

## Fibre Optic Components



DrawCom Fibre Optic products range from stand alone transmitter, receiver and transceiver to custom built systems for distributing RF signals over fibre cable. By using fibre optic cable it is possible to transmit RF signals over long distances (up to 30km with insignificant attenuation).

### Fibre Optic Transmitters, Receivers & Transceivers

- RF Over Fibre Distribution Systems
- Transmitting and receiving single or multiple RF Signals
- 70 to 3000 MHz
- 1310nm
- Flat Gain over full range
- 37dBm OIP3 at max gain
- Rack mount or stand alone
- 20-35MHz Data Path

#### **20-005401 Transmitter**

The transmitter modulates the RF signal on to a laser, which is then transmitted over a fibre optic cable to a receiver. The laser current is monitored and compensated for constant optical output power against temperature variation and aging. Laser over-current alarm function is provided as LED output as well as open collect and voltage-free relay contacts on 9 way D-type connector.

#### **20-005501 Receiver**

The receiver demodulates RF signals from the laser with a typical gain of 18dB and with 30dB adjustability in the RF domain. The received optical power is monitored for alarm function in case of fibre damage.

#### **20-005601 Transceiver**

The transceiver comprises both transmitter and receiver in a single case for single mode optical links. Each path Tx & Rx has LED alarm status output whereas the transceiver summary alarm status is provided in the form of an open collector and voltage free relay contacts on 9 way D-type connector.

All three products are available in rack mountable card version. For further information please contact our sales team.

## Specifications

Parameter	Typical Performance *
Temperature	+25 °C
Frequency Range (RF path)	70 - 3000 MHz
Frequency Range (Data path)	20 – 35 MHz
Available Link Gain (RF Path)	18 dB
Link Gain ( DATA Path)	0 dB
Gain Flatness ( entire frequency range)	±1.5 dB p-p
DGain vs. Temperature -20 to 70	3.5 dB
Gain adjustment range ( RF Path )	30 dB
In/Out RL (RF path)	10 dB Min
Output IP3 @ max gain (2 Tones @ 900.00MHz & 900.20 MHz)	37 dBm
In/Output IP3 @ 0dB Gain (2 Tones @ 900.00MHz & 900.20 MHz)	33 dBm
RF impedance	50 Ohm
Noise Figure @ 0dBgain (400MHz)	36 dB
Optical Transmit Power	2.7±0.3 dBm
Optical return loss	>50 dB
Received Power Alarm Threshold	-10 dBm(optic)
Optical wavelength	1310 nm
DC Supply Voltage	10-12 Vdc
DC Supply Current	20-005401 120 mA 20-005501 350 mA 20-005601 420 mA
Operating Temperature	-20 to 70
Storage Temperature	-30 to 85
Dimensions	See outline drawings
RF Connector type	SMA
Fibre optic connector type	FC/APC

\* RF performances are based on 20-005401 & 20-005501 Transmitter and Receiver pair with 50cm fibre link. The 20-005601 Transceiver performances are based on 50cm fibre link from TX laser port to RX laser port.

## Absolute maximum ratings

Parameter	Max. value
DC Voltage	30 V
RF Input Power (for 20-005401 & 20-005601)	+10 dBm
Receiver optical input power	+10 dBm

