

Providing a high reliability GPS-Antenna signal transmission

The FL-15, GPS Antenna Fibre Link makes it possible to install a Time- and Frequency Reference practically everywhere, independent of environment. Whether your needs is an EMP-proof installation, an installation with up to 10 km distance to the GPS-antenna or cable space restrictions, the FL-15 will solve your problem.

The FL-15 is designed to work with a Fluke 910/910R or a Pendulum GPS-88/89 Time and Frequency Reference, but will also fit other brands. A complete system consists of the actual Frequency Reference, the FL-15 fibre link, the GPS-antenna (Option 01) and the antenna coax cable interface (Option 02). See figure 1.

The use of optical fibre has a number of inherent advantages over conventional coaxial alternatives:

- Low loss - enabling very long path lengths with minimal degradation of carrier-to-noise.
- Lightweight, highly flexible, small diameter cable.

- Frequency response is independent of path length.
- Immunity to electrical interference - the signal is not corrupted by radiated interference.
- Non-conductive - provides electrical isolation.

This product offers particular advantages:

- L1 and L2 GPS Frequencies
- Operation from 0m to >10km
- Compact module size
- Wide dynamic range for negligible signal degradation
- Front panel status LEDs
- External LNA supply feed

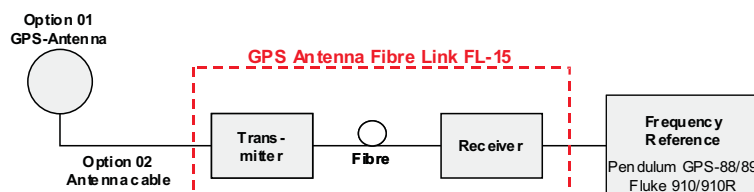


Figure 1: Cross-site connection.

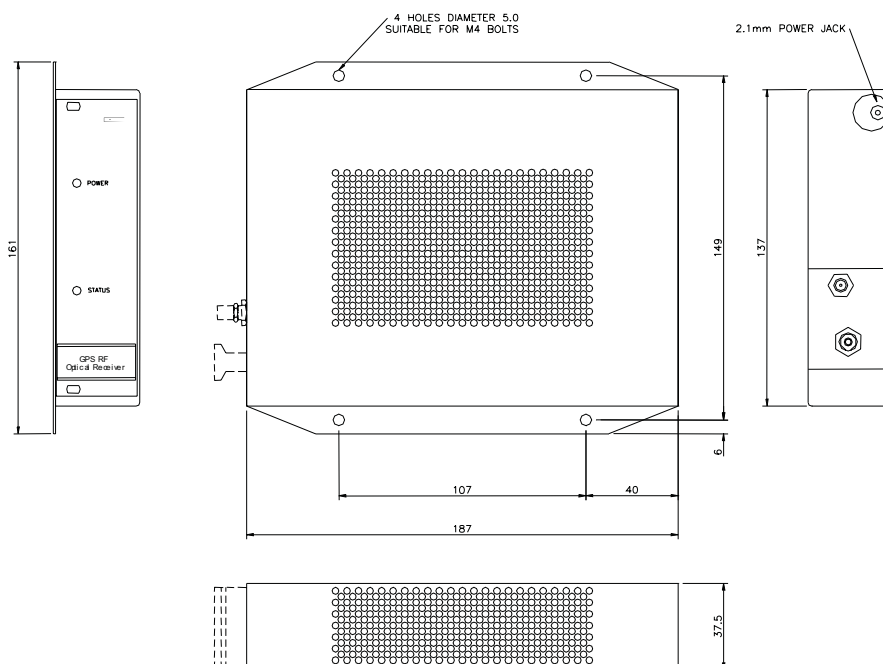


Figure 2: Mechanical dimensions.

Technical Specifications

Bandwidth

Bandwidth:	<950 MHz to >1750 MHz
Gain Flatness:	+/-1 dB

Gain

RF Link Gain at 0 dB optical loss:	0 dB Subtract [2 x Optical Loss] dB for >0 dB optical loss Optical Losses: Fibre=0.4 dB/km typ., Connectors=0.5 dB per connector typ.
---	---

Gain Stability over Temperature:	<+/-3 dB over operating range
Tx:	<0.05 dB/C below 40°C, <0.08 dB/C above 40°C
Rx:	<0.03 dB/C

Dynamic Range

Input Third Order Intercept:	>+10 dBm
Input P1 dB:	>0 dBm
Noise Figure:	<25 dB, 0 dB optical loss

User Interface

Input/Output Impedance, VSWR:	50Ω, 2:1
Power LED:	Indicates DC power is applied to the module
Transmitter Status LED:	Green: Transmitter laser functioning within acceptable limits Red: Transmitter laser efficiency degraded
Receiver Status LED:	Green: Received light level above threshold Red: Received light level below threshold
RF Connector:	50Ω SMA Female
External LNA Supply Voltage:	+5V @ 80 mA
Optical Connector:	FC/APC Narrow key, >60 dB return loss
Current Consumption:	<4W

Operating Conditions

Absolute Maximum RF Input (RF in):	>+15 dBm, 5V DC
Operating Temperature:	0°C to +40°C
Storage Temperature:	-40°C to +70°C
Supply Voltage:	+12V DC from power supply

Optical Characteristics

Wavelength:	1310+/-20 nm
Fibre:	Singlemode 9/125, Corning SMF28 or equivalent
Output Power:	+4.5 dBm/3 mW nominal

Mechanical Data

Weight:	0.7 kg
WxDxH:	161x187x37 mm

Ordering Information

Included Accessories

1x Transmitter unit
1x Receiver unit
1x SMA-to-N-connector Female adapter
1x SMA-to-N-connector Male adapter
2x 12V DC Power supplies, for 230V AC-main connection
1x Operators Manual
Fibre cable is not included

Optional Accessories

Option 01	GPS Antenna
Option 02/20	Antenna coax cable 20m
Option 02/50	Antenna coax cable 50m
Option 01/50	GPS Antenna mounting kit

For further details please contact us.

Specifications subject to change without notice.

4031 600 15101-rev. 01 May 2002

Pendulum Instruments AB

www.pendulum.se

