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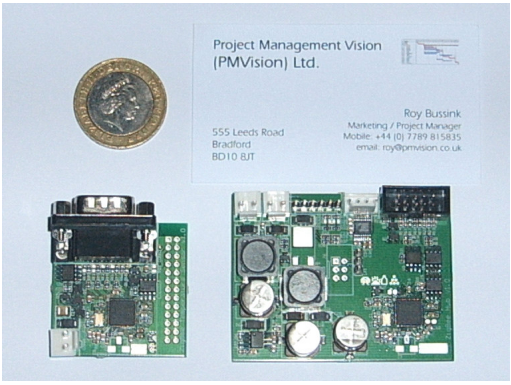
ZIGBEE READY WIRELESS MONITORING

PMVision

Designing from concept to production



Monitor & Control anything wirelessly

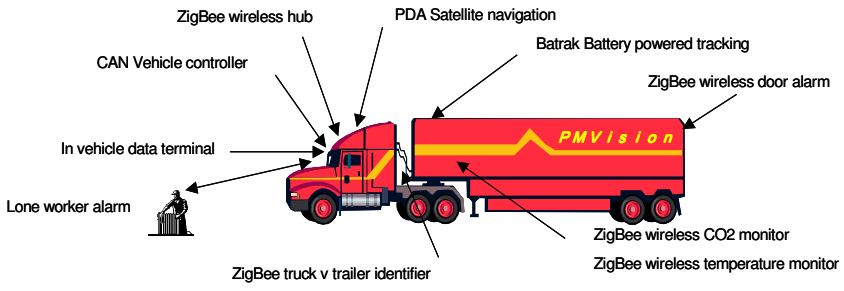
Available now are the PMVision ZigBee ready wireless monitoring devices and ZigBee ready local hub for the automotive and petrochemical sectors. Based around the new powerful Jennic JN5121 microcontroller the hub can be connected to existing telematics units with control/comms via serial or added to PMVision's Batrak battery powered tracking product.

The sensor tag is extremely low power and runs entirely on batteries; it can last for upto 3 years on 4 standard AA types. The tag is also very small in size – no bigger than a £2 pound coin.

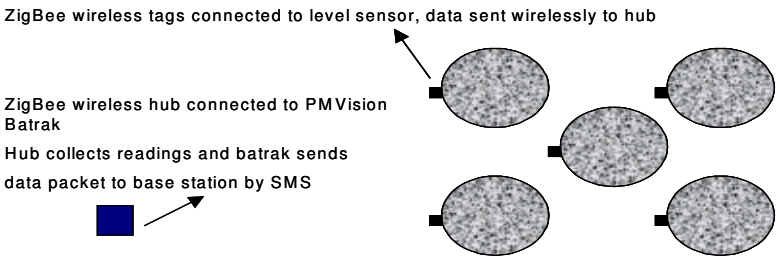
The sensor has a range of >100M in free air and >60M in an enclosed space. The standard unit measures temperature to an accuracy of ±0.2C, each tag and hub has 4 multifunction digital / analogue lines plus access to a SPI bus which are expandable so that sensors measuring for example CO2, CO, Alcohol, Humidity can be used, in fact the tag can monitor wirelessly any substance for which a sensor exists!

Many peripherals can be used with a single Hub utilising mesh, star or point to point networks within environments such as trailers, office buildings, ships and industrial complexes. Applications include remote monitoring (and control) of ; temperature, fluid levels, noxious gases, alcohol and with our CO2 sensor detection of stowaways. Assets and stock can also be monitored for example in container bases and carports.

Automotive **Application Examples**



Tank Farm **Application Examples**



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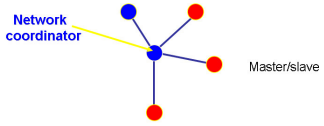
Free local download

Application Examples

Visitors / contractors issued a tag with GPS that saves their whereabouts to memory and downloads logs on exit. Alternatively tags can be used as repeaters setting up a wireless network allowing live tracking

Assets are fitted with a ZigBee GPS tag, the tag logs position throughout the week and a log is downloaded free to the hub on return to base



Full Function Device (FFD)
Reduced Function Device (RFD)
Communications Flow

About ZigBee

ZigBee's name comes from the zigzag dance that bees use to communicate the location of a pollen source. In a ZigBee network, messages find their way across nodes to a destination the way data traverses the Internet. Each installation requires a network coordinator to act as the host. IEEE 802.15.4/ZigBee is intended as a specification for low-powered networks for such uses as wireless monitoring and control, security, motion detection, temperature and basic communications.
A ZigBee network may have as many as 65,536 peripherals. Each node may operate in reduced function, which means transmitting periodic output from a sensor, or full function, in which the node acts as both a transmitter and receiver.

802.15.4 is a simple (28K byte) packet-based radio protocol aimed at very low-cost, battery-operated widgets and sensors (whose batteries last years, not hours) that can intercommunicate and send low-bandwidth data to a centralized device.

Key Features

Wide temperature range
Each tag has a unique ID
Range of upto 60 enclosed and upto 100M in free air
Can have hard coded temperatures or can be remotely configurable.
No external power, last for upto 2 years on 2 AA batteries
Small size
Wide range of case options upto IP67
Reporting frequency is configurable
Continually monitors external temperatures with configurable alarm parameters
Tight tolerance $\pm 2^0C$
Multiple I/O
Large onboard 32MB flash
Hub is easily integrated via serial into desktop PC / PMVision Batrak / existing telematic unit
Hub allows multiple devices to run from a single RS232 port

Example Of Available Sensors

-20^0C to 70^0C less than 95%Rh
Ozone, 0-100ppm for air purifier, pollution control
C2H2 (acetylene) detection within 500ppm-2000ppm C2H2
CO2 (Carbon Dioxide) detection within 500ppm-2000ppm
Catalytic (hot wire) gas sensor
Alcohol 30 to 2000ppm
Combustible gas 50 to 10000ppm
Carbon monoxide (CO) 30 to 1000ppm
CO 30 to 1000ppm and Combustible gas 300 to 10000ppm
I-butane, propane, LPG, 500 to 10000ppm
Methane, Natural gas, 500 to 10000ppm
Town gases, hydrogen, 100 to 3000ppm
Propane, butane, liquefied petroleum gas, 300 to 10000ppm
*Others sensors and above with different resolutions available