



Distance measurement  
and user data transmission



## High-Precision Distance Measurement and Reliable Collision Avoidance

# LPR<sup>®</sup>-1D24

The LPR<sup>®</sup>-1D24 is a highly precise radio sensor for distance measurement. A single pair of sensors performs long range measurements with high accuracy. At the same time, additional measurement data such as the hook height or load status of a crane can be transferred via the wireless LPR<sup>®</sup> channel<sup>1)</sup>. The relative approach speed of the LPR<sup>®</sup> sensors is also available.

Distance and speed readings can be used to avoid collisions by issuing alarms at predefined thresholds, for example via on-board relays. All data is available at standard interfaces on each unit in real-time.

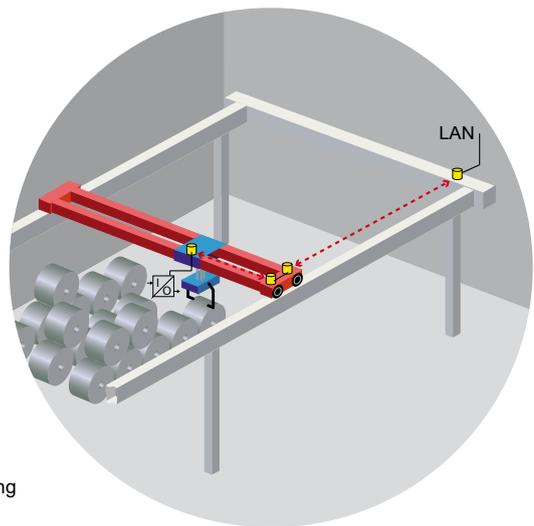
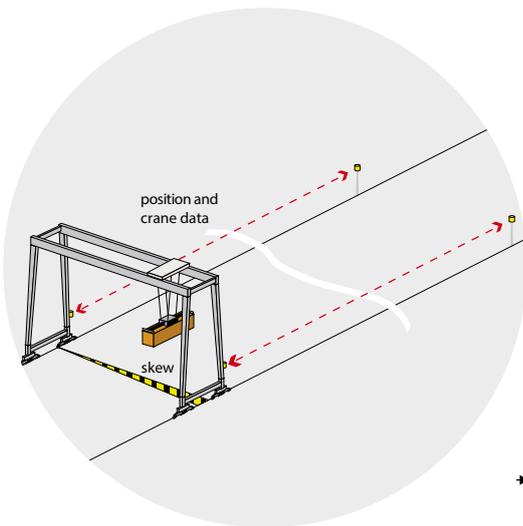
Since the multi-channel radio antenna is integrated in the robust housing, the devices are easy to install and operate. A rough alignment between the facing units is sufficient for precise measurements, even over very long distances. The units can be easily configured and commissioned via a user-friendly HTML-based interface. No special software is needed.

The Symeo LPR<sup>®</sup> radio is highly reliable, even under adverse environmental conditions. It never interferes with WiFi equipment operating in its proximity. LPR<sup>®</sup>-1D24 sensors are maintenance-free.

Paired sensors can be interconnected with other pairs via data interfaces, thus making it possible to provide a crane's XY position simultaneously and make all measurement data available for further processing on all units.

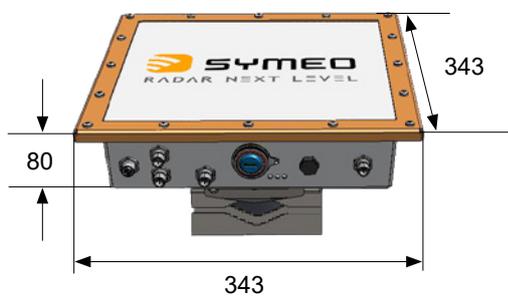
- **Easy commissioning**
- **Exact position detection**
- **Contactless measurement by means of radio waves**
- **Unaffected by contamination, weather and vibration**
- **Usable indoors and outdoors**
- **Ideal for semi-automatic and fully automatic machine movement control**
- **Maintenance-free, even in harsh environments**

## Typical LPR®-1D24 applications



-  LPR®-1D24
-  I/O Signal Handling

### Dimensions: (in mm)



### Connectors:

- Power supply
- Ethernet
- Relay contacts<sup>1)</sup>
- Profibus<sup>1)</sup>
- Waterproof connector for external USB stick for logging and monitoring

### LED indicators:

- Power/measurement active
- Network
- Application

## Technical Data: LPR®-1D24

|                           |   |
|---------------------------|---|
| Model number              | BSV101757   |
| Frequency range           | 24 to 24.25 GHz   |
| Transmission power (EIRP) | Up to 20 dBm  |
| Measurement range         | Up to 1,000 m <sup>1), 2)</sup>   |
| Accuracy                  | Up to ±2.5 cm <sup>1), 2)</sup>   |
| Measurement rate          | 30 Hz   |
| Supply voltage            | 10-36 V DC  |
| Power consumption         | 18 W  |
| Ambient temperature       | -40 °C to +75 °C (-40 °F to +167 °F)                                    |
| Protection class          | IP65  |
| Weight                    | 3.8 kg  |
| Interfaces                | Ethernet (TCP/IP, UDP, Profinet <sup>1)</sup> ), Profibus <sup>1)</sup> |
| Status indicators         | LED   |
| Data transmission         | Position data, user data <sup>1)</sup> , relay data <sup>1)</sup>       |
| User data transfer rate   | 100 bytes/cycle, up to 3 Kbps   |
| MTBF <sup>1)</sup>        | 19.6 a (sp), 21.0 a (sr) or 21.7 a (s)                                  |
| External connectors       | Ethernet (M12 D-coded), power supply (M12 T-coded), USB                 |
| Antenna                   | Integrated, multi-channel antenna diversity                             |
| Compliance                | CE, FCC, IC (others on request)   |

1) Optional, depending on product version purchased. For more information, please see the product documentation available in the "Partner Login" area at [www.symeo.com](http://www.symeo.com) or from the Symeo Support.

2) Depending on application conditions.