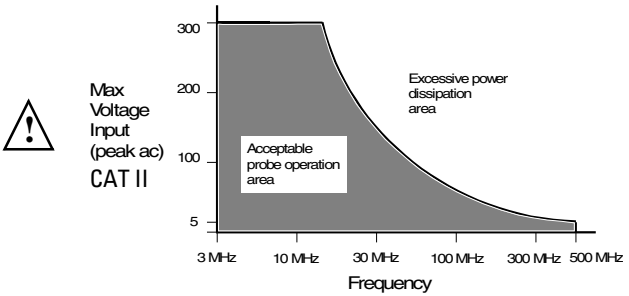
Probe characteristics

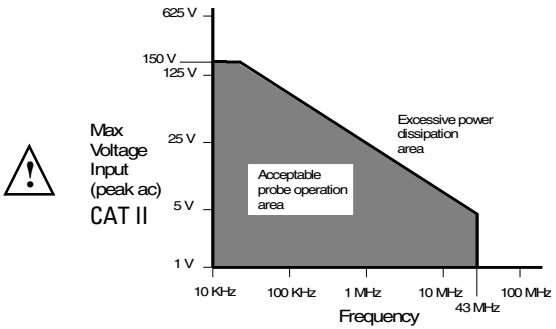
Agilent 10400B Series Probes Operating Characteristics

Approximate Lengths of Probe	**Propagation Delay**
Approximate probe length = 1 meter	4.5 ns
Approximate probe length = 1.5 meters	6.7 ns
Approximate probe length = 2 meters	9 ns
Safety	Meets IEC1010-2-31
Pull strength (BNC to probe tip)	≤12 lb static pull
Pollution degree 2	Normally only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation must be expected.

Voltage versus Frequency Rating Curve (except Agilent 10439B)



Voltage versus Frequency Rating Curve (Agilent 10439B)



HP 10439B 1:1 Probe

The above curve only applies to 10 MΩ, 10:1 probes with the oscilloscope's input impedance set to 1 MΩ.

The Agilent 10437B 50Ω probe is rated at 5 V_{RMS} maximum (CAT I).
The Agilent 10442B 500Ω probe is rated at 10 V_{RMS} (dc + ac_{RMS}) maximum (CAT I).

Environmental Characteristics

Temperature (operating)	**0 °C to +55 °C**
Humidity (operating)	Up to 95% relative humidity at 40 °C
Altitude (operating)	Up to 4,600 meters (15,000 ft)
Shock	50 g (400 g tip only)
Weight	2.6 oz.

Indoor Use

CE ISM 1-A — This symbol indicates that the Agilent 10400B Series Probes are in compliance with European product regulations, including the EMC Directive and the Low Voltage Directive.

C N279 — This symbol indicates that the Agilent 10400B Series Probes are in compliance with Australian product regulations.

CAT I and CAT II Definitions

Installation category (overvoltage category) I: Signal level, special equipment or parts of equipment, telecommunication, electronic etc., with smaller transient overvoltages than installation category (overvoltage category) II.

Installation category (overvoltage category) II: Local level, appliances, portable equipment etc., with smaller transient overvoltages than installation category (overvoltage category) III.

Bandwidth considerations

The dominant probe limitation to system bandwidth is its input capacitance, assuming that the high-frequency compensation adjustments have been made. The displayed bandwidth of any measurement system using an oscilloscope and probe is determined by four factors: probe input capacitance, source impedance, source bandwidth, and oscilloscope bandwidth.

Agilent 10400B Series Probes Selection Guide

Model Number	Type of Probe	Bandwidth Scope/ Probe System	Division Ratio	Input R	Input C	Scope Input R	Comp Range	Length (in meters)
10433B	High-impedance, passive	300 MHz	10:1	10 MΩ	10 pF	1 MΩ	10-16 pF	2
10436B	High-impedance, passive	300 MHz	10:1	10 MΩ	11 pF	1 MΩ	18-22 pF	2
10437B	50Ω Resistive Divider	1 GHz	1:1	50Ω	n/a	50Ω	n/a	2
10439B	High-impedance, passive	n/a	1:1	1 MΩ	n/a	1 MΩ	n/a	1.5
10440B	High impedance passive	300 MHz	100:1	10 MΩ	2.5 pF	1 MΩ	6-14 pF	2
10441B	High-impedance, passive	500 MHz	10:1	1 MΩ	9 pF	1 MΩ	6-9 pF	1.8
10442B	500-Ωresistive divider	1 GHz	10:1	500Ω	n/a	50Ω	n/a	1.5

The Agilent 10437B and Agilent 10442B probes are compatible with any oscilloscope that has a 50 Ω input.