

100 Ohm DIN Resistor Plug

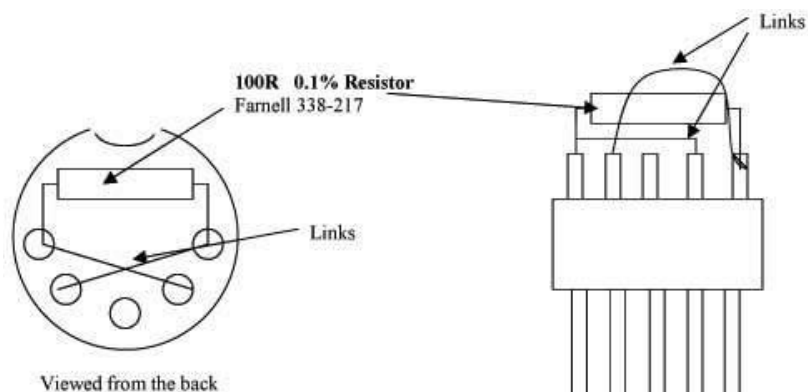
For use with RM3000 series Test Units

System Test

The RM3000 (and former RM3 and RM3-AR) Test Units are supplied with a 100 ohm resistor plug which acts as an external reference to verify the proper functioning of the unit. After powering on and allowing the initial self test to complete, insert the resistor plug into the rear of the unit where the probe cable normally is inserted, and press the "TEST" button. The RM3000 will perform a self test against an internal reference (this test takes a few minutes). The test should conclude with a "passed" result. Once the test has finished successfully and the unit is in "standby", you can use the forward and reverse buttons to further test against the external 100 ohm resistor.



Set the input current to 1mA. In the millivolt reading mode, (you may have to press the ohms/square button to toggle to reading out in millivolts instead of ohms-per-square), it should read 100 mV. Pressing the REV button should display -100mV. In the ohms-square mode it should read 453.24 (ohms-per-square).



100 Ohm Resistor Plug Schematic

Additional resistor plugs can be made by following this simple schematic. Use precision resistors and a 5-pin DIN connector.



Side view of Din Plug Farnell 148-489

Note
 This assembled Din plug to be tested and supplied with every RM3.

| Part | Supplier | Number |
|----------------|----------|---------|
| 5 way Din Plug | Farnell | 148-489 |
| 100R 0.1% res | Farnell | 338-217 |

Calibration/Self Calibration

The overall calibration of the current source is performed by potentiometer adjustment. The internal DVM has no calibration potentiometers; its calibration is carried out in the factory. This can be recalibrated if required. If the factory calibration factor is outside certain limits or has become corrupted, "Calibration Error" is displayed. A separate internal DVM calibration occurs at power up. It recalibrates against an internal reference at power up and when changing from Low to High sensitivity. The zeroing of the DVM also occurs at this time. The meter zero can be forced at any time by pressing the 'Zero' button. The 'Zero' button is used to minimize offsets causing differences between forward and reverse readings. Complete calibration instructions are available upon request.