Table 1-1. Specifications

INPUT CHARACTERISTICS

Range:
Channel A 10 Hz to 100 MHz
Channel B 10 Hz to 2.5 MHz

Sensitivity:
Channel A:
25 mV rms to 100 MHz
75 mV peak-to-peak minimum pulse with 5 ns
Channel B:
25 mV rms to 2.5 MHz
75 mV peak-to-peak minimum pulse width of 50 ns

Coupling: AC

Impedance: 1 MΩ **NOMINAL** shunted by less than 30 pF

Attenuator: X1 or X20 **NOMINAL** (A Channel only)

Trigger Level:
Continuously variable ±350 mV times attenuator setting around average value on signal.

Slope: Independent selection of + or − slope

Channel Input: Selectable SEPARATE or COMMON A

Damage Level:

X1:	DC to 100 kHz	350V (DC + peak AC)
	100 kHz to 5 MHz	2.5×10^7 V × Hz Product
	Above 5 MHz	5V rms
X20:	DC to 1 MHz	350V (DC + Peak AC)
	1 MHz to 50 MHz	2.5×10^8V × Hz Product
	Above 50 MHz	5V rms

FREQUENCY (A)

Range:
10 Hz to 10 MHz direct count
10 Hz to 100 MHz prescaled by 10

LSD Displayed: Direct count 0.1 Hz, 1 Hz, 10 Hz switch selectable. Prescaled 10 Hz, 100 Hz, 1 kHz switch selectable.

Resolution: ± LSD

Accuracy: ± LSD ± (time base error) × FREQ

PERIOD (A)

Range: 10 Hz to 2.5 MHz

LSD Displayed:

$\frac{100\ ns}{N}$ for N=1 to 1000 in decade steps of N

Resolution:

$$\pm \text{LSD} = 1.4 \times \frac{\text{Trigger Error}}{N}$$

Accuracy

$$\pm \text{LSD} = 1.4 \times \frac{\text{Trigger Error}}{N} \pm (\text{time base error}) \times \text{PER}$$

TIME INTERVAL (A TO B)

Range: 250 ns to 1 s

LSD Displayed: 100 ns

Resolution: ± LSD + START Trigger Error ± STOP Trigger Error

Accuracy: ± LSD + START Trigger Error ± STOP Trigger Error ± (time base error) × TI

Time Interval measurements require an arming signal for both the START and STOP Channels.
(See Paragraph 3-11.)

RATIO

Range:
10 Hz to 10 MHz Channel A
10 Hz to 2.5 MHz Channel B

LSD Displayed:

1 part in $\frac{A}{B} \times N$ in decade steps of N for N=1 to 1000

Resolution:
± LSD = (B Trigger Error × FREQUENCY A)/N

Accuracy:
± 1 count of A ± B Trigger Error × FREQUENCY A

TOTALIZE (A)

Range: 10 Hz to 10 MHz

Resolution: ± 1 count of input

GENERAL

Check: Counts internal 10 MHz Oscillator

Display: 7-digit amber LED display with gate and overflow indication.

Maximum Ssmple Rate: 5 readings per second.

Operating Temperature: 0° to 50°C

Power Requirement:
100/120/230/240V rms +5%, −10%, 48–66 Hz; 10 VA maximum.

Weight: 2.0 kg (4.4 lbs.)

Dimension: 238 mm wide × 90 mm high × 276 mm long (9⅜ × 3⅜ × 10⅞ in.)

TIME BASE

Frequency: 10 MHz

Aging Rate: <3 parts in 10^7 per month

Temperature: <±1 part in 10^6, 0° to 50°C

Line Voltage: <±1 part in 10^7 for ±10% variation.

OPTIONS

Option 001: High Stability Time Base (TCXO)

Frequency: 10 MHz

Aging Rate: <1 part in 10^7 per month

Temperature: <±1 part in 10^6, 0° to 40°C

Line Voltage: <±1 part in 10^8 for ±10% variation

Option 002: Battery

Type: Rechargeable lead-acid (sealed)

Capacity: TYPICALLY 8 hour of continuous operation at 25°C.

Recharging Time: TYPICALLY 16 hours to 98% of full charge, instrument nonoperating. Charging circuitry included with option. Batteries not charged during instrument operation.

Battery Voltage Sensor: Automatically shuts instrument off when low battery condition exists.

Line Failure Protection: Instrument automatically switches to batteries in case of line failure.

Weight: Option 002 adds 1.5 kg (3.3 lbs.) to weight of instrument.

DEFINITIONS

Resolution: Smallest discernible change of measurement result due to a minimum change in the input.

Accuracy: Deviation from the actual value as fixed by universally accepted standard of frequency and time.

Trigger Error:

$$\frac{\sqrt{(80\ \mu V)^2 + e_n^2}}{\text{Input Slew Rate at Trigger Point } (\mu V/s)} \quad \text{(rms)}$$

Where e_n is the rms noise of the input for a 100 MHz bandwidth on Channel A and a 10 MHz bandwidth on Channel B

LSD: Least Significant Digit.