Fast. Accurate. USB-capable. Power sensors from Rohde & Schwarz



Fast. Accurate. USB-capable. Power sensors from Rohde & Schwarz

The most important features for accurate and simple power measurements are maximum measurement accuracy and speed, and easy operation with a base unit or PC/laptop.

The R&S®NRP family combines all these features with the R&S®NRP2 base unit, R&S®NRPV virtual power meter PC software and a wide range of USB-capable power sensors.

Rohde&Schwarz offers an extensive portfolio for power measurements from DC to 110 GHz, from –67 dBm to +45 dBm, including:

- I Three-path diode power sensors with 90 dB dynamic range
- Wideband power sensors for performing accurate envelope power analysis
- I Thermal power sensors for maximum accuracy
- Level control sensors and power sensor modules for special applications

The R&S[®]NRP power sensors can be connected to a laptop or PC via USB and controlled via the R&S[®]NRPV virtual power meter PC software. Up to four power sensors can be operated in parallel with a R&S[®]NRP2 base unit. They are also supported by virtually all Rohde & Schwarz signal generators and signal, spectrum and network analyzers.

Depending on the application, the focus of power measurements is either on measurement accuracy, measurement speed or the optimal combination of both. R&S®NRP family offers the best characteristics on the market for all applications.



Power sensor overview

		Level range												
		-60	dBm —	50 -	-40	-3	0	-20	-10	0	+10	+20	+30	+40 dBm
	R&S®NRP-Z11	—67 dBm						+23 dBm						
	R&S®NRP-Z21	—67 dBm								+2	23 dBm			
Three-path diode power	R&S®NRP-Z22	–57 dBm							+33 dBm					
sensors	R&S®NRP-Z23	47 dBm							+42 dBm					
	R&S®NRP-Z24				—42 d	Bm								+45 dBm
	R&S®NRP-Z31	-67 dBm								+2	23 dBm			
Two-path diode power	R&S®NRP-Z211		—60 dBn	n							+20	dBm		
sensors	R&S®NRP-Z221		—60 dBn	n							+20	dBm		
	R&S®NRP-Z81		—60 dBr	n					'		+20	dBm		
Wideband power sensors	R&S®NRP-Z85		—60 dBr	n							+20	dBm		
	R&S®NRP-Z86 model .40		—60 dBr	n							+20	dBm		
	R&S®NRP-Z86 model .44		—60 dBn	n							+20	dBm		
	R&S®NRP-Z51					-35	dBm				+20	dBm		
	R&S®NRP-Z52					-35	dBm				+20	dBm		
Thermal newer concern	R&S®NRP-Z55 model .03					-35	dBm				+20	dBm		
mermai power sensors	R&S®NRP-Z55 model .04					-35	dBm				+20	dBm		
	R&S®NRP-Z56					-35	dBm				+20	dBm		
	R&S®NRP-Z57					-35	dBm				+20	dBm		
	R&S®NRP-Z58					-35	dBm				+20	dBm		
	R&S®NRP-Z91	-67 dBm								+2	23 dBm			
Average power sensors	R&S®NRP-Z92	–57 dBm									+3	3 dBm		
	R&S®NRP-Z28	-67 dBm								+20	dBm			
Level control sensors	R&S®NRP-Z98	—67 c	IBm								+20	dBm		
D	R&S®NRP-Z27							—24 dBn	n			+26 dBm	ı	
Power sensor modules	R&S®NRP-Z37							—24 dBn	n			+26 dBm	1	

					Fi	requency range					Connector type
D	С	1 kHz	10 kHz	100 kHz	1 MHz	10 MHz	100 MHz	1 GHz 10	GHz	100 GHz	
						10 MHz		8 GH7			N
								0 0112			N N
									8 GHZ		N
						10 MHz		1	8 GHz		Ν
						10 MHz		1	8 GHZ		Ν
						10 MHz		1	8 GHz		Ν
						10 MHz			33 GHz		3.5 mm
						10 MHz		8 GHz			Ν
						10 MHz		1	8 GHz		Ν
							50 MHz	1	8 GHz		Ν
							50 MHz		40 GHz		2.92 mm
							50 MHz		40 GHz		2.4 mm
							50 MHz		44 GHz		2.4 mm
	DC							1	8 GHz		Ν
	DC								33 GHz		3.5 mm
	DC								40 GHz		2.92 mm
	DC								44 GHz		2.92 mm
	DC								50 GHz		2.4 mm
	DC								67 GHz		1.85 mm
	DC									110 GHz	1 mm
			9 kHz				· ·	6 GHz			Ν
			9 kHz					6 GHz			Ν
						10 MHz			8 GHz		N
			9 kHz					6 GHz			Ν
	DC							1	8 GHz		N
	DC							26	6.5 GHz		3.5 mm

