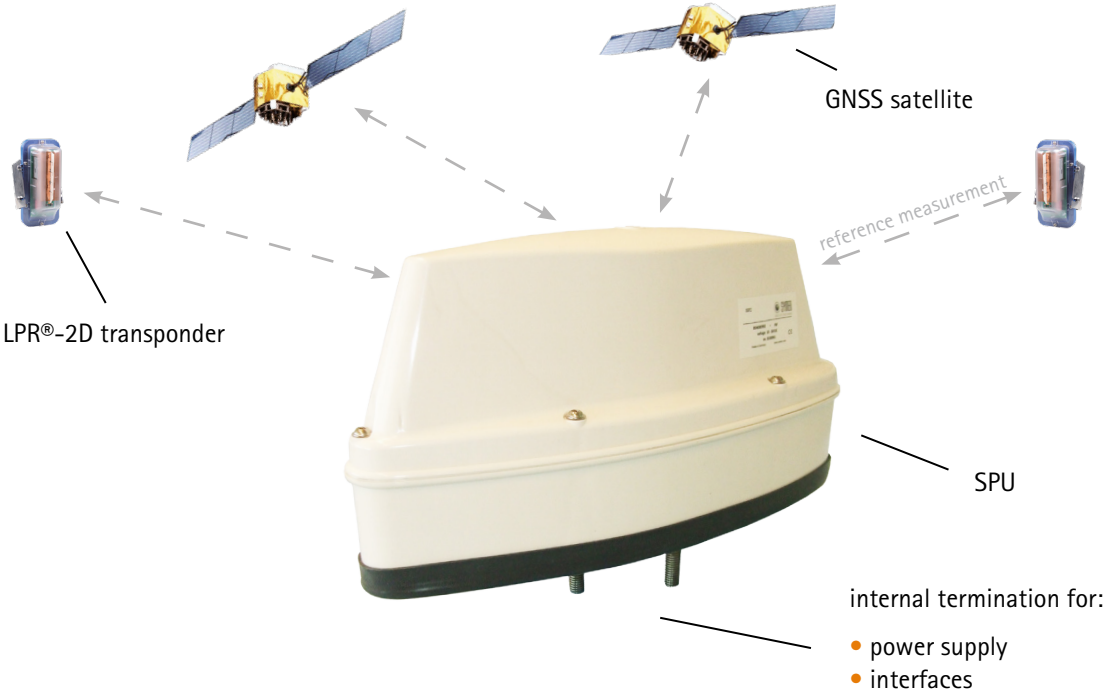
Symeo Positioning Unit

SPU (-L, -S, -SD, -LS)

Data Sheet



SPU (-L, -S, -SD, -LS)

Dynamic Acquisition of Indoor and Outdoor Vehicle Positions

- Precise 2D position with LPR® and/or GNSS
- Contact-less position detection via radio technology
- Unlimited system range
- Works under dust, dirt and adverse weather
- Quick installation
- Retrofit on all existing equipment
- Maintenance-free

The SPU is a compact position measurement device with integrated antennas for permanent installation on a wide variety of vehicles and other moving devices. It is fully sealed and can withstand cleaning detergents and vehicle washing tunnels.

The device optionally utilizes Symeo LPR® positioning technology (SPU-L), GNSS (SPU-S), D-GNSS (SPU-SD) or both technologies LPR®/GNSS combined (SPU-LS).

LPR® allows exact position measurement indoors and outdoors, even under challenging industrial conditions. The LPR® position is calculated based on the distance to fixed reference marks, so-called transponders. Transponders can easily be mounted at varying distances and height levels on existing walls, fences or pillars, making it a very flexible system. Location cells are usually composed of up to 6 transponders and a single cell can cover an area of up to 100.000 m^2 (approximately 300 m x 300 m). Based on the typical layout of the transponder network, even at a temporary loss of contact to some transponders, LPR® will still continue to provide dynamic position measurement with good quality.

The GNSS receiver option delivers outdoor location fixes, provided enough satellite signals are received with direct line of sight.

Due to the radio based technology, the SPU determines reliable location data even under the influence of dust, dirt and adverse weather conditions. Position information can be transferred via the LPR® radio frequency, by using Ethernet/WiFi or an optional on-board GPRS/UMTS modem.

Typical SPU applications

Technical Data: SPU (-L, -S, -SD, -LS)	
LPR® frequency range (SPU-L)	5.725-5.875 GHz, ISM-band
Output power (SPU-L)	max. 0.025 W EIRP
Measuring distance SPU to transponder (SPU-L)	up to 300 m
GNSS receiver (SPU-S)	L1, C/A Code, Glonass L1 FDMA, signal aquisition, cold: < 1 min, reacquisition, hot: < 1 s
D-GNSS receiver (SPU-SD)	L1, C/A Code, signal aquisition, cold: < 1 min (includes reception of Almanac data), reacquisition, hot: < 1 s
System range (SPU-L, -S, -SD, -LS)	unlimited
Typical accuracy (SPU-L, -S, -SD)	LPR® (SPU-L): up to +/- 0.5 m *; D-GNSS (SPU-SD): up to +/- 1 m CEP *; GNSS (SPU-S): up to +/- 2.5 m CEP *
Repeat rate	LPR®: 20 Hz (internal); GNSS: 4 Hz
Voltage	10-36 V DC, 1x continuous, 1x actively switched
Power consumption	continuous operation: 10 W, stand-by: 1.5 W (avrg. wake-up every 30 min, 30 s boot time), sleep: 100 mW (90 s boot time)
Ambient temperature	-30 °C to +70 °C
Protection class housing	IP65
Dimensions SPU (LxWxH)	358 x 120 x 174 mm
Dimensions transponder (LxWxH)	281 x 125 x 150 mm
Weight	1.9 kg
Hardware interface	Ethernet TCP/IP, GPRS/UMTS (optional), LPR® Com (optional), WiFi (optional), CAN bus
Data interface	Symeo 2D protocol, custom formats (optional)
Status indication	LED
Connector type	cable gland, internal terminal block
Antennas (internal in the housing)	2x LPR®, 1x GNSS, 1x WiFi, 1x GPRS/UMTS (depending on options)
Compliance	CE, FCC, IC, ISO60950, ISO16750

** based on sufficient LPR® transponders and/or GNSS satellites (> 5) with required signal quality available*

SYMEO GmbH • Prof.-Messerschmitt-Str. 3 • 85579 Neubiberg/Munich, Germany
phone: +49 89 6607796-0 • fax: +49 89 6607796-190 • www.symeo.com • info@symeo.com

version 01/2015