RF Components

Optical Fibre to L-Band Receive Module

Model Number:
SRY-RX-L1-402

- Single mode optical receiver for RF over Fibre (RoF)
- For links up to 10km

Designed to work with ETL's transmit modules :

- **SRY-TX-L1-401**
- **SRY-TX-L1-405**
- **SRY-TX-L1-104**

Available with Optical Connectors:

- FC/APC
- SC/APC

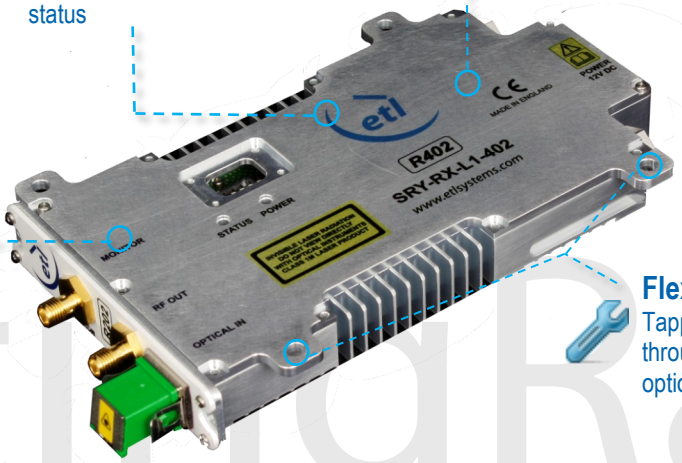
or RF Connectors:

- 50 Ω SMA
- 50 Ω BNC
- 75 Ω BNC
- 75 Ω F-type

Compact
EMC sealed standalone housing with RF monitoring port

Settings
Controlled by a 5 position switch with indicator lights for power & status

1100nm-1650nm
Optical input converted to L-Band
850-2450MHz



Flexible Mounting
Tapped screw & through hole mounting options

StingRay

RF Parameters		
Frequency Range	850 to 2450 MHz	
Flatness	±1.2dB 850 to 2150 MHz ±1.7dB 850 to 2450 MHz ±0.25dB, any 36MHz i/p > -50dBm ±0.5 dB, any 36MHz i/p < -50dBm	Full TX &RX link with 10km fibre link using SRY-TX-L1-104 Fixed gain mode
Output AGC flatness	±2.0 dB over full band	Input -10 to -40 dBm
Return Loss: 50 ohm SMA 50 ohm BNC 75 ohm BNC 75 ohm F-type	 18 dB typ.,12dB min 18 dB typ.,12dB min 16 dB typ, 12 dB min 16 dB typ, 12 dB min	All RF connectors are female. All RF ports are DC blocked
Monitor port	-40dB ±3dB	Mounted on module
OIP3	Typical 17 dBm Worst Case 14 dBm	**Test condition:** SRY-RX-L1-401, 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz
CNR (in any 36MHz)	Typical -50 dB Worst Case -45 dB	**Test condition:** SRY-RX-L1-401, 1m fibre, -10 dBm RF i/p power, -10 dBm RF o/p total power.
NF	Typical 12 dB Worst Case 15 dB	**Test condition:** SRY-RX-L1-401, 0 dB optical link loss, -50 dBm RF i/p power, -10 dBm o/p power
Group Delay variation	2ns over full band 1ns over any 36MHz.	
SFDR	105 dB/Hz$^{2/3}$typ., 100 dB/Hz$^{2/3}$ min.	**Test condition:** SRY-RX-L1-401, 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152MHz
IMD3	-65 dBc typ., -60 dBc min.	**Test condition:** As SFDR above
Frequency Range	850 to 2450 MHz	
RF Output Signal Range	-30dBm to -10dBm (total power)	o/p range available under all i/p conditions

Broadcast

Marine Oil & Gas

SNG & VSAT

Satellite Teleport

RF Components

Model Number:
SRY-RX-L1-402
Optical Fibre to L-Band Receive Module

Technical specifications and operating parameters

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	FC/APC SC/APC	Single mode fibre Use angle polish connectors only
Non RF Parameters		
Module swap	Hot swap	
Power supply voltage	12V ±1V	Single or dual redundant power
Power consumption	4W typical	
MTBF	> 250,000 hours	Module MTBF

