



**Probing Solutions.  
Made in Germany.**

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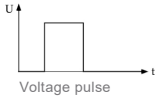
# PMM SERIES

**High Impedance Passive Probe**

Datasheet



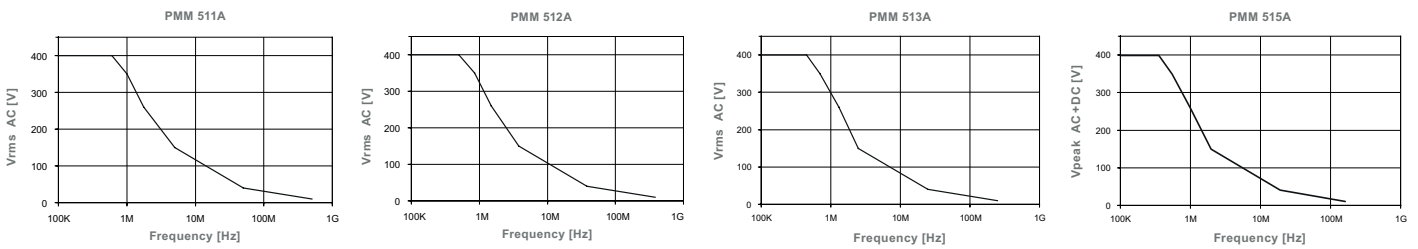
PMM DATASHEET

|  | PMM 511A / 511A-RO                 | PMM 512A / 512A-RO  | PMM 513A / 513A-RO                 | PMM 515A / 515-RO                  |
|--|------------------------------------|---|------------------------------------|------------------------------------|
| Order number without Read-Out  | 855-511-A00                        | 855-512-A00   | 855-513-A00                        | 855-515-A00                        |
| Order number with Read-Out   | 855-511-A01                        | 855-512-A01   | 855-513-A01                        | 855-515-A01                        |
| <b>Electrical Specifications</b>   |                                    |   |                                    |                                    |
| Attenuation Ratio ( $\pm 2\%$ at DC) (1)   | 10:1                               | 10:1  | 10:1                               | 10:1                               |
| System Bandwidth (-3dB)  | 500MHz                             | 380MHz  | 250MHz                             | 175MHz                             |
| Rise time (10% - 90%)  | 0.7ns                              | 0.95ns  | 1.4ns                              | 2ns                                |
| Voltage Coefficient (at DC)  | 0.00025%/V                         | 0.00025%/V  | 0.00025%/V                         | 0.00025%/V                         |
| Input Resistance (System) ( $\pm 1\%$ )  | 10M $\Omega$                       | 10M $\Omega$  | 10M $\Omega$                       | 10M $\Omega$                       |
| Input Capacitance (System)   | 11pF                               | 13.5pF  | 18pF                               | 23pF                               |
| Compensation Range   | 7pF - 25pF                         | 7pF - 25pF  | 7pF - 25pF                         | 7pF - 25pF                         |
| Input Coupling of the Measuring Instrument   | 1M $\Omega$ AC / DC                | 1M $\Omega$ AC / DC   | 1M $\Omega$ AC / DC                | 1M $\Omega$ AC / DC                |
| <b>Maximum Rated Input Voltages, CAT II, CAT III (2)</b>                                 |                                    |   |                                    |                                    |
| Pollution Degree   | 2                                  | 2   | 2                                  | 2                                  |
| Measurement Category II  | 300V CAT II                        | 300V CAT II   | 300V CAT II                        | 300V CAT II                        |
| <b>Maximum Rated Input Voltages, No Measurement Category, not in CAT II, III, IV (2)</b> |                                    |   |                                    |                                    |
| Pollution Degree   | 2                                  | 2   | 2                                  | 2                                  |
| No Measurement Category (2)  | 400V / 1650V peak                  | 400V / 1650V peak   | 400V / 1650V peak                  | 400V / 1650V peak                  |
| <b>Maximum Pulse Rating, No Measurement Category, not in CAT II, III, IV (2)</b>         |                                    |   |                                    |                                    |
| Upulse (3)   | Upulse 1650V<br>(Step 0V to 1650V) | Upulse 1650V<br>(Step 0V to 1650V)  | Upulse 1650V<br>(Step 0V to 1650V) | Upulse 1650V<br>(Step 0V to 1650V) |
|       |                                    |   |                                    |                                    |
| <b>Mechanical Specifications</b>   |                                    |   |                                    |                                    |
| Weight (Probe only)  | 45g                                | 57g   | 75g                                | 105g                               |
| Cable Length   | 1.2m                               | 2m  | 3m                                 | 5m                                 |
| Probe Tip Diameter   | 5mm                                | 5mm   | 5mm                                | 5mm                                |
| 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 (4)



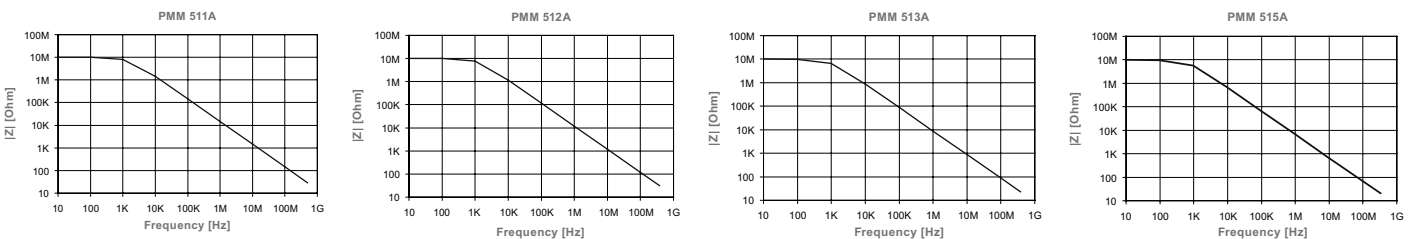
Note that the maximum input voltage rating of the probe decreases as the frequency of the applied signal increases.



