



**Probing Solutions.
Made in Germany.**

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ATE2000

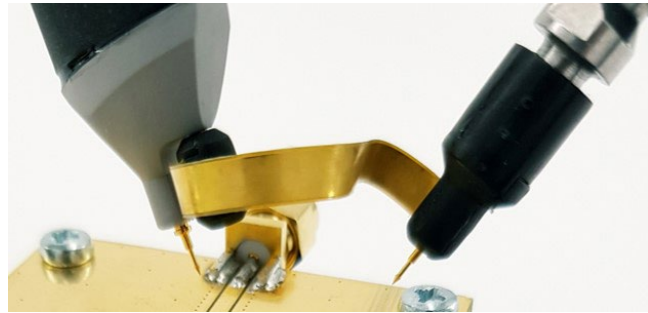
**Active Single-Ended Probe for
Automated Test Equipment**
up to 2.5 GHz, ± 8 V, 6 m

Preliminary Datasheet

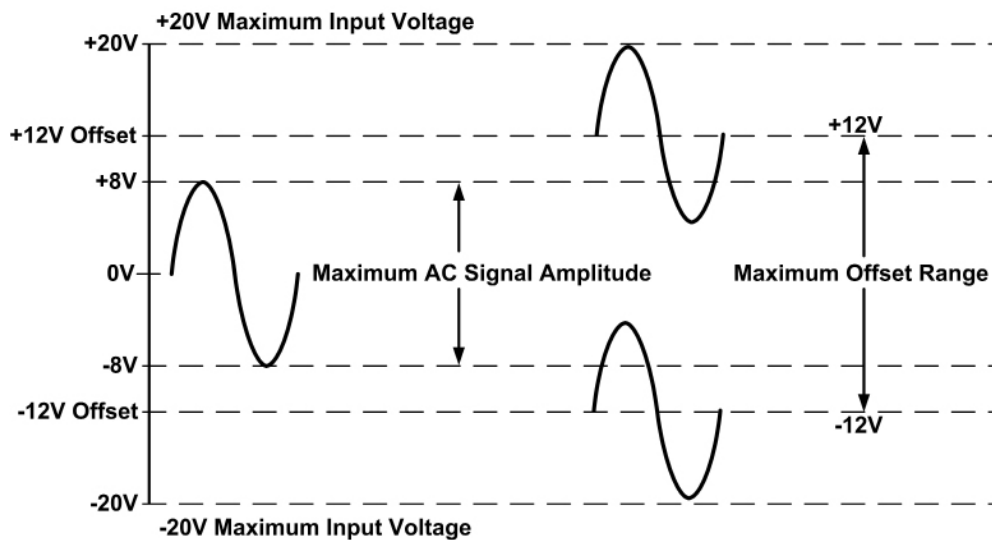


About ATE2000

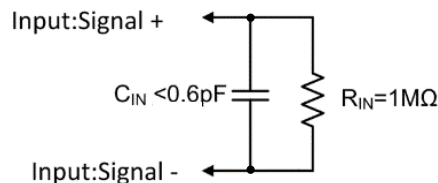
The ATE2000 active probe, with up to 2.5GHz bandwidth and 6m long cable length, makes it a perfect choice for making dynamic in-circuit measurements in the automated test equipment (ATE) environment. ATE2000 is specifically designed (patent pending) for use in automated 3D positioning systems, e.g. flying probers or other XYZ positioning systems. The flexible reference connection lead accessories ensure >1GHz high bandwidth repeatable measurements between test points that are up to 50mm apart while maintaining the best signal fidelity.



The wide dynamic input voltage range of $\pm 8V$, up to 2.5GHz bandwidth and high $2M\Omega \parallel 0.6pF$ input impedance, makes the ATE2000 a versatile probing solution for various applications, like automated failure analysis and trouble-shooting in service centers of electronic devices, or testing of safety-related electronics e.g. in autonomous fly and drive applications. The probe's universal BNC interface is compatible with oscilloscopes with 50Ω input impedance. The ATE2000's long 6m cable provides the ability to probe remote, hard to reach points.



Unlike other single-ended probes, the ATE2000 is equipped with a high impedance $1M\Omega$ probe tip reference connection, which enables safe in-circuit testing of an energized circuit without the possibility for shorting the test point directly to earth ground and damaging the circuit under test.



