

RF-over-Fiber RFoF1 – 6 GHz

Description

The RF-over-Fiber link (RFoF1 – 6GHz) converts analog RF signals into optical signals and optical signals back to RF signals. The modules offer a wide operating bandwidth up to 6 GHz with excellent stability, frequency jitter and phase noise performance. Rapidly growing use within communications systems, defence systems, test environments and other high-tech niches.

Features

- Wide bandwidth from 100 MHz to 6 GHz
- No external control circuits required
- Analog signal to optical conversion and back

Applications

- Communication systems
- Radar applications
- Test environments



Order Information

Item Description	Item Number
RFoF1 - 6GHz (TX)	85085011
RFoF1 - 6GHz (RX)	85085013

Electrical Data

Parameters		Value			Remarks
		Min.	Typ.	Max.	
All specifications at 25°C case Temperature T _c , unless otherwise specified					
Frequency range	MHz	100		6000	
Gain	dB	10	15	20	
Gain flatness	dB		< 1.5		
Noise figure	dB		20		
Spurious-free dynamic range	dB Hz ^{2/3}		100		
Max. input at 1dB compression	dBm		-8		
Max. input power for no damage	dBm		+17		
VSWR (input and output)			1.9		
OIP3	dBm		10		
Time Delay	ns		12		without interconnection fiber
Supply voltage V _s	Transmitter VDC	+ 11	+ 12	+ 16	Max. 160 mA
Supply voltage V _s	Receiver VDC	+ 11	+ 12	+ 16	Max. 130 mA
Temperature range	Operating °C	- 40		+ 85	
	Storage °C	- 40		+ 85	
RF input impedance	ohm	50			
Module weight	Kg / lbs	0.27 / 0.6			Transmitter and Receiver
Module dimensions	mm / inches	90 x 95 x 23 / 3.5 x 3.7 x 0.9			Transmitter and Receiver
RF connectors		SMA female			Other connectors available

Optical Data

Parameters		Value			Remarks
		Min.	Typ.	Max.	
All specifications at 25°C case Temperature T _c , unless otherwise specified					
Fiber optic connectors		FC/APC			other connectors available
Fiber		Standard single mode	9/125 um		
Optical power in fiber	mW	3	6	10	
Side mode suppression ratio	dB	30	40		

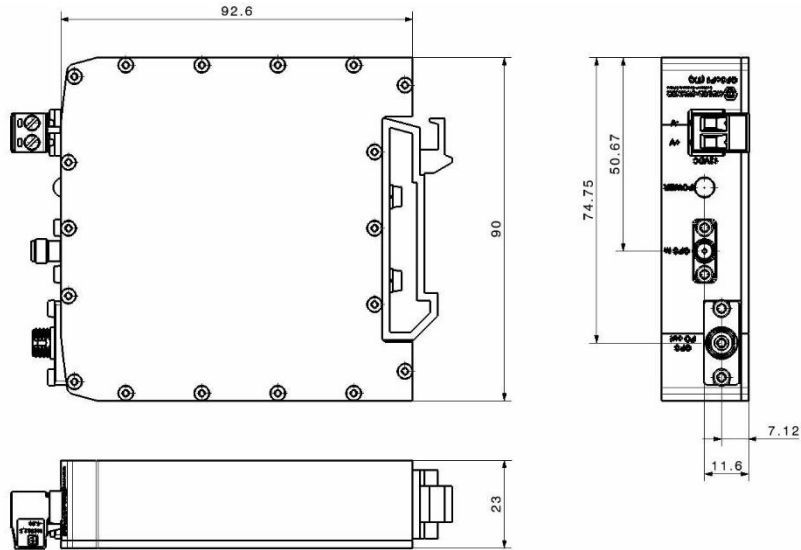
RF-over-Fiber RFoF1 – 6 GHz

Mechanical Data

RFoF1 - 6GHz (TX)

