



**Probing Solutions.
Made in Germany.**

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SONIC[®] 4000

Robust Active Probe for Troubleshooting
> 4 GHz, ±20 V

Datasheet



**Ihr Ansprechpartner /
Your Partner:**

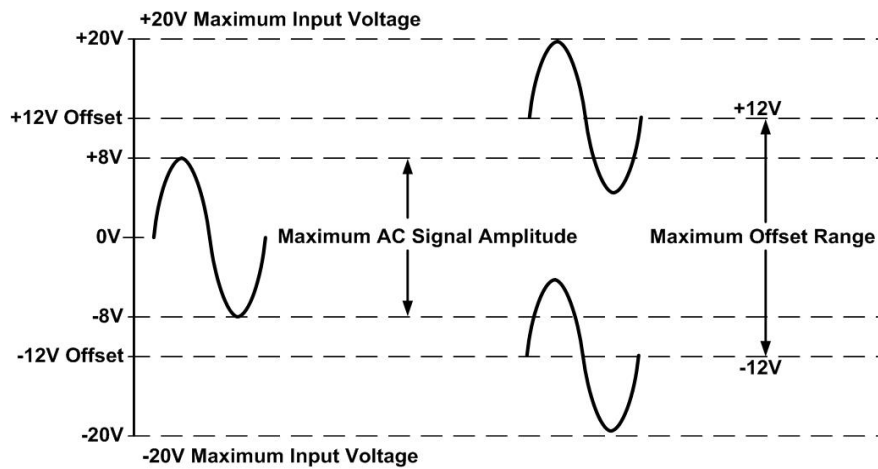
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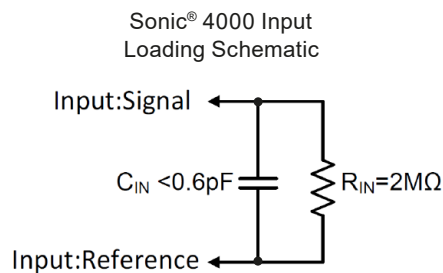


About Sonic® 4000

The Sonic® 4000 active probe offers best-in-class performance and is easy to use to make in-circuit measurements. With the Sonic® 4000's DC to >4GHz bandwidth, high input impedance, low noise and $\pm 8V$ dynamic range makes it the ideal probe to use with any oscilloscope or other 50Ω measurement system. Sonic® 4000's $\pm 12V$ input offset capability extends the input voltage range of the probe. The input capacitance of $<0.6pF$ parallel $2M\Omega$ between probe tip and probe reference ($1M\Omega$ to the oscilloscope ground) provides the highest impedance in its class to allow the probing of sensitive circuits without adversely loading the circuit under test.



The high impedance probe tip reference connection is a key feature of the Sonic® 4000. Unlike traditional single-ended probes, with their probe tip reference connected to earth ground that can damage the customer's circuit if it is accidentally connected to any non-ground test point, the probe tip reference impedance to earth ground is $1M\Omega$. This feature allows for safe in-circuit browsing of an energized circuit without the possibility for shorting the probe tip reference connection directly to earth ground.



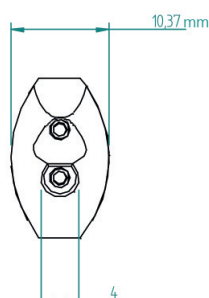
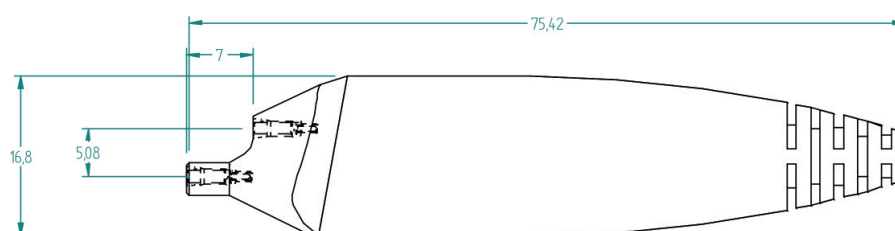
The Sonic® 4000 active probe uses a PMK custom high speed FET input amplifier with active cladding wave compensation to provide a superior high frequency response as well as a low noise and low distortion to accurately measure the customer signals.