ATE2000's offset can be controlled via remote control. The „PMK Probe Control“ software provides the ability for the user to control the probe remotely via a computer, and provides the user with a graphical user interface. The software is free of charge, and included with PMK's 2ch and 4ch power supplies PS-02 and PS-03, which are required to power the probe. The power supplies all have a USB interface and are available with optional LAN interface. The 1 channel battery pack power supply AP-01 provides >8h of portable and isolated operation, which allows the user the flexibility of where the probe can be used. The AP-01

ISO17025 calibration upon delivery or as re-calibration is available.

Electrical Specifications¹ - Preliminary

The final specification table is coming soon. This product comes with 2 years warranty. Specifications that are not marked with (*) as guaranteed are typical. Warm-up time 20 minutes.

	ATE2000 with ground blade	ATE2000 with optional 30mm ATE-FLXGND30	ATE2000 with optional 50mm ATE-FLXGND50
Attenuation Ratio *	10:1 ± 2 % at DC	10:1 ± 2 % at DC	10:1 ± 2 % at DC
Input Dynamic Voltage Range *	± 8 V (16V pp)	± 8 V (16 Vpp)	± 8 V (16V pp)
Input Offset Voltage Range *	± 12 V	± 12 V	± 12 V
Non-Destructive Input Voltage *	± 20 V	± 20 V	± 20 V
Bandwidth (-3dB)	> 2.5 GHz	> 1.6 GHz	> 1.1 GHz
Propagation Delay	24.5 ns	24.5 ns	24.5 ns
Noise (input referred) ²	89 nV/sqrt(Hz)	89 nV/sqrt(Hz)	89 nV/sqrt(Hz)
Input Resistance (between Inputs)	2 MΩ	2 MΩ	2 MΩ
Input Resistance (Input to ground, safety ground)	1MΩ	1 MΩ	1 MΩ
Input Capacitance (between Inputs)	0.6 pF	0.6 pF	0.6 pF
Input Coupling of the Measuring Instrument	50 Ω	50 Ω	50 Ω

¹ Determined when using a PS-02 power supply at +23°C ambient temperature.

² f >10MHz

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

Mechanical Specifications

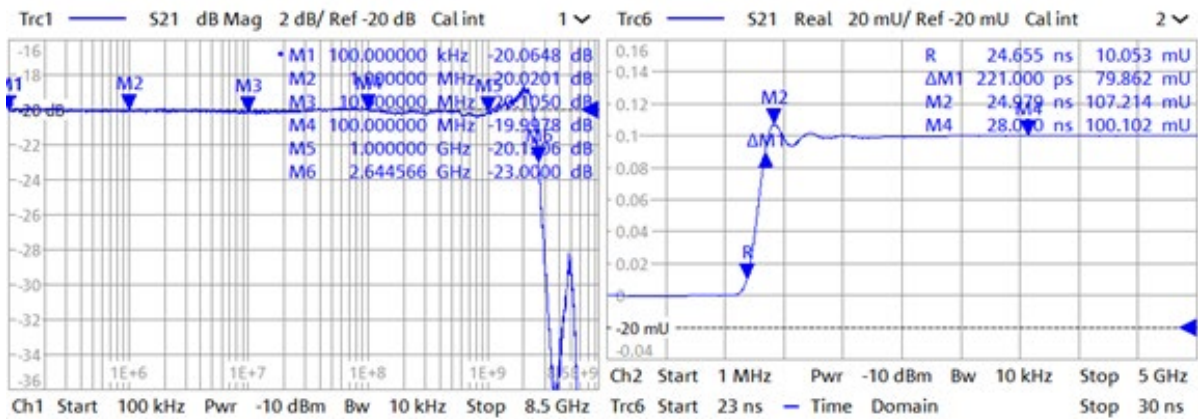
	ATE2000
Weight (probe only)	225 g
Cable Length	6 m
Probe Input Sockets	0.64 mm square / 0.8 mm round
Output Connector	BNC (male)

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
	non-operating	95 % relative humidity for temperatures up to +40 °C

