



LoRaWAN Compression load cell sensor

This device reads weight and sends collected data over the LoRaWAN™ network. Ideally suited for a wide range of applications such as building automation, condition monitoring, predictive maintenance and many more use cases.

Features

- Operating Force: 1000 lbf
- Up to 15 years battery life
- Suited to continuous level weight measurement
- Configurable reporting schedule
- Programmable internal level alarms to give real time visibility to critical levels
- EU 863-870MHz

Benefits

Having visibility to remote weight readings offers:

- Real time visibility to abnormal conditions
- Ability to track historical weight variations
- Optimized efficiency: a cost effective solution that saves time and money
- Real-time data and alerts for quick troubleshooting and data-driven decisions
- Improved inventory management



Specification

Characteristic	LoRaWAN Compression load sensor
Dimensions Weight	60mm(2.4") x 105mm(4.1") x 73mm(2.9") 320g(0.7lb) including compression load cell, 220g(.49lb) without.
Housing Material	Acrylonitrile Butadiene Styrene (ABS) black moulded enclosure.
Operating Temperature	-20°C to +55°C / -4°F to +131°F Note 1
Storage Temperature	+20°C to +25°C / 68°F to +77°F clean, cool, dry and ventilated. Note 1
Humidity	15 – 95% RH
Environmental Protection	Ingress protected to IP68, Impact resistance to IK06, UV resistant, Flammability rating UL94-V0, Chemical resistant. Compression load cell is IP64 rated.
Frequency	863 - 876MHz Nominal 868MHz ISM band.
Output power	+14dBm (25mW) (as measured into the internal antenna on the PCB; internal antenna gain = -3dB typ)
Receiver Sensitivity	Up to -136dBm
Approximate range	More than 15km/9.3 Miles range in sub-urban situation (depends on environmental configuration) More than 2km/1.25 Miles range in urban situation (depends on environmental configuration)
Compression Load Cell	32mm/1.2" diameter load cell with M3 mounting screws and 0.6m/2ft cable length. Range options 20....900kG.
Accuracy/resolution	Accuracy of +/- 1% (Ta = +25°C/77°F). 0.5 4.5V ratiometric output with 10 bit (1023 A/D) resolution.
Material compatibility	Suitable for use with neutral or non corrosive media.
User interface	Slide switch with bi-colour LED for user feedback on unit status and RF signal strength.
Battery life	Up to 15 Years from activation (Note 2).
Battery technology	3.6V SAFT LS17500 or EVE ER17505 capacity 3.6Ah
Manual Activation	Integrated slide activation switch. Installation feedback is provided via a bi-colour LED.
Mounting	Wall mount with screws, Vertical pipe mounting with cable ties, Horizontal pipe mounting with cable ties

Conformity

EMC directive 2014/30/EU	The Electromagnetic Compatibility (EMC) Directive ensures that electrical and electronic equipment does not generate, or is not affected by, electromagnetic disturbance.
LVD directive 2014/35/EU	The Low Voltage Directive (LVD) ensures that electrical equipment within certain voltage limits provides a high level of protection for European citizens, and benefits fully from the Single Market.
RED directive 2014/53/EU	The Radio Equipment Directive ensures a Single Market for radio equipment by setting essential requirements for safety and health, electromagnetic compatibility, and the efficient use of the radio spectrum
RoHS directive 2011/65/EU	This Directive lays down rules on the restriction of the use of hazardous substances in electrical and electronic equipment (EEE) with a view to contributing to the protection of human health and the environment, including the environmentally sound recovery and disposal of waste EEE.
LoRa Alliance	Compliant to LoRaWAN 1.0.2 Specification
REACH	REACH (EC Regulation 1907/2006)

Note 1: Storage and operation above 25°C(77°F) may reduce battery life. Shelf life recommended not to exceed 12 months. Compression load cell compensated operating temperature range is 0°C to 50°C (32°F to 122°F).

Note 2: Based on activation within 6 months of the manufacturing date of the product, and device configuration for 4 measurement per day, 4 LoRaWAN connections per day from a location where the LoRaWAN coverage does not require retries (SF12), and a normal distribution over the operating temperature range centered at +25°C (77°F).