## Typical Performance Graphs

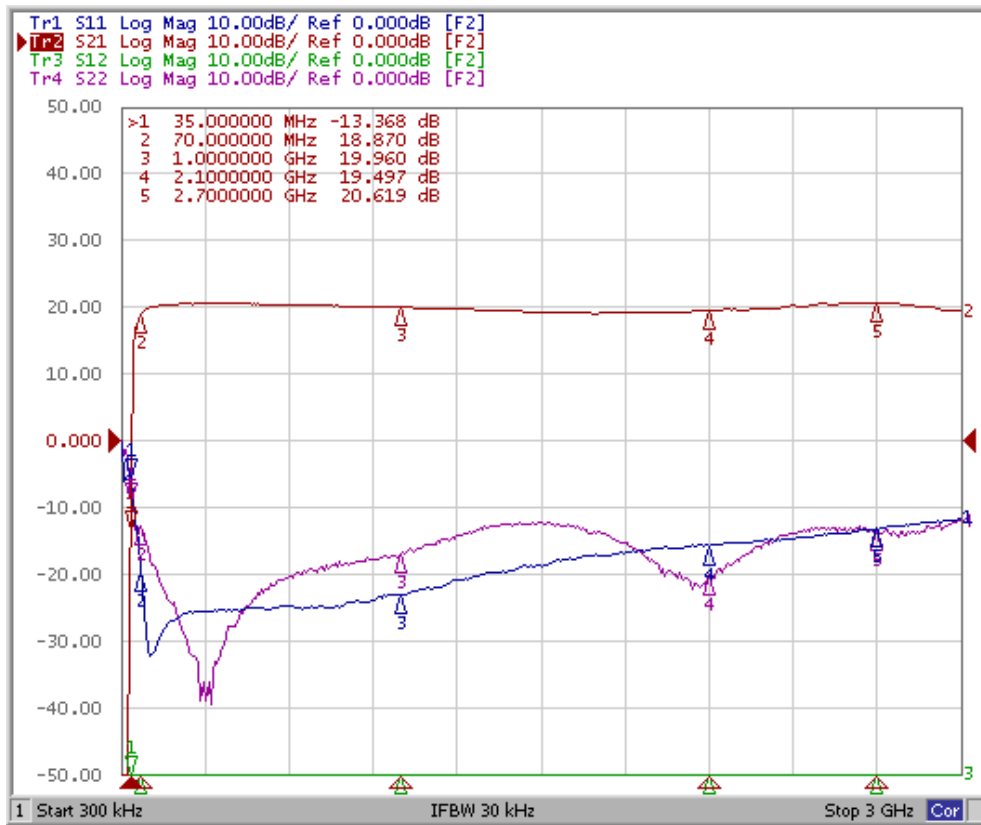


Figure1: RF Path S11, S21 & S22

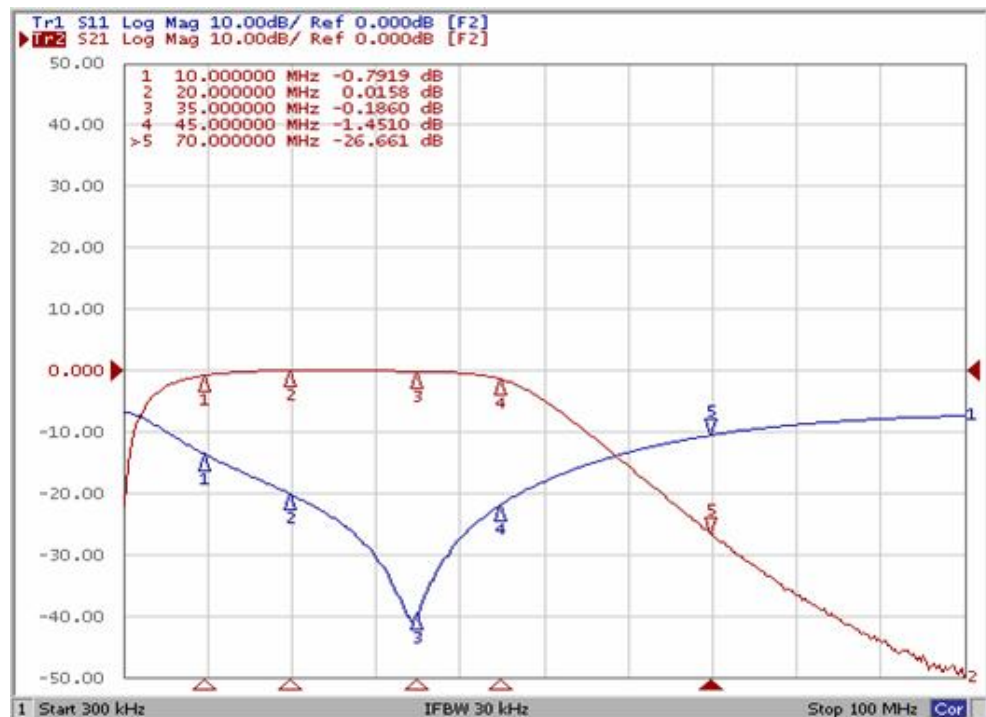


Figure2: Data Path S11 and S21

## Outline Drawings

Figure3:  
20-005401 Transmitter  
outline drawings

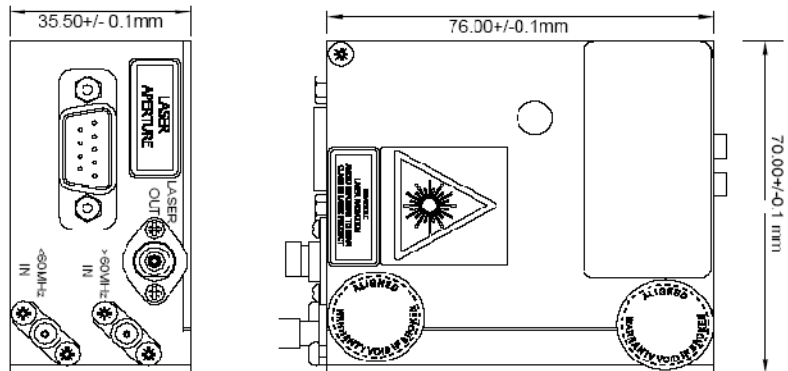


Figure4:  
20-005501 Receiver  
