

LS-G6

WIRELESS MONITORING SYSTEM

CUTTING-EDGE FEATURES

→ **DEPLOY ANYWHERE, FORGET ABOUT SIGNAL COVERAGE**

Long range communication up to 15 Km

→ **LOW POWER**

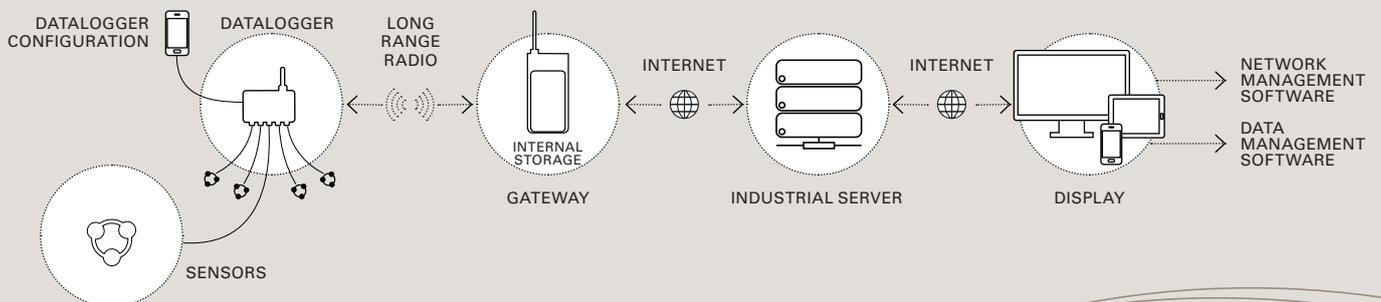
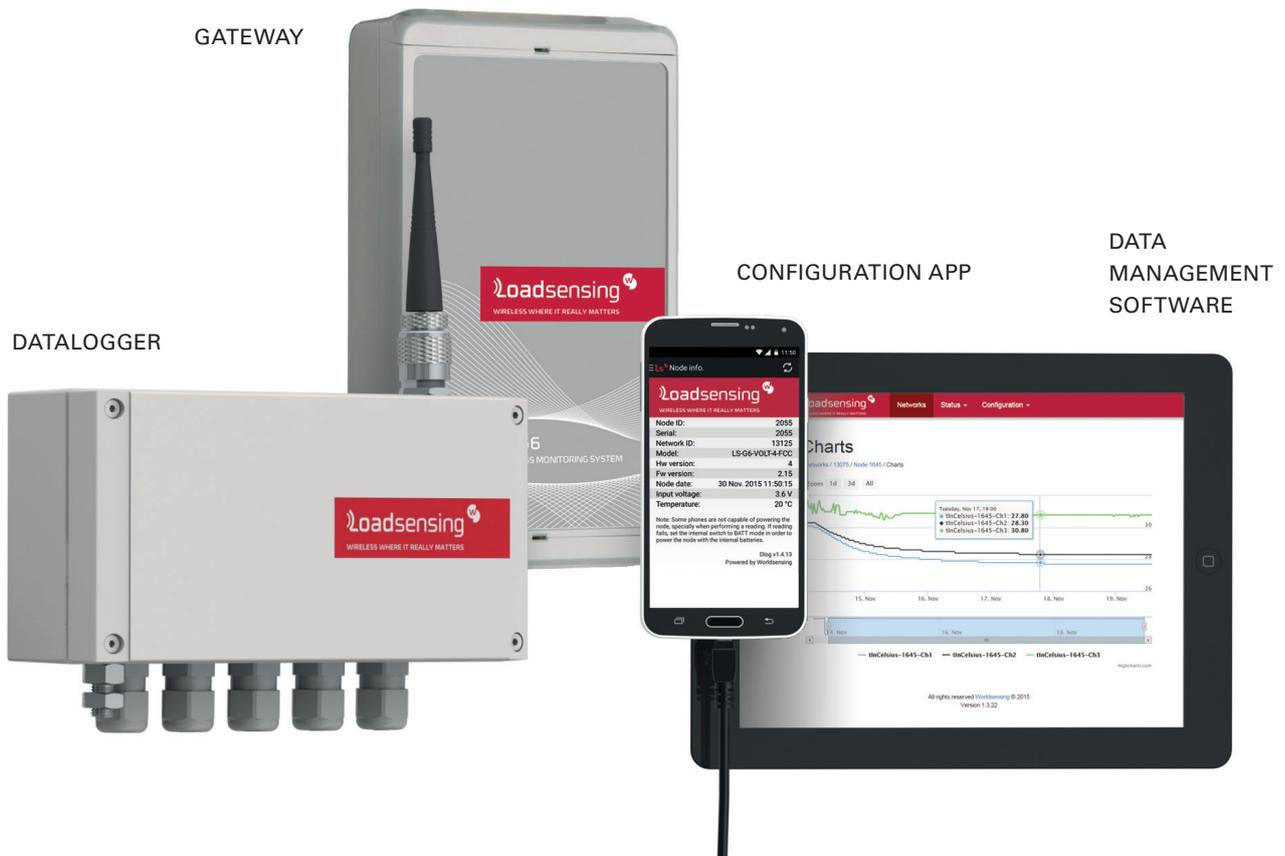
10 years of unattended operation, extended autonomy throughout the lifetime of the project

