

PMD 781AB

Modular Radio Frequency Probe

Instruction Manual



Information in this publication supersedes that in all previously published material.
Specifications are subject to change without notice.

Manufacturer

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Warranty

PMK GmbH warrants this oscilloscope accessory for normal use and operation within specifications for a period of two (2) years from date of shipment and will repair or replace any defective product which was not damaged by negligence, misuse, improper installation, accident or unauthorized repair or modification by the buyer. This warranty is applicable only to defects due to material or workmanship. PMK GmbH disclaim any other implied warranties of merchantability or fitness for a particular purpose. PMK GmbH will not be liable for any indirect, special, incidental, or consequential damages (including damages for loss of profits, loss of business, loss of use or data, interruption of business and the like), even if PMK GmbH has been advised of the possibility of such damages arising from any defect or error in this manual or product.

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 2002/96/EC

- Waste Electrical and Electronic Equipment

RoHS Directive 2002/95/EC

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

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.

Safety Information

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 Ratings.

Do not apply any electrical potential to the probe input which exceeds the maximum ratings of the probe. Make sure to comply with the voltage versus frequency derating curve on page 6.

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.

To be used with any oscilloscope, with an input resistance of 1 M Ω . The output voltage is 1 V DC for an input of 1 V AC rms sine wave with a basic accuracy of 1 dB.

Technical Specifications

+/- 1 dB bandwidth ⁽¹⁾	100 kHz to 500 MHz
+/- 3 dB bandwidth ⁽¹⁾	100 kHz to 750 MHz
Attenuation Ratio ⁽¹⁾	10:1 \pm 2 % at DC
Input capacitance	5 pF (typical)
Maximum rated input voltage	42 V peak
DC isolation	200 V DC (incl. peak AC)
Diode turn-on voltage	250 mV

If possible, the probe should be connected to the test point using the BNC adapter supplied to optimize the V.S.W.R. If the ground connection cannot be made using the BNC adapter, connect the ground lead as close as possible to the test point in order to minimize stray inductances.

Mechanical Characteristics

Weight (probe only)	49 g
Cable Length	1.2 m
Probe Tip Diameter	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) 1 V AC rms sine wave



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.

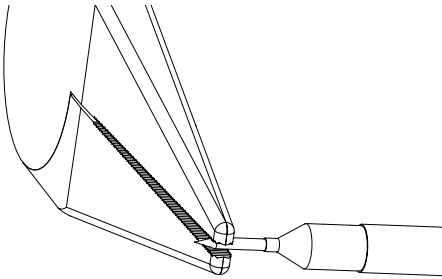
Maintenance**Cleaning**

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.

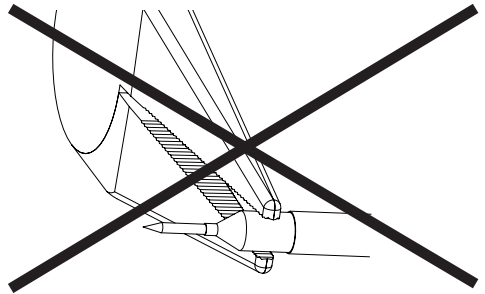
Changing the probe tip

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.

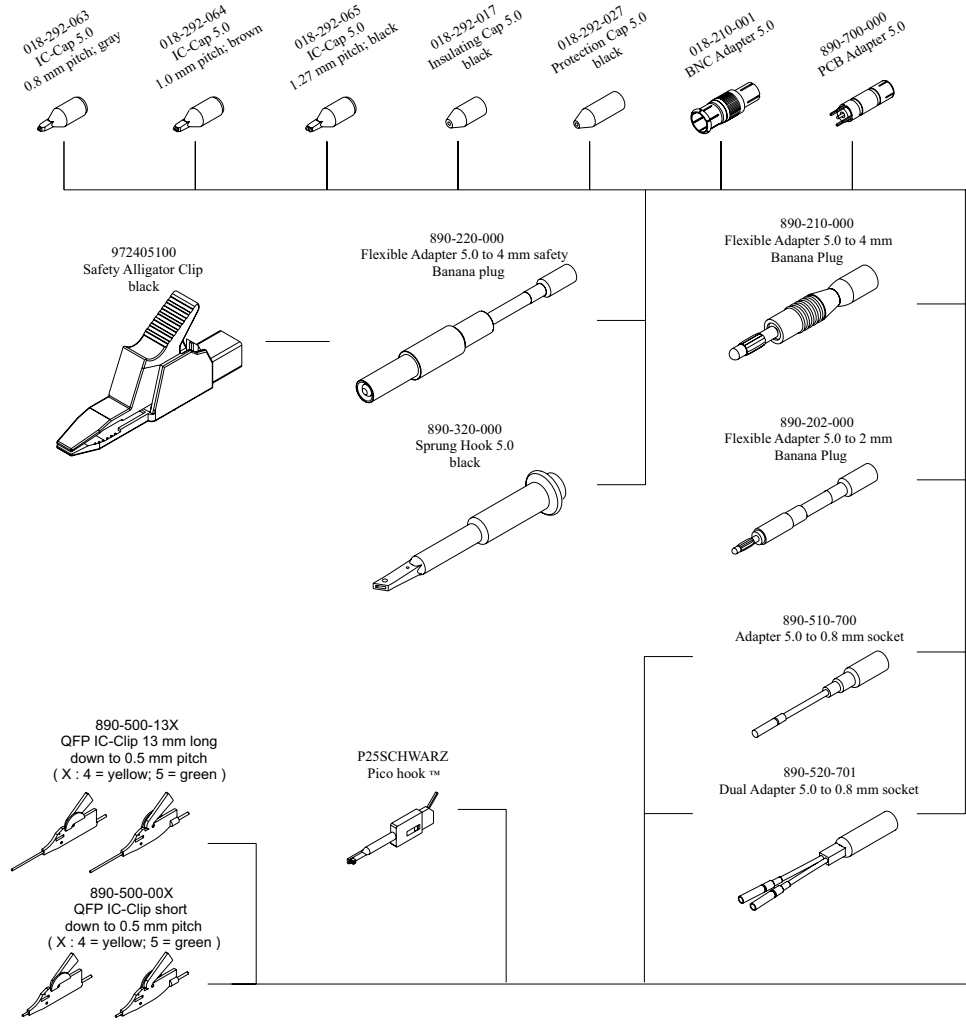
If the probe tip is removed, the new tip can be inserted with pliers into the contact socket, along the axis of the probe. In order to insert the probe tip completely into the housing, press the probe tip against a hard surface carefully.

