

Counters

PM 6665 & PM 6666 Programmable Timer/Counters

Unrivalled Price/Performance

High Stability MTCXO: 2×10^{-7} Over 0°C to 50°C With Push-Button Calibration

160 MHz/1.3 GHz Option

High Resolution Reciprocal Counting

High Trigger Accuracy

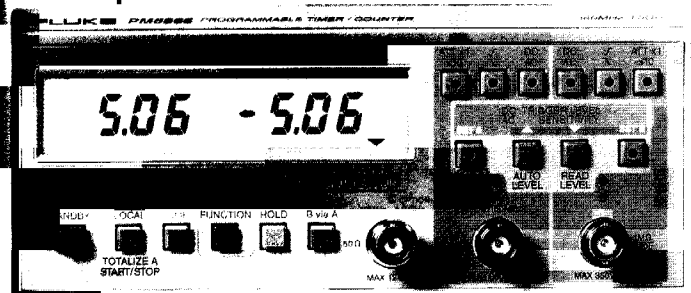
PM 6666: Full GPIB/IEEE-488 Programmability, Auto Trigger, Voltage Measurements

PM 6665: Continuous Variable Sensitivity, HF Filter

Rugged, No Compromise Quality, MTBF 50.000h

Field Use, Battery Operation

Excellent Suppression of RF Interference Through All-Metal Cabinet



Introduction

The PM 6665 and PM 6666 are very versatile timer/counters with many functions included as standard.

The units use the reciprocal frequency counting technique, which yields high resolution measuring results under all conditions, even on low frequency measurements.

PM 6666 Programmable Timer/Counter

The PM 6666 is a low cost timer/counter with high accuracy frequency, time and voltage measurements that also offers 100% programmable GPIB/IEEE-488 operation. All measurement functions including trigger level settings and sensitivity can be programmed. A bus learn mode is provided to speed and simplify programming.

PM 6665 Universal Timer/Counter

The PM 6665 timer/counter is specifically designed for applications with a small budget but a demand for a broad range of high performance counting and timing.

It is a compact timer/counter for bench-top, field and small system applications.

Timer/Counters Selection Table

| | PM 6665 | PM 6666 |
|--------------------------|--|---|
| Freq. A | 0.1 Hz to 160 MHz | 0.1 Hz to 160 MHz |
| Freq. B Via GPIB | 0.1 Hz to 16 MHz | 0.1 Hz to 16 MHz |
| Freq. C Option | 70 MHz to 1.3 GHz | 70 MHz to 1.3 GHz |
| Measuring Modes | Freq. A, Freq. B, Freq. C Period A, RPM A, Ratio A/B, Totalize A, Time Interval A-B | Freq. A, Freq. B, Freq. C Period A, Ratio A/B Ratio B/A, C/A, C/B via GPIB Totalize A, Time Interval A-B Volt max./min. A |
| Resolution | 7 digits/s (frequency) 100 ns (time interval single, period) ≥ 30 ps time interval averaged | 7 digits/s (frequency) 100 ns (time interval single, period) ≥ 30 ps time interval averaged |
| Measuring Times | 0.2, 1 and 10s and SINGLE | 0.2, 1, 10s and SINGLE |
| Sensitivity Setting | Continuous variable | 6 steps |
| Sensitivity Range | x1 ... x100 | x1 ... x50 |
| Trigger Level | Manual continuous | AUTO, Manual, GPIB |
| Input Attenuation | x1 to x10 | x1 x10 AUTO |
| Noise Suppression Filter | 50 kHz | |
| Digit Blanking | yes | - |
| GPIB Programmable | partial | full |
| External Reference Input | 10 MHz | 10 MHz |
| Options | MTCXO time base, 1.3 GHz RF input, GPIB interface, Rack mount, Battery pack, Carrying case | MTCXO time base, 1.3 GHz RF input, GPIB interface, Rack mount, Battery pack, Carrying case |

Specifications

See Selection Table, or Request the technical data sheet for full specification.