→ **SMARTPHONE APP FOR QUICK CONFIGURATION**

Easy configuration, no need for laptops on site

→ **SUPPORTS MOST STRUCTURAL AND GEOTECHNICAL SENSORS**

Vibrating wire, Digital, Analogue



DATALOGGERS - SPECIFICATIONS

ANALOGUE DATALOGGER 4 ch

Each channel is individually configured by the user

Equipped with a control port for operating a distributed multiplexer

Power supply: 5 V DC / 12 V DC / 24 V DC up to 100 mA selectable for each channel

VOLTAGE

Measuring ranges [V DC]: +/-10 ; +/-1.25 (8x)
Accuracy (-40 to +85°C): +/- 0.05 % FS

CURRENT LOOP (2-3 wires)

Measuring range: 4-20 mA
Accuracy (0 to +50°C): +/- 0.05 % FS

POTENTIOMETER

Accuracy (0 to +50°C): +/- 0.02 % FS

FULL WHEATSTONE BRIDGE

Accuracy (0 to +85°C): +/- 0.1 % FS

THERMISTOR

Accuracy (0 to +50°C): +/- 0.2°C

PT 100

Accuracy (20°C): +/- 0.8°C

VIBRATING WIRE DATALOGGER 1 ch and 5 ch

VIBRATING WIRE

Measurement method: Embedded algorithms increasing immunity to noise

Excitation wave: +/- 5 V

Measurement range: 300 to 7,000 Hz

Resolution (-40 to +85°C): 0.12 Hz

Accuracy (-40 to +85°C): 0.018 % FS

THERMISTOR

Measurement range: 0 ohm to 4 Mohm

Resolution: 1 ohm

Accuracy (20°C): 0.05°C (0.04 % FS)

BAROMETER

Pressure Range: 300 to 1,100 hPa

Relative Accuracy (950 to 1,050 hPa at 25°C): ±0.12 hPa

DIGITAL DATALOGGER

One RS485 channel and two SDI-12 channels

Power supply: 12 V DC up to 120 mA

RS485 full or half duplex supported

Suitable for a chain of up to 30 biaxial in-place inclinometers

Modbus RTU RS485

DATA STORAGE AND POWER

INTERNAL DATA STORAGE:

Up to 72,500 readings, including time and 5 sensors
Up to 200,000 readings, including time and 1 sensor

POWER:

Internal standard C-size batteries. 1 to 4 batteries, depending on autonomy requirements

BATTERY LIFE ESTIMATION	1 SAMPLE EVERY 5 MIN	1 SAMPLE EVERY 60 MIN
5 - channel vibrating wire	7 years	More than 10 years
4 - channel analogue (FWB/TH/POT/PT100)	6 months	More than 5 years
Digital bus 15 biaxial in-place inclin	3 months	2.5 years

