smartLine

CHECK▸TRACE▸CONTROL

PRODUCT DATA SHEET

SmartGate

Model: SL-SG-3G EU or SL-SG-3G US

smartGate

How it works
The SmartLine product range consists of a wireless network infrastructure, including SmartGate and SmartRouters, in combination with intelligent tags, called SmartPoints. The SmartGate is the central reader device, that together with the SmartRouters, forms the wireless network infrastructure. The SmartGate controls the SmartRouters and SmartPoints to create a completely autonomous multi-hop wireless mesh network.

Data transmission
SmartPoints wirelessly transmit their sensor data to the SmartGate directly or via SmartRouters that extend the range of wireless communication. From the SmartGate, the sensor measurements are securely communicated to the central berlinger SmartView web application using 3G communication. This enables an integrated real-time view on shipments and storage facilities.

Deployment
The SmartGate device is suitable for deployments where existing internet infrastructure is unavailable or not permitted. It provides 'plug and play' deployment requiring no experience or additional configuration. The SmartGate includes a modem that combines 2G and 3G. As a result, The SmartGate functions as a stand-alone product requiring only a power source. Furthermore, the SmartGate includes an internal back-up battery that allows for up to 72 hours operation when mains power is not available.

Applications
The SmartGate is ideally suited for pharmaceutical distributors and logistics companies that handle temperature-sensitive cargo. This network component can be installed and deployed in combination with the SmartPoints and SmartRouters for the following applications:

Shipment monitoring: The SmartGate will read-out the temperature information from the SmartPoints that have been attached on the high-sensitive shipments.

Facility monitoring: When placed inside storage facilities, the SmartGate will ensure the continuous monitoring of the facility.

Vehicle monitoring: The SmartGate can be placed inside vans or trailers together with SmartPoints to continuously collect temperature information while in transit.

Features

- **2G & 3G**
  The SmartGate has a state-of-the-art modem that combines 2G and 3G. As a result, The SmartGate functions as a stand-alone product requiring only a power source.
- **Robust**
  The SmartGate is extremely robust due to the aluminium enclosure. It can be employed both in indoor and outdoor environments, using various mounting options.
- **Low-power**
  The SmartGate is optimized for low-power operation, making smart use of the 3G modem and our low-power IEEE 802.15.4 mesh network.
- **Automated logging & flushing**
  With 8MB internal data storage, the SmartGate logs all sensor readings, and automatically flushes the log after a temporary connection loss, offering a high degree of reliability.
- **LED-feedback**
  Three LEDs provide status feedback of the 2G/3G connection, SmartLine networtk and SmartGate power status.
- **IEEE 802.15.4 PHY compliant**
  Standardised and license free, worldwide.
- **Power**
  The SmartGate supports a 9-48V input, enabling transport application, but can also be powered using an external adapter or rechargeable Li-ion battery.
- **Data availability**
  Via a connection to a secure host server, the data is accessible wherever and whenever you need it.
- **Data presentation**
  Data is transmitted, and represented, using well-established industry standards. Data communication is performed using the Message Queue Telemetry Transport (MQTT), a open message protocol. The data is represented in extensible Markup Language(XML) to ensure simple integration, whilst maintaining flexibility regarding the data content.
- **Two models (SmartGate EU and SmartGate US)**
  There are two different types of SmartGate available, depending on application site / geographical region.
  The „EU" model is tailor made for an application within Europe whereas the „US" model is targeted for America.

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Physical Specifications	
Size (LxWxH)	160 x 100 x 35 mm
Weight	530 g
Protection class	IP54, white
LED	3 x multi-colour LED
Antenna	3 x reverse SMA 2.4 GHz for IEEE 802.15.4 3G / GPRS
Storage condition (inactive)	+5 °C to +30 °C
Operating environment	-10 °C to +65 °C
Technical Specification	
Battery type	Lithium ion polymer battery (rechargeable).
Battery	Battery complies with IATA DGR Packaging Instruction 967 Section II
Charge time	4 hours (80 %) at +20 °C <8 hours (100 %) at +20 °C
Mains	9-48 V
Charge temperature	+5 °C to +40 °C
Memory	8 MB
Cellular	
Bands	GSM / GPRS / EDGE: 850 / 900 / 1800 / 1900 MHz UMTS/HSPA: {800/850} / 900 /AWS1700 / 1900 / 2100MHz
Included accessories	1 x 2.4 GHz swivel antenna, adapter, mounting kit, 2G/3G antenna
IEEE 802.15.4	
Radio	IEEE 802.15.4 PHY compliant
Frequency	2405 to 2480 MHz, 16 Channels
TX	+10.0 dBm (max. EIRP)
RX	-99.0 dBm at 1% PER
Typical range	100 m (LOS)

Compliances	
	EU: CE **EU and US model:** RoHS, WEEE, IP54 **US model:** FCC Part 15B, ICES-003

berlinger smartview®

berlinger SmartView is the leading 'sense and respond' solution for global cold chain management.

Real-time view
berlinger SmartView provides an integrated real-time view on the condition and location of temperature-sensitive products. Data is collected in an open platform from a variety of sources, including SmartLine sensors.

Pro-active intervention
With the application of user-defined business rules it enables pro-active intervention to respond to exceptional situations.

Proven solution
berlinger SmartView has proven to deliver significant benefits to manufacturers, logistics service providers and wholesalers in the global pharmaceutical and food supply chain.

Experience the power of control www.berlinger.com/smartview

* with a special configuration the battery lifetime can last up to 72 hours. Under normal conditions, the battery will last 24 hours.

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