

LNF-TERM4_12A



Product features

- RF bandwidth: 4-12 GHz
- Return loss: > 20 dB typical
- RF-connectors: SMA
- DC-connector: SMC

Product description

The LNF-TERM4_12A is a termination suitable for converting an LNF circulator into an isolator with a DC feed through. The DC voltage will be present at both the input and output of the isolator. They have been designed from ground up to meet the strict requirements of ultra-low temperature physics research. The gold plated OFHC copper body ensures minimum loss and that this loss reaches the lowest possible temperature to minimize thermal noise. The module measures 9.5 mm * 9.5 mm * 31.4 mm excluding the connectors.

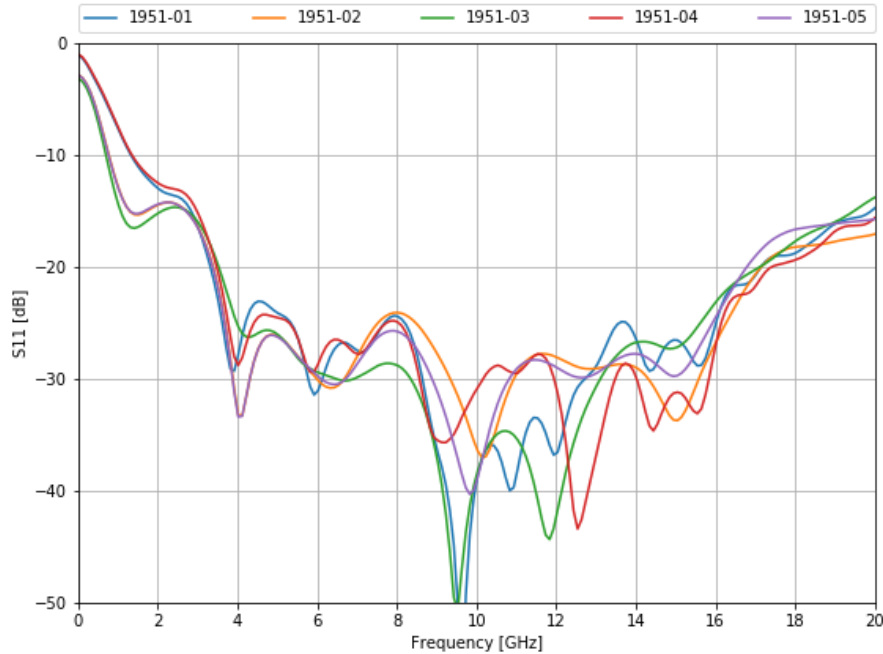
Absolute maximum ratings

Parameter	Min	Max
RF drive level		30 dBm
DC voltage on RF input and output	-50V	50V

Typical Characteristics at 4 K

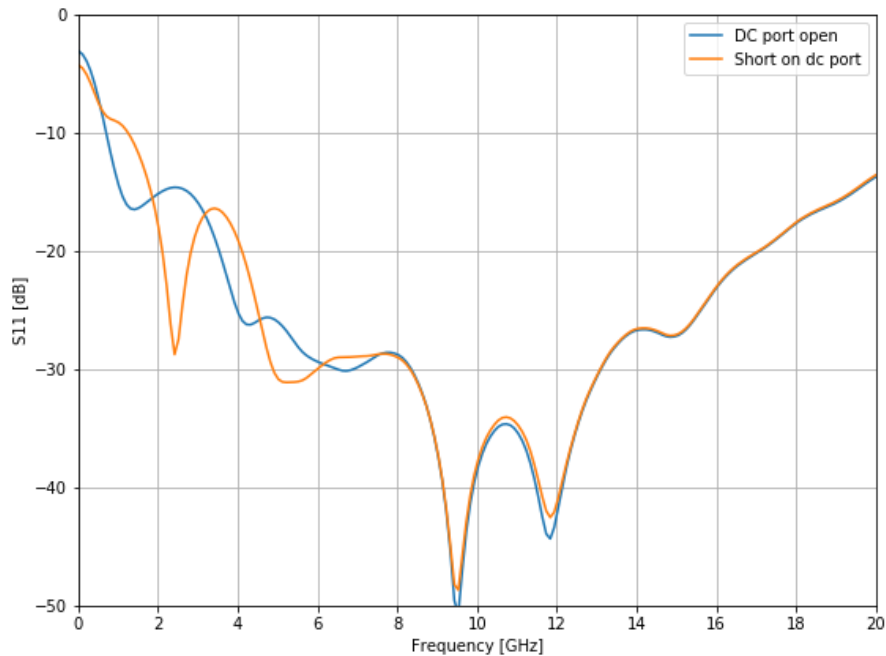
Parameter	Condition	Value	Unit
Return loss	4-12 GHz	22	dB
DC resistance		<	Ohm

