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NEW

Programmable voltage/current calibrator PM 2480



Voltage programmable from 0-1.2 kV
(4 ranges)

Current programmable from 0 to 120 mA
(3 ranges)

Manual for remote operation

Unique 14-channel built-in memory

Voltage and current limiting

High accuracy: voltage $\pm 0.001\%$ of
setting -0.0001% of range; current
 $\pm 0.004\%$ of setting $\pm 0.001\%$ of range

The PM 2480 provides high accuracy signals for calibration and test applications in an extremely useful and versatile manner. This is due to the instrument's unique internal memory, that allow 14 manually-set voltage/current outputs to be memorized. The outputs are set by the controls under each digit and the information then stored by pushing the relevant channel button. The calibrator can therefore be used by less skilled personnel, since correct output values are obtained automatically.

For laboratory and test applications this method of programming is much quicker and more convenient than the conventional technique of using BCD logic signals, which must first be generated. For systems applications and repetitive operations, however, the PM 2480 can be programmed in this manner using TTL compatible signals.

The instrument is fully protected against overvoltage and overcurrent conditions by limiting circuits that can be set to 10, 130, 300 V and OFF; 5, 13, 50 mA and OFF. When the 1 kV voltage range is selected a warning light is illuminated in order to minimize accidental shocks to the operator.

As well as having a high basic accuracy, the PM 2480 also features remote sensing so that the required output is available at the load and the effect of line losses is eliminated.

Operation

Outputs are normally set digit by digit using the six controls. It is also possible to change the second, third and fourth digits to the 'vernier' position, which allows the remainder of the decades to be set by the vernier control at the end.

This gives a quicker setting when accuracy standards are not so critical. Output settings are entered into the internal memory by switching to 'memory' and pushing the relevant button.

When the output settings are recalled from the memory there is a choice of four operating manuals. Random: the operator pushing the relevant channel button. Single scan: all 14 outputs available in sequence after pushing the button once and continuous scan, which is self explanatory. Scan times can be set to 1, 5 and 10 sec plus 'Hold'. The instrument can be operated under external BCD signals by switching to 'Remote'.

TECHNICAL SPECIFICATION

DC Voltage Mode

Output:

1 V range: 0 to 1.199999 V (1 μ V steps)
 1 V range: 0 to 1.199999 V (1 μ V steps)
 10 V range: 0 to 11.99999 V (10 μ V steps)
 100 V range: 0 to 119.9999 V (100 μ V steps)
 1000 V range: 0 to 1000.000 V (1 mV steps)

Accuracy of output: (23 °C $\pm$ 1 °C)

1 V range: $\pm$ 0.001% of setting $\pm$ 2 μ V
 10 V range: $\pm$ 0.002% of setting $\pm$ 20 μ V
 100 V range: $\pm$ 0.0025% of setting $\pm$ 200 μ V
 1000 V range: $\pm$ 0.0025% of setting $\pm$ 2 mV

Stability of output:

1 V range: $\pm$ 0.003%
 10 V range: $\pm$ 0.001%
 100 V range: $\pm$ 0.0025%
 1000 V range: $\pm$ 0.0025%
 (Above accuracies apply for 3 months at conditions of 13 °C $\pm$ 1 °C) = 1 V range to 1000 V range: $\pm$ 0.001%

Temperature coefficient of output:

1 V, 100 V, 1000 V ranges: $\pm$ 0.0005%/°C
 10 V range: $\pm$ 0.0001%/°C

Noise:

1 V range: 2 μ V rms
 10 V range: 20 μ V rms
 100 V range: 200 μ V rms
 1000 V range: 2 mV rms

Load current:

IV, 10V, 100V ranges: 100 mA
 1000V range: 10 mA

DC current Mode

Output:

1 mA range: 0 to 1.199999mA (1 pA steps)
 10 mV range: 0 to 11.99999mA (10pA steps)
 100 mV range: 0 to 100.00000mA (100pA steps)

Accuracy of output: (23 °C $\pm$ 5 °C)

All ranges: $\pm$ 0.01%/month
 $\pm$ 0.02%/year

Stability of output:

$\pm$ 0.003%/day

Noise:

1 mA range: 30 pA
 10 mA range: 300 pA
 100 mA range: 3 μ A

Compliance voltage:

1mA, 10mA range: 1000 V
 100 mA range: 100 V

General

Output setting:

- 1) from the front panel by manual operation.
- 2) by remote controlling.
- 3) by internal memories.

* Output voltage/current is programmed into 14 memories.

* Scanning mode: Random, step, single scan or repeat scan is specified by manual selection.

* Scanning time: 1s, 10s or 30s is specified by manual selection.

Limiter: Automatic reset type limiter

Settling time: 200 m

Display: By numerical display tube. '1' of the highest digit is displayed by neon tube.

Mains supply

AC 115V or 230V $\pm$ 10%. 50 or 60 Hz.

Dimensions

Height: 149 mm

Width: 424 mm

Depth: 380 mm

