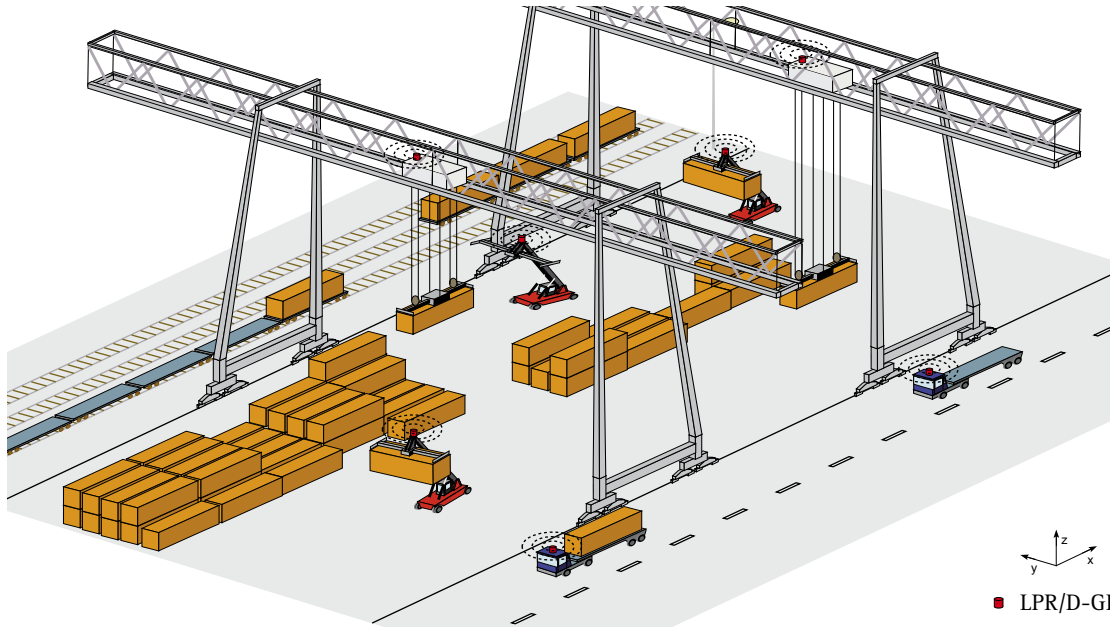


# Enhanced D-GPS position detection



## Marine Grade GPS/D-GPS

### Position detection of on-terminal vehicles with satellite navigation

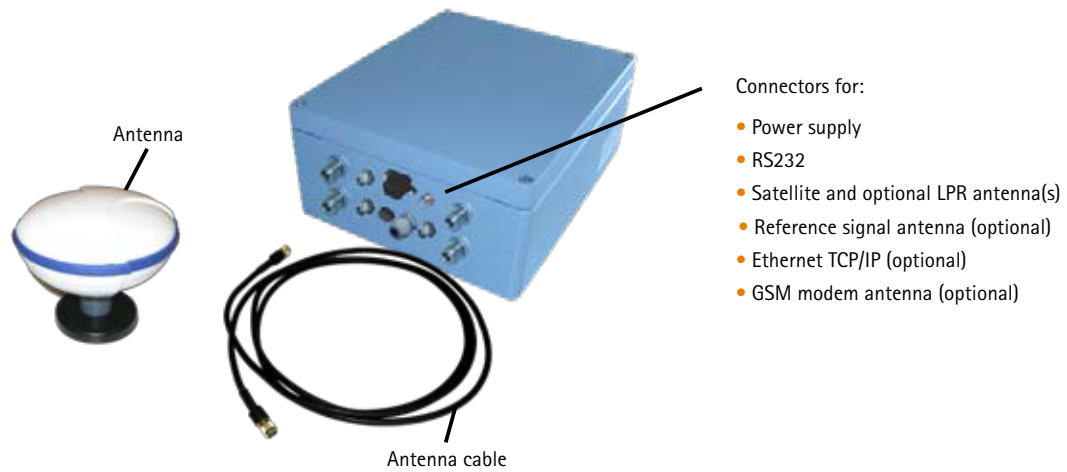
- Determination of vehicle position and direction of travel
- Independent from commercial correction signals with own reference station
- Unaffected by contamination, vibration or the weather
- Quick installation
- Retrofit during continued operations is possible
- Suitable for all types of vehicle and crane
- Maintenance-free

Symeo D-GPS integrates industrial GPS with independent reference stations to provide a correction signal for a typical  $\pm 0.5$  m accuracy. With two antennas connected, the vehicle's exact direction of travel can also be determined.

Additional signals like spreader position can be acquired by the receiver and forwarded through the Symeo data protocol.

For ease of installation, the D-GPS receiver and the physical interface to the terminal operation software can be installed separately on the vehicle. This avoids any complex wiring to an existing on-board control unit.

For even greater accuracy and consistent position signals in areas where satellites are temporarily shielded or unavailable, the D-GPS receiver can be upgraded with LPR-2D. This will ensure that, even under cranes, vehicle positions are continuously available, with precision up to  $\pm 5$  cm in enhanced areas.



## Technical Data: Symeo D-GPS

|                               |  |
|-------------------------------|--|
| Receiver type                 | L1, C/A code                                       |
| Channels                      | 12-channel, parallel tracking                      |
| Start up time                 | 60 s (no almanac and RTC)                          |
| Satellite reacquisition       | < 1s   |
| Typical accuracy (horizontal) | Up to $\pm 50$ cm with reference signal *          |
| Repeat rate                   | 1 to 20 Hz   |
| Voltage                       | 10-36 V DC   |
| Power consumption             | 8 W at max. update rate                            |
| Ambient temperature           | -10 °C to +50 °C                                   |
| Protection class              | Up to IP65   |
| Housing dimensions (LxWxH)    | 280 x 230 x 110 mm                                 |
| GPS Antenna dimensions        | $\varnothing 150$ mm, height 130 mm                |
| Hardware interface            | Serial RS232, TCP/IP (optional)                    |
| Data interface                | Symeo ASCII or binary protocol                     |
| External connector type       | Plug   |
| Antenna(s)                    | Up to 2 GPS antennas, 1 for reference radio signal |
| Compliance                    | CE mark  |
| LPR 2D integration            | Slot available                                     |

\* depending on satellite availability and signal quality