

Smart Room Sensor

LoRaWAN® connected Home and Office Environment Monitoring

The **Smart Room Sensor** integrates a lot of useful functionality into a very small form factor. The Smart Room Sensor is ideal for holistically monitoring the home and office environment, whether it is measuring and reporting temperature, humidity, light, movement, motion, shock, or detecting leaks, open / closed doors and windows or other custom features. It also supports battery status for easy maintenance.

The sensor is optimized for long battery life and excellent RF performance. It is fully configurable over-the-air by the user for custom applications, behaviours, thresholds, trigger events and reports, enabling it to support many different Smart Home IoT applications with the same device. The Smart Room Sensor can be cost effectively and quickly modified for other applications and deployments, or custom packaged if required.

Applications

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|--|
| » Movement Detection (Doors, Drawers) |
| » G-Force Measurement (Settable Trigger) |
| » Motion Detection (PIR) - Optional |
| » On / Off External Contact - Optional |
| » On / Off Internal Magnetic Switch |
| » Pulse Reading (Water, Gas, other metering) |
| » Light Detection |
| » Temperature Measurement |
| » Humidity Measurement |
| » Moisture / Leak Detection - Optional |



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Technical and Functional System Specifications

General System Parameters

| | |
|------------------------------|---|
| Operational Temperature | 0°C to 60°C (10°C to 40°C optimal battery life) |
| Ingress Protection | IP30 |
| Size | 42 x 42 x 14 mm |
| Weight | 20 g |
| Battery (up to 10 year life) | CR2450 (replaceable) |

LoRa Parameters

| | |
|-------------------|------------------------------|
| RF Power | 14 dBm |
| RF Sensitivity | up to -137dBm (SF12, 125kHz) |
| ISM Band | NA915, EU868, AU915, KR920 |
| | AS923, IN865, RU864 |
| Antenna | Internal |
| LoRa Device Class | Class A |

Regulatory Compliance

| | | |
|------------|----------------------|------------|
| Safety | IEC 60950-1 (CE) | |
| Regulatory | ETSI EN 300 220 | |
| | ETSI EN 301-489-1/-3 | |
| | FCC 15.247 | FCC 15.209 |
| | RSS-247 | RSS-GEN |

Optimized Battery Life (Years) - CR2450

| | |
|-------------------------|--------|
| Operational Temperature | 20°C |
| Tx Power | 14 dBm |
| Rx Cycle/Hour | 1 |

| Transmission | SF 10 125 kHz | SF 7 125 kHz | SF 8 500 kHz |
|------------------|------------------|-----------------|-----------------|
| 4 packets / hour | +1.7 | 5.8 | 7.4 |
| 3 packets / hour | +2 | 6.8 | 8 |
| 2 packets / hour | 2.8 | 7.4 | 8.6 |
| 1 packets / hour | 4.4 | 8.6 | 9.5 |
| 1 packets / day | 9.8 | 10.3 | 10.3 |

Estimated Battery Life (Transmissions) - CR2450

| Temperature | Tx Power (dBm) | Tx Current (dBm) | Duty Cycle (%) | Expected Transmission |
|-------------|----------------|------------------|----------------|-----------------------|
| 20°C | 6 | 16.2 | 18.6 | 38.000 |
| 20°C | 6 | 16.2 | 9.3 | 59.000 |
| 20°C | 10 | 23.7 | 10 | 52.000 |
| 20°C | 10 | 23.7 | 5 | 94.000 |
| 20°C | 16 | 46.5 | 5.3 | 29.000 |
| 20°C | 16 | 46.5 | 2.7 | 35.000 |
| 10°C | 16 | 46.5 | 2.7 | 14.000 |



TEKTELIC Communications is a premier supplier of best-in-class LoRaWAN® IoT Gateways, Sensors, and custom applications. These elements combined provide a powerful end-to-end solution that can be easily, quickly, and cost effectively deployed to address the most demanding IoT challenges.

For more information please visit www.tektelic.com