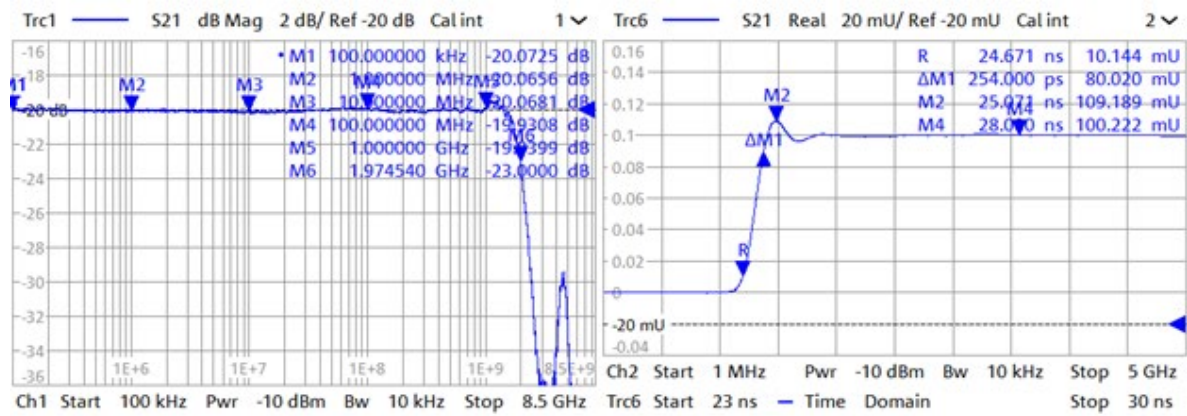
Typical Frequency Responses & Step Responses

Typical Frequency and Step Response with Ground Blade (890-400-812)

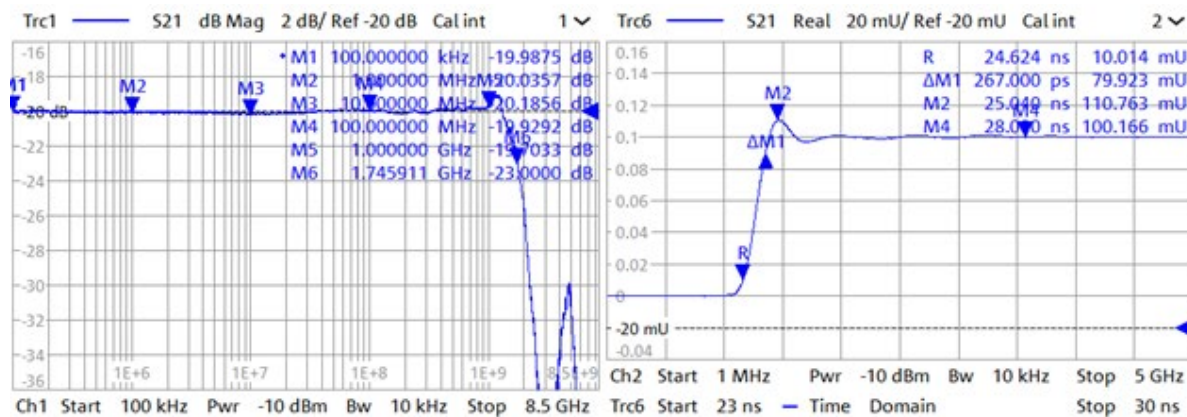


ATE2000 with Ground Blade: 3dB Bandwidth at approx. 2.64GHz, Peaking approx. 1dB, Overshot 7%