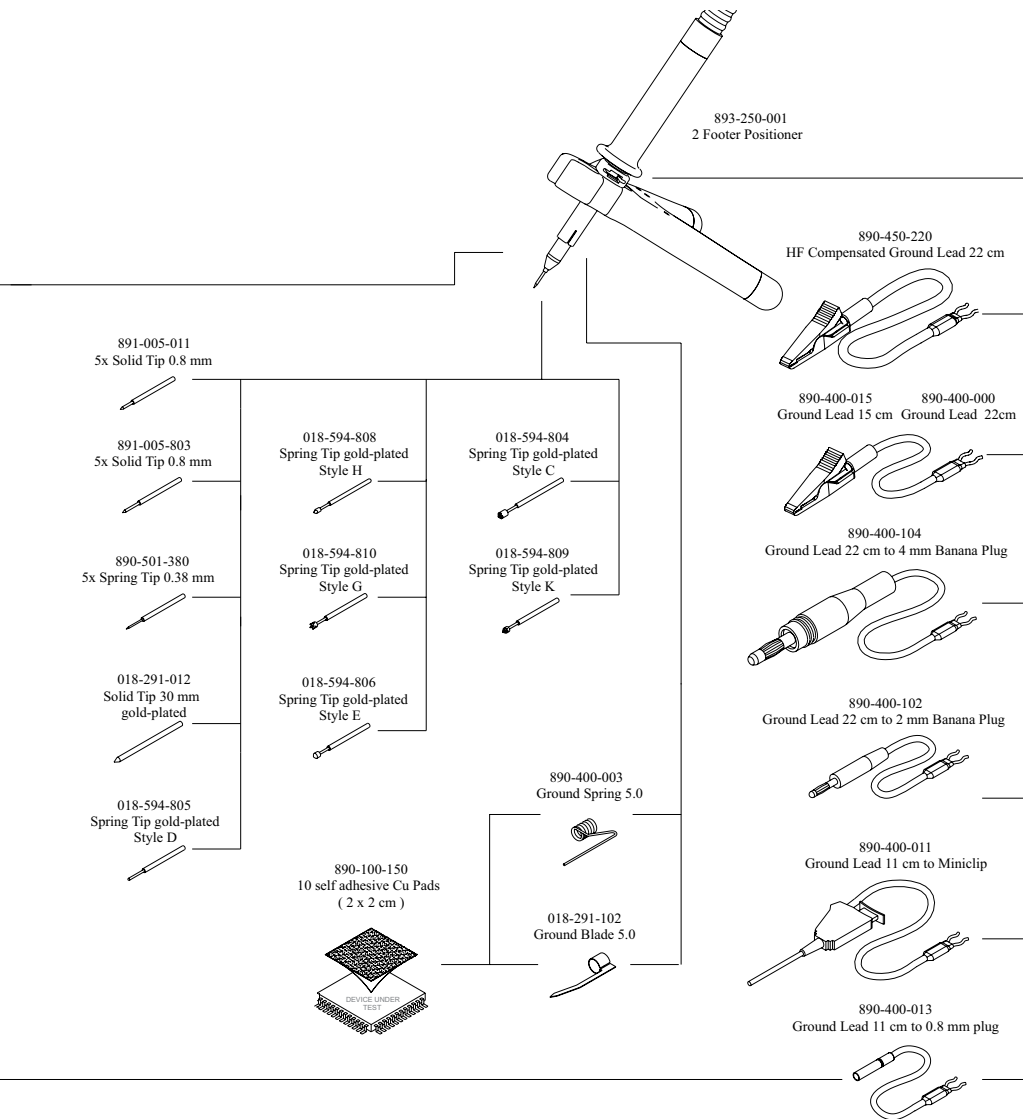


Use pliers to grip and pull the probe tip carefully out of its contact socket.



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





The following items are included in the scope of delivery. Please check the delivery for completeness. If any item is missing, send a message to our service department and we will send you this item immediately.

Item	Qty
Ground Blade 5.0	1
Ground Lead 22 cm	1
IC-Cap 5.0 0.8 mm pitch; grey	1
IC-Cap 5.0 1.0 mm pitch; brown	1
IC-Cap 5.0 1.27 mm pitch; black	1
Instruction Manual	1
Insulating Cap 5.0	1
Probe	1
Protection Cap 5.0	1 ⁽¹⁾
Solid Tip 0.8 mm	1
Spring Tip 0.8 mm	1 ⁽²⁾
Sprung Hook 5.0	1

(1) plugged on probe

(2) installed in probe



Use ground lead only for connections to earth ground.



The BNC Adapter is rated: 100 V CAT II, Pollution Degree 1



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