

M194 High Resistance Decade



- Resistance range 10.00 kΩ – 100.0 GΩ
- Resistance accuracy 0.1 to 1 %
- Operating voltage to 6 kVDC
- Short current mA – meter
- Hot switching
- Timing function
- RS232 (optionally USB, IEEE488, Ethernet)

M194 High Resistance Decade is based on M6xx Series Real-Resistance Programmable Decades, providing cutting-edge performance, user-friendly calibration of resistance ranges as well as test meter ranges, timer and short current testing of UUTs.

Main feature of M194 is adjustable high resistance decade in continuous range from 10 kΩ to 100 GΩ with 4 digit resolution. Designed for maximum operating voltages of up to 6 kVDC this decade is great for calibration of meggers, megaohmmeters and insulation testers. Accuracy from 0.1%.

Full remote control and automated calibration support is a standard for all Meatest instruments. On top of that, M194 comes with 4 interfaces (RS232, USB, LAN and GPIB) to match your system more easily.

Accuracy & limits

| Resistance range | Accuracy* % | Maximum DC test voltage** V | Test voltage accuracy |
|----------------------|----------------|--------------------------------|-----------------------|
| 10.00 kΩ - 99.99 kΩ | 0.1 | 65 | 0.5 % + 2 V |
| 100.0 kΩ - 999.9 kΩ | 0.1 | 315 | 0.5 % + 2 V |
| 1.00 MΩ - 1.99 MΩ | 0.1 | 1 250 | 0.5 % + 10 V |
| 2.00 MΩ - 9.999MΩ | 0.1 | 2 500 | 0.5 % + 10 V |
| 10.00MΩ - 99.99MΩ | 0.1 | 6 000 | 0.5 % + 10 V |
| 100.0MΩ - 499.9MΩ | 0.2 | 6 000 | 0.5 % + 10 V |
| 500.0MΩ - 999.9MΩ | 0.2 | 6 000 | 0.5 % + 10 V |
| 1.000GΩ - 9.999GΩ | 0.5 | 6 000 | 0.5 % + 10 V |
| 10.00GΩ - 19.99GΩ | 1.0 | 6 000 | 0.5 % + 10 V |
| 20.00GΩ - 100.0GΩ*** | 1.0 | 6 000 | 0.5 % + 10 V |

** Accuracy is valid within reference temperature range 23 ± 2 °C with RH < 50%.

*** Maximum measured DC test voltage is 5% over the specified range.

**** 1 minute settling time for full accuracy.

Temperature dependency: Add:
0.1x specified accuracy /°C at reference temperature for temperature outside of reference temperature 23 ± 2°C, from +13 °C to +33 °C

Humidity dependency: Add:
0.02 x specified accuracy / % RH for range 100.0 MΩ to 9.99 GΩ
0.05 x specified accuracy / % RH for range 10.00 GΩ to 100.0 GΩ for ambient humidity in range 50 to 70 % RH

Test voltage indication: 3 digit voltmeter
Short current range: 0.000 – 10.000 mADC
Input resistance: 100 Ω ± 10%
Short test current accuracy: 0.2% + 25 uA

General specification

Reference conditions: +21 °C ... +25 °C, Relative humidity < 50%
Operating temperature: +5 °C ... +40 °C
Storage temperature: -10 °C ... +50 °C
Terminals: Gold plated terminals 4mm
Remote control: RS232 interface (optionally USB, LAN, IEEE488)
Power supply: 115/230 Vac, 50/60 Hz
Dimensions: W 390 mm, H 128 mm, D 310 mm
Weight: 4.5 kg

Content of delivery

M194 High Resistance Decade
Cable RS 232
User's manual
Option 191-10 - test lead (black)
Option 191-11 - test lead (red)

Ordering information – options

Bus M194-V1xxx - RS232
M194-V2xxx - RS232, USB, LAN, GPIB

Housing M194-Vxx0x - table version
M194-Vxx1x - module 19", 3HE

The image displays three screenshots of the M194 High Resistance Decade instrument's user interface:

- Resistance Screen:** Shows a reading of 10.00 GΩ. The accuracy is 0.50%. The maximum voltage is 6.00 kV, and the test voltage is +1.974 kV. The screen includes a 'Function' button and a 'Menu' button.
- Timings Screen:** Shows a 'TIMING EDIT' dialog box with fields for Time (1.0 s), Amplitude (1.000 MR), and other parameters. The screen includes 'Save' and 'Cancel' buttons.
- Calibration Screen:** Shows a 'CALIBRATION' screen with fields for Resistance (35 / 60), Nominal resistance (35.8 kΩ), Requested accuracy (5 Ω), Maximum voltage (60 V), and Last calibrated (08-12-2015). The screen includes 'Previous', 'Next', 'Save', and 'Close' buttons.