Typical Frequency and Step Response with 30mm ATE-FLXGND30

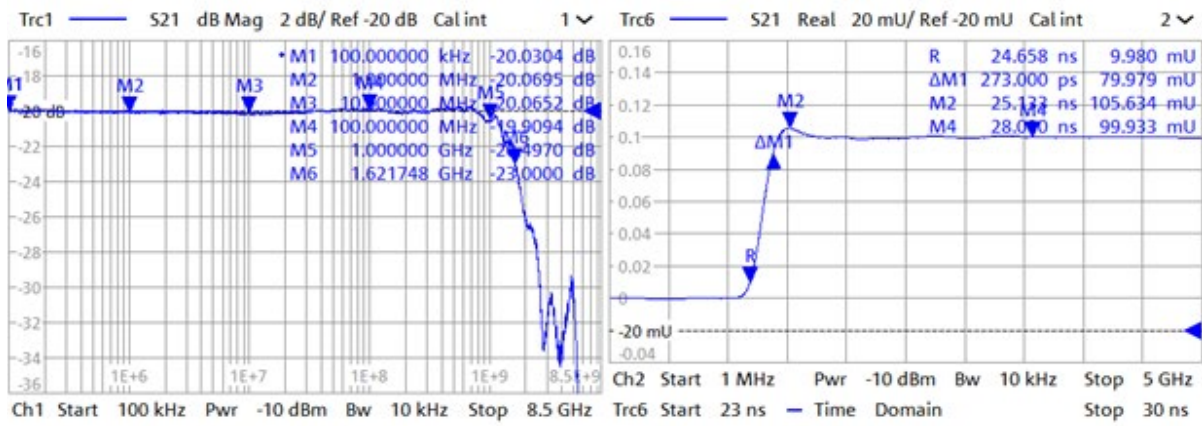


ATE2000 with 30mm ATE-FLXGND30, close to Input, 3dB Bandwidth at approx. 1.97GHz, approx. 0.2dB Peaking, Overshot 9%

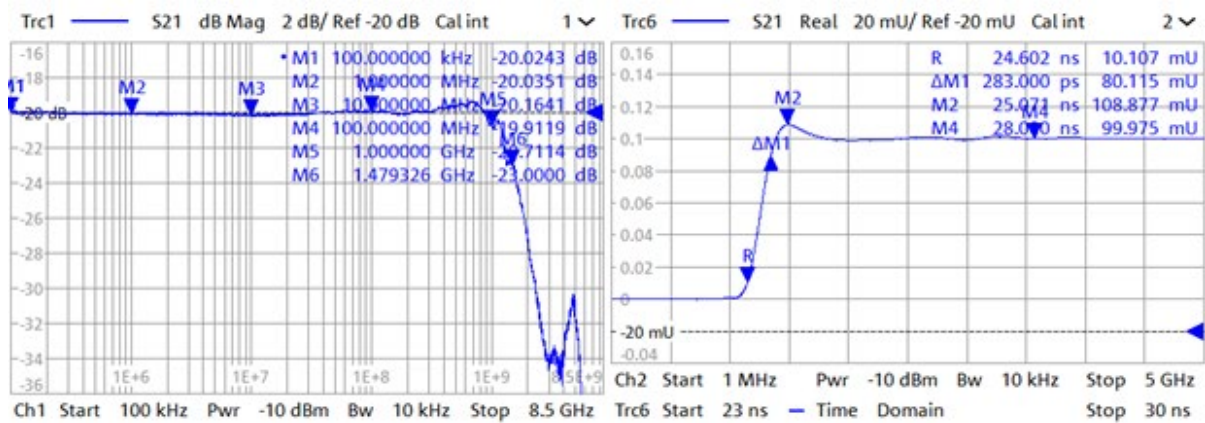


ATE2000 with 30mm ATE-FLXGND30, far to Input, 3dB Bandwidth at approx. 1.74GHz, approx. 0.7dB Peaking, Overshot 10%

Typical Frequency and Step Response with 50mm ATE-FLXGND50



ATE2000 with 50mm ATE-FLXGND50, close to Input, 3dB Bandwidth at approx. 1.62GHz, no Peaking, Overshot 5%

