

# RVL-1

## FIBER OPTIC LINK SYSTEM

SIGNAL LOSS SOLUTIONS FOR LONG  
CABLE RUNS UP TO 1.5KM



Multi-frequency and constellation



Robust and rugged enclosure



Long cable run signal loss solution

### SIGNAL LOSS ISSUES

GNSS signals become attenuated as they travel through long cable runs, this reduced signal gain can limit the ability of the receiver to provide a position solution to the point where the signal is completely undetectable by the receiver. Receivers specify an ideal gain strength to ensure the most robust positioning; a long cable run can result in a signal reaching the receiver that is below the ideal strength required.

### FIBER OPTIC SOLUTIONS

StarLink RVL-1 FIBER is a multi-constellation fiber optic solution for remote GPS antenna installations. RVL-1 covers frequency ranges from 800 MHz up to 1800 MHz and passes all of the GNSS frequencies (GPS, GLONASS, GALILEO, BEIDOU, SBAS, L-BAND) over fiber up to 1,524 meters (5,000 feet). This unit has been designed to operate on 12V to 36V AC or DC, allowing the use of low voltage NEC electrical wiring standards to be used at installation.

The RVL-1 is designed to operate with any TNC GNSS antenna with at least 34dB gain.

### ADVANTAGES OF FIBER OPTIC CABLE

The RVL-1 utilises the advantages of fiber optic cable over coaxial including:

- Greater distance for remote antenna (up to 1,524 meters).
- Lower signal loss during transmission.
- Security as the cable does not radiate signals.
- Immune to environmental factors that affect copper.
- Insulated cable so no electrical current can flow through, therefore providing the ultimate in lightning and surge protection.
- Immune to electromagnetic interference and radio-frequency interference.
- Fiber cable can run beside industrial equipment without concern.
- The cable is lightweight, thin and durable making installation straight forward.
- Lower cost to maintain than copper cable.

RVL-1 GPS Fiber Optic link is patented technology. (US8032031 B2)



# RVL-1 SPECIFICATIONS

## RVL-1 TRANSMITTER

### ANTENNA REQUIREMENTS:

- Connection: TNC
- Gain: 34dB +/-3 dB
- Impedance: 50Ω
- Power: 5 VDC (minimum 8mA)
- Frequency: 800MHz to 1800 MHz
- Power Connection: 2 Pin 12-24V AC or DC
- Input Voltage: AC/DC 12-24V 50/60 Hz @ 100-600mA

### OUTPUT CONNECTION:

ST Type Fiber Optic Connector for Simplex Multimode 50/125 Micron Cable

### FIBER LENGTH:

System allows Fiber Runs of up to 1524 meters (5000 feet) of 50/125 Fiber Optic Cable

Enclosure: Die cast, Aluminium

Colour: Beige (Powder Coated)

Relative Humidity: 0-100% Condensing

Storage Temp: -50°C to +85°C

Operating Temp: -40°C to +70°C

Accessories: Power Supply (516816), Power Cable (516818)

Altitude: 6,096m (20,000 ft)

System Propagation Delay: 15ns  
(does not include fiber optic cable delay)

US Patent 8032031 B2



## RVL-1 RECEIVER

Input Connection: ST Type Fibre Optic Connector for Simplex Multimode 50/125 Micron Cable

Input Power: 5 to 12 VDC @ 85mA (powered from DC bias of GPS Receiver)

Output Connection: BNC 50 OHM Female

Frequency: 800MHz to 1800 MHz

Enclosure: Extruded Aluminium

Colour: Natural

Relative Humidity: 0-95% Non-Condensing

Storage Temp: -40°C to +85°C

Operating Temp: 0°C to +50°C

Accessories:

Antenna Fault Reporting LED: Green – Good; Red – Fault

Altitude: 6,096m (20,000 ft)