



StingRay GPS over Fibre

RX Indoor Module

Single channel GNSS (Global Navigation Satellite System) over single mode fibre receive module for StingRay 200 Series chassis. The unit features full monitoring of both the Rx and signal from the Tx, including antenna fail alarm pass through on the RF output. For use with ETL's GNSS transmit outdoors unit SRY-TX-L1-911-xxxx .

Typical applications:

- GPS & GNSS applications ,
- GNSS band defined by selective antenna
- Small DC current sunk by RF output mimicking directly attached antenna
- If antenna or link fails no current is taken, signalling failure to connected equipment (antenna spoofing)
- For general L-band use SRY-RX-L1-202

Fibre Modules



850 - 2450 MHz
operating frequency range



-20dB Monitor port to measure input signal levels



RX indoor module for use with ETL's GNSS TX outdoor model SRY-TX-L1-911



High isolation between modules for signal quality

Chassis Options



Compact indoor & outdoor chassis options, which can be part populated



Resilience from dual redundant hot-swap power supplies, hot-swap fibre modules & fans



Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface



Local control & monitoring via front panel push buttons & display



Indoor chassis showing hot-swap power supply modules , fibre modules and fans



RF Parameters				
Capacity	One GNSS over Fibre Receive Unit			
Output port	50Ω BNC, SMA			
Monitor port	50Ω BNC, SMA		Output level -20 dB	
Frequency	850MHz to 2450MHz		Use Tx with tuned antenna to select required GNSS signal.	
Connector & impedances	50Ω SMA	50Ω N-type	50Ω BNC	
Link Gain (dB)	50±3	50±3	50±3	Typical, mean across band and link
Gain flatness (dB)	Any 500MHz	±2.0	±2.0	±2.0
	Any 36MHz	±0.5	±0.5	±0.5
Input Return Loss (dB) Typ.		18	18	18
	Min	12	12	12
Output Return Loss (dB) Typ.		NA	NA	NA
	Min			
Input AGC level Max (dBm)	-10			At transmitter
Input AGC level Min (dBm)	-60			At transmitter
Output AGC level Max (dBm)	-40			Set at receiver
Output AGC level Min (dBm)	-60			Set at receiver
Noise Figure (dB)	16 TBC			Typ. link 1.5GHz, -50dBm in & out
CNR (in any 4 MHz) (dB)	60 TBC			Typ. link 1.5GHz, -50dBm in & out, gain fixed
1dB GCP (dBm)	-30 TBC			Typ. link 1.5GHz, -50dBm in & out, gain fixed
1dB Gain Compression point				
OIP3 (dBm)	-19 TBC			Typ. link 1.5GHz, -50dBm in & out, gain fixed
SFDR (dB/Hz ^{2/3})	105 TBC			Typ. link 1.5GHz, -50dBm in & out
DC consumption	4W			Max. consumption at steady state
Alarms	Antenna fail			200 Ohm load switched out
Local Monitoring	Full monitoring of module and remote Tx, PSU voltage, RF amp current, temperature, laser power, RF modulation power, receive optical power.			Contact ETL if remote monitoring and control is required.
MTBF	> 120,000 hours			Module MTBF TBC

Optical Parameters		
Optical Wavelength	1100 to 1650nm	Optimised for 1310nm and 1550 nm
Optical power in	0 to 4.5dBm	Max 10 dBm
Optical Connectors	SC/APC FC/APC	Single mode fibre Use angle polish connectors only

Environmental Conditions		
Operating Temperature (°C)	-20°C to +55°C	
Storage Temperature (°C)	-40°C to +85°C	
Location	Indoor use only	Mount out of direct sunlight
Humidity	20 to 90% non-condensing	Relative Humidity
Altitude	10,000 ft AMSL operational 30,000 ft AMSL storage/transport	Above Mean Sea Level

Physical Dimensions & Parameters		
Weight	0.35 Kg	
Dimensions	43mm high x 205mm deep x 18mm wide	
Front Panel Colour	RAL9003 – White (Semi-Matte)	
		Mounting flanges provided

Chassis Options - Technical Specifications	
Model Numbers	SRY-C200-1U
Capacity	Up to 4 2xx series modules
Redundancy options	1+1 redundancy configuration available with modules SRY-L1-DIV213 & SRY-L1-SW214
Dimensions	1U high x 450 mm deep x 19" wide
Local Control & Monitoring	Front panel LCD and keypad
Remote Control & Monitoring	Ethernet via RJ45, 10baseT/100BaseTx ETL protocol over TCP/IP, SNMP, built in web server. Serial port. Dry contact alarm summary.
Module Features Monitored	Includes: Temperature, RF Power, Optical Power, PSU status & Individual fans
LNB Power	Up to 0.5A per channel, not exceeding 2.8A total
PSU Power	100-240 VAC 50/60Hz (Fused 6A, Dual IEC)
PSU Redundancy	Dual Hot-Swap Modules, Diode OR
AC Power Consumption	< 150 W all channels
Heat Load	< 65 W, 222 BTU/hr
Operating/Storage Temperature	Operating: 0 to 50°C / Storage: -20°C to +75°C
Humidity	20 to 90% non-condensing
Weight	TBD kg
Front Panel Colour	RAL9003 White semi-matte