Input-A, B

Frequency Range

DC-Coupled: DC to 160 MHz

AC-Coupled: 20 Hz to 160 MHz

Input C (Option PM 9608B)

Frequency Range: 70 MHz to 1.3 GHz

Max. Sensitivity: 10 mV

Input Impedance: 50Ω , VSWR $<2:1$

External Reference Input D

Input Frequency: 10 MHz

Display Readout: 9-digit LCD

Power Requirements

Line Voltage: 115V or 230V rms. $\pm 15\%$;
46 Hz to 440 Hz; <22 VA (PM 6665); resp

<24 VA (PM 6666) including all option
Safety: In accordance with IEC 348 Class I and CSA 556B, CE

Line Interference: Below VDE 0871 B and MIL STD 461

Battery Unit: See PM 9605 option

Environmental Data

Temperature

Operating: 0°C to $+50^{\circ}\text{C}$

Storage: -40°C to $+70^{\circ}\text{C}$

See page 108 for common data and Ordering Information.

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PM 666x Counters

Time-Base Oscillator Version

| Stability Against | Standard | MTCXO |
|-------------------|---------------------|---------------------|
| Aging / month | <5x10 ⁻⁷ | <1x10 ⁻⁷ |
| Aging / year | <5x10 ⁻⁶ | <5x10 ⁻⁷ |
| Temp 0°C to 50°C | <1x10 ⁻⁶ | <2x10 ⁻⁷ |
| Line voltage 10% | <1x10 ⁻⁶ | <1x10 ⁻⁶ |
| Mains/batt supply | <5x10 ⁻⁷ | <1x10 ⁻⁶ |

Mechanical Data

Size:

PM 6662: 186 mm W x 88 mm H x 220 mm L (7.3 in W x 3.5 in H x 10.7 in L)

PM 6669, PM 6665, PM 6666: 186 mm W x 88 mm H x 270 mm L (7.3 in W x 3.5 in H x 10.7 in L)

Net Weight

PM 6662: 1.6 kg (3.6 lb)

PM 6669, PM 6665, PM 6666: 2.1 kg (4.6 lb)

Shipping Weight

PM 6662: 2.6 kg (5.7 lb)

PM 6669, PM 6665, PM 6666: 3.1 kg (6.8 lb)

Cabinet: All-metal cabinet with a fold-down tilting support that also acts as a handle.

Optional Accessories

GPIO/IEEE-488 Interface, PM 9604 (not for PM 6662)

Battery Unit PM 9605

Operating Time: Approx. 2 hours (PM 6666), 2.5 hours (PM 6665), 3 hours (PM 6662 & PM 6669) of continuous operation

Carrying Case PM 9609

The PM 9609 is a leather-like carrying case.

Ordering Information

Basic Models

PM 6662/011 Frequency Counter

PM 6669/011 Frequency Counter

PM 6665/011 Timer/Counter

PM 6666/011 Timer/Counter

Included With The Instrument

One-year product warranty, line cord, operator manual, and Certificate of Calibration Practices.

Optional Configurations

When ordering, select basic "PM" Model desired from above, plus construct a 3-digit/suffix by selecting 1-digit in each suffix column to identify Input Frequency, Reference Oscillator, and Interface.

Input Frequency Option

/0 -- Standard 160 MHz

/4 -- 1.3 GHz (PM 9608/201)

Reference Oscillator Option

/-1 - Standard

/-3 - MTCXO (PM 9607/00)

Interface Option

/- -1 Standard line voltage, non GPIO/IEEE-488

/- -3 Battery (PM 9605/00)

/- -6 GPIO/IEEE-488 (PM 9604/00) (not for PM 6662)

Options and Accessories

PM 9581/011 50Ω Termination, 3W

PM 9585/011 50Ω Termination, 1W

PM 9604/001* GPIO Interface (not for PM 6662)

PM 9605/001* Battery Unit

PM 9606/021 Rack Kit for PM 666x and 8840A/42A

PM 9606/011 Rack Kit for PM 666x

PM 9607/001 MTCXO Time Base

PM 9608/201 1.3 GHz HF-Input

PM 9609/001 Carrying Case

All options can be field installed by the user.

* Note: Options PM 9604 and PM 9605 cannot be installed together in a PM 666x counter.

Manuals

PM 6662 Operator**

PM 6665 Operator**

PM 6666 Operator**

PM 6669 Operator**

PM 6662/69 Service

PM 6665/66 Service

** No charge with purchase of unit

Customer Support Services

Factory Warranty

One-year product warranty.

Visit Fluke on the world wide web at:
<http://www.fluke.com>