TELEDYNE | LECROY

Oscilloscope Probes and Accessories

PROBE SELECTION GUIDE

Teledyne LeCroy has a wide variety of world class probes and amplifiers to compliment its product line. From the ZS-A Series high impedance active probes to the DH Series Differential High-bandwidth Probes which offers bandwidths up to 30 GHz, Teledyne LeCroy probes and probe accessories provide optimum mechanical connections for signal measurement.

Front Cover:
DH Series Differential High-bandwidth Probes

	HDO4000A High Definition Oscilloscopes	WaveSurfer 4000HD High Definition Oscilloscopes	HDO6000B High Definition Oscilloscopes	WaveRunner 9000 Oscilloscopes	WaveRunner 8000HD High Definition Oscilloscopes, MDA8000HD Motor Drive Analysers	WavePro HD High Definition Oscilloscopes	WaveMaster/SDA 8 Zi-B Oscilloscopes	WaveMaster/SDA 8000HD Oscilloscopes	LabMaster 10 Zi-A Oscilloscopes
High Voltage Optically Isolated Probes - p. 4 - 5									
DL03-ISO	✓		✓	✓	✓	✓			
DL07-ISO	✓		✓	✓	✓	✓			
DL10-ISO	✓		✓	✓	✓	✓			
60 V Common Mode Differential Probes - p. 6 - 7									
DL02-HCM	✓	✓	✓	✓	✓	✓	✓	✓	✓
DL05-HCM	✓	✓	✓	✓	✓	✓	✓	✓	✓
DL10-HCM	✓	✓	✓	✓	✓	✓	✓	✓	✓
Active Voltage Rail Probes - p. 8 - 9									
RP2060	✓	✓	✓	✓	✓	✓	✓	✓	✓
RP4060	✓	✓	✓	✓	✓	✓	✓	✓	✓
Active Voltage Probes - p. 10 - 11									
ZS1000A	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZS1500A	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZS2500A				✓	✓	✓	✓	✓	✓
ZS4000A				✓		✓	✓	✓	✓
Current Probes - p. 12 - 13									
CP030B	✓	✓	✓	✓	✓	✓	✓	✓	
CP031	✓	✓	✓	✓	✓	✓	✓	✓	
CP031A	✓	✓	✓	✓	✓	✓	✓	✓	
CP150B	✓	✓	✓	✓	✓	✓	✓	✓	
CP500	✓	✓	✓	✓	✓	✓	✓	✓	
CA10	✓		✓	✓	✓	✓	✓	✓	
Differential Probes - p. 14 -19									
ZD500	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZD1000	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZD1500	✓	✓	✓	✓	✓	✓	✓	✓	✓
AP033	✓	✓	✓	✓	✓	✓	✓	✓	
D410-A-PB2				✓		✓	✓	✓	✓
D420-A-PB2				✓		✓	✓	✓	✓
D400A-AT-PB2				✓			✓	✓	✓
D610-A-PB2						✓	✓	✓	✓
D610-A-PL							✓	✓	✓
D620-A-PB2						✓	✓	✓	✓
D620-A-PL							✓	✓	✓
D600A-AT-PB2						✓	✓	✓	✓
D600A-AT-PL							✓	✓	✓