Dimensions Outline Drawing: DOU-00394260

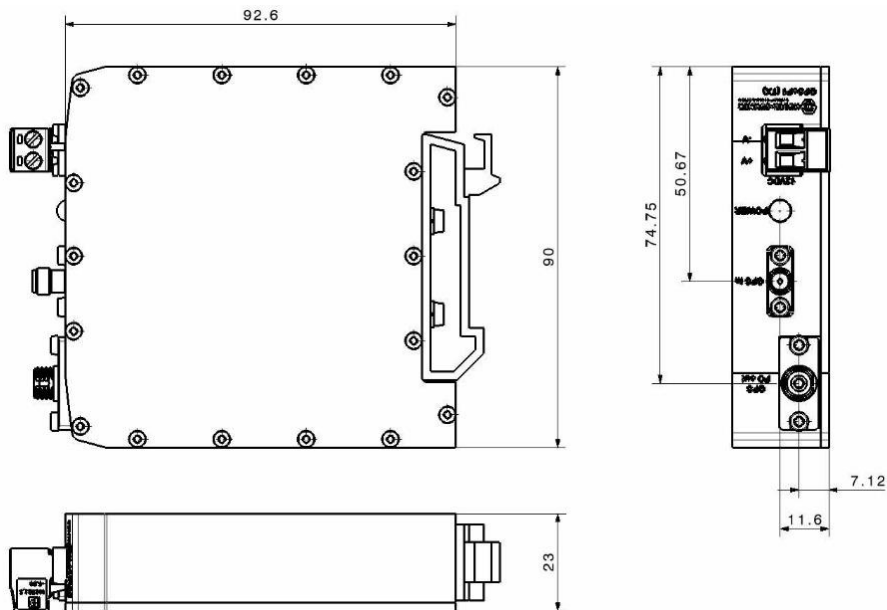
Input	Output	Description	Interface
X		RF In	SMA (female)
	X	FO Out	FC/APC (Adapter)
X		12 VDC In	



RFoF1 - 6GHz (RX)

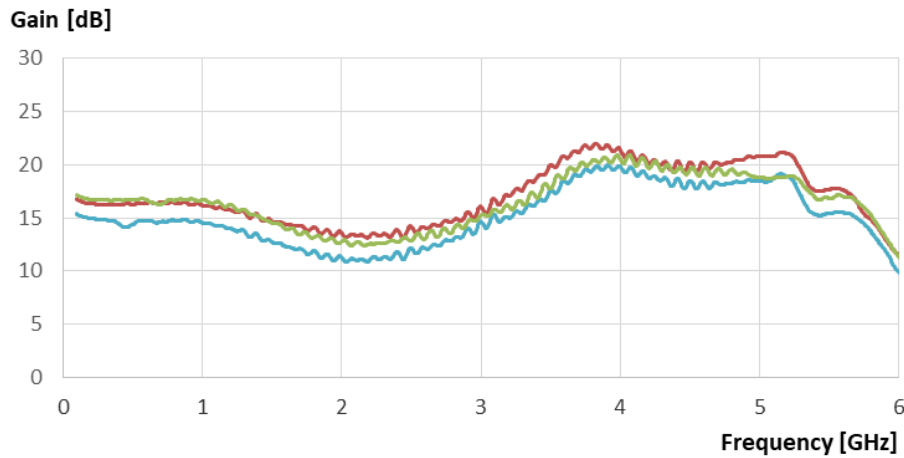
Dimensions Outline Drawing: DOU- 00394261

Input	Output	Description	Interface
	X	RF Out	SMA (female)
X		FO In	FC/APC (Adapter)
X		12 VDC In	



RF-over-Fiber RfOF1 – 6 GHz

Typical Frequency Response (based on 3 random samples)



Additional Information

- All modules are RoHS Compliant
- All modules are EMC protected
- DIN 35 brackets are delivered with each module. Other brackets available upon request
- MIL and other certifications are possible upon request
- Various racks and enclosures available
- All modules are single packaged

Important catalogue links

- RF Cables: <http://literature.hubersuhner.com/Technologies/Radiofrequency/RFCablesEN/>
RF Connectors: <http://literature.hubersuhner.com/Technologies/Radiofrequency/RFCConnectorsEN/>
FO Standard Assemblies: <http://literature.hubersuhner.com/Technologies/Fiberoptics/FOcableassembliesEN/>

Application Notes

Potential Applications

- Aerospace+Defense applications such as radar systems, naval systems, UAV's and airframe cable systems for aircraft and helicopters.
- Specialised test environments.
- Offshore applications such as communications systems on rigs.