Typical Input Impedance (4)



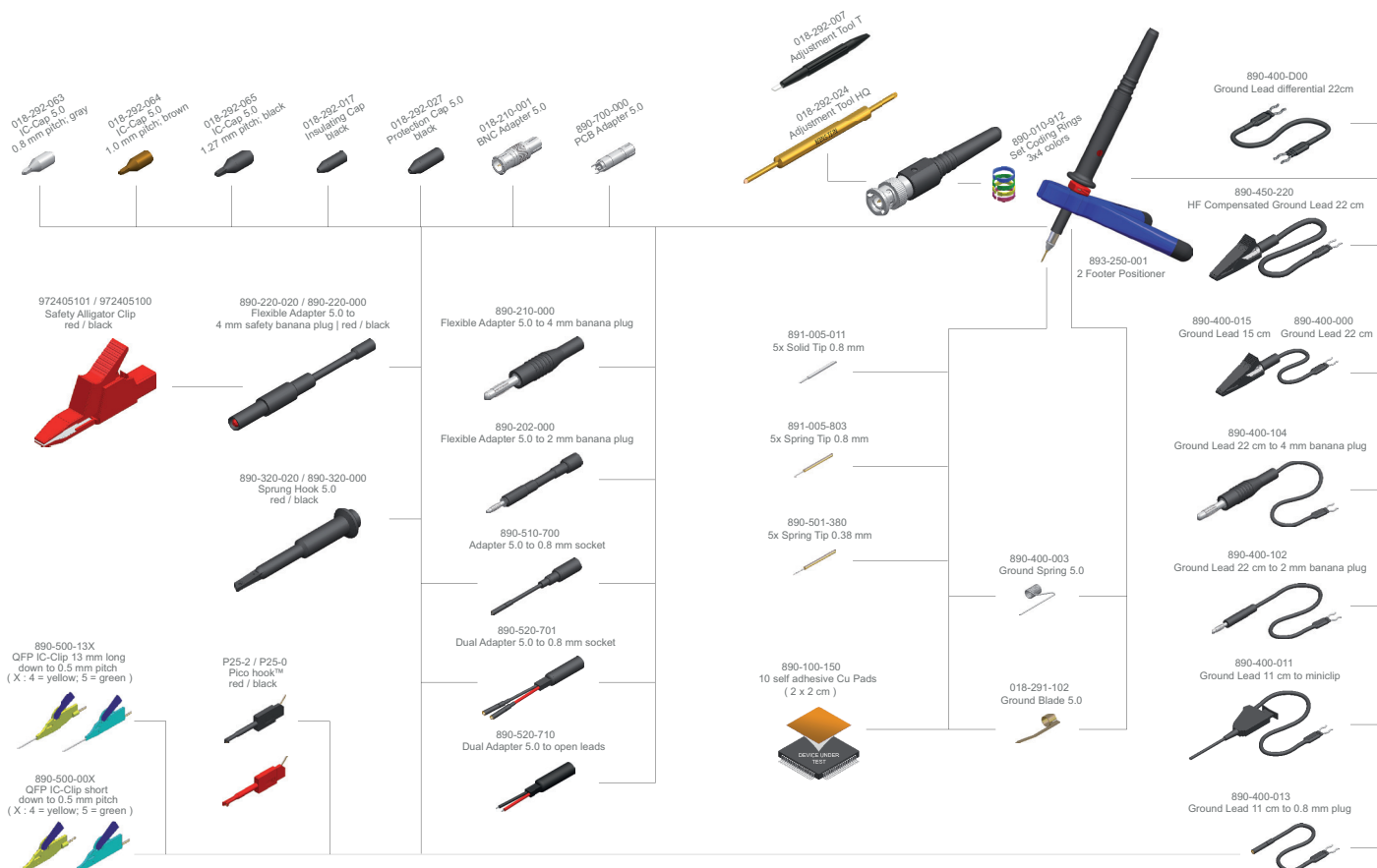
Note that the input impedance of the probe decreases as the frequency of the applied signal increases.



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

(1) Connected to oscilloscope with an input impedance of 1M $\Omega$   $\pm$  1%. (2) As defined in IEC 61010-031. (3) No overshoot permitted. (4) The charts given here are valid for no measurement category, not in CAT II, III, IV

Probe Accessories



Scope of Delivery

| Item                            | Qty | Item                            | Qty |
|---------------------------------|-----|---------------------------------|-----|
| 2 Footer Positioner             | 1   | Instruction Manual              | 1   |
| Adjustment Tool T               | 1   | Insulating Cap 5.0              | 1   |
| BNC Adapter 5.0                 | 1   | Probe                           | 1   |
| Coding Rings (set) 3x4 Colors   | 1   | Protection Cap 5.0 (1)          | 1   |
| Ground-Blade 5.0                | 1   | Self adhesive Cu Pad (2 x 2 cm) | 2   |
| Ground Lead 15 cm               | 1   | Solid Tip 0.8 mm                | 1   |
| Ground Spring 5.0               | 1   | Spring Tip 0.8 mm (2)           | 1   |
| IC-Cap 5.0 0.8 mm pitch; grey   | 1   | Spring Tip 0.38 mm              | 1   |
| IC-Cap 5.0 1.0 mm pitch; brown  | 1   | Sprung Hook 5.0                 | 1   |
| IC-Cap 5.0 1.27 mm pitch; black | 1   | -                               | -   |



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.

(1) Plugged on probe. (2) Installed in Probe.

## **Manufacturer**

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