



MarinePak7

Marine-certified enclosure for assured positioning

Optimised for harsh environments

Built on proven OEM7 technology, the MarinePak7 is designed for marine professionals who require highly reliable and assured positioning, navigation and timing. With multi-constellation and multi-frequency support paired with Oceanix precise point positioning (PPP) corrections, this receiver offers the highest satellite availability for users in hydrographic survey, dredging, marine construction and more.

Multi-layered positioning

Oceanix Correction Services available through the MarinePak7 deliver PPP corrections for marine applications with centimetre-level accuracy and 99.999% availability—meaning corrections are always available with near-instant convergence and reconvergence. The NovAtel Application Suite provides an inside look to monitor receiver, constellation and frequency health, real-time positioning output and early notifications when interference is detected through the Suite's GRIT Monitor.

Maximised accuracy and reliability

With dual-antenna input and ALIGN firmware, the MarinePak7 outputs accurate heading and pitch for dynamic applications.



Benefits

- Multi-constellation receiver with enhanced reliability for harsh environments
- PPP for always available corrections and near-instant convergence and reconvergence
- Intuitive interface through NovAtel Application Suite reduces setup time and streamlines monitoring position, interference, outages and more

Features

- Multi-constellation, multi-frequency, marine-certified receiver
- Supports PPP, RTK, SBAS and MSK Beacon. Tracks multiple Oceanix correction satellites for service redundancy
- Compatible with NovAtel Application Suite for streamlined configuration, monitoring and expansion to include ALIGN, SPAN GNSS+INS technology and interference detection
- Includes Wi-Fi support, removable internal battery and optional GNSS heading

MarinePak7 Product Sheet

GNSS module ¹	
Signal tracking Primary RF ² GPS GLONASS ³ Galileo ⁴ BeiDou QZSS NavIC (IRNSS) SBAS L-Band	L1 C/A, L1C, L2C, L2I L1 C/A, L2 C/A, L2P, L2 E1, E5 AltBOC, E5a, B11, B1C, B2I, B2a, L1 C/A, L1C, L1S, L2C up to 5 chan
Secondary RF ² GPS GLONASS ³ Galileo ⁴ BeiDou QZSS NavIC (IRNSS)	L1 C/A, L1C, L2C, L2I L1 C/A, L2 C/A, L2P, L3 E1, E5 AltBOC, E5a, B1I, B1C, B2I, B2a, L1 C/A, L1C, L1S, L2C
Horizontal position Single point L1 Single point L1/L2 SBAS ⁵ DGPS Oceanix ⁶ RTK	accuracy (RMS) 1 60 40 2.5 cm (5 1 cm +1
ALIGN GNSS heading Baseline 2m 4m	g accuracy Accuracy (R 0 0
Maximum data rate Measurements Position	up to 2 up to 2
Time to first fix ⁷ Cold start Hot start	<
Signal reacquisition L1 L2	<0.5 s (typ <1.0 s (typ
Time accuracy ⁸	<5 ns l
Velocity accuracy	0.03 m/s l
Velocity limit ⁹	600
SPAN technolog	ξ y
GNSS+INS integratio	n with marine profile
• IMU-ISA-100C	

• IMU-uIMU-IC

Attitude & velocity performance

5 cm or 5%
3.5 cm or 3.5%
2.5 cm or 2.5%

- Hardware ready for L5.
- 5. GPS only
- 6. Requires a subscription to Oceanix correction service.

2 F P, L5 3. L5 С F5b D B2b

C, L5 G L5 _1, L5 F nnels

	L1 C/A, L1C, L2C, L2P, L5
ASS ³	L1 C/A, L2 C/A, L2P, L3, L5
D ⁴	E1, E5 AltBOC, E5a, E5b
u	B1I, B1C, B2I, B2a, B2b
	L1 C/A, L1C, L1S, L2C, L5
(IRNSS)	L5

Single point L1	1.5 m
Single point L1/L2	1.2 m
SBAS ⁵	60 cm
DGPS	40 cm
Oceanix ⁶	2.5 cm (95%)
RTK	1cm + 1ppm

