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# PHV 1000-O for OMICRON Lab Bode 100

**High Voltage Passive Probe, 2000 V Peak**

Datasheet



## About PHV 1000-O

The PHV 1000-O high-voltage probe was specially developed for use with the PC-controllable vector network analyzer Bode 100 from OMICRON Lab. Due to the maximum possible input voltage of 2000V peak of the PHV 1000-O you extend your probing possibilities with this probing solution. For an easy and optimal adaptation to the DUT, appropriate accessories are already included in the scope of delivery. Pay attention to the maximum permissible signal levels of the Bode 100 and use suitable attenuators if necessary.

## Specifications

PHV 1000-O	
Order Number without Read-Out	860-512-O00
<b>Electrical Specifications</b>	
Attenuation Ratio	100:1
Input Resistance (System) ( $\pm 1\%$ )	50 M $\Omega$
Input Capacitance (System)	7,5 pF
Compensation Range	10 pF - 50 pF
Input Coupling of the Measuring Instrument	1 M $\Omega$ AC
<b>Maximum Rated Input Voltages, CAT II, CAT III (*)</b>	
Pollution Degree	2
Maximum Input Voltage (CAT II)	1000 V CAT II
<b>Maximum Rated Input Voltages, No Measurement Category, not in CAT II, III, IV (*)</b>	
Pollution Degree	2
Maximum Input Voltage	2000 V peak
<b>Maximum Pulse Rating, No Measurement Category, not in CAT II, III, IV (*)</b>	
Upulse <sup>(2)</sup>	Upulse 4000 V (Step 0V to 4000 V)  Voltage pulse

Mechanical Specifications	
Weight (Probe only)	67 g
Cable Length	1.2 m
Probe Tip Diameter	5 mm

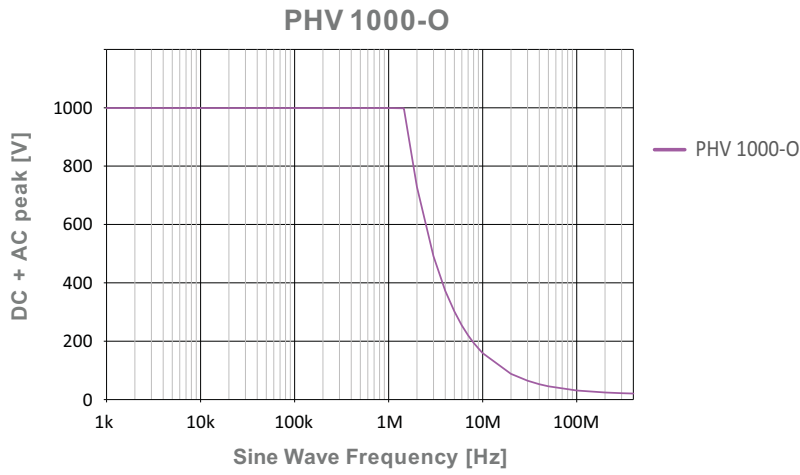
Environmental Specifications		
Altitude	operating	up to 2000m
	non-operating	up to 15000m
Temperature Range	operating	0°C to +50°C
	non-operating	-40°C to +71°C
Maximum Relative Humidity	operating	80% relative humidity for temperatures up to +31°C, decreasing linearly to 40% at +50°C
	non-operating	95% relative humidity for temperatures up to +40°C

## Typical Voltage Derating



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

The chart is valid for no measurement category, not in CAT II, III, IV (1).

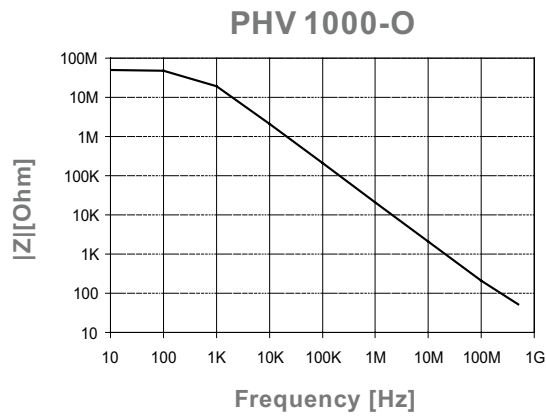


## Typical Input Impedance



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

The chart is valid for no measurement category, not in CAT II, III, IV (1).