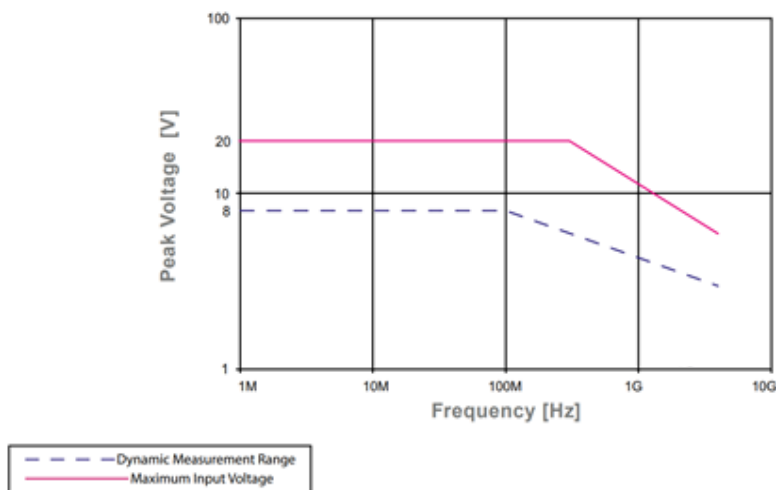


ATE2000 with 50mm ATE-FLXGND50, far to Input, 3dB Bandwidth at approx. 1.47GHz, approx. 0.2dB Peaking, Overshot 8%

Maximum Input Voltage



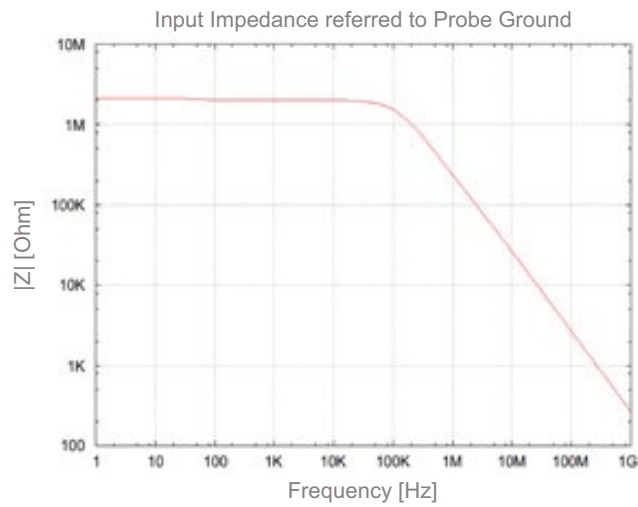
Note that the maximum input voltage rating of the probe decreases as the frequency of the applied signal increases.



Input Impedance between Inputs



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



Dimensions

The dimensional drawing is coming soon. The CAD drawing is available on request.

Scope of Delivery

The overview of the full scope of delivery is coming soon. The following table lists the accessories that are shipped with the probe. Power supply and at least one GND accessory are both required and must be ordered separately..

Qty	Article-number	Description	Picture
1	ATE2000	ATE2000 2.5GHz active probe, 6m long cable length	
1	n/a	Factory calibration certificate	n/a
1	n/a	Manual	n/a
1	890-520-900	Power supply cable (0.5 m)	
1	890-020-916	Marker bands 4 x 4 colors	




Ordering Information

The consumable accessories for the reference connection and a power supply PS02, PS03 or AP01 must be ordered separately.

Order No.	Item
ATE2000	ATE2000 Probe, up to >2.5GHz \pm 8V (16Vpp) input voltage, \pm 12V offset range, 6m

Optional Accessories and Recalibration

The full overview of accessories is coming soon. Please also see our Sonic® series probe accessories for more.

Order No.	Description	Picture
890-400-812	Ground Blade	
ATE-FLXGND50	50mm flexible GND reference lead	
ATE-FLXGND30	30mm flexible GND reference lead	
KAL-ATE	Factory recalibration	n/a

Power Supplies

Order No.	Item
889-09V-PS2	PS-02 (2 channels, with USB interface for remote control)
889-09V-PS2-L	PS-02-L (2 channels, with LAN and USB interface for remote control)
889-09V-PS3	PS-03 (4 channels, with USB interface for remote control)
889-09V-PS3-L	PS-03-L (4 channels, with LAN and USB interface for remote control)
889-09V-AP01	AP-01 (battery pack, 1 channel, no remote control)
890-520-900	Power supply cable (0,5 m)*
890-520-915	Power supply cable (1,5 m)

* The power supply cable (0.5 m) is included as standard with all PMK probes requiring a PS02/03/AP01 power supply.

Manufacturer

PMK Mess- und Kommunikationstechnik GmbH
Koenigsteinerstrasse 98
65812 Bad Soden am Taunus, Germany

Phone: +49 (0) 6196 5927 - 930
Fax: +49 (0) 6196 5927 - 939

Internet: www.pmk.de
E-Mail: sales@pmk.de

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