field SENSE

FS 60 5G

Personal RF Monitor

DATA SHEET

Technical Specifications

Frequency range of operation	50 MHz – 60 GHz
Frequency response	Shaped to measure in accordance with - ICNIRP (2020) - FCC [NCRP] OET65 (1997) - EU Directive 2013/35/EU - Canada Safety Code 6 (2015)
Probe architecture	- Electric (E-) field, 3x orthogonal axis isotropic for V/m assessment - Magnetic (H-) field, 3x orthogonal axis isotropic for A/m assessment - Combination of (E) & (H) for correct power density (S) in W/m2 or mW/cm2 - Results displayed as percentage of RF exposure standards
RF Exposure conditions	- Near field (close to antenna), E-field & H-field components unrelated and individually assessed for safety compliance to radiated standards, especially for low frequency FM & television transmitters - Far field (further from antenna), E- & H-field related as per free space and assessed accordingly - Multiple concurrent sources of RF, both near & far field correctly assessed and combined to present a single cumulative result in terms of relevant RF exposure standards
RF Current sensor (H)	Identify RF currents running on structures through concentrated H-fields - "Hot" guy & anchor wire assessments - Pre-climb structure RF current check
Sensor polarisation	Spherical dual polarised Isotropic (± 3 dB < 6 GHz)
Probe damage levels	26 dB above Standard | 40 000% of Standard
Radar	Not suitable for radar applications

Frequency response table

Frequency	ICNIRP (2020)	FCC/NCRP	2013/35/EU	Canada SC6 (2015)
50 MHz — 10 GHz	2.0 ± 3.0 dB	2.5 ± 3.5 dB	2.0 ± 3.0 dB	1.0 ± 4.0 dB
10 GHz — 27 GHz	1.0 ± 4.0 dB	1.0 ± 4.0 dB	1.0 ± 4.0 dB	1.0 ± 4.0 dB
27 GHz — 40 GHz	6.0 ± 4.0 dB	6.0 ± 4.0 dB	6.0 ± 4.0 dB	6.0 ± 4.0 dB
40 GHz — 60 GHz	7.5 ± 5.5 dB	7.5 ± 5.5 dB	7.5 ± 5.5 dB	7.5 ± 5.5 dB

Indicators & Alarms

Fall detection & alarm	3-axis accelerometer - Audio alarm sounded for free fall of 2 m | 6 ft - Alarm can only be cleared by power cycle
Visual RF exposure level indicators*	7x LED's - Percentage of exposure reference level - 2%, 5%, 10%, 25%, 50%, 100%, 200% 100% is exceedance of maximum permissible Occupational exposure
Audio RF exposure level indicators* 50% (5th LED) 100% (6th LED) 200% (7th LED)	4 kHz wind noise rejecting buzzer - 0.75 Hz beep rate - 1.5 Hz beep rate - 3.0 Hz beep rate
Low battery indicator	Battery potential continuously monitored and dedicated low battery warning indicator
Audio recording indicator	Dedicated audio recording indicator
Power on indicator	Pulsing (1 Hz) device ON indicator

* Levels and alarms factory programmed and cannot be reconfigured or tampered with by user to mitigate the risks of inadvertent or malicious RF overexposure

Device Tethering Features

Handheld operation	Adjustable wrist strap to avoid dropping device
Remote monitoring	Tripod attachment point ¼"-20 UNC thread
Multi-strapping option	Elastomer strap included for fastening the device to various objects
Harness attachment mechanism	Rapid, one hand operation harness clip with coiled lanyard included to stop inadvertent drops of the device

RF exposure level logging & Audio notes

RF logs stored	- E-field - H-field - Maximum - 6-minute average of Maximum ** all stored as percentage of exposure standard due to wide band shaped probe response
Optional RF logging disablement	RF logs cannot be disabled by user to ensure logs are kept of all exposure conditions
RF log data resolution	1 second resolution always stored
RF logging capacity	Typically, 3-6 months of data in real usage conditions, at 1 second resolution
Audio notes	Optional recording of voice notes once ON, double tap of POWER button initiates recording, single tap ends recording Up to 7 minutes of combined audio notes recorded and accessible via PC connection only – no device playback
Out of memory	Memory never full, circular memory model used to ensure current logs will always be recorded and oldest data overwritten first
Date & Time synchronisation	Synchronise to local date & time via PC software available for download at www.fieldsense.com
PC /MAC	PC only, via supplied USB cable

Usage & Maintenance

Operation	- Single button for switching device ON & OFF - Long press prevents accidental power cycle - Can be operated using thick gloves
Batteries	- 2x AAA (LR03) Alkaline batteries & 2x spare batteries - Intentionally non-recharging to mitigate risks associated with accelerated self-discharge rates of rechargeable batteries in cold climates, and travel/freight restrictions classifying as dangerous goods
Battery life	6-12 months on average usage
Battery replacement	Easily accessible compartment using 2x M2 threaded screws
Calibration	Recommended two-yearly calibration

Mechanical & Environmental considerations

Device dimensions	146 x 26 x 42 mm | 5.7 x 1 x 1.7 inches
Weight (including batteries)	115 g | 0.25 lb
IEC 60529 enclosure rating	IP64 (battery cap closed) Rain and dust sealed
Impact protection (IK) according to EN/IEC 62262 (2002)	IK08
Operating temperature	-20 °C to 50 °C | -4 °F to 122 °F
Packaging	Rugged, re-usable zipper case with foamed PU insert for safe storage and transport of device
User manual	Multi-language user manual included together with calibration certificate
Certification	CE, UKCA