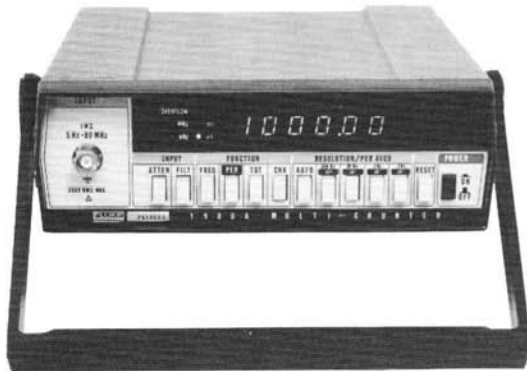


MULTIFUNCTION COUNTER

Available through Distributors (See page 248) **1900A**



1900A

1900A Multifunction Counter

- Frequency, period, period averaging & totalize measurements
- 6-digit display
- 1 MHz low-pass filter
- Available with full parallel BCD output and rechargeable battery

Fluke's versatile 1900A Multi-Counter provides frequency, period, period averaging, and totalize measurements over a wide range of applications. In frequency mode, the 1900A verifies the accuracy of signal sources such as generators, oscillators and transmitters. Period mode measures the time duration of a single input cycle, which allows high resolution of low frequency measurements. In period average mode, the counter averages cycle time over 10, 100 or 1000 cycles for still finer resolution. Totalize mode is similar to frequency mode except that the signal gate is open and closed deliberately, a feature useful for totalizing the cycles in a single RF burst or counting electromechanical relay contact bounce. A selectable 1 MHz low-pass filter provides input signal conditioning to give accurate low frequency measurements in electrically noisy environments. A selectable 10:1 attenuator is provided.

A rechargeable battery is included in Model 1900A-01, providing up to 4 hours of operation with a 14 hour recharge time.

Digital data plus decimal point and annunciator data is available in Model 1900A-02. The full parallel BCD output in Model 1900A-02 is CMOS and TTL compatible and print command is provided.

Specifications

Frequency: 5 Hz to 80 MHz. Four manually-selected gate times of 10 ms (100 Hz resolution), 100 ms (10 Hz resolution), 1s (1 Hz resolution), and 10s (0.1 Hz resolution). Autorange position automatically seeks to fill all 6 digits but will not select a gate time greater than 1s (1 Hz resolution)

Period: 5 Hz to 1 MHz. Manual selection of single period or 3 period-averaging ratios:

- 10⁰ single period (100 ns resolution)
- 10¹ periods averaged (10 ns resolution)
- 10² periods averaged (1 ns resolution)
- 10³ periods averaged (100 ps resolution)

Autorange position automatically seeks to fill all 6 digits but will not select a period average of greater than 10² averages

Totalizing: Accumulates up to 999999 counts, then activates overflow indicator

Sensitivity: 25 mV, typically 15 mV rms sinewave, 5 Hz to 80 MHz. Frequency and totalize: 200 mV peak-to-peak pulse amplitude with minimum pulse width of 20 ns. Duty cycle >10%. Period: 200 mV peak-

to-peak pulse amplitude with minimum pulse width of 200 ns. Duty cycle >10%

Input Impedance: 1 MΩ, <30 pF

Noise Filter: 1 MHz (3 dB point) lowpass

Attenuator: Decreases sensitivity by 10

Overload: 250V rms 5 Hz to 1 kHz decreasing to 20V at 80 MHz

Timebase

Frequency:	10.00 MHz
Aging Rate:	<±5 x 10 ⁻⁷ /mo
Temperature Accuracy:	0°C to 50°C <±5 x 10 ⁻⁶
Line Variation:	(±10%) <±1 x 10 ⁻⁷

Display: 6-digit LED, leading zero suppression. Time between successive measurements is 200 ms plus measurement time.

Annunciation: MHz, kHz, ms, μs, overflow

Autorange: In both frequency and period modes, autoranging includes a unique 20% hysteresis in its switching thresholds to eliminate redundant up-range/down-range commands. This allows measurements to be made on signals containing large amounts of FM and φM. Hysteresis memory can be reset by depressing the "Reset" button

General Specifications

Autoreset: A new measurement sequence is started every time a front panel button is activated

Temperature: 0°C to +50°C operating (40°C max in battery version if being charged while operating); -40°C to +60°C, non-operating

Power: 115 or 230V ac ±10% (100V ac available) 50, 60 or 400 Hz. 6.5W line model, 8.5W battery model

Fuses: 1/8A line version, 1/2 amp slow-blow battery version

Size: 6 cm H x 22 cm W x 25 cm D (2.5 in H x 8.5 in W x 10 in D)

Weight: 1.2 kg (2.75 lb), 1.9 kg (4¼ lb) with batteries

Included: Instruction manual, power cord. Order Y9111, Y9112, and Y9103 coaxial cable(s) and 50-Ohm Terminator separately

Models

January 1985 prices

1900A Multifunction Counter	\$410
1900A-01 With Rechargeable Battery	465
1900A-02 With Data Output	485

Accessories (Also see page 230)

A53 Whip Antenna	25
C86 Carrying Case, Molded Plastic	20
Y7201 Attenuator/Filter	60
Y8205 Soft Carrying Case w/shoulder strap	35
Y9111 3 ft (0.93m) Coaxial Cable, 50Ω	15
Y9112 6 ft (1.85m) Coaxial Cable, 50Ω	15
Y9103 50Ω Feed-thru Terminator	30
M00-100-714 Dust Cover	10
M00-200-611 3½" Rack Adapter, Offset	35
M00-200-612 3½" Rack Adapter, Center	35
M00-200-613 3½" Rack Adapter, Dual	50

After-Warranty Service (See page 227)

SC1-1900A, per 90-day interval	48
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