smartLine

CHECK▸TRACE▸CONTROL

smartRouter

How it works
smartRouters are the data repeaters in the smartLine wireless sensor network infrastructure. Together with a smartGate they create a multi-hop mesh network that is completely autonomous. In a multi-hop mesh network smartRouters can transmit messages to the smartGate by forwarding messages to each other.

The smartRouters enable an extension of the network range in case the smartPoint wireless data loggers cannot communicate directly with the smartGate because of range impediments.

Data transmission
The network infrastructure is self-organizing and the smartRouters only require an available mains power outlet. Since an environment within a facility or storage area may change due to forklifts moving, trucks and trailers docking, or other operational obstructions, the redundancy and flexibility of the network is ensured, as the infrastructure will be able to cope with these changes unsupervised.

A smartRouter is truly plug-and-play; by switching it on it will automatically search and connect with devices within range; using four screws the smartRouter can be fitted to a wall easily (mounting bracket needed).

Deployment
smartRouters are installed in an area together with the smartGate reader device in order to build up the smartLine network infrastructure. The smartLine infrastructure supports smartPoints to be used as wireless data loggers, allowing them to flush their back-log of sensor data within minutes, when arriving in range of the network.

Application

The smartRouters in combination with the smartGate are mainly used for the real-time static monitoring of temperature-controlled storage areas and facilities.

The devices will forward the information from the smartPoints that are installed in the cold rooms or ambient areas, to the smartGate device, which will then forward the information to the berlinger smartview® application.

berlinger smartview

smartGate

smartRouter

smartPoint

Features

- **IEEE 802.15.4 PHY compliant 2.4 GHz Radio**
  Standardized and license-free, world-wide
- **Multi-Hop mesh network**
  Supporting hundreds of smartPoints that can roam from network to network freely and flush data backlogs of weeks in a couple of minutes
- **Easy to install & mount**
  A smartRouter is truly plug-and-play; by switching it on, it will automatically search & connect with devices within range: With mounting brackets the smartRouter can be easily mounted
- **LEDs for visual inspection**
  During and after installation, the LEDs will clearly and plainly indicate the operational status of the smartRouter
- **Robust IP54 enclosure**
  Resulting in a durable product able to withstand rough environments and resist dust and rain
- **5 days back-up battery**
  In ease of power failure, the smartRouter can operate on its back-up batteries for up to 5 days unattended
- **Secure**
  Configurable security settings making it possible to shield off any network from unwanted participants
- **CE, FCC and IC type approval**
  Covering Europe and North America
- **Remote firmware upgrades**
  When required, the entire infrastructure can be upgraded remotely and reliably
- **Alerts**
  As the smartRouter is an autonomous device, it will detect and report any potentially problematic situation, such as power loss

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berlinger
feel safe

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Physical Specifications

Physical Specifications	
Size (LxWxH)	100 x 68 x 50 mm
Weight	232 grams, excluding power supply
Protection class	IP54
Storage condition	0 °C to +30 °C
Operating environment	-40˚C to +85˚C

Technical Specification	
Back-up Battery	Lithium rechargeable (-10 °C to +40 °C) Complies with IATA DGR Packaging Instruction 970-Section 2 and is therefore not considered as dangerous good.

Cellular	
Output power	External, 6.0 – 48V, 500 mA
Included accessories	Power Supply; 2.4 GHz Antenna

IEEE 802.15.4	
Frequency	2.405 to 2.475 GHz
Typical range	100 m (LOS)

GPS	
Wireless connection	IEEE 802.15.4 PHY radio compliant
Compliances	FCC, IC, RoHS compliant, WEEE, CE

berlinger smartview®

collect · filter · analyze · share

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