Measured typical data $T_{amb}=4$ K



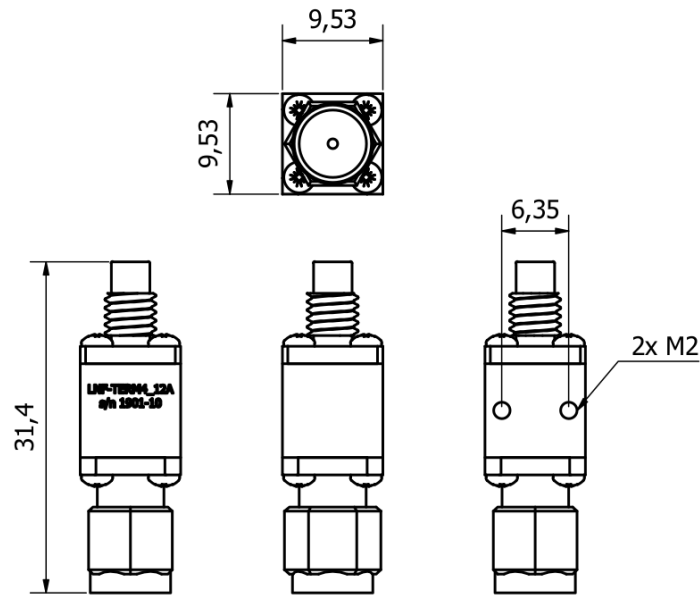
Measured reflection on port 1 (SMA port) at port of cryostat, using time domain gating to remove reflections in cabling down to the termination but including reflection of connector.

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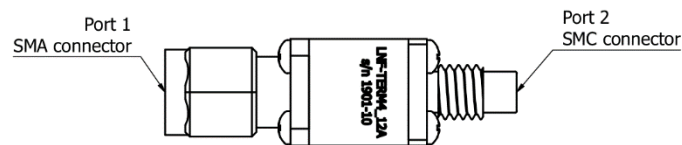
The reflection coefficient at the SMA connector (port 1) is dependent on the impedance presented to the SMC connector (port 2). This effect is small above 5 GHz. In the measurement above we have done measurements with port 2 terminated in a short or open, the measurements were taken using time domain gating to remove the reflections in the cabling down into the cryostat.

Drawing

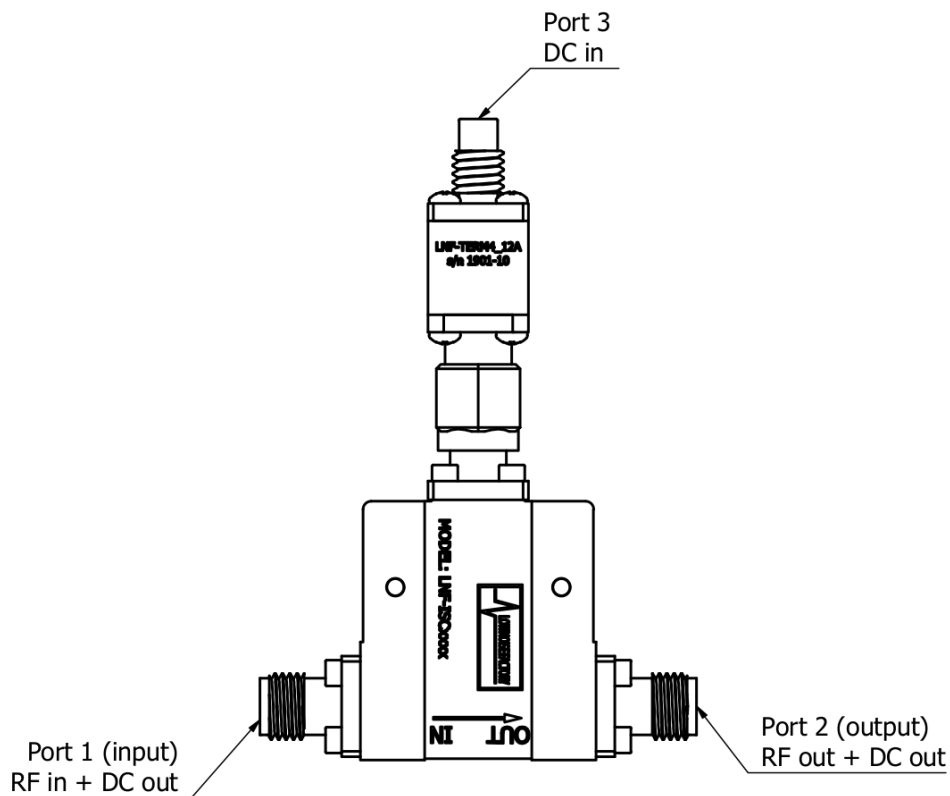


Connect heatsink directly to OFHC copper chassis for best cooling

Dimensions are in millimeters



Use with circulator



The LNF-TERM4_12A can be used together with an LNF circulator in the 4 GHz – 12 GHz band.

CAUTION The isolator does not contain any dc block. All ports are connected from a DC perspective. This means that any bias provided through port 3 will be present on both port 1 and 2.