

RFLD-8RE

8 Channel True Power RF Level Detector, 1 MHz ... 8000 MHz

Features

- 8 separate channels
- extremely wideband
- high dynamic range
- RMS and pulse detection
- power range up to 4 W

Applications

- automatic test sequences
- RF signal monitoring
- research and development (R&D)
- production

Scope

The RFLD-8RE is an eight channel RMS RF level detector with high RF power capability. It is designed in 50 ohms technology. The detectors in each channel have a wide detection range. The operating frequency range covers 1 MHz to more than 8 GHz.

Each channel is equipped with two Detector types, a True Power RMS detector and an envelope detector. Both detectors can be queried at the same time to get RMS/peak value pairs. The envelope detection has a peak hold circuit. The peak hold circuit will be reset after each request by software.

The RFLD-8RE is designed as a slide-in module for the integration into the SR6-11C system platform.

Principal Block Diagram

The RFLD-8RE has 8 independent RF level detector channels.



Optical Power Indication

LEDs on the front- and rear panel are indicating the presence of RF signals for each channel. Their threshold levels are settable by software.

Wide Detection Range

The RFLD-8RE is equipped with 8 detector channels. Each channel has a detection range of 38 dB typical with a power capability of 4 watts.

Remote Control

In combination with the SR6-CU controller module, the RFLD-8RE is remote controllable via standard interfaces USB and LAN with simple SCPI orientated ASCII strings.

Built-In Test Function

Internal supply voltages and temperatures in each detector channel are monitored. The module status can be read out via remote interface.

RF Specification

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{IN}		50		Ω	
number of channels	n_{CH}		8			
frequency	f_{MIN}		1	20	MHz	
	f_{MAX}	2700	8000		MHz	
return loss	S_{11}		-30	-23	dB	$f \leq 1850$ MHz
	S_{11}		-25	-17	dB	1850 MHz < $f \leq 2700$ MHz
	S_{11}		-12		dB	$f > 2700$ MHz
detection limit	P_{DET}	+37	+39		dBm	20 MHz $\leq f \leq 1000$ MHz
	P_{DET}	+36	+38		dBm	1000 MHz < $f \leq 2700$ MHz
accuracy (RMS)	dP_{DET}		$\pm 0,5$	± 1.5	dB	+5 dBm $\leq P_{IN} \leq +36$ dBm (CW)
noise floor	P_{NOISE}		-7	0	dBm	20 MHz $\leq f \leq 2700$ MHz
RF power	P_{RF}			5	W	single channel
RF power dissipation	P_{DIS}			20	W	sum of all channel, note 1
DC voltage	U_{DC}			20	V	
ESD discharge resistor	R_{ESD}		4.7		k Ω	
RF connectors	X_{RF}	SMA female				

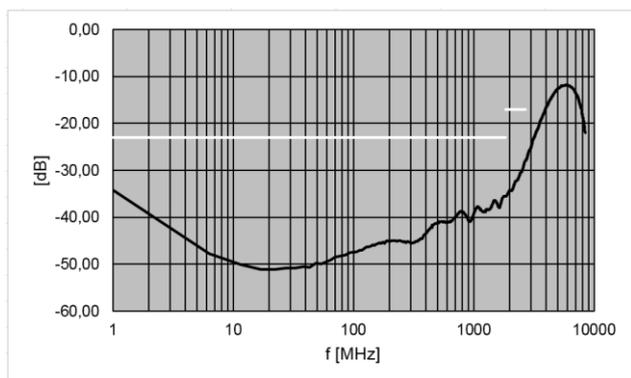
Note1: cooling must be ensured by installation in system platform SR6-11C + fan unit FU-320

Common Specifications

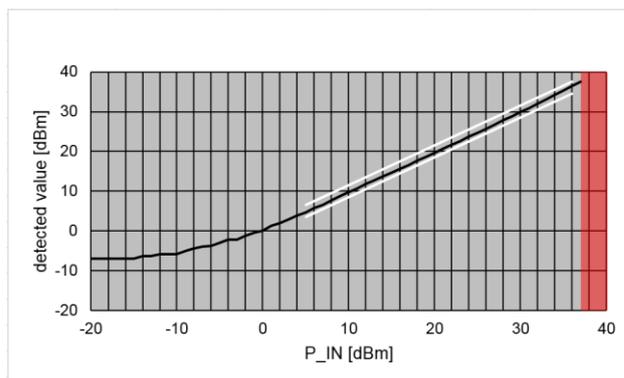
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
power supply	U_{DC}	23.5	24.0	24.5	V	via SR6-11C
power consumption	P_{DC}		2		W	
dimensions	WxHxD	approx. 30 x 262 x 197			mm	6 U, 6 HP
weight	m		1.2		kg	
operating temp. range	T_o	+5		+60	$^{\circ}C$	
storage temp. range	T_s	-40		+70	$^{\circ}C$	
ordering information	RFLD-8RE		P/N: 1505.8000.1			



