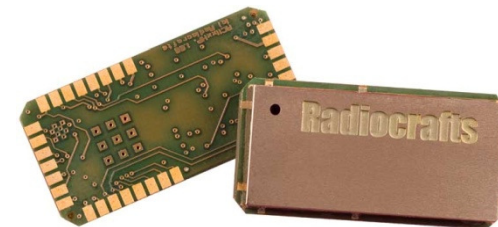
A self forming mesh network for control and data acquisition

Application friendly

Simple

Robust

Proven in operations since 2008



Application friendly

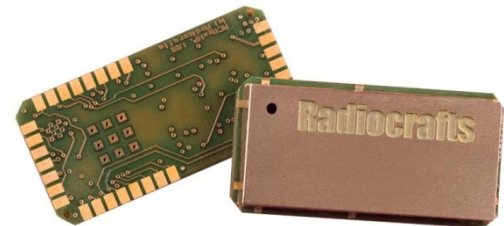
AMR

Street light control

Alarm and security

Building control

Tracking and surveillance



Simplicity

Self forming

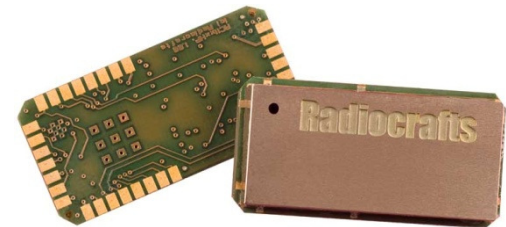
Transparent

Redundant

Pre configured

Simple install

Wide communication range



Robustness

Fully functional mesh protocol

- CRC - Integrity check of all packets
- LBT - Collision avoidance
- ACK - On packet and network level
- AES - Hardware encryption (Optional)

Application friendly

Serial port

Digital I/O

Analog In

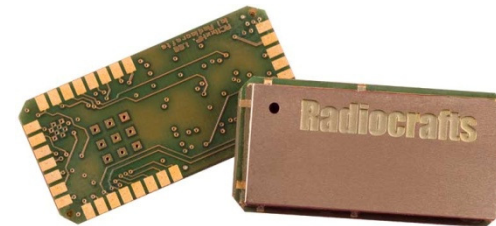
PWM Out

Pulse Counter

Chip Temperature

Voltage level

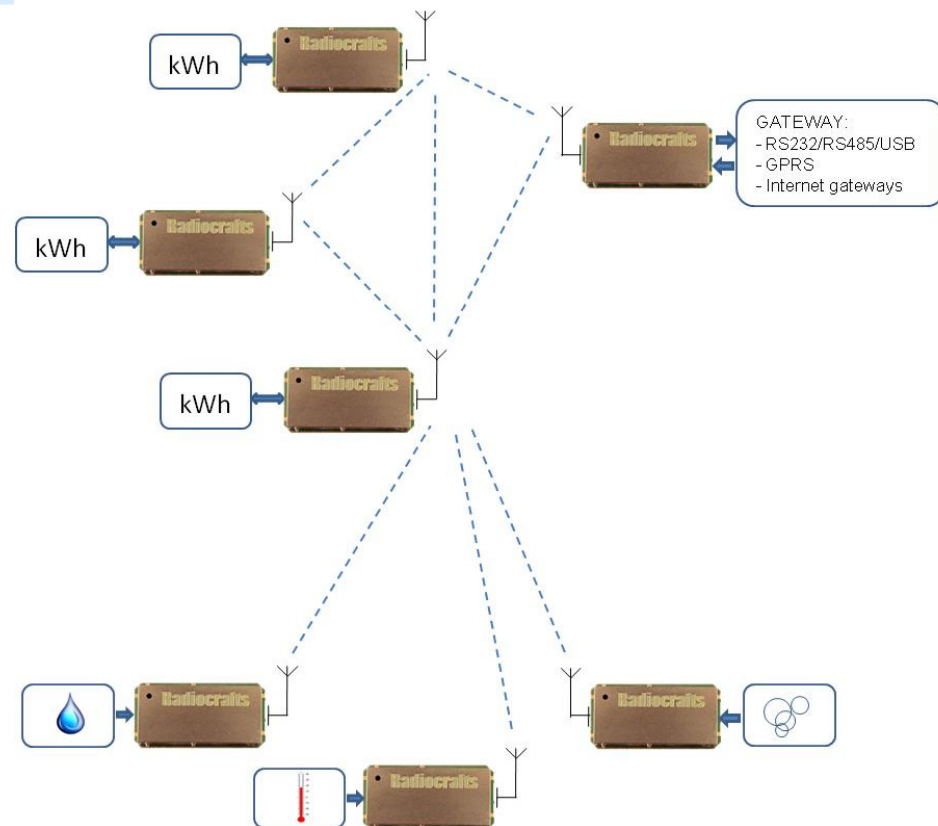
Battery mode



TinyMesh

Powerful multi-hop mesh protocol

- Self configuring
- Bidirectional wireless communication in a multi-hop mesh network
- Self healing
- Control and monitoring of individual nodes
- Acknowledge
- Retransmission(s)
- AES 128 encryption in hardware (optional)
- LBT (Listen Before Talk)



Complete protocol in tiny module

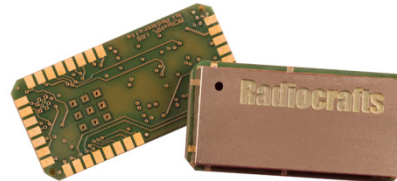
UART in - RF out

Completely shielded

12.7 x 25.4 x 3.5 mm

CE / FCC / G.S.R. compliant

Shortest time to market



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

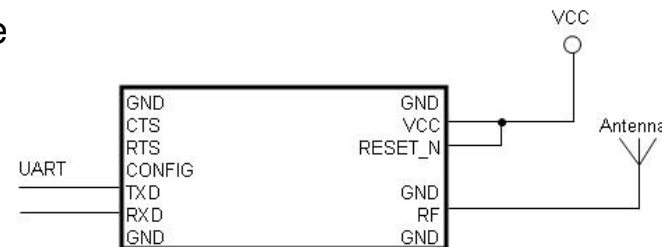
Communication and configuration

Few electrical connections for easiest in-de

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.

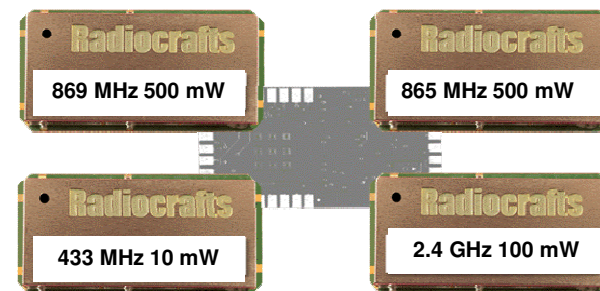
433 MHz (10mW), world wide

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

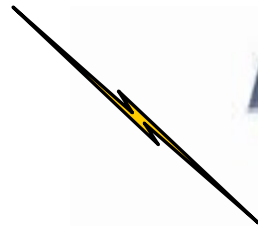


Same footprint, multiple frequencies

Street Lighting Application

Tinymesh

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.

