

Air R101 / R121 DGPS Receiver

High Accuracy, Reliable Receivers



Air R101

Powered by
Crescent

Complete your work quickly and accurately with the Air R101™ / R121™ DGPS receiver. Rely on consistent sub-meter performance with standard SBAS differential and Hemisphere GPS' exclusive COAST™ technology that maintains accuracy during temporary loss of differential signal. The Air R101 / R121 offers many differential correction options for various environments and worldwide coverage. The simple interface and solid construction make the Air R101 / R121 the ideal solution for professional mapping, guidance and navigation applications.

Key Air R101/R121 Advantages

- R101/R121 Receiver includes a metal connector for installations in difficult environments
- Feature-packed sub-60cm DGPS Positioning
- Differential options including SBAS (WAAS, EGNOS, etc.), and optional OmniSTAR®
- Exclusive e-Dif® option where other differential correction signals are not practical
- COAST technology maintains accurate solutions for 40 minutes or more after loss of differential signal
- Fast output rates of up to 20 times per second provide the best guidance and flow control



Air R101 / R121 DGPS Receiver

GPS Sensor Specifications

Receiver Type:	L1, C/A code, with carrier phase smoothing (Patented COAST™ technology during differential signal outage)
Channels:	12-channel, parallel tracking (10-channel when tracking SBAS)
WAAS Tracking:	2-channel, parallel tracking
Update Rate:	Up to 20 Hz position
Horizontal Accuracy:	<0.6 m 95% confidence (WAAS*) <1.0 m 95% confidence (OmniSTAR*) <2.5 m 95% confidence** (autonomous, no SA)
Cold Start:	60 s (no almanac or RTC)
Antenna Input Impedance:	50 Ω

LX-1 (OmniSTAR) Specifications (R121 Only)

Channels:	Single channel
Frequency Range:	1530 to 1560 MHz
Channel Spacing:	7.5 KHz
Satellite Selection:	Manual or Automatic (based on location)

Communications

Serial Ports:	2 full duplex
Interface Level:	RS-232C
Baud Rates:	4800, 9600, 19200, 38400, 57600
Correction Input / Output Protocol:	RTCM SC-104
Data Input / Output Protocol:	NMEA 0183
Raw Measurement Data:	Proprietary binary
Timing Output:	1 PPS (HCMOS, active high, rising edge sync, 10 kΩ, 10 pF load)

Environmental

Operating Temperature:	-32°C to +74°C (-25°F to +165°F)
Storage Temperature:	-40°C to +85°C (-40°F to +185°F)
Humidity:	95% non-condensing
Shock and Vibration:	EP 455
EMC:	FCC Part 15, Subpart B, Class B CISPR 22, CE

Power

Input Voltage Range:	8 to 36 VDC
Reverse Polarity Protection:	Yes
Power Consumption:	3W
Current Consumption:	< 250 mA @ 12 VDC
Antenna Voltage Output:	5.0 VDC
Antenna Short Circuit Protection:	Yes

Mechanical

Enclosure:	Powder-coated aluminium
Dimensions:	160 mm L x 114 mm W x 45 mm H (6.3" L x 4.5" W x 1.8" H)
Weight:	0.54 kg (1.20 lb)
LED Indicators:	Power, GPS lock, DGPS position
Power / Data Connector:	Amphenol Circular
Antenna Connector:	TNC-male

Authorized Distributor:



* Depends on multipath environment, number of satellites in view, satellite geometry, baseline length (for local services) and ionospheric activity

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