Battery capacity: 23.2 Ah. Room temperature

MECHANICAL

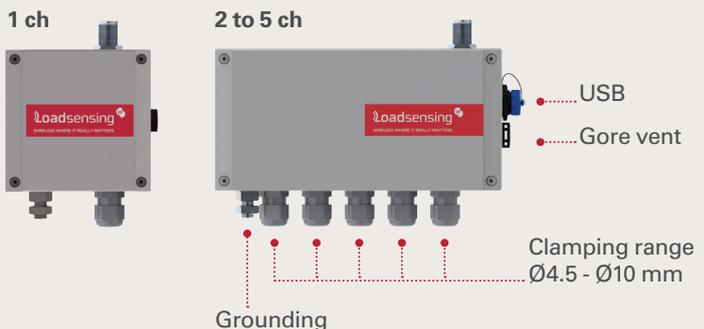
SIZE
1 ch: 145 x 105 x 61 mm
2 to 5 ch: 145 x 220 x 61 mm

WEIGHT
1 ch: 850 g without batteries
2 to 5 ch: 1100 g without batteries

HOUSING MATERIAL: Aluminium alloy

LOGGING TEMPERATURE RANGE: -40 to +85 °C

IP67 rating. Higher protection on request



G6 CONFIGURATION APP

- Simple and fast connection to datalogger
- Runs only on Android devices
- Easy sensor configuration: ID, sampling rate, sweep, etc.
- Checks radio signal coverage
- Records coordinates (GPS)
- Downloads data from datalogger and sends by e-mail or saves it on the Android device
- Takes current reading
- Updates datalogger firmware



ACCESSORIES

- Soft LSH 14 C-size spiral cell (code: LS-ACC-CELL-1C)
- Datalogger-mobile cable (code: LS-ACC-MUSB-OTG)
- External mounting brackets (set of 2) for wall mounting (code: LS-MEC-MP-001)
- Plate for pole mounting. Includes: U-bolts and nuts for a pole diameter of less than 50 mm (code: LS-ACC-POLE50) or of less than 35 mm (code: LS-ACC-POLE35)

GATEWAY



- ISM Sub 1 GHz band, sensitivity: up to -137 dBm
- Detachable omnidirectional $\frac{1}{2} \lambda$ dipole
- Integrated GPS antenna
- GNSS High Sensitivity GPS module

POWER

- Power supply: 48 V DC PoE
- Nominal: 3 Watts
- DC power supply (ex.: solar panel use): 11 to 30 Volts

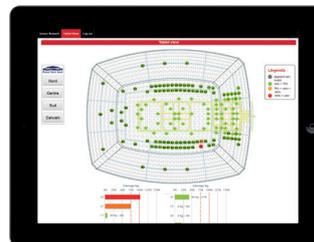
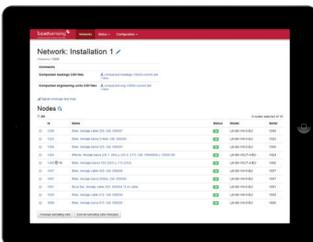
MECHANICAL

- Size: 210 x 310 x 170, including mounting kit
- Weight: 2 kg including mounting kit
- IP67 rating
- Operating range: -20 to + 60 °C

NETWORK INTERFACES

- 10/100 Ethernet WAN (RJ45 PoE)
- Integrated 3G Modem & Antenna (HSDPA, EDGE, GPRS) quad band

WEB PLATFORM/SOFTWARE



NETWORK AND ASSET MANAGEMENT SW

- Network communications configuration and control
- Datalogger and sensor attributes display
- Datalogger configuration
- Sensor data in real time
- Conversion of raw sensor data in engineering units
- Manual and automatic data download in .csv
- Data transmitted in a secure manner

DATA MANAGEMENT SW

- Sensor data visualization and download (tables and graphs)
- Topological view
- Creation of virtual variables
- Configuration of alarm thresholds
- Alarms sent to stakeholders by email
- Automatically generated reports (tables, graphs and notes)

RADIO & APPLICATIONS

LONG RANGE RADIO

OPEN FIELD	15 km
CITY STREET	4 km
MANHOLE IN A CITY STREET	2 km
TUNNEL	4 km

RADIO SPECS

ISM sub 1 GHz operating frequency bands adjustable to each territory requirements