(1) As defined in IEC 61010-031 in PHV 1000-O manual.

## Probe Accessories

The parts supplied are **"highlighted"**, see also "Scope of Delivery" on page 5.

972405101 / 972405100 \*  
Safety Alligator Clip (red / black)

018-292-022  
**Protection Cap 5.0-L (black)**

018-292-227 / 018-292-027  
**Insulating Cap 5.0-L (red / black)**

890-700-006 \*  
PCB Adapter 5.0-L

018-210-003  
BNC Adapter 5.0-L

018-292-007  
**Adjustment Tool T**

890-400-22X  
Ground Lead 22 cm to 4 mm Safety Banana Plug (black)

890-221-002 / 890-221-000 \*  
Flexible Adapter 5.0-L to 4 mm Safety Banana Plug (red / black)

890-321-020 / 890-321-000 \*  
**Sprung Hook 5.0-L (red / black)**

891-005-803  
5x **Spring Tip 0.8 mm**

891-005-011  
5x **Solid Tip 0.8 mm**

890-010-912  
Set Coding Rings 3x4 colors

890-450-220  
HF Compensated Ground Lead 22 cm

890-400-015  
Ground Lead 15 cm

890-400-000  
**Ground Lead 22 cm**

890-400-002  
Ground Lead 30 cm

890-400-104  
Ground Lead 22 cm to 4 mm Banana Plug

890-400-102  
Ground Lead 22 cm to 2 mm Banana Plug



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.

\* See ratings for these accessories on page 5

## Rating Accessories

### • PCB Adapter 5,0-L

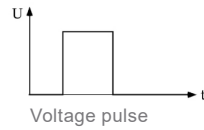
(890-700-006)

Maximum Rated Input Voltages, No Measurement Category, not in CAT II, III, IV<sup>(1)</sup>:

- Pollution Degree: 2
- No Measurement Category: 2000V DC or AC peak

Maximum Pulse Rating, No Measurement Category, not in CAT II, III, IV<sup>(1)</sup>:

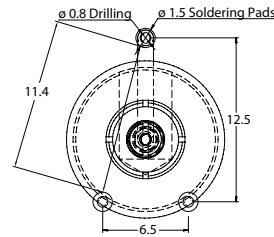
Upulse<sup>(2)</sup> = 6000 V (Step 0V to 6000 V)



### Drilling- / Soldering Template



The minimum distance between all solder pads of 11.4 mm (see adjacent template) must not be undercut under any circumstances. Undercutting this distance will void the rating.



### • Sprung Hook 5,0-L

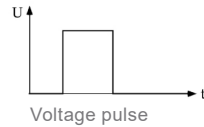
(890-321-020 / 890-321-000)

Maximum Rated Input Voltages, No Measurement Category, not in CAT II, III, IV<sup>(1)</sup>:

- Pollution Degree: 2
- No Measurement Category: 2000V DC or AC peak

Maximum Pulse Rating, No Measurement Category, not in CAT II, III, IV<sup>(1)</sup>:

Upulse<sup>(2)</sup> = 6000 V (Step 0V to 6000 V)



Maximum Rated Input Voltages, CAT II<sup>(1)</sup>:

- Pollution Degree: 2
- Measurement Category II: 1000V CAT II

### • Safety Alligator Clip

(972-405-101 / 972-405-100)

### • Flexible Adapter 5,0-L to 4 mm Safety Banana Plug

(890-221-002 / 890-221-000)

Maximum Rated Input Voltages, CAT II<sup>(1)</sup>:

- Pollution Degree: 2
- Measurement Category II: 1000V CAT II

(1) As defined in IEC 61010-031. (2) No overshoot permitted.

## Scope of Delivery

Items	Qty
Probe PHV 1000-O	1
Instruction Manual	1
Adjustment Tool T	1
Ground Lead 22 cm	1
Insulating Cap 5.0-L	1
Protection Cap 5.0-L <sup>(1)</sup>	1
Solid Tip 0.8 mm	1
Spring Tip 0.8 mm <sup>(2)</sup>	1
Sprung Hook 5.0L	1

(1) plugged on probe (2) installed in probe

## Manufacturer

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