

R&S® RT-Zxx

Oscilloscope Adapters

Specifications



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Definitions

General

Product data applies under the following conditions:

- Three hours storage at ambient temperature followed by 30 minutes warm-up operation
- Specified environmental conditions met
- Recommended calibration interval adhered to

Specifications with limits

Represent warranted product performance by means of a range of values for the specified parameter. These specifications are marked with limiting symbols such as $<$, \leq , $>$, \geq , \pm , or descriptions such as maximum, limit of, minimum. Compliance is ensured by testing or is derived from the design. Test limits are narrowed by guard bands to take into account measurement uncertainties, drift and aging, if applicable.

Specifications without limits

Represent warranted product performance for the specified parameter. These specifications are not specially marked and represent values with no or negligible deviations from the given value (e.g. dimensions or resolution of a setting parameter). Compliance is ensured by design.

Typical data (typ.)

Characterizes product performance by means of representative information for the given parameter. When marked with $<$, $>$ or as a range, it represents the performance met by approximately 80 % of the instruments at production time. Otherwise, it represents the mean value.

Measured values (meas.)

Characterize expected product performance by means of measurement results gained from individual samples.

Typical data as well as measured values are not warranted by Rohde & Schwarz.

Probe/adapter chart

Adapter R&S®	RT-Z2T	RT-ZA9
Base unit: R&S®		
RTM3000	•	
RTA4000	•	
RTE	•	
RTO	•	
RTP		
Other instrument with 50 Ω input		•
Probe: R&S®		
Passive probes		
RT-ZZ80		○
RTM-ZP10		
RT-ZH03		
RT-ZH10		
RT-ZH11		
Active probes		
RT-ZS10E		•
RT-ZS10		•
RT-ZS20		•
RT-ZS30		•
RT-ZS60		•

Adapter R&S®	RT-Z2T	RT-ZA9
Differential probes		
RT-ZD002		
RT-ZD003		
RT-ZD01		
RT-ZD02		•
RT-ZD08		•
RT-ZHD07		
RT-ZHD15		
RT-ZHD16		
RT-ZHD60		
RT-ZD10		•
RT-ZD20		•
RT-ZD30		•
RT-ZD40		•
Modular probes		
RT-ZM15		○
RT-ZM30		○
RT-ZM60		○
RT-ZM90		○
Power rail probes		
RT-ZPR20		•
RT-ZPR40		•

Adapter R&S®	RT-Z2T	RT-ZA9
Current probes		
RT-ZC02		
RT-ZC03		
RT-ZC10		
RT-ZC20		
RT-ZC30		
RT-ZC05B		
RT-ZC10B		
RT-ZC15B		
RT-ZC20B		

- recommended extra
- possible accessory, with limited functionality of probe or base unit

R&S®RT-Z2T probe interface adapter

All parameters are valid for the adapter connected to an appropriate Rohde & Schwarz oscilloscope.

Bandwidth	adapter only, starting at DC	4 GHz (meas.)
DC input resistance		equals oscilloscope setting
Max. nondestructive input voltage		lesser of ± 30 V and oscilloscope rating
Supply voltages		+15 V, +5 V, -5 V, -15 V
Supply voltage error	+23 °C \pm 5 °C	± 2 %
	0 °C to +45 °C	± 5 %
Max. supply current	sum of currents on +15 V and +5 V rails	150 mA
	sum of currents on -15 V and -5 V rails	150 mA
Use with		R&S®RTM3000, R&S®RTA4000, R&S®RTE, R&S®RTO
Supported probes	single-ended probes	P6205, P6243, P6245, P6241, P6249
	current probes	TCP202
	differential probes	P6246, P6247, P6248, P6250, P6251
	high voltage differential probes	P5205, P5210
	electro-optical probes	P6701B, P6703B, P6711, P6713

General data

Temperature		
Temperature loading	operating temperature range	0 °C to +45 °C
	storage temperature range	-40 °C to +70 °C
Climatic loading		+25 °C/+40 °C cyclic at 95 % relative humidity without condensation, in line with IEC 60068-2-30
Altitude	operation	up to 3000 m
	transport	up to 4600 m
Mechanical resistance		
Vibration	sinusoidal	5 Hz to 150 Hz, max. 1.8 g at 55 Hz, 0.5 g from 55 Hz to 150 Hz, in line with EN 60068-2-6
	random	10 Hz to 500 Hz, acceleration 1.9 g (RMS), in line with EN 60068-2-64
Shock		40 g shock spectrum, in line with MIL-STD-810E
EMC		in line with EMC Directive 2014/30/EC, IEC/EN 61326-1 (table 2), IEC/EN 61326-2-1, CISPR 11/EN 55011(class B)
Calibration interval		2 years
RoHS		in line with EN 50581
Mechanical data		
Dimensions	W x H x L	approx. 41 mm x 34 mm x 128 mm (1.6 in x 1.3 in x 5.0 in)
Weight		approx. 200 g (0.44 lb)
Probe interface	to oscilloscope	Rohde & Schwarz probe interface
	to probe	TekProbe™ level II interface

