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Probe/oscilloscope chart

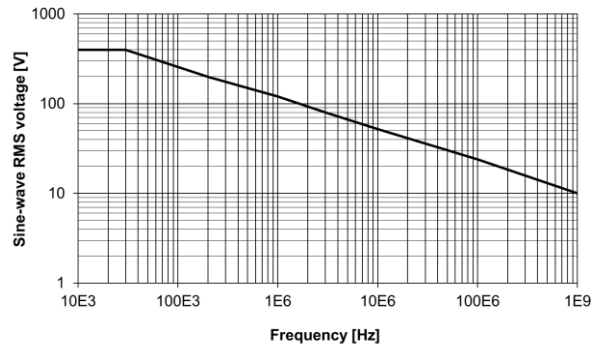
Base unit: R&S®	Probe interface	HMO1000	HMO2000	RTM	RTE	RTO	RTH	RT-ZA9	Page
Probe: R&S®									
Passive probes									
RT-ZP03	BNC, 1 MΩ	●	●						5
RT-ZP05(S)	BNC, 1 MΩ, readout								8
RTM-ZP10	BNC, 1 MΩ, readout			●					11
RT-ZP10	BNC, 1 MΩ, readout				●	●			11
RT-ZP1X	BNC, 1 MΩ, readout	○	○	●	●	●			14
RT-ZI10	BNC, 1 MΩ, isolated						●		–
RT-ZL03	pin header	●	●						16
RT-ZL04	Rohde & Schwarz extension			●	●	●	●		16

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

R&S®RT-ZP03 passive probe

All parameters are valid when the probe is connected to an appropriate Rohde & Schwarz oscilloscope with an input impedance of 1 MΩ. See table on page 4 and Rohde & Schwarz oscilloscope operating manual for more details.

		R&S®RT-ZP03	
Attenuation setting		1:1	10:1
Step response			
Rise time	system, 10 % to 90 %	35 ns (meas.)	1.15 ns (meas.)
Frequency response			
Bandwidth	system, -3 dB, starting at DC	> 10 MHz (meas.)	> 300 MHz (meas.)
Input impedance			
DC input resistance	system	1 MΩ (meas.)	10 MΩ (meas.)
Input capacitance	system	82 pF (meas.)	12 pF (meas.)
Maximum rated input voltage			
Continuous voltage	derated, see figure on page 6	55 V (RMS)	400 V (RMS)
Transient overvoltage			±600 V
Base unit			
Use with		HMO1000	
Input coupling		1 MΩ AC/DC	



R&S®RT-ZP03 maximum rated sine-wave root mean square voltage versus frequency (CAT I).

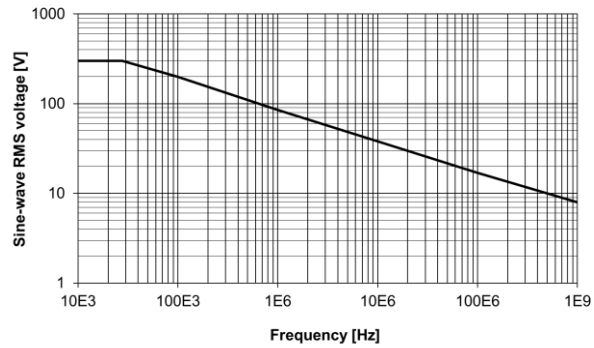
General data

Temperature		
Temperature loading	operating temperature range	0 °C to +40 °C
Climatic loading		80 % relative humidity without condensation
Altitude	operation	up to 2000 m
Safety		in line with Low Voltage Directive 2006/95/EC, IEC/EN 61010-31 (pollution degree 2)
Mechanical data		
Dimensions	diameter of probe tip	approx. 5 mm (0.2 in)
	cable length	approx. 1.2 m (47 in)
Weight	probe only	approx. 60 g (0.13 lb)
Probe interface		
Connector		BNC

R&S®RT-ZP05(S) passive probe

All parameters are valid when the probe is connected to an appropriate Rohde & Schwarz oscilloscope with an input impedance of 1 MΩ. See table on page 4 and Rohde & Schwarz oscilloscope operating manual for more details.