Environmental conditions		
Operating Temperature	-40°C to +65°C	Mount away from sources of heat. Forced air cooling may be required dependant on application.
Storage Temperature	-40°C to +90°C	
Location	Indoor use	Outdoor use as part of ETL ODU only
Humidity	20 to 90% non-condensing	Relative Humidity
Altitude	10,000 ft AMSL operational 30,000 ft AMSL storage/ transport	Above mean sea level

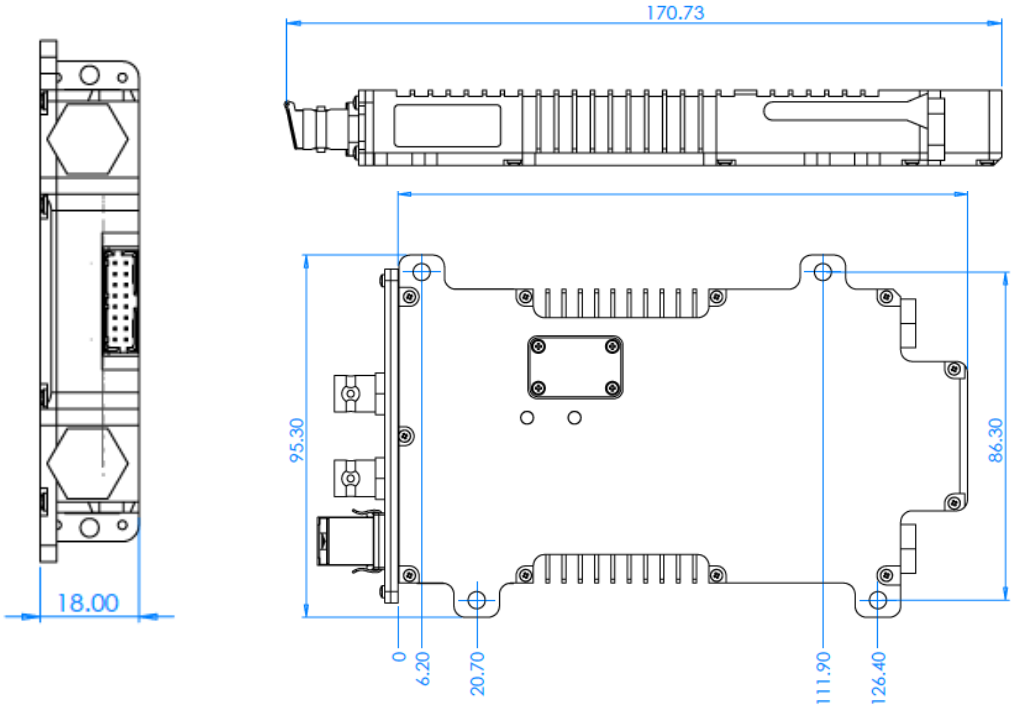
Control, Monitoring & Alarms		
Control DIP Switch Position 1	Reserved	Remove cover to access DIP switch. Output power settable -30 to -10 dBm in 3 dBm steps.
Control DIP Switch Position 2	Output power bit 3	
Control DIP Switch Position 3	Output power bit 2	
Control DIP Switch Position 4	Output power bit 1	
Control DIP Switch Position 5	AGC on/Gain fixed	
Control DIP Switch Position 6	Reserved	
Indicator lights Power Status Green Status Red	 Module powered Module OK Internal monitoring alarm	
Monitoring includes	Status of amplifier stages Module temperature	Monitored in each module
AGC	Settable output power level	Once AGC level set, gain can be fixed

Position Marked on Switch			Output
2	3	4	Power/dBm
0	0	0	-31
0	0	1	-28
0	1	0	-25
0	1	1	-22
1	0	0	-19
1	0	1	-16
1	1	0	-13
1	1	1	-10

* 1 = switch is in ON position
0 = switch is on OFF position

! Operation beyond these limits may cause instantaneous and permanent damage.

Physical Dimensions (mm)



Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved specification accuracy.

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