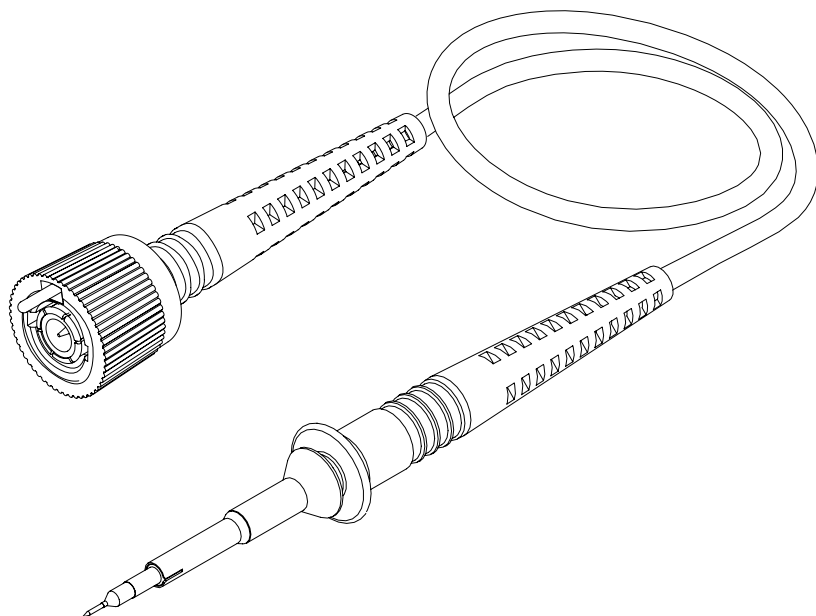


Manual



38 MHz Passive Voltage Probe

R&S® RT-ZP1X

1333.1370.02

Printed in Germany



ROHDE & SCHWARZ
Test and Measurement

ROHDE & SCHWARZ

For comprehensive information about Rohde and Schwarz, please visit our homepage on the R&S Internet (<http://www.rohde-schwarz.com>).

For queries regarding technical aspects of our products, please contact our customer support at <http://www.customersupport.rohde-schwarz.com>.

For international services, please contact our service partners at <http://www.service.rohde-schwarz.com>.

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Declaration of Conformity



(EC conformity marking)

The manufacturer declares the conformity of this product with the actual required safety standards in accordance with the Low Voltage Directive (LVD).

CEI/IEC 61010-031

Safety requirements for electrical equipment
for measurement, control and laboratory use -

Part 031:

Safety requirements for hand-held probe
assemblies for electrical measurement and test

WEEE/ RoHS Directives



(EC conformity marking)

This electronic product is classified within the WEEE/ RoHS category list as monitoring and control equipment (category 9). Category 9 products are exempted from the restrictions under the scope of the RoHS directive.

Your help and efforts are required to protect and keep clean our environment. Therefore return this electronic product at the end of its life either to the manufacturer or take care of separate WEEE collection and professional WEEE treatment yourself. Do not dispose as unsorted municipal waste!

* EC Directives:

WEEE Directive

RoHS Directive

- Waste Electrical and Electronic Equipment
- Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment

Definitions and examples (Clause 6.5.2)

Measurement Category I	Definition:	Measurement category I is for measurements performed on circuits not directly connected to a mains supply.
	Examples:	Measurements in circuits not derived from a mains supply and specially protected (internal) circuits derived from a mains supply. In the latter case, transient stresses are variable; for that reason requires that the transient withstand capability of the equipment is made known to the user.
Measurement Category II CAT II	Definition:	Measurement category II is for measurements performed on circuits directly connected to the low voltage installation.
	Examples:	Household appliances, portable tools and similar equipment.




IEC Pollution Degrees

Definitions (Clause 3.5.6)

Pollution Degree 1	No POLLUTION or only dry, non conductive POLLUTION. NOTE: The POLLUTION has no influence.
Pollution Degree 2	Only non-conductive POLLUTION. Occasionally, however, a temporary conductivity caused by condensation must be accepted.
Pollution Degree 3	Conductive POLLUTION occurs or dry, non-conductive POLLUTION occurs which becomes conductive due to condensation which is to be expected.

IEC Safety Symbols

The following symbols may appear on the product or in this instruction manual:

	Caution, risk of danger. Refer to manual.
	Caution, risk of electric shock.
	Earth (ground) TERMINAL.

To avoid personal injury and to prevent fire or damage to this product or products connected to it, review and comply with the following safety precautions. Be aware that if you use this probe assembly in a manner not specified the protection this product provides may be impaired.

Only qualified personnel should use this probe assembly.

Use only grounded instruments.

Do not connect the probe ground lead to a potential other than earth ground. Always make sure the probe and the measurement instrument are grounded properly.

Connect and disconnect properly.

Connect the probe output to the measurement instrument and connect the ground lead to earth ground before connecting the probe to the circuit under test. Disconnect the probe input and the probe ground lead from the circuit under test before disconnecting the probe from the measurement instrument.