Specifications

Sonic® 4000	
Order Number	884-000-000
Electrical Specifications	
Attenuation Ratio *	10:1 ($\pm 2\%$ at DC)
Bandwidth (-3dB) *	> 4 GHz
Dynamic Range *	± 8 V
DC Offset	± 12 V
Input Voltage DC (max.) *	± 20 V ¹
Input Impedance ²	2 M Ω 0.6 pF
Output Impedance	50 Ω

Mechanical Specifications	
Weight (probe only)	107 g
Cable Length	1.3 m
Probe Input Sockets	0.64 mm square / 0.8 mm round
Output Connector ³	BNC (male)

Environmental Specifications		
Altitude	operating	up to 2000 m
	non-operating	up to 15000 m
Temperature Range	operating	0 °C to +45 °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 +45 °C
	non-operating	95% relative humidity for temperatures up to +40 °C



This product comes with 2 years warranty.
Specifications that are not marked with (*) as guaranteed are typical.

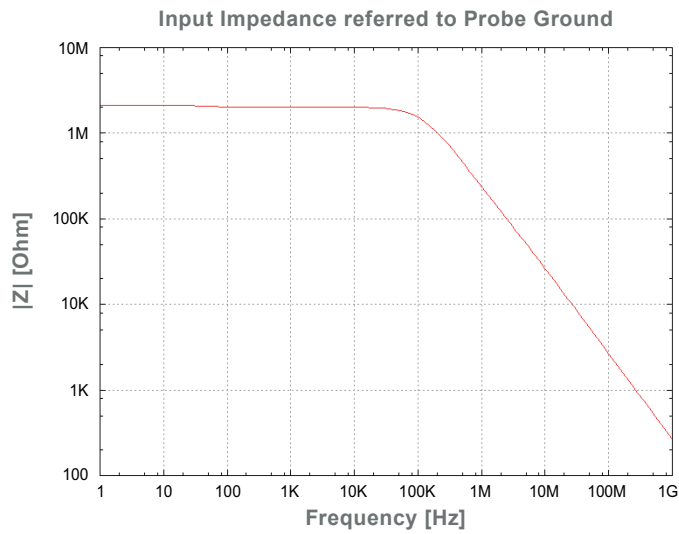
¹ ESD protected, IEC 61000-4-2 Contact Discharge Level 2, IEC 61000-4-2 Air Discharge Level 3.
See frequency derating on page 4.

Input Impedance referred to Probe Ground



The input impedance of the probe decreases as the frequency of the applied signal increases.

The charts given here are valid for no measurement category, not in CAT II, III, IV (¹).

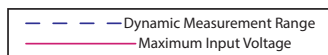
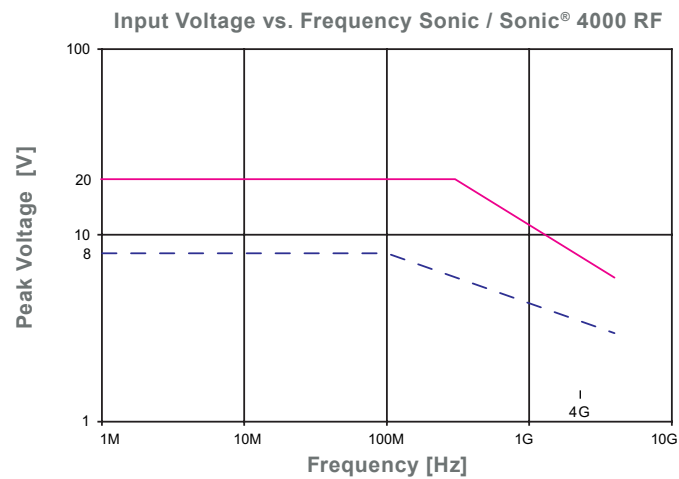


