



Critical Things®

EkkoSensor

Wireless Temperature and Humidity Sensors with optional display



By introducing the industry's first true Internet-of Things-enabled family of wireless thermal sensors, EkkoSense® has disrupted the traditional sensor cost model and made the real-time thermal management of critical facilities such as data centres a possibility.

Our ultra-low cost 'Critical Things®' sensors are compact and unobtrusive, and can be deployed in large numbers – ensuring that high spatial resolution is available, down to rack-level where required. This allows the air temperature and humidity at each asset of interest to be accurately monitored, and wirelessly transmitted to enable the measurement of values at predefined intervals.

EkkoSensors are entirely self-contained and battery-powered for simpler installation, and provide a direct sensor-to-hub linkage to keep the radio network simple and deliver predictable battery life and performance. Each sensor is uniquely identified at manufacture, and associated with a specific asset at installation.

The TDX EkkoSensor includes a local display of the measured temperature and relative humidity values and supports configurable temperature alert thresholds. The screens can be cycled through to show alert status, temperature profiles over the last hour, 24 hours and 7 days for quick thermal assessment on site.

All measurement data is encrypted with 128-bit AES encryption before transmission to an EkkoHub wireless data receiver for forwarding to our cloud-based EkkoSoft® Critical visualisation and analysis software.

EkkoSensors also support two optional additional external thermistors to add more measurement points. The sensor automatically detects the presence of additional thermistors and starts transmitting measurement values. 1.2m flylead thermistors are available as a standard accessory.



Secure
128-bit AES
encryption



EkkoSoft direct
mode for Edge
support



Integration with
existing 3rd
party systems



Comprehensive integration
capabilities for complete
data center coverage



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Parameter	Specification
Operating temperature range	-10°C to 55°C (14°F to 131°F)
Operating humidity range	0% to 100% non-condensing
Temperature accuracy (internal sensor)	±0.3°C typical (±0.5°F)
External inputs measurement accuracy (excluding accuracy of thermistor)	±0.6°C typical (±1°F)
External thermistor characteristic	10k at 25°C, B=3435K. Standard length 1.2m, other lengths available subject to minimum order quantity
Humidity accuracy	±2% typical from 20% to 80% RH
Temperature alerts (TDX model only)	Low and high thresholds configurable between -30°C and 69°C (-22°F and 156°F) Alerts can be generated by some or all temperature inputs
Weight	51g (1.8oz), 62g (2.2oz) in clip
Dimensions	75mm x 55mm x 22mm (3" x 2.2" x 0.9") 80mm x 58mm x 28mm (3.1" x 2.3" x 1.1") in clip
Operating range (from EkkoHub)	> 20m (21yds)
Battery life	> 5 years at 2 minute transmit interval (THX) > 3 years at 2 minute transmit interval (TDX)
RF data link	GFSK 250kbit/s at 868.3MHz (ES versions) or 923MHz (FS versions)
Enclosure material	Black ABS with polycarbonate front window
Mounting method	Cable tie through clip or self-adhesive pad
Power supply	Internal field replaceable ½ AA lithium thionyl chloride battery
Core regulatory approvals	CE marked: Radio Equipment Directive (RED) 2014/53/EU Low Voltage Directive (LVD) 2014/35/EU Radio EN 300 220 EMC EN 61326-1 with reference to EN 301 489 Safety - EN 60950 FCC rules CFR 47 Part 15.107 and 15.109 Class A FCC rules CFR 47 Part 15.247 ISSED RSS-247
Approved countries	Australia, Brazil, Canada, Chile, China, Columbia, European Union, Hong Kong, Japan, Saudi Arabia, Singapore, South Africa, UAE, UK, USA.



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