R&S®RT-ZA9 probe box to N/USB adapter

All parameters are valid for the probe box adapter only.

Electrical data		
Impedance		50 Ω
Frequency		DC to 18 GHz (meas.)
Return loss	DC to 12 GHz	≥ 28 dB (meas.)
	12 GHz to 18 GHz	≥ 23 dB (meas.)
Insertion loss	DC to 12 GHz	≤ 0.18 dB (meas.)
	12 GHz to 18 GHz	≤ 0.22 dB (meas.)
Mechanical data		
Mating cycles	RPC-N	≥ 500 (meas.)
	Rohde & Schwarz probe interface	≥ 5000 (meas.)
Interfaces		
Connector	1	Rohde & Schwarz probe interface
	2	RPC-N
RoHS		in line with EN 50581

Ordering information

Designation	Type	Order No.
Adapters		
Probe Interface Adapter	R&S®RT-Z2T	1338.0007.02
Probe Box to N/USB Adapter	R&S®RT-ZA9	1417.0909.02
Passive probes		
8.0 GHz Transmission Line Probe, 10:1, 500 Ω, 0.3 pF, 20 V (RMS) Incl. signal pin, solder-in (50); ground pin, solder-in (10); signal pin (2); ground pin, pogo (2); signal adapter, square pin (2); ground adapter, square pin (2); SMA(f) to BNC(m) adapter; marker band kit; accessory box; carrying case; operating manual	R&S®RT-ZZ80	1409.7608.02
500 MHz Passive Voltage Probe, 10:1, 10 MΩ, 9.5 pF, 400 V (RMS) Incl. adjustment tool; coding rings (set) 3 × 4 colors; ground lead 15 cm; ground spring 2.5; solid tip CuBe 0.5 mm; sprung hook 2.5; spring tip gold-plated 0.5 mm; operating manual	R&S®RTM-ZP10	1409.7708.02
High voltage passive probes		
250 MHz High Voltage Probe, passive, 100:1, 100 MΩ, 6.5 pF, 850 V (RMS) Incl. adjustment tool; coding clips (set) 2 × 4 colors; signal pin (2); sprung hook 5 mm; ground lead 14 cm; insulating cap; protective cap; operating manual	R&S®RT-ZH03	1333.0873.02
400 MHz High Voltage Probe, passive, 100:1, 50 MΩ, 7.5 pF, 1 kV (RMS) Incl. adjustment tool; BNC adapter 5.0-L; coding rings (set) 3 × 4 colors; flexible adapter 5.0-L; ground lead 22 cm (2); ground lead 22 cm to 4 mm banana plug; insulating cap 5.0-L; operating manual; protection cap 5.0-L; safety alligator clip (2); solid tip 0.8 mm (5); spring tip 0.8 mm (5); sprung hook 5.0-L (2)	R&S®RT-ZH10	1409.7720.02
400 MHz High Voltage Probe, passive, 1000:1, 50 MΩ, 7.5 pF, 1 kV (RMS) See R&S®RT-ZH10 for equipment included	R&S®RT-ZH11	1409.7737.02