Maximum Input Voltage



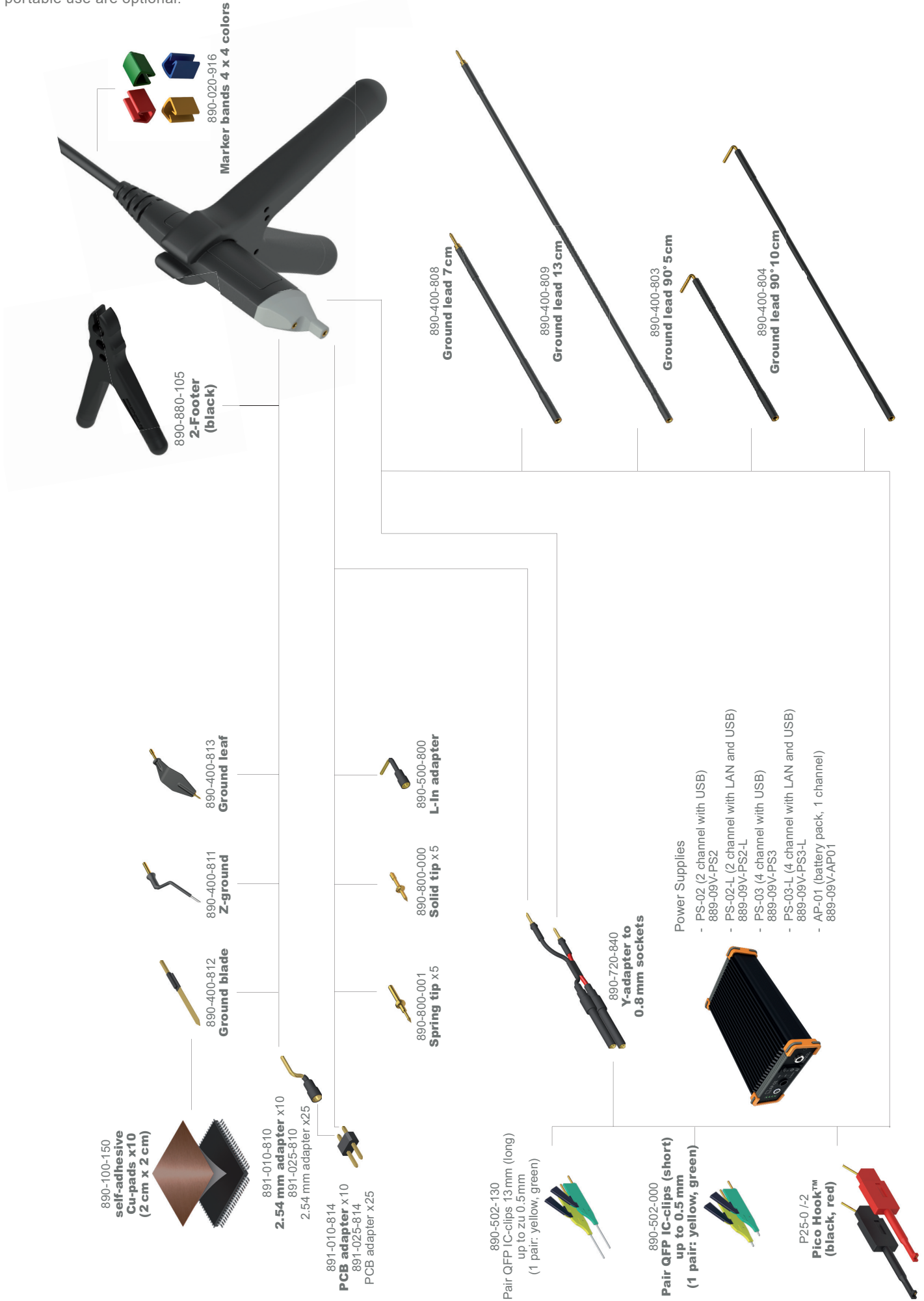
The Sonic® 4000 active probe is protected against electro-static-discharge voltage (ESD).

The charts given here are valid for no measurement category, not in CAT II, III, IV (¹).



Probe Accessories

The parts supplied are „highlighted“, see also "Scope of Delivery". A power supply with remote control capabilities or a battery pack for portable use are optional.



Scope of Delivery

Accessories delivered with each probe are „**highlighted**“ in the graphical overview.



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

Item	Qty	Item	Qty
Probe Sonic® 4000	1	L-In Adapter	1
Calibration Certificate	1	Pair Picohooks™ (black & red)	1
Instruction Manual	1	Pair QFP IC-Clips (short, yellow & green)	1
Case	1	Pair SMD Test Grabbers (black & red)	1
2-Footer (black)	1	PCB Adapter	5
2.54 mm Adapter Sonic	2	Self adhesive Cu Pad (2 cm x 2 cm)	2
Ground Blade	1	Set Marker bands (4 x 4 Colors)	1
Ground Lead 7 cm	1	Solid Tip	3
Ground Lead 13 cm	1	Spring Tip	3
Ground Lead 90° 5 cm	1	Y-Lead Adapter to 0.8 mm sockets	1
Ground Lead 90° 10 cm	1	Z-Ground	1
Ground Leaf	3	Power supply cable (0.5 m)	1

Ordering Information

Product	Order Number
Sonic® 4000 Probe	884-000-000



The power supply pin assignment is different from other power supplies. Use only original PMK power supplies with PMK probes.

Power Supplies			
Order Number	Product	Order Number	Product
889-09V-PS2	2 ch power supply PS-02 with USB	889-09V-AP01	1 ch Battery pack AP-01
889-09V-PS2-L	2 ch power supply PS-02-L with LAN and USB	890-520-900	Power supply cable (0.5 m) ¹
889-09V-PS3	4 ch power supply PS-03 with USB	890-520-915	Power supply cable (1.5 m)
889-09V-PS3-L	4 ch power supply PS-03-L with LAN and USB	-	-

¹ The power supply cable (0.5 m), is included as standard with all compatible probes.



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