Power sensors and ac	cessories						
Multipath diode power sensors The ideal combination of ac- curacy, measurement speed and widest dynamic range	R&S®NRP-Z11/-Z2x/-Z31 three-path diode power sensors	 Frequency range from 10 MHz to 33 GHz Level range from -67 dBm to +45 dBm Dynamic range of 90 dB based on innovative three-path concept Fast measurement speed, precise power measurements and wide range of measurement functions Ideal for universal applications in R&D, installation and maintenance Sensors for high power applications Frequency range from 10 MHz to 18 GHz 					
	R&S®NRP-Z211/-Z221 two-	 Level range from -60 dBm to +20 dBm Dynamic range of 80 dB Cost-efficient multipath diode sensors for production 					
	path diode power sensors						
Wideband power sensors Outstanding dynamic range for trace measurements	R&S®NRP-Z8x	 I Frequency range from 50 MHz to 44 GHz I Level range from -60 dBm to +20 dBm I Accurate envelope power analysis I Automatic pulse analysis I Statistical analysis I High resolution mode I Master-slave triggering (with R&S®NRP2 base unit or R&S®NRP-Z5 USB sensor hub) I Ideal for radar applications and for analysis of complex modulated signals 					
Thermal power sensors Outstanding linearity and maximum accuracy	R&S°NRP-75x	 Frequency range from DC to 110 GHz Level range from -35 dBm to +20 dBm Excellent impedance matching Innovative connector design for improved ease of use Outstanding performance for reference applications and calibration labs 					
Average power sensors Ideal for EMC applications	R&S®NRP-Z91/-Z92	 Frequency range from 9 kHz to 6 GHz Level range from -67 dBm to +33 dBm Support of low frequencies down to 9 kHz 					
Level control sensors Highly accurate signal level generation with a signal generator	R&S°NRP-Z28/-Z98	 Frequency range from 9 kHz to 18 GHz Level range from -67 dBm to +20 dBm Ideal to feed accurate power level into a device under test (DUT) and monitor the power at the same time 					
Power sensor modules Turns R&S®FSMR measuring receivers into precision power meters	A Contraction	 Frequency range from DC to 26.5 GHz Level range from -24 dBm to +26 dBm Accurate level calibration of signal sources in conjunction with the R&S[®]FSMR measuring receiver down to a level of -115 dBm 					
Power meter base unit Supports all measurement functions of every sensor	R&S®NRP-Z27/-Z37	 Operates up to four R&S[®]NRP-Zxx power sensors in parallel Numerical or graphical display of measurement results depending on the measurement function Intuitive user interface (window-based) Remote control operation via Ethernet, GPIB and USB Emulates legacy power meters Sensor check source (optional) 					
Virtual power meter Convenient power measure- ments via PC based software	-1990BM -16.600BM -10.27 dBh -21.22 dBh R&S®NRPV	 R&S®NRP-Zxx power sensors can be connected to a laptop or PC via a USB adapter and controlled via the R&S®NRPV virtual power meter PC software Numerical display (continuous average, timeslot average, timegate average and burst average mode) Multiple traces in one window Extremely flexible marker functions Dongle-free on multiple PCs through intelligent licensing concept 					
USB accessories Professional adapters and trigger solutions	R&S®NRP-Z5	 R&S®NRP-Z3 active USB adapter for external triggering R&S®NRP-Z4 passive USB adapter to connect R&S®NRP-Zxx power sensors to a laptop or PC R&S®NRP-Z5 USB sensor hub supports up to four power sensors in parallel, flexible external/internal triggering of all connected sensors and master-slave triggering with R&S®NRP-Z8x wideband power sensors 					

Regional contact

- Europe, Africa, Middle East | +49 89 4129 12345 customersupport@rohde-schwarz.com
- North America | 1 888 TEST RSA (1 888 837 87 72) customer.support@rsa.rohde-schwarz.com
- Latin America | +1 410 910 79 88 customersupport.la@rohde-schwarz.com
- Asia/Pacific | +65 65 13 04 88
 customersupport.asia@rohde-schwarz.com
- China | +86 800 810 8228/+86 400 650 5896 customersupport.china@rohde-schwarz.com

www.rohde-schwarz.com

R&S° is a registered trademark of Rohde&Schwarz GmbH&Co. KG Trade names are trademarks of the owners PD 3606.7147.62 | Version 02.00 | August 2013 (as) Fast. Accurate. USB-capable. Power sensors from Rohde&Schwarz © 2013 Rohde&Schwarz GmbH&Co. KG 81671 München, Germany | Subject to change