Designation	Type	Order No.
Active probes		
1.0 GHz Active Voltage Probe, single-ended, 1 M Ω , 0.9 pF, BNC Incl. spring tip 0.5 mm; solid tip 0.5 mm; marker band kit; ground blade; ground pin; L-adapter; Y-lead adapter; ground lead, 6 cm; ground lead, 12 cm; ground lead, angled, 5 cm; ground lead, angled, 10 cm; micro clip (2); protective cap; power adapter; operating manual	R&S®RT-ZS10L	1333.0815.02
1.0 GHz Active Voltage Probe, single-ended, 1 M Ω , 0.8 pF Incl. R&S®RT-ZA2 accessory set; R&S®ProbeMeter; micro button	R&S®RT-ZS10	1410.4080.02
1.0 GHz Active Voltage Probe, single-ended, 1 M Ω , 0.8 pF Incl. signal pin (5); ground pin, pogo (2); ground pin, solderable, offset (2); marker band kit; mini clip (1); lead 15 cm (5.9 in) (1)	R&S®RT-ZS10E	1418.7007.02
1.5 GHz Active Voltage Probe, single-ended, 1 M Ω , 0.8 pF Incl. R&S®RT-ZA2 accessory set; R&S®ProbeMeter; micro button	R&S®RT-ZS20	1410.3502.02
3.0 GHz Active Voltage Probe, single-ended, 1 M Ω , 0.8 pF Incl. R&S®RT-ZA2 accessory set; R&S®ProbeMeter; micro button	R&S®RT-ZS30	1410.4309.02
6.0 GHz Active Voltage Probe, single-ended, 1 M Ω , 0.3 pF Incl. R&S®ProbeMeter; micro button Incl. signal pin, solder-in (100); ground pin, solder-in (20); signal pin (5); ground pin, pogo (5); signal adapter, square pin (2); ground adapter, square pin (2); marker band kit; mini clip (2); micro clip (2); lead 6 cm (2.4 in) (2); lead 15 cm (5.9 in) (2); accessory box; carrying case; operating manual	R&S®RT-ZS60	1418.7307.02

Designation	Type	Order No.
Differential probes		
25 MHz Differential Probe, ± 700 V, 1 kV (RMS) CAT III, BNC Incl. sprung hook 4 mm (red, black); safety alligator clip 4 mm (red, black); USB power cord; trimming tool; operating manual	R&S®RT-ZD002	1337.9700.02
25 MHz Differential Probe, ± 1.4 kV, 1 kV (RMS) CAT III, BNC Incl. sprung hook 4 mm (red, black); safety alligator clip 4 mm (red, black); USB power cord; trimming tool; operating manual	R&S®RT-ZD003	1337.9800.02
100 MHz Differential Probe, ± 1.4 kV, 1 kV (RMS) CAT III, BNC Incl. sprung hook 4 mm (2); USB power cord; carrying case; operating manual	R&S®RT-ZD01	1422.0703.02
200 MHz Differential Probe, ± 20 V, BNC Incl. safety alligator clip 4 mm (2); sprung hook 4 mm (2); USB power cord; 9 V battery; carrying case; operating manual	R&S®RT-ZD02	1333.0821.02
800 MHz Differential Probe, ± 15 V, BNC Incl. lead 11 cm (2); lead 7 cm (2); signal pin (6); dual pin (4); mini clip (2); micro clip (2); USB power cord; 9 V battery; carrying case; operating manual	R&S®RT-ZD08	1333.0838.02
200 MHz Differential Probe, ± 750 V, 600 V (RMS) CAT II, Rohde & Schwarz probe interface Incl. R&S®RT-ZA24 accessory kit; R&S®RT-ZA22 test leads; R&S®RT-ZHD protector; carrying case; operating manual	R&S®RT-ZHD07	1800.2307.02
100 MHz Differential Probe, ± 1.5 kV, 1 kV (RMS) CAT III, Rohde & Schwarz probe interface Incl. R&S®RT-ZA24 accessory kit; R&S®RT-ZA22 test leads; R&S®RT-ZHD protector; carrying case; operating manual	R&S®RT-ZHD15	1800.2107.02
200 MHz Differential Probe, ± 1.5 kV, 1 kV (RMS) CAT III, Rohde & Schwarz probe interface Incl. R&S®RT-ZA24 accessory kit; R&S®RT-ZA22 test leads; R&S®RT-ZHD protector; carrying case; operating manual	R&S®RT-ZHD16	1800.2207.02
100 MHz Differential Probe, ± 6 kV, 1 kV (RMS) CAT III, Rohde & Schwarz probe interface Incl. R&S®RT-ZA24 accessory kit; R&S®RT-ZA22 test leads; R&S®RT-ZHD protector; carrying case; operating manual	R&S®RT-ZHD60	1800.2007.02

