

ObeLx-R – GNSS Receiver

All-in-One-, Multi-constellation- und dual antenna GNSS receiver

Bild: © 2016 BSH

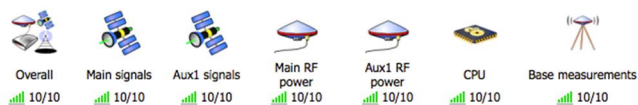


Receiver	Position	Attitude	RTK Fixed	Altitude fix (2D)
Serial Number: 3010008	Lat: N54°19'40.6502" 0.007m	Heading: 307.740° 0.074°	Overall Quality	VERIPOS
IP Address: 192.168.100.150	Lon: E10°10'35.9168" 0.008m	Pitch: -6.274° 0.112°	UHF	Corrections
Uptime: 0d 00:35:40	Hgt: 52.161m 0.013m	Roll: N/A		Logging

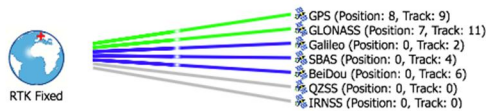


Overview GNSS VERIPOS Communication Corrections NMEA/SBF Out Logging Admin

Quality Indicators



GNSS



VERIPOS



KEY FEATURE

- + All-in-One Solution
- + Multi constellation – 544 channels
- + Rover, Heading or Base
- + Support for VERIPOS and TERRASTAR
- + RTK with baseline > 40 km
- + Data output > 20 Hz
- + Septentrio inside
- + 19" rack version

SPECIFICATIONS ObeLx-R

FEATURES

GNSS Technology

544 hardware channels for simultaneous tracking of all visible satellite signals

Supported signals: GPS (L1, L2, L5), GLONASS (L1,L2,L3), GALILEO (E5ab, AltBoc, E6), BEIDOU (B1, B2, B3), IRNSS (L5), QZSS (L1,L2,L5) (Galileo, Beidou, IRNSS, E6/B3 and AltBoc are optional features)

All-in-view SBAS (EGNOS, WAAS, GAGAN, MSAS, SDCM) (incl. L5 tracking)

Integrated dual channel L-band receiver

100 Hz Raw data output (code, carrier, navigation data) (optional feature)

20 Hz SBAS, DGNSS, PPP and RTK (50Hz available in future firmware upgrade)

A Posteriori Multipath Estimator Technique (APME+), including code and phase multipath mitigation

AIM+/WIMU interference mitigation unit, including chirp jammers (optional feature)

ION+ Advanced scintillation mitigation

RAIM

DGNSS (base station and rover)

RTK (base and rover) (optional features)

TerraStar and VERIPOS services (optional feature)

Moving base positioning (optional feature)

Connectivity

4 hi-speed serial ports (RS232)

Ethernet port (TCP/IP and UDP)

Full speed USB (host and device)

2 Event markers (optional feature)

xPPS output (max. 100 Hz)

Formats

Highly Compact and fully documented Septentrio Binary Format (SBF) output

NMEA v2.30 output format, up to 20 Hz

RTCM v2.2, 2.3, 3.0 or 3.1

CMR2.0 and CMR+ (CMR+ input only)

PERFORMANCE

Position accuracy^{1,2,3}

	Horizontal	Vertical
Standalone	1.2 m	1.9 m
SBAS	0.6 m	0.8 m
DGPS	0.4 m	0.9 m
TERRASTAR-D ⁴	6 cm	<10 cm
APEX2 ⁵	6 cm	<10 cm
ULTRA2 ⁵	6 cm	<10 cm

RTK performance^{1,6}

Horizontal accuracy ³	0.6 cm + 0.5 ppm	
Vertical accuracy ³	1 cm + 1 ppm	
Average time to fix ⁷	7 s	

Velocity Accuracy^{1,2,3}

	Horizontal ³	Vertical ³
	0.01 m/s	0.015 m/s

Heading Accuracy^{1,2,3}

	Heading	Pitch/Roll
1m antenna separation	0.1°	0.2°
10m antenna separation	0.01°	0.02°

Maximum Update rate

Position	20Hz (50Hz in future firmware upgrade)
Measurements	100 Hz

Latency

	< 20 ms
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Time accuracy³

xPPS Out	10 ns
Event accuracy	< 20 ns

Time to first fix

Cold start ⁸	< 45 s
Warm start ⁹	< 20 s
Re-acquisition	avg. 1.2 s

Tracking performance (C/N0 threshold)

Tracking	20 dB-Hz
Acquisition	33 dB-Hz

Dynamics

Acceleration	10 g
Jerk	4 g/s

PHYSICAL AND ENVIRONMENTAL

Size 100x100x100mm

Weight 1.0kg

Input voltage 12VDC

Power Consumption

0.00W (All signals) Dual antenna

Operating temperature -40°C to +85°C

Storage temperature -40°C to +85°C

Certification RoHS

Antenna LNA Power Output

Output voltage 5 V DC

Maximum current 200 mA

Connectors

Antennas TNC female

Power hollow socket 10mm

Ethernet RJ45 female

USB USB female

Serial D SUB female

PPS BNC female

¹ 1-20 Hz measurement rate

² Performance in open sky conditions

³ RMS level

⁴ Requires service activation from TerraStar

⁵ Requires service activation from VERIPOS

⁶ RTK fixed ambiguities

⁷ Baseline <20 km

⁸ No information available (no almanacs, no approximate position)