Baseline 2m 4m	Accuracy (RMS) 0.08° 0.05°
Maximum data rate Measurements Position	up to 20 Hz up to 20 Hz
Time to first fix' Cold start Hot start	<34 s <20 s
Signal reacquisition L1 L2	<0.5 s (typical) <1.0 s (typical)
Time accuracy ⁸	<5 ns RMS
Velocity accuracy	0.03 m/s RMS
Velocity limit ⁹	600 m/s

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Refer to IMU product sheets for values

Heave performance¹⁰

ave bellulliance		
stantaneous Heave Ilayed Heave st-Processed Heave ¹¹	5 cm or 5% 3.5 cm or 3.5% 2.5 cm or 2.5%	Ethernet PPS Expansion Power
		1 0 1 0 1

- Typical values under ideal, open sky conditions. Signal availability based on model configuration. See manual for details.
- 2. 3. 4.

E1bc support only.

N

MSK beacon module		
2-channel parallel tra	cking	
Frequency range	283.5 to 325.0 kHz	
Channel spacing	500 Hz	
Demodulation Mini	mum Shift Keying (MSK)	
GSM/GPRS modu	le	
Frequency band (85	Quad Band (850/900/1800/1900 MHz)	
Data GPRS Class 12 (max 85.6 kbps uplink & downlink)		
Sensitivity GSM850 GSM900 DCS1800 PCS1900	-109dBm -109dBm -109dBm -109dBm	
UHF module (mod	el dependant ¹²)	
Dual band multi-mode	UHF transceiver	
Radio options 400 MHz Frequency band:	410 to 475 MHz	
900 MHz Frequency Band:	902 to 928 MHz	
Modulation	4-GFSK, GMSK	
Physical and electrical		
Dimensions Without shroud With shroud	205 x 200 x 80 mm 205 x 254 x 80 mm	
Weight	3 kg	
Power Input voltage Power consumption ¹³	+12 to +24 VDC 12 W	
Battery (optional) Removable Smart Li-IOI Capacity: Typical duration:	N 6.8 Ah @ 7.2 V 4 hours	
2 antenna LNA power d Output voltage Maximum current	12 VDC ±5% 500 mA	
Connectors 2 GNSS antenna GSM/GPRS UHF Wi-Fi USB host Serial Ethernet PPS Evaparican	TNC SMA TNC SMA Type A DB9 RJ45 SMA	

7. Cold start: no almanac or ephemerides and no approximate position or time. hot start: almanac and recent ephemerides saved and approximate position and time entered.

12 pin Lemo

4 pin Lemo

- Time accuracy does not include biases due to RF or antenna delay.
- 9. Export licensing restricts operation to a maximum of 600 metres per

Communication ports

3 RS-232/RS-422 selectable	up to 460,800 bps
1 USB 2.0 (host)	HS
1 Ethernet	10/100 Mbps
1 Wi-Fi	
1 Event inputs	
1 Event outputs	
1 Pulse Per Second output	

Colour display

Sunlight readable TFT 320 x 240 pixels, 24-bit True Colour

Environmental

Temperature Operating Storage	-15°C to +55°C -20°C to +60°C
Humidity	95% non-condensing
Waterproof	IEC 60529 IPX7
Dust	IEC 60529 IP6X
Vibration (operating)	IEC 60945

Compliance

FCC, CE, UKCA, IEC 60945 (Protected), AS/NSZ

Features

- NovAtel OEM7 positioning engine
- Standard 32 GB internal storage
- Built-in Wi-Fi support
- Integrated Web GUI
- NovAtel Application Suite support

Firmware solutions

- ALIGN
- SPAN
- RTK
- **RTK ASSIST** .
- Oceanix PPP

Included accessories

- 3 DB9 to DB9 serial data cable
- 1 RJ45 Ethernet cable
- 1 Power supply
- 1 UK power supply cable
- 1 EU power supply cable
- 1 US power supply cable

Optional accessories

- · Li-ion battery
- PPS cable (SMA to BNC) •
- . High Density serial port expansion cable
- External DC power cable
- V560 Marine GNSS-LBand-MSK antenna .
- GNSS-850 GNSS-LBand antenna
- GPS-713-GGGL GNSS-LBand antenna .
- GrafNav/GrafNet
- . Inertial Explorer

second, message output impacted above 585 m/s.

- Requires SPAN Morine Profile.
 Post-processing results using Waypoint Inertial Explorer.
 Available on MP7720U model.
- 13. Typical value. Consult the MarinePak7 User Manual for power supply considerations

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