



Aqualarm RF Link description

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Features

1. Remote control of a main unit
The remote controller can be used to arm or disarm the main unit
2. Synchronisation between 2 units in a pool
The system can be armed/disarmed on one unit
3. Remote indicators
Each time an event occurs (alarm, tamper, battery low, rough condition) on the main unit, it is also displayed on the remote controller

RF link specifications

Frequency :	2.4 Ghzband. 16 channels from 2.4050 Ghz to 2.4800 Ghz, each separated by 5 Mhz.
Modulation :	O-QPSK with half sine pulse shaping modulation. Direct Sequence Spread Spectrum (DSSS)
Speed :	2 MChip/s, 62.5 kSymbol/s, 250 kBit/s
Physical and Mac layers protocol :	IEEE 802.15.4 (Physical & Mac Layers) Above layers : custom protocol

How it works

For the transmission to work, both units must have the same radio channel, and the same radio address (802.15.4 PanId).

A unit periodically checks for frames to be received. When a frame is received, an acknowledge is sent, and the frame is processed.

To send a message, the unit uses CSMA-CA (Carrier Sense Multiple Access with Collision Avoidance), and tries to send a frame until an acknowledge is received or a timeout occurs.

Each frame is verified with a 16 bit -polynomial check sequence.