		R&S®RT-ZP05
Step response		
Rise time	system, 10 % to 90 %	700 ps (meas.)
Frequency response		
Bandwidth	system, -3 dB, starting at DC	> 500 MHz (meas.)
Input impedance		
DC input resistance	system	10 MΩ (meas.)
Input capacitance	system	10 pF (meas.)
DC characteristics		
Attenuation	system	10:1
Maximum rated input voltage		
Continuous voltage	derated, see figure on page 9	300 V (RMS)
Transient overvoltage		±450 V
Base unit		
Input coupling		1 MΩ AC/DC



R&S®RT-ZP05 maximum rated sine-wave root mean square voltage versus frequency (CAT I).

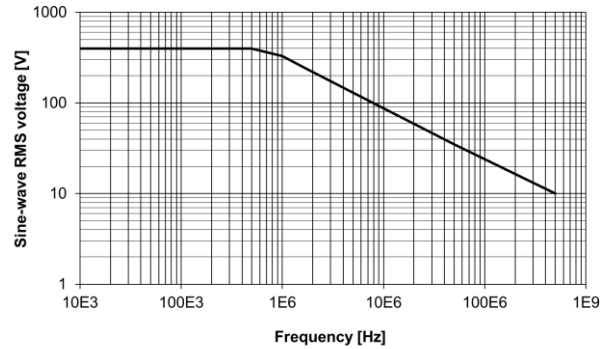
General data

Temperature		
Temperature loading	operating temperature range	0 °C to +40 °C
Climatic loading		80 % relative humidity without condensation
Altitude	operation	up to 2000 m
Safety		in line with Low Voltage Directive 2006/95/EC, IEC/EN 61010-31 (pollution degree 2)
Mechanical data		
Dimensions	diameter of probe tip	approx. 5 mm (0.2 in)
	cable length	approx. 1.3 m (51 in)
Weight	probe only	approx. 55 g (0.12 lb)
Probe interface		
Connector		BNC with readout

R&S®RT-ZP10, R&S®RTM-ZP10 passive probes

All parameters are valid when the probe is connected to an appropriate Rohde & Schwarz oscilloscope with an input impedance of 1 M Ω . See table on page 4 and Rohde & Schwarz oscilloscope operating manual for more details.

		R&S®RT-ZP10	R&S®RTM-ZP10
Step response			
Rise time	system, 10 % to 90 %	700 ps (meas.)	
Frequency response			
Bandwidth	system, -3 dB, starting at DC	> 500 MHz	
Input impedance			
DC input resistance	system	10 M Ω \pm 1 %	
Input capacitance	system	9.5 pF (meas.)	
DC characteristics			
Attenuation	system, automatically corrected on base unit display	10:1	
Attenuation error	probe only, with ideal 1 M Ω load impedance	\pm 2 %	
Attenuation voltage coefficient		\pm 0.0025 %/V (meas.)	
Maximum rated input voltage			
Continuous voltage	derated, see figure on page 12	400 V (RMS), CAT I 300 V (RMS), CAT II	
Transient overvoltage		\pm 1250 V	
Base unit			
Use with		R&S®RTO	R&S®RTM
Input capacitance	must be compensated by probe's LF compensation	5 pF to 20 pF	
Input coupling		1 M Ω AC/DC	



R&S®RT-ZP10, R&S®RTM-ZP10 maximum rated sine-wave root mean square voltage versus frequency.

General data

Temperature		
Temperature loading	operating temperature range	0 °C to +50 °C
	storage temperature range	-40 °C to +70 °C
Climatic loading		80 % relative humidity for temperatures up to +31 °C, decreasing linearly to 40 % at +50 °C
Altitude	operation	up to 2000 m
	transport	up to 15000 m
Safety		in line with Low Voltage Directive 2006/95/EC, IEC/EN 61010-31 (pollution degree 2)
Mechanical data		
Dimensions	diameter of probe tip	approx. 2.5 mm (0.1 in)
	cable length	approx. 1.3 m (51 in)
Weight	probe only	approx. 48 g (0.1 lb)
Probe interface		
Connector		BNC with readout

R&S®RT-ZP1X passive probe

All parameters are valid when the probe is connected to an appropriate Rohde & Schwarz oscilloscope with an input impedance of 1 M Ω . See table on page 4 and Rohde & Schwarz oscilloscope operating manual for more details.