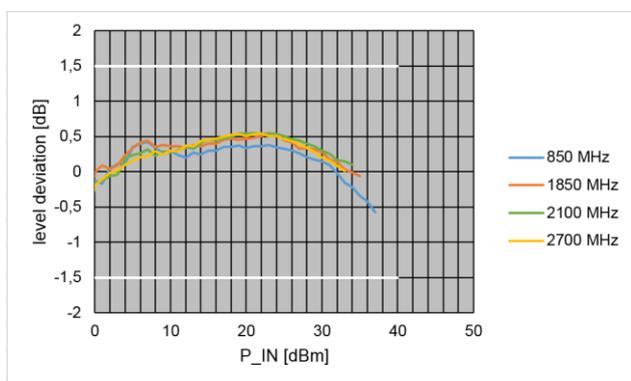
Return Loss (typical response)



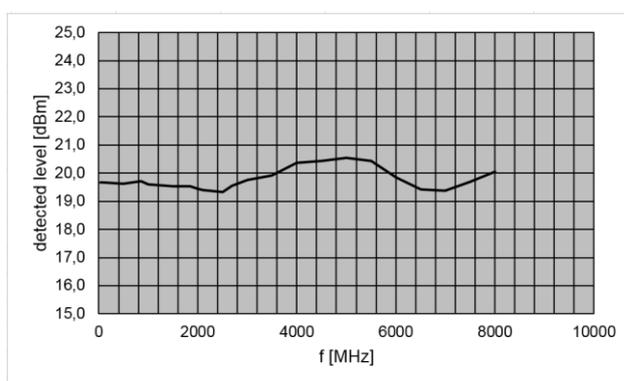
Dynamic Range (typical response)



Detection Accuracy (typical responses)



Frequency Response (typical response)



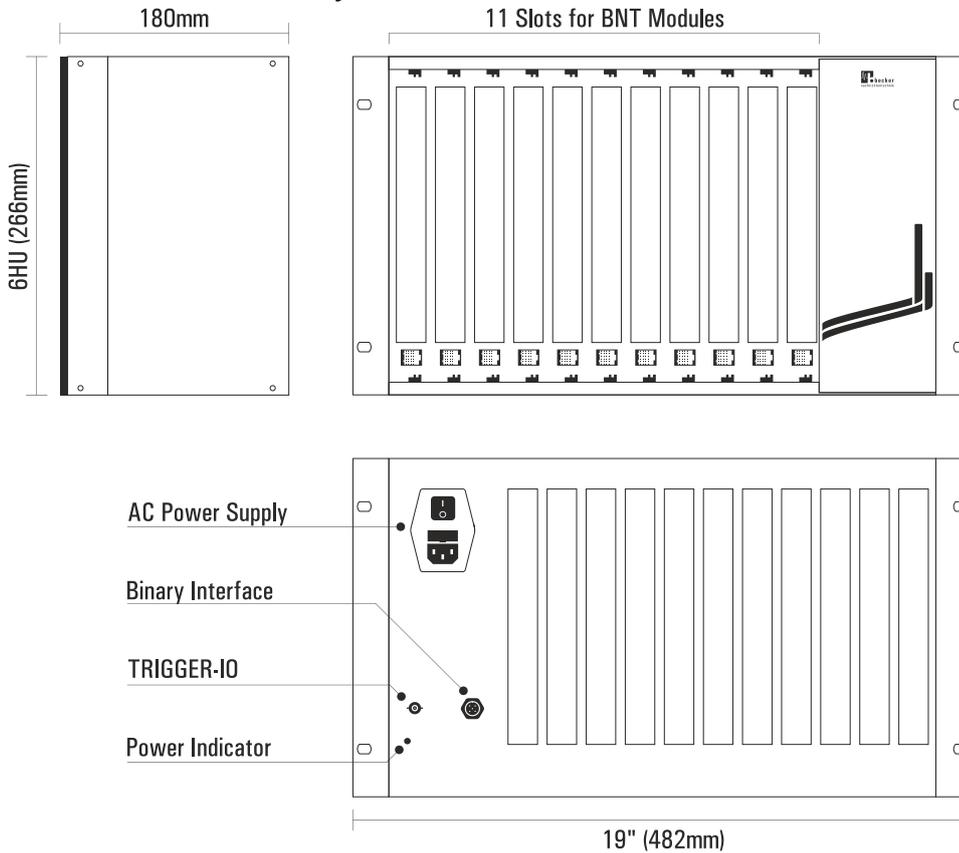
SR6-11C System Platform

The RFLD-8RE module is foreseen for the integration into the SR6-11C system platform. 11 slots in the SR6-11C can be used for modules like RF switches, matrices, multicouplers,