Designation	Type	Order No.
1.0 GHz Active Voltage Probe, differential, 1 M Ω , 0.6 pF Incl. R&S®ProbeMeter; micro button, R&S®RT-ZA15 external attenuator See R&S®RT-ZD20 for additional equipment included	R&S®RT-ZD10	1410.4715.02
1.5 GHz Active Voltage Probe, differential, 1 M Ω , 0.6 pF Incl. R&S®ProbeMeter; micro button Incl. signal pin, solder-in (10); signal pin, variable spacing (4); browser adapter; adapter, square pin (2); flex adapter, solder-in 4 cm (1.6 in) and 10 cm (3.9 in); flex adapter, square pin 4 cm (1.6 in) and 10 cm (3.9 in); lead 6 cm (2.4 in) (2); lead 15 cm (5.9 in) (1); mini clip (2); micro clip (2); marker band kit; carrying case; operating manual	R&S®RT-ZD20	1410.4409.02
3.0 GHz Active Voltage Probe, differential, 1 M Ω , 0.6 pF See R&S®RT-ZD20 for equipment included	R&S®RT-ZD30	1410.4609.02
4.5 GHz Active Voltage Probe, differential, 1 M Ω , 0.4 pF Incl. R&S®ProbeMeter; micro button Incl. signal pin, solder-in (100); socket adapter, variable spacing (2); browser adapter, rigid (2); browser adapter, spring loaded (2); lead 6 cm (2.4 in) (2); lead 15 cm (5.9 in) (1); mini clip (2); micro clip (2); marker band kit; carrying case; operating manual	R&S®RT-ZD40	1410.5205.02
Power rail probes		
2.0 GHz Power Rail Probe, 1:1, low noise, 50 k Ω , large offset range \pm 60 V Incl. R&S®ProbeMeter; Incl. SMA extension cable, 1 m (39,4 in) (1), R&S®RT-ZA26 pigtail cable, 15 cm (5.9 in) (3); R&S®RT-ZA25 power rail browser kit (1); solder wire (1); adhesive pads (7); marker band kit; carrying case; operating manual	R&S®RT-ZPR20	1800.5006.02
4.0 GHz Power Rail Probe, 1:1, low noise, 50 k Ω , large offset range \pm 60 V Incl. R&S®ProbeMeter; Incl. SMA extension cable low loss, 1.05 m (41.3 in) (1), R&S®RT-ZA26 pigtail cable, 15 cm (5.9 in) (3); R&S®RT-ZA25 power rail browser kit (1); solder wire (1); adhesive pads (7); marker band kit; carrying case; operating manual	R&S®RT-ZPR40	1800.5406.02

Designation	Type	Order No.
Modular probes		
1.5 GHz Modular Probe Amplifier, differential, 400 k Ω , multimode Incl. R&S [®] ProbeMeter; micro button Incl. lead 15 cm (5.9 in) (1); Ag plated wire 0.1 mm (0.04 in) (1); Ag plated wire 0.2 mm (0.08 in) (1); solder wire (1); adhesive pads (7); solder-in resistor for R&S [®] RT-ZMA15 (20); solder lead for R&S [®] RT-ZMA12/15 (20); marker band kit; carrying case; operating manual	R&S [®] RT-ZM15	1800.4700.02
3.0 GHz Modular Probe Amplifier, differential, 400 k Ω , multimode Incl. R&S [®] ProbeMeter; micro button See R&S [®] RT-ZM15 for additional equipment included	R&S [®] RT-ZM30	1419.3005.02
6.0 GHz Modular Probe Amplifier, differential, 400 k Ω , multimode Incl. R&S [®] ProbeMeter; micro button See R&S [®] RT-ZM15 for additional equipment included	R&S [®] RT-ZM60	1419.3105.02
9.0 GHz Modular Probe Amplifier, differential, 400 k Ω , multimode Incl. R&S [®] ProbeMeter; micro button See R&S [®] RT-ZM15 for additional equipment included	R&S [®] RT-ZM90	1419.3205.02
Tip Cable, solder in, length: 15 cm, multimode compatible	R&S [®] RT-ZMA10	1419.4301.02
Tip Cable, solder in, extended temperature, length: 15 cm, multimode compatible	R&S [®] RT-ZMA11	1419.4318.02
Tip Cable, square pin, for 1.27 mm pin header, length: 15 cm, multimode compatible	R&S [®] RT-ZMA12	1419.4324.02
Tip Cable, quick connect, for solder in resistor connection, length: 15 cm, multimode compatible	R&S [®] RT-ZMA15	1419.4224.02
Browser Module, variable span from 0.5 mm to 8 mm, spring-loaded Incl. spring loaded resistor tips (2 pairs)	R&S [®] RT-ZMA30	1419.4353.02
SMA Module, 2.92 mm/3.5 mm/SMA, differential, 100 Ω , DC termination, multimode compatible Incl. lead 11 cm (4.3 in) (1)	R&S [®] RT-ZMA40	1419.4201.02
Extended Temperature Kit, 1 m matched cable pair, multimode compatible, Incl. R&S [®] RT-ZMA11 (1); Ag plated wire 0.1 mm (0.04 in) (1); Ag plated wire 0.2 mm (0.08 in) (1); solder wire (1)	R&S [®] RT-ZMA50	1419.4218.02

