

OmniSTAR 8200HP™ System



The OmniSTAR 8200HP receiver

The OmniSTAR 8200HP receiver is a sturdy, low maintenance, cost efficient L-band capable receiver. The receiver incorporates many features for flexible operation.

The standard 10 Hz position output enables accurate positioning, even under high dynamic or high-speed circumstances. Its rugged, waterproof enclosure protects the receiver against accidental drops and keeps the receiver working even in severe weather conditions.

The field-upgradeable software eliminates the need to return the receiver to the factory in case a firmware update is issued. Since the receiver is CAN Bus (J1939/ISO 11783) compatible, it can be seamlessly integrated with automotive or agricultural CAN Bus compatible equipment.

LCD screen

A significant advantage of the 8200HP receiver is its front-panel LCD screen in combination with four operating buttons. No need for a computer or PDA anymore when you want to know or adjust the current receiver settings. The screen will give you all the information you need. And because the screen is backlit, it is readable both in bright daylight and at night.

The HP+ service

OmniSTAR delivers commercial DGNSS services worldwide by satellite and is leading in the design and development of Differential GPS positioning technology. With the HP+ service OmniSTAR provides real-time decimetre accuracy correction data. Based upon data from Fugro's terrestrial reference station network combined with precise orbit and clock corrections. OmniSTAR offers decimetre accuracy worldwide, including in remote areas, such as Kazakhstan, Siberia, Sahara and the Maldives, and many other areas.

Why choose the 8200HP receiver?

With its waterproof, shock-resistant and dustproof casing, the user-friendly 8200HP receiver is very suitable for a wide range of applications, from agriculture to surveying, from construction to aviation:

- For agriculture: precision hands-free farming

The 8200HP receiver provides Land Managers with decimetre level accuracy suitable for a broad range of precision farming and automated vehicle guidance applications, in particular when used in conjunction with compatible auto steer and variable rate spray and fertilizer systems. Farmers improve efficiency using HP through the creation of data sets, applying site specific dose regulation, reducing skips and overlaps, increasing working widths and available man hours, whilst minimizing operator fatigue.

- For aviation: Real-time and large area coverage

Because the OmniSTAR 8200HP does not require a local base station, it allows a user to perform aerial surveys over large areas while obtaining real time accurate positioning data that can be used there and then, i.e. post-processing is not required. This makes the OmniSTAR 8200HP an ideal tool for a number of aerial applications such as aircraft testing and certification, flight inspection, photogrammetry, laser altimetry and positioning of unmanned reconnaissance aircraft.

- GIS/Surveying: Low weight and high mobility

The fact that the OmniSTAR 8200HP will work with high precision over large areas without having to setup local infrastructure makes it a very good tool for applications that require high mobility such as surveying trajectories for roads, pipelines and power lines or for seismic surveys. Because of its stand alone character and its low weight, the OmniSTAR 8200HP can easily be used in a backpack for cadastral surveys or for establishing control points in remote areas.



8200HP Technical specifications

Signal

GPS:	L1 and L2
OmniSTAR L-Band:	1525 MHz to 1559 MHz
Bit error rate:	10^{-5} for Eb/N of > 5.5 dB
Acquisition time:	< 5 sec (typical)

Environmental

Operating Temp.:	-30° to +70°C
Storage Temp.:	-40° to +85°C
Waterproof:	IEC 60529 IPX7
Humidity:	MIL 810E method 507.3
Multipath rejection:	Everest™

Data inputs & outputs

Serial Ports:	3 x RS-232 ports (4,800 -115,200 bps)
CANBUS:	2 x ISO 11783/J1939 (CAN 2.0B)
Position:	1, 5 or 10 Hz - 1 Pulse per second (special cable required)
Protocols:	NMEA, TSIP, CAN 2.0, RTCM
L1/L2 raw measurements:	Option

NMEA output messages

GGA	GPS Fix Data
GLL	Position Data
GRS	GPS Range Residuals
GSA	GPS DOP and Active Satellites
GST	GPS Pseudo Range Noise Statistics
GSV	GPS Satellites in View
PTNLDG *	DGPS Receiver Status
PTNLEV *	Event Marker
PTNL, GGK *	Time, Position, Position type, DOP
PTNLID *	Receiver ID
PTNLSM *	RTCM special message
RMC	Recommended Mini. Specific GPS Data
VTG	Track Made Good and Ground Speed
ZDA	Time and Date

* = Proprietary message

Connectors

Power/ Data:	2 x 12-Pin Deutsch connectors
Antenna:	TNC female, 50 Ω 9V

Antenna

Z-Plus; high accuracy
L1/L2/L-Band antenna

Power

Power Supply:	+10 to +32 VDC
Power Consumption:	4.2 W (nominal)

Standard accessories

1-5/8" Magnetic Mounting

Position accuracy

HP:	10 cm horizontal, 15 cm vertical ¹
- Autoseed:	60 sec.
- Static:	10 min. (average)
- Dynamic:	30 min. (average)

Dynamics

Velocity Accuracy:	5 cm/s RMS
Velocity:	180 km/h max With AirSTAR 515 m/s max
Height	18,288 m max
Vibration:	4 G (sustained tracking)

Signal reacquisition

VBS	20 sec.
HP/XP	40 sec. (typical)

Details

Weight:	1.05 kg
Display:	LCD
Size (L x W x H):	216 x 148 x 56 mm

Note

1- Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry and atmospheric conditions. Always follow recommended practices.

Regulations

FCC Part 15 Class A, C-Tick, E-Mark, CE-mark.

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