

# 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. It includes a 'Function' button, a 'Menu' button, and a table of specifications: Accuracy (0.50 %), Max Voltage (6.00 kV), and Test Voltage (+1.974 kV). The time 16:41:55 is displayed in the top right.
- Timings Screen:** Shows a 'TIMINGS' menu with a 'TIMING EDIT' dialog box. The dialog has fields for Time (1.0 s), Amplitude (1.000 MR), and other parameters. It includes 'Save' and 'Cancel' buttons.
- Calibration Screen:** Shows a 'CALIBRATION' screen with a table of calibration data: Resistance (35 / 60), Nominal resistance (35.8 kΩ), Requested accuracy (5 Ω), Maximum voltage (60 V), and Last calibrated (08-12-2015). It displays a reading of 35.7956 kΩ and includes 'Previous', 'Next', 'Save', and 'Close' buttons.