

Frequency range: 0.1Hz . . . 1MHz

**Very accurate frequency setting using
3½-digit display**

Four decades in one sweep

Variable sweep width and speed

Single cycle sweep with hold and reset

External sweep and FM

Analog output

Pen lift

LF Sweep generator PM 5165

The PM 5165 provides swept signals over several decades making it ideal for such applications as response testing of amplifiers, filters and servo loops, vibration studies and those applications in geophysical and biomedical research where swept signals are useful over several decades.

The new sweep generator PM 5165, providing an output signal with frequencies between 0.1 Hz and 1MHz has three selectable waveforms – sinusoidal, triangular and rectangular.

An internal sawtooth generator offers a 4-decade sweeping facility with adjustable sweep range and sweep period. The low and high end frequencies of the sweep range can be set with very high accuracy because the frequencies are indicated by a digital display with 3½ digits. Single sweep, sweep hold and external frequency modulation are additional features, increasing the versatility of the instrument.

A voltage proportional to the logarithm of the frequency is available to drive the X-input of an X-Y recorder. A pen-lift output can be used to control the writing system of a recorder during fly-back in order to prevent double writing.



TECHNICAL SPECIFICATION

Frequency

0.1Hz...1MHz (7 decades)

Ranges: 0.1Hz...1kHz

10Hz...100kHz

100Hz...1MHz

Setting: by means of a coarse and a fine control separately for the two end frequencies of the sweep range

Display: four LED's indicating 3½ digits floating decimal point.

range indication by means of 3 LED's

Frequency setting error: $\pm 1\% \pm 1$ digit at reference conditions

Short term drift (15 minutes): $\pm 0.05\%$

Output

Waveform: Sine, square or triangle

Max. output voltage: 6V_{p-p}

Attenuation: 0...30dB

Internal resistance: 50Ω

Sinewave frequency response: $\pm 1\%$ up to 100kHz

(reference 1kHz): $\pm 3\%$ up to 1MHz

Triangular waveform linearity: 1% of max. amplitude

Square-wave rise and fall time: 50ns

Square-wave aberrations: 2%

Max. DC offset: 50mV

Logarithmic frequency output (Log f/f₀)

Output voltage: 0...4V (1V/decade)

Output resistance: < 1Ω

Max. current: 5mA

External sweep input

Sensitivity: 1V/decade

Input resistance: 10kΩ

Maximum sweep frequency: 400Hz

Upper 3 dB point at FM: 2kHz

Sweep facilities

Sweep selection: internal or external

Internal sweep: 1:1 to 10⁴:1 continuously adjustable (4 decades)

Sweep speed: 1...100s continuously adjustable

Sweep control voltage: saw tooth

Sweep modes: continuous, single period

Manual controls: sweep hold, sweep reset to low frequency

Pen lift output (adapted to X-Y recorders PM 8120 and PM 8125)

Max. current: 0.5A (electronic switch closed)

Output voltage: 15V

Internal resistance: 15KΩ

(electronic switch opened)

General characteristics

Temperature range: +5°C... +40°C

Reference temperature: 23°C $\pm 1^\circ$ C

Power supply voltage: 115/230V $\pm 15\%$

Power supply frequency: 50...100Hz

Consumption: 27W

Dimensions and weight

(w × h × d) 240 × 145 × 300mm

(9.4 × 5.7 × 11.8-in)

3.4kg (7.5lb)