M525

Programmable Capacitance Decade Box

HIGHLIGHTS

- **Real capacitors, no simulation**
- **100 pF – 100 μF, 4½ digit resolution**
- **0.25 % accuracy at 1 kHz**
- **Grounded and floating modes with open corrections**

DESCRIPTION

M525 Programmable Capacitance Decade box is designed specifically for calibration of capacitance ranges of multimeters and RCL meters. Due to its versatility it can be used in cal labs, repair centers and in production lines, where remote control of capacitance is needed. The M525 contains relays with high current capability and capacitors with polypropylen dielectricum for best performance.

Based on M6xx series, this programmable decade comes with similar benefits: large LCD showing relevant parameters including total accuracy, timed output sequences, customizable units, automatically compensated parasitic capacitances, easy recalibration procedure and extensive remote control connectivity via RS232, IEEE488, USB and Ethernet.

SPECIFICATION

Specifications below describe 1-year absolute accuracy of this product including long-term stability, linearity, load and line regulation and reference standard measurement uncertainty as well as ambient conditions within specified limits.

Capacitance

Range summary	100 pF – 100 µF
Frequency range	<10 µF: 40 Hz – 1000 Hz
	>10 µF: 40 Hz – 100 Hz
Maximum voltage	50 V pk
Reaction time	normal mode: < 200 ms
	sequence mode: > 500 ms

Ranges, resolution, 1 year accuracy

Range / Resolution	Accuracy	Loss coefficient	Accuracy at 1 kHz
0.100 nF – 10.000 nF	0.5 % + 3 pF	< 0.05	0.25 % + 3 pF
10.001 nF – 100.00 nF	0.5 %	< 0.005	0.25 %
100.01 nF – 1.0000 µF	0.5 %	< 0.005	0.25 %
1.0001 µF – 10.000 µF	0.5 %	< 0.05	0.25 %
10.001 µF – 100.00 µF	0.5 % [1]	< 0.2 [1]	0.25 % [2]

[1] Frequency range limited to 40 – 100 Hz.
[2] At 100 Hz.

GENERAL DATA

Reference temperatures	+21 °C – +25 °C
Operating temperatures	+5 °C – +40 °C
Storage temperatures	-10 °C – +50 °C
Temperature coefficient	< 270 ppm / °C
Terminals	4mm gold plated
Power supply	85 – 260 Vac, 45 – 65 Hz
Dimensions (W x H x D)	390 x 128 x 310 mm
Weight	4 kg
Interfaces	RS232, IEEE488 + USB + Ethernet (optional)
Languages	English, German, French, Spanish, Russian, Czech