Designation	Type	Order No.
Current probes		
20 kHz Current Probe, AC/DC, 0.01/0.001 V/A, 1000 A, 300 V (RMS) CAT III, BNC Incl. operating manual	R&S®RT-ZC02	1333.0850.02
100 kHz Current Probe, AC/DC, 0.1 V/A, 30 A, 300 V (RMS) CAT III, BNC Incl. operating manual	R&S®RT-ZC03	1333.0844.02
10 MHz Current Probe, AC/DC, 0.01 V/A, 150 A (RMS), BNC Incl. carrying case; operating manual	R&S®RT-ZC10	1409.7750K02
100 MHz Current Probe, AC/DC, 0.1 V/A, 30 A (RMS), BNC Incl. carrying case; operating manual	R&S®RT-ZC20	1409.7766K02
120 MHz Current Probe, AC/DC, 1 V/A, 5 A (RMS), BNC Incl. carrying case; operating manual	R&S®RT-ZC30	1409.7772K02
2 MHz Current Probe, AC/DC, 0.01 V/A, 500 A (RMS), Rohde & Schwarz probe interface Incl. carrying case; operating manual	R&S®RT-ZC05B	1409.8204.02
10 MHz Current Probe, AC/DC, 0.01 V/A, 150 A (RMS), Rohde & Schwarz probe interface Incl. carrying case; operating manual	R&S®RT-ZC10B	1409.8210.02
50 MHz Current Probe, AC/DC, 0.1 V/A, 30 A (RMS), Rohde & Schwarz probe interface Incl. carrying case; operating manual	R&S®RT-ZC15B	1409.8227.02
100 MHz Current Probe, AC/DC, 0.1 V/A, 30 A (RMS), Rohde & Schwarz probe interface Incl. carrying case; operating manual	R&S®RT-ZC20B	1409.8233.02

Service options		
Extended Warranty, one year	R&S®WE1	Not available for all products. Please contact your local Rohde & Schwarz sales office.
Extended Warranty, two years	R&S®WE2	
Extended Warranty, three years	R&S®WE3	
Extended Warranty, four years	R&S®WE4	
Extended Warranty with Calibration Coverage, one year	R&S®CW1	
Extended Warranty with Calibration Coverage, two years	R&S®CW2	
Extended Warranty with Calibration Coverage, three years	R&S®CW3	
Extended Warranty with Calibration Coverage, four years	R&S®CW4	
Extended Warranty with Accredited Calibration Coverage, one year	R&S®AW1	
Extended Warranty with Accredited Calibration Coverage, two years	R&S®AW2	
Extended Warranty with Accredited Calibration Coverage, three years	R&S®AW3	
Extended Warranty with Accredited Calibration Coverage, four years	R&S®AW4	

Extended warranty with a term of one to four years (WE1 to WE4)

Repairs carried out during the contract term are free of charge ¹. Necessary calibration and adjustments carried out during repairs are also covered.

Extended warranty with calibration (CW1 to CW4)

Enhance your extended warranty by adding calibration coverage at a package price. This package ensures that your Rohde & Schwarz product is regularly calibrated, inspected and maintained during the term of the contract. It includes all repairs ¹ and calibration at the recommended intervals as well as any calibration carried out during repairs or option upgrades.

Extended warranty with accredited calibration (AW1 to AW4)

Enhance your extended warranty by adding accredited calibration coverage at a package price. This package ensures that your Rohde & Schwarz product is regularly calibrated under accreditation, inspected and maintained during the term of the contract. It includes all repairs ¹ and accredited calibration at the recommended intervals as well as any accredited calibration carried out during repairs or option upgrades.

¹ Excluding defects caused by incorrect operation or handling and force majeure. Wear-and-tear parts are not included.

Service that adds value

- | Worldwide
- | Local and personalized
- | Customized and flexible
- | Uncompromising quality
- | Long-term dependability

Sustainable product design

- | Environmental compatibility and eco-footprint
- | Energy efficiency and low emissions
- | Longevity and optimized total cost of ownership

Certified Quality Management

ISO 9001

Certified Environmental Management

ISO 14001

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PD 5215.8370.22 | Version 23.00 | July 2018 (sk)

R&S®RT-Zxx Oscilloscope Adapters

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5215837022