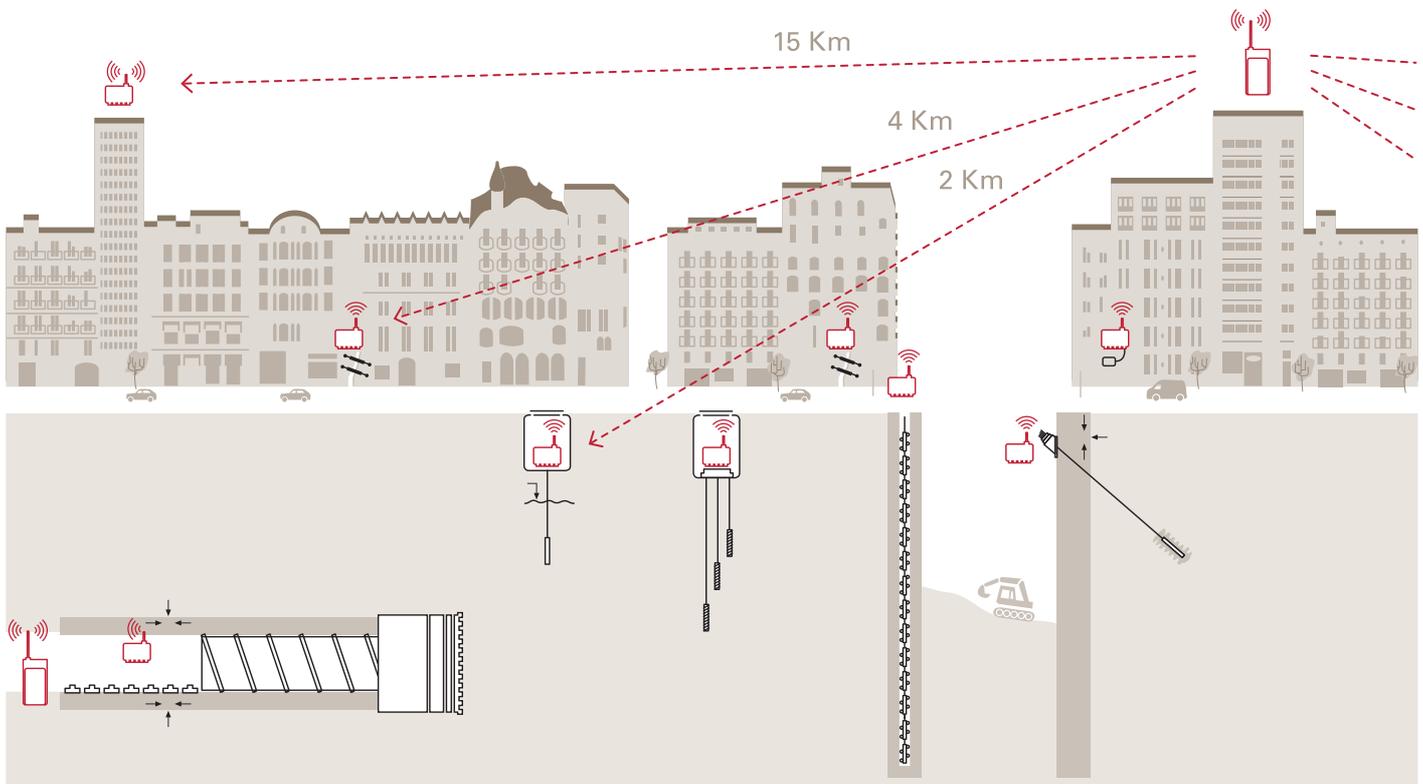
No repeaters needed

Sensitivity : up to -137 dBm

Transmission: +14 dBm high efficiency / +20 dBm

Maximum link budget: 151 dB

Remote sampling rate change



DECEMBER 2015



+34 934 180 585 · www.worldsensing.com · industrial@worldsensing.com

DISTRIBUTOR



Geotech International Vietnam Co., Ltd.

So 11, Ngo 51, Pho Hoang Cau
 O Cho Dua, Dong Da, Hanoi, Vietnam
 Tel: (84-4) 3513 2763 Mob: (84-90) 343 3326
 E-mail: geotech@geotechinternational.com
 Website: geotechinternational.com