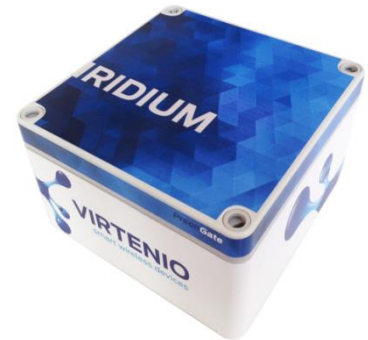# PreonGate IRIDIUM Gateway

Satellite radio gateway for IEEE 802.15.4 radio networks

Product attributes

- Wireless connection between PreonCubes and PreonLive portal my.virtenio.com
- Compact satellite radio gateway (IEEE 802.15.4 for IRIDIUM | SBD)
- Integrated GPS/GLONASS module for location determination
- Continuous wireless connection from measuring point to cloud
- Secure radio communication (min. 128 bit AES encryption)
- Modular compatibility with all PreonCubes
- Internal antenna IEEE 802.15.4
- External antennas for IRIDIUM and GPS/GLONASS
- Powered by lithium battery, rechargeable with USB power supply unit
- Robust housing (IP65) with pressure compensation valve
- Dimensions of 155 x 130 x 75 mm (L x W x H)

Beschreibung

The PreonGate IRIDIUM Gateway with GPS functionality connects any PreonCube to the VIRTENIO online portal PreonLive. It uses a satellite radio connection and transmits the data of the numerous measuring points, such as those of PreonCube Logistics Advanced, to the online portal. The PreonCubes also transmit their data wirelessly via IEEE 802.15.4, so that all communication from the sensor to the cloud is wireless. IEEE 802.15.4 provides the cubes and gateways of VIRTENIO with a standardized framework format that can be used to implement simple point-to-point communication protocols up to 6LoWPAN (multi-hop network) with duty cycling. For operation, the gateway uses a powerful lithium-ion battery, which can also be used for several weeks without being connected to the mains. The battery can also be recharged during operation via a USB A socket. The robust housing (IP65) with pressure compensation valve allows use under demanding ambient conditions. The data can be viewed, analysed and exported via the PreonLive online portal using a web browser. Thus, they can monitor their remote measuring cubes from any PC, smartphone or tablet with Internet access and have an overview of their local environmental conditions at any time (24/7).

Connectivity

The PreonGate IRIDIUM Gateway connects the local VIRTENIO radio network directly to the IP-based Internet. This means that there are no other requirements for the communication infrastructure on site worldwide. There is no need for additional hardware, software nor power supply. The PreonGate IRIDIUM gateway is prepared for future applications in the area of "Internet of Things and Services" and can be updated to support 6LoWPAN (multi-hop functionality) with duty cycling via IEEE 802.15.4 through a software update.In addition, the gateway supports IPv4 and is ready for IPv6.

Anwendung

- Areas of application: Logistics, transport, warehousing and building services and offshore
- Usage: Accurate monitoring of transports, processes, machines and buildings, etc.
- 24/7 monitoring, verification, control and alarming
- Spot checks or long-term measurements

General

Dimensions	155 x 130 x 75 mm (L x B x H)
Weight	630g
Housing	Polycarbonate
Protection class	IP65 (housing) with pressure compensation valve
Power supply	Lithium-ion battery with 13400mAh capacity; power supply with USB connection
Operational modes	Battery; power supply with 5V@1A
Operating temperature:	-20°C to +50°C (battery supply); 0°C to +40°C (power supply operation)
Interaction	Touchless Reed Switch, LED (three-color)
Interfaces	Robust, waterproof socket for power supply unit SMA sockets for external antennas

Radio communication (WPAN)

Radio frequency	2.4 GHz, license-free ISM band
Radio standard	IEEE 802.15.4
Range (up to)	outdoor 300m / indoor 30m
Safety	At least 128 Bit AES
Radio protocol	Point-to-point: proprietary; Mesh network: 6LoWPAN (optional)
Radio Channels	16
Antenna	internal in housing

Radio communication (IRIDIUM)

Frequency bands	1616 - 1626.5 MHz
Transmission power	1.6W (max.)
Radio-standard	Iridium SBD
Transmission internal	6 hours (standard, programmable)
Antenna	External antenna specified by VIRTENIO GmbH

Positioning

Radio standard	GPS and GLONASS
Accuracy	2.5m
Antenna	External antenna specified by VIRTENIO GmbH
Other technologies	Triangulation via Iridium

Norms and standards

CE

Electrical safety	EN 62368-1, EN 62311
EMC	EN 301 489-1,-17,-52
Radio	EN 300 328, EN 303 413, EN 301 511, FCC Part 15
RoHS	EN 50581