		R&S®RT-ZP1X
Step response		
Rise time	system, 10 % to 90 %	9 ns (meas.)
Frequency response		
Bandwidth	system, -3 dB, starting at DC, oscilloscope with input capacitance < 15 pF	> 38 MHz (meas.)
Input impedance		
DC input resistance	system	1 M Ω (meas.)
Input capacitance	system	39 pF + oscilloscope input impedance (meas.)
DC characteristics		
Attenuation	system	1:1
Maximum rated input voltage		
Continuous voltage	observe derating of oscilloscope	55 V (RMS), CAT II
Base unit		
Input coupling		1 M Ω AC/DC

General data

Temperature		
Temperature loading	operating temperature range	0 °C to +50 °C
	storage temperature range	–40 °C to +71 °C
Climatic loading		80 % relative humidity for temperatures up to +31 °C, decreasing linearly to 40 % at +50 °C
Altitude	operation	up to 2000 m
	transport	up to 15000 m
Safety		in line with Low Voltage Directive 2006/95/EC, IEC/EN 61010-31 (pollution degree 2)
Mechanical data		
Dimensions	diameter of probe tip	approx. 2.5 mm (0.1 in)
	cable length	approx. 1.3 m (51 in)
Weight	probe only	approx. 48 g (0.1 lb)
Probe interface		
Connector		BNC with readout

R&S®RT-ZL03/-ZL04 logic probes

All parameters are valid when the probe is connected to an appropriate Rohde & Schwarz oscilloscope.

See table on page 4 and Rohde & Schwarz oscilloscope operating manual for more details.

		R&S®RT-ZL03	R&S®RT-ZL04
Input channels		8 (D0-D7)	8 (D0-D7)
Frequency response			
Maximum input frequency		350 MHz (meas.)	400 MHz (meas.)
Input impedance			
DC input resistance		100 k Ω \pm 2 % (meas.)	
Input capacitance		4 pF (meas.)	
DC characteristics			
Minimum input voltage swing		500 mV (V_{pp}) (meas.)	
Threshold groups		1	2 (D0-D3, D4-D7)
Threshold voltage setting range		\pm 8 V	
Threshold error		\pm (100 mV + 3 % of threshold setting) (meas.)	
Hysteresis settings		normal, robust, maximum	
Maximum rated input voltage			
Transient overvoltage		\pm 40 V (V_p)	
Base unit			
Use with		R&S®HMO	R&S®RTH R&S®RTM R&S®RTE R&S®RTO

General data

		R&S®RT-ZL03	R&S®RT-ZL04
Temperature			
Temperature loading	operating temperature range	+5 °C to +40 °C	0 °C to +45 °C
	storage temperature range	-40 °C to +70 °C	
Climatic loading		80 % relative humidity for temperatures up to +31 °C, decreasing linearly to 40 % at +50 °C	
Altitude	operation	up to 3000 m	
	transport	up to 4600 m	
Safety		in line with Low Voltage Directive 2006/95/EC, IEC/EN 61010-31 (pollution degree 2)	
EMC		in line with EN 61326-1 (class A)	
Mechanical data			
Dimensions	probe module (L x W x H)	approx. 75 mm x 45 mm x 14 mm (3 in x 1.8 in x 0.6 in)	
	length of probe cable	approx. 1 m (39 in)	
	length of tip cables	approx. 160 mm (6.3 in)	
Weight	probe only	approx. 100 g (0.22 lb)	
Probe interface			
Connector		pin header (26-pole)	Rohde & Schwarz extension interface

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ISO 14001

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R&S®RT-Zxx Standard Probes

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