



**Probing Solutions.  
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# BumbleBee<sup>®</sup>

## High Voltage Differential Probe

Datasheet



	BumbleBee® Active Differential Probe, 2m Cable length	BumbleBee® Active Differential Pro- bes, 2m Cable length, Quad Pack incl. PS-03-L Power supply	BumbleBee® Active Differential Probe, 6m Cable length	
Order number	880-102-501	880-102-504	880-106-501	
Electrical Specifications (¹)				
Attenuation (Switchable)	50:1	100:1	250:1	500:1
System Bandwidth (-3 dB)				
Small Signal VNA Measurement	300MHz	300MHz	400MHz	400MHz
Rise time (10 % - 90 %)				
Voltage Step 0V to 50V	1.2ns	1.2ns	875ps	875ps
Voltage Step 0V to 500V	n.a.	n.a.	1.2ns	1.2ns
Voltage Step 0V to 1000V	n.a.	n.a.	n.a.	1.2ns
Noise (AC RMS) (²)	55mV	55mV	75mV	75mV
Propagation Delay	12ns			
Max. Input Voltage, No Measurement Category (³)	2000Veff. 6000V transient Overvoltage			
Measurement Category III	1000 V CAT III			
Pollution Degree (³)	2			
Max. Differential Input Voltage (DC incl. AC peak)	±200V	±400V	±1000V	±2000V
Common Mode Voltage	±2000Vpk (1400VRMS)			
DC Gain Accuracy	±0.7%	±0.7%	±0.35%	±0.35%
Offset Range (⁴)	±4V			
Offset Resolution (⁴)	15Bits / Minimum Step <125µV			
Offset Drift (⁴)	150µV / °C	150µV / °C	40µV / °C	40µV / °C
Input Impedance				
Each Input to Ground	5MΩ    4pF			
Differential Input Impedance	10MΩ    2pF			
Input Coupling of the Measuring Instrument (⁵)	50Ω			
CMRR	DC		>80dB	
	100kHz		>70dB	
	1MHz		>62dB	
	3.2MHz		>50dB	
Mechanical Specifications				
Weight (probe only)	370g			
Cable Length	2m			
Input Lead Length	25cm			
Input Lead Connectors	2 x 4mm (male)			
Output Connector	BNC (male)			
Environmental Specifications				
Altitude	operating	up to 2000m		
	non-operating	up to 15000m		
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		
Power Supplies*				
Order No.	Item	Order No.	Item	
889-09V-PS2	PS-02 (2 Channel)	889-09V-AP01	AP-01 ( Battery pack, 1 Channel)	
889-09V-PS2-L	PS-02-L (2 Channel with Lan)	890-520-900	Power Supply Cable (0.5 m)**	
889-09V-PS3	PS-03 (4 Channel)	890-520-915	Power Supply Cable (1.5 m)	
889-09V-PS3-L	PS-03-L (4 Channel with Lan)	-	-	

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

(1) Ascertained with PS-02 Power Supply in +23 °C temperature.

(2) Broadband noise, bandwidth DC - 30 MHz. Referred to the input.

(3) As defined within IEC 61010-031. See definitions explained on page 4 and 5.