outline drawings

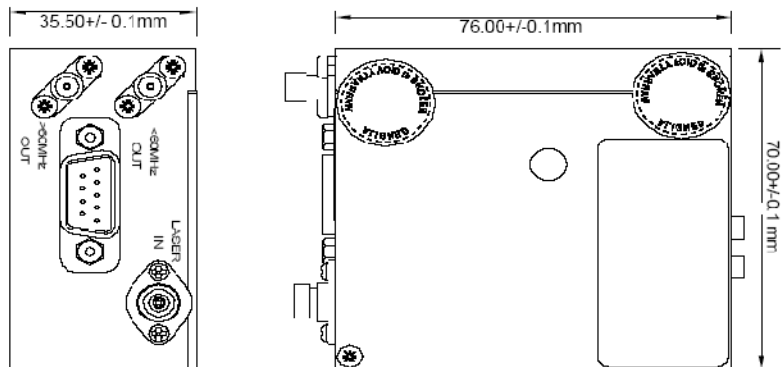


Figure5:  
20-005601 Transceiver  
outline drawings

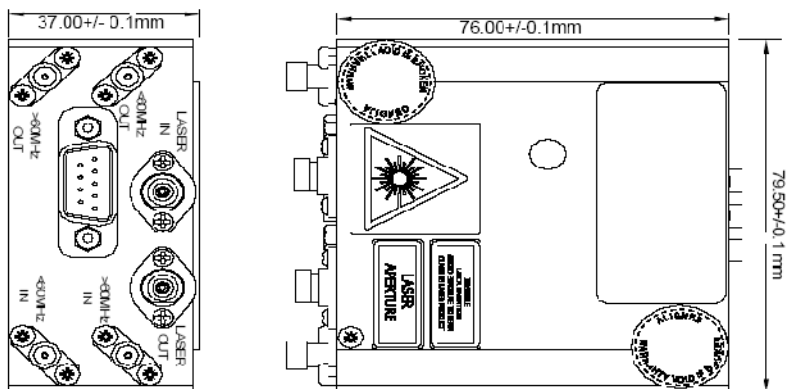
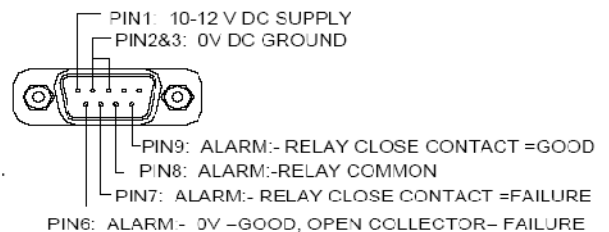


Figure6:  
20-005401, 20-005501 and 20-005601  
9way D-Type connector pinout drawing.



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