Observe probe and probe accessory ratings.

Do not apply any electrical potential to the probe input which exceeds the maximum ratings of the probe or the accessories connected to it. In a combination always the *lower* rating / measurement category applies to both probe and accessories connected to it.

Keep away from live circuits.

Avoid open circuitry. Do not touch connections or components when power is present.

Do not operate with suspected failures.

Refer to qualified service personnel.

Indoor use only.

Do not operate in wet/damp environment. Keep product surfaces dry and clean.

Do not operate the product in an explosive atmosphere.

Specifications that are not defined to be guaranteed are typical and are published as general information to the user. The instrument should have warmed-up for at least 20 minutes and the environmental conditions do not exceed the probe's specified limits.

Electrical Specifications

Attenuation Ratio ⁽¹⁾	1:1	
Probe Bandwidth ⁽²⁾	38 MHz	(-3 dB)
Probe Risettime	9 ns	(10 % - 90 %)
Maximum Rated Input Voltage ⁽³⁾	55 V rms CAT II	
Pollution Degree ⁽³⁾	2	

Electrical Characteristics

Input Capacitance (System)	39 pF + Osci.
Input Coupling of the Measuring Instrument	1 MΩ AC / DC

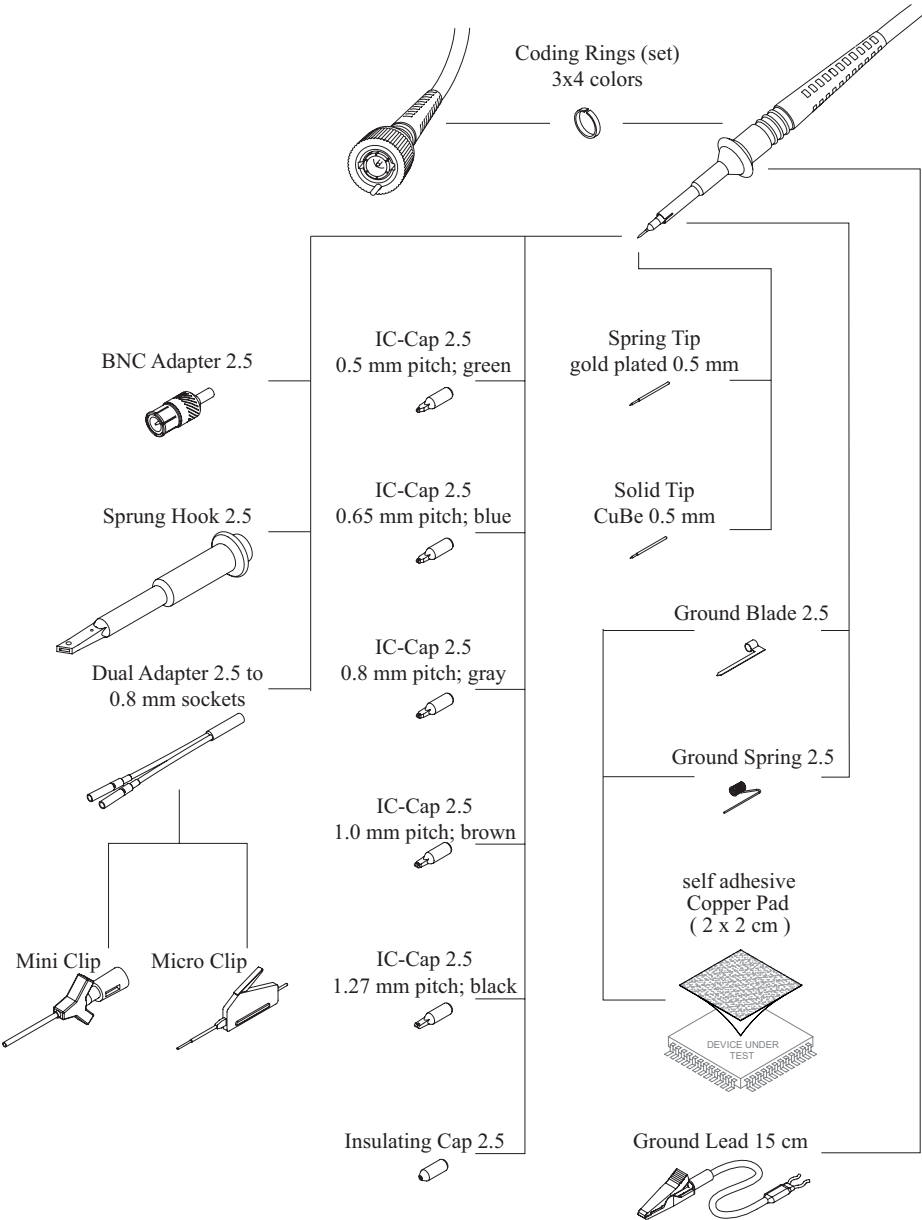
Mechanical Characteristics

Weight (probe only)	43 g
Cable Length	1.3 m
Probe Tip Diameter	2.5 mm

Environmental Specifications

Altitude	operating	up to 2000 m
	non-operating	up to 15000 m
Temperature Range	operating	0° C to +50° C
	non-operating	-40° C to +71° C
Maximum Relative Humidity	operating	80 % relative humidity for temperatures up to +31° C, decreasing linearly to 40 % at +50° C

(1) Connected to appropriate R&S oscilloscope. See R&S oscilloscope operating manual for further details.
(2) At 15 pF input capacitance of the measuring instrument.
(3) As defined in IEC 61010-031. See definitions explained on page 4.