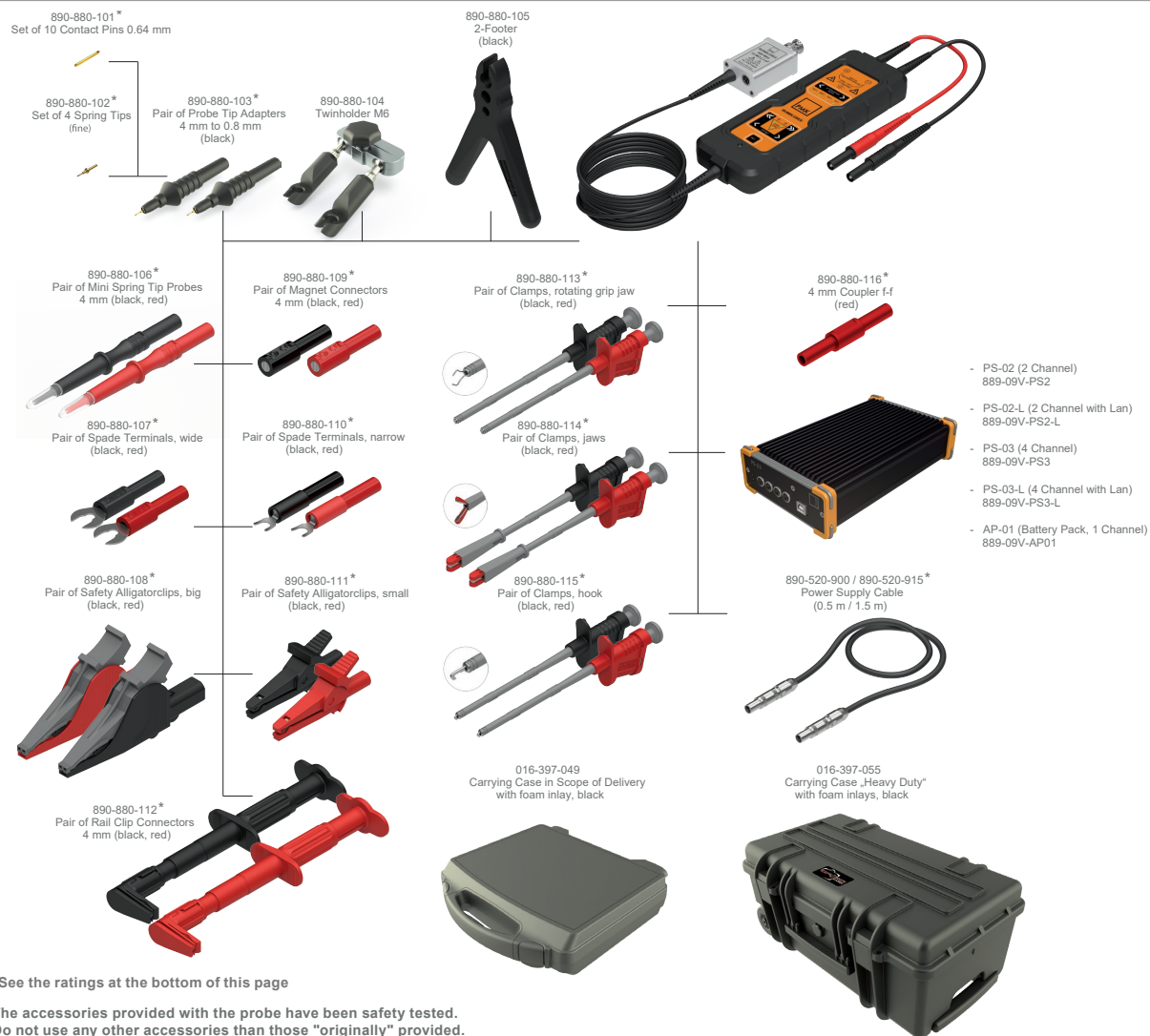
(4) Referred to the output.

(5) Must be met to achieve best performance and avoid damage to the Probe.

\* The Power Supplies needs to be ordered separately.

\*\* The Power Supply Cable (0.5m), is included in all Power Supplies as standard.

## Probe Accessories



## Scope of Delivery

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	Item	Qty
2-Footer (black)	2	Pair of Safety Alligator Clips, 600V CAT II (black & red)	1
4 mm Coupler f-f (red)	1	Pair of Spade Terminals, narrow (black & red)	1
Instruction Manual	1	Pair of Mini Spring Tip Probes 4 mm (black & red)	1
Pair of Magnet Adapters (black & red)	1	Pair of Spade Terminals (black & red)	1
Pair of Clamps, hook (black & red)	1	Probe	1
Pair of Clamps, jaws (black & red)	1	Set of 4 Spring Tips (fine)	1
Pair of Clamps, rotating grip jaw (black & red)	1	Set of 10 Contact Pins 0.64 mm	1
Pair of Probe Tip Adaptors 4 mm to 0.8 mm (2x black)	1	Carrying Case with foam inlay (black)	1
Pair of Safety Alligator Clips, 1000V CAT III (black & red)	1	Calibration Certificate	1

## Optional Accessories

Part No.	Item	Part No.	Item
016-397-055	Carrying Case "HeavyDuty" with foam inlays (black)	890-880-112	Pair of Rail Clip Connectors 4 mm (black, red)
890-880-109	Magnet Adaptors	890-880-104	Twinholder M6
890-880-106	Mini Spring Connectors	890-880-107	Wide Spare Terminals

## Rating Accessories

Item	Rated Input Voltage	Item	Rated Input Voltage
4 mm Coupler f-f	30V AC / 60V DC	Power Supply	100-240V AC / 50 - 60Hz
Clamp, hook	1000V CAT II	Rail Clip Connector	600V CAT III
Clamp, jaws	1000V CAT III	Safety Alligator Clip, big	1000V CAT III
Clamp, rotating grip jaw	1000V CAT II	Safety Alligator Clip, small	600V CAT II
Contact Pin 0.64mm	Not applicable	Spade Terminal, narrow	30V AC / 60V DC
Power Supply Cable	30V AC / 60V DC	Mini Spring Tip Probes 4 mm	600V CAT II
Probe Tip Adapter 4 mm to 0.8 mm	1000V CAT II	Spring Tip (fine)	Not applicable

## **Manufacturer**

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