attenuators, BIAS-Ts, level detectors, bi-directional splitters/combiners for signal conditioning and a controller unit.

For the control of RFLD-8RE module the SR6-CU controller unit is required.

Dimensions of SR6-11C System Platform



Appearances



RFLD-8RE front view



RFLD-8RE rear view



SR6-11C front view

Related Products

Product	Description	P/N
SR6-11C	System Platform with 11 Slots for Modules	1409.1202.1
SR6-CU	Controller Unit with LAN and USB Remote Interface	1409.3000.1
Unidirectional Products: Active Multicouplers, Matrices, Level Detectors		
WSDU-1X8A	8 Way High Dynamic Signal Conditioning Multicoupler 100 kHz ... 4000 MHz	1807.6300.1
WSDU-2X4A	2 Section 4 Way High Dynamic Signal Conditioning Multicoupler 100 kHz ... 4000 MHz	1807.6400.1
WSDU-1X8L	8 Way Multicoupler Module 100 kHz ... 4000 MHz	1807.6100.1
WSDU-2X4L	2 Section Hi Dynamic 4 Way Multicoupler Module 100 kHz ... 4000 MHz	1807.6200.1
WSDU-2X4E+	2 Section 1x4 plus 1x2 Multicoupler Module 20 ... 8000 MHz	1501.6200.1
WSDU-1X8S	High Dynamic 1x8 Shortwave Multicoupler Module 300 kHz ... 30 MHz	1502.6100.1
WSDU-1X2P	2 Channel, 5 W Multicoupler with ALC Capability 20 MHz...3000 MHz	1606.6000.1
RSWM-4X4	4x4 Switching Matrix -Non-blocking-, 100 kHz ... 4000 MHz or 20 MHz ... 4000 MHz	1205.4100
RSWM-4X4E	4x4 Ultra-Wideband Switching Matrix -Non-blocking-, 20 MHz ... 8000 MHz	2001.4100.1
RFLD-8RE	8 Channel True Power RF Level Detector, 1 MHz ... 8000 MHz	1505.8000.1
Bi-Directional Products: Switches, Matrices, Attenuators, Delay Lines, BIAS-Ts, Splitters/Combiners, Filters		
RSWU-2SP4TS+	2 Channel Non-reflective SP4T Switches plus 1 Channel SPDT Switch, 100 kHz ... 8500 MHz	1408.4010.1
RSWU-8SPSTS	8 Channel Non-reflective SPST Switch 100 kHz ... 8500 MHz	1408.4000.1
RSWU-4SPDTS	4 Channel Non-reflective SPDT Switch 100 kHz ... 8500 MHz	1408.4020.1
RSWU-8SPST-CS	8 Channel High Isolation SPST with DC Load Simulation, 100 kHz ... 7500 MHz	1811.4100.1
BSWM-4X4E	4x4 High Isolation Bi-Directional Switching Matrix –Blocking-, 100 kHz ... 7500 MHz	1205.4600.1
ATT-8E	8 Channel Digital Step Attenuator 0 ... 31.75 dB, 100 kHz ... 8000 MHz	1503.4000.1
DLL-4	4 Channel Programmable Delay Line 0 ... 1700 ps, 250 MHz ... 4000 MHz	1303.4200.1
PT-4CS	4 Channel Programmable DC Sink 0 ... 400 mA, 100 kHz ... 8500 MHz	1605.2020.1
PT-4CL	4 Channel Wideband DC Load, 100 kHz ... 8500 MHz	1605.2040.1
BSDU-2X4A+	2 Section 4 Way, Bi-Directional Signal Conditioning plus 2 Way Splitter/Combiner, 500 MHz ... 7500 MHz	1903.6100.1
BSDU-2X4+	2 Section 4 Way Wideband Bi-Directional plus 2 Way Splitter/Combiner, 500 MHz ... 7500 MHz	1903.6200.1
FBS-1590	L1 Band GNSS Notch Filter	1511.5100.1