The following items are included in the scope of delivery. Please check the delivery for completeness.

RT-ZP1X 38 MHz passive voltage probe (Order No. 1333.1370.02)

Item	Qty
BNC Adapter 2.5	1
Coding Rings (set) 3x4 Colors	1
Ground Blade 2.5	1
Copper Pad, self adhesive (2 x 2 cm) [0.79" x 0.79"]	2
Ground Lead 15 cm	1
Ground Spring 2.5	1
IC-Cap 2.5 0.5 mm pitch (green)	1
IC-Cap 2.5 0.65 mm pitch (blue)	1
IC-Cap 2.5 0.8 mm pitch (gray)	1
IC-Cap 2.5 1.0 mm pitch (brown)	1
IC-Cap 2.5 1.27 mm pitch (black)	1
Insulating Cap 2.5	1
Operating Manual	1
Probe	1
Solid Tip CuBe 0.5 mm	2
Spring Tip gold plated 0.5 mm	2 ⁽¹⁾
Sprung Hook 2.5	1 ⁽²⁾
Protection Cap 2.5	1

(1) installed in probe

(2) plugged on probe



The BNC Adapter is rated: 42 V peak AC + DC



Use ground lead only for connections to earth ground.



The accessories provided with the probe have been safety tested. Do not use any other accessories than those "originally" provided.

The following accessory sets can be ordered separately.

RT-ZA1 Accessory Kit (Order No. 1409.7566.02)

Item	Qty
Adjustment Tool	1
BNC Adapter 2.5	1
Coding Rings (set) 3x4 Colors	1
Copper Pad; self adhesive (2 x 2 cm) [0.79" x 0.79"]	2
Dual Adapter 2.5 to 0.8 mm sockets	1
Ground Blade 2.5	1
Ground Lead 15 cm	1
Ground Spring 2.5	5
IC-Cap 2.5 0.5 mm pitch; green	1
IC-Cap 2.5 0.65 mm pitch; blue	1
IC-Cap 2.5 0.8 mm pitch; gray	1
IC-Cap 2.5 1.0 mm pitch; brown	1
IC-Cap 2.5 1.27 mm pitch; black	1
Insulating Cap 2.5	1
Solid Tip CuBe 0.5 mm	5
Sprung Hook 2.5	1
Spring Tip gold plated 0.5 mm	5

RT-ZA4 Mini Clips (Order No. 1416.0428.02)

Item	Qty
Mini Clip	10

RT-ZA5 Micro Clips (Order No. 1416.0434.02)

Item	Qty
Micro Clip	10



Handle with care especially when fitted with the extra thin and sharp spring contact tip to avoid any injury. Note that the probe cable is a sensitive part of the probe. Do not damage through excessive bending or pulling. Avoid mechanical shock to this product in general to guarantee accurate performance and protection.

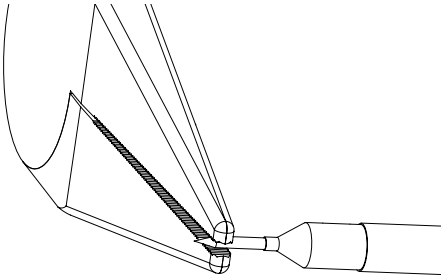
Cleaning

To clean the exterior of the probe use a soft cloth moistened with either distilled water or isopropyl alcohol. Before use allow the probe to dry completely.

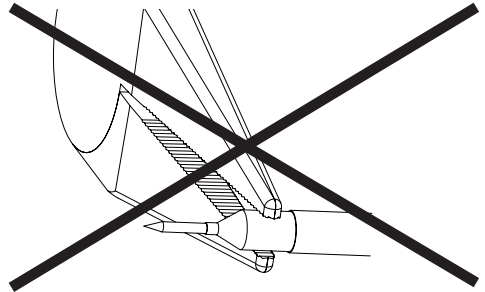
Changing the Probe Tip

To change the probe tip use pliers to grip and pull it carefully straight out of its contact socket, along the axis of the probe. Do not grip the white plastic insulator or the housing with pliers, because the tip could be squeezed and cannot be removed and respectively the probe could be damaged.

If the probe tip is removed, the new tip can be inserted with pliers into the contact socket, along the axis of the probe. In order to insert the probe tip completely into the housing, press the probe tip against a hard surface carefully.



Use pliers to grip and pull the probe tip carefully out of its contact socket.



Do not grip the white plastic insulator or the probe housing with pliers.