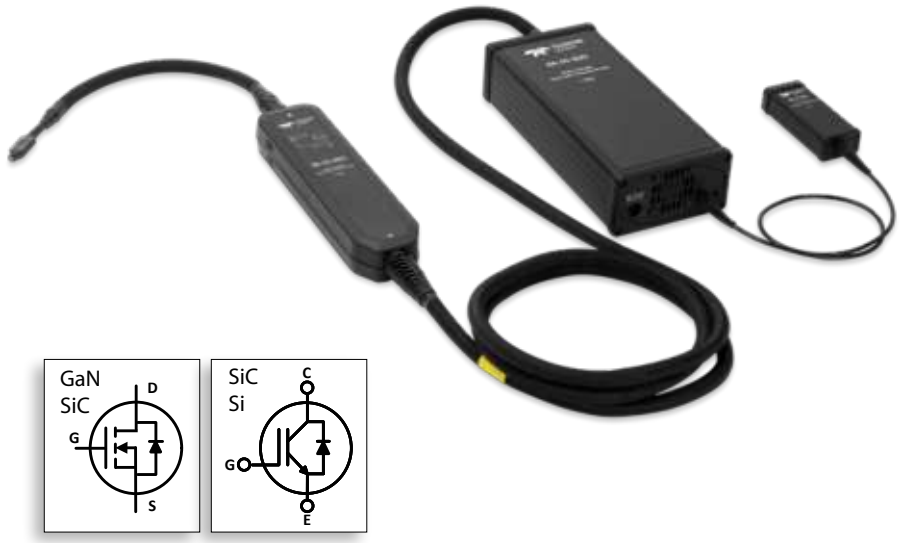
	HDO4000A High Definition Oscilloscopes	WaveSurfer 4000HD High Definition Oscilloscopes	HDO6000B High Definition Oscilloscopes	WaveRunner 9000 Oscilloscopes	WaveRunner 8000HD High Definition Oscilloscopes, MDA8000HD Motor Drive Analysers	WavePro HD High Definition Oscilloscopes	WaveMaster/SDA 8 Zi-B Oscilloscopes	WaveMaster/SDA 8000HD Oscilloscopes	LabMaster 10 Zi-A Oscilloscopes
Differential Probes - p. 14 -19 (cont'd)									
DH08-PB2							✓	✓	✓
DH08-PL							✓	✓	✓
DH13-PL							✓	✓	✓
DH16-PL							✓	✓	✓
DH20-PL							✓	✓	✓
DH25-PX								✓	
DH30-PX								✓	
High Voltage Differential Probes - p. 20 - 21									
HVD3102A	✓	✓	✓	✓	✓	✓	✓	✓	
HVD3106A	✓	✓	✓	✓	✓	✓	✓	✓	
HVD3106A-6M	✓	✓	✓	✓	✓	✓	✓	✓	
HVD3206A	✓	✓	✓	✓	✓	✓	✓	✓	
HVD3206A-6M	✓	✓	✓	✓	✓	✓	✓	✓	
HVD3220	✓	✓	✓	✓	✓	✓	✓	✓	
HVD3605A	✓	✓	✓	✓	✓	✓	✓	✓	
AP031	✓	✓	✓	✓	✓	✓	✓	✓	
High Voltage Probes - p. 22 - 23									
HVP120	✓	✓	✓	✓	✓	✓	✓	✓	
PPE6KV-A	✓	✓	✓	✓	✓	✓	✓	✓	
High Voltage Fiber Optically Isolated Probes - p. 24 - 25									
HVFO108	✓	✓	✓	✓	✓	✓	✓	✓	
Passive Probes - p. 26 - 27									
PP018	✓								
PP019		✓							
PP020									
PP021					✓		✓	✓	
PP022				✓					
PP023			✓			✓			
PP024				✓					
PP025					✓		✓	✓	
PP026	✓	✓	✓			✓			
Probe Adapters - p. 28 - 29									
CA10	✓		✓	✓	✓	✓	✓	✓	
TPA10		✓	✓	✓	✓	✓	✓	✓	
Transmission Line Probes - p. 30									
PP066						✓	✓	✓	✓

Learn More:
teledynelecroy.com/probes

HIGH VOLTAGE OPTICALLY ISOLATED PROBES

Teledyne LeCroy
High Voltage
Optically Isolated Probe
Model Numbers:

DL03-ISO
DL07-ISO
DL10-ISO



Key Features

- **1 GHz bandwidth**
- **Ideal for GaN and SiC devices**
- **1.5% system accuracy**
- **435 ps rise time**
- **High CMRR - 160 dB**
- **Flexible connectivity options**
- **Autozero without disconnection**

Key Applications

- **Servers**
- **Motherboards**
- **Mobiles**
- **Lighting and building automation**
- **Residential inverters**
- **UPS**
- **Switch Mode Power Supplies**
- **Motors in household and commercial appliances**

The DL-ISO enables highest confidence in GaN and SiC device characterization with highest accuracy, best signal fidelity, and comprehensive connectivity.

Best Probe for GaN and SiC

With 1 GHz of bandwidth, 2500 V differential input range, and 60 kV common mode, DL-ISO probes are perfect for both GaN and SiC device characterization and system development engineers.

Highest Accuracy

Combine DL-ISO probes with industry-leading 12-bit resolution High Definition Oscilloscopes (HDOs) to get 1.5% system accuracy, nearly twice as good as the alternate solution in the market.

Best Signal Fidelity

During measurements, getting the most faithful representation of the signal can be elusive. DL-ISO overcomes that challenge by delivering the industry's best signal fidelity with the fastest rise time, lowest overshoot, and low DUT loading.

Comprehensive Connectivity

DL-ISO probes increase measurement confidence by employing high-quality coaxial attenuating tips that reject unwanted noise and terminate into test boards using industry standard MMCX connectors or high-voltage safe square pin headers.

Learn More:
teledynelecroy.com/powerprobes/#dl-iso

Electrical

Bandwidth	**DL03-ISO:** 350 MHz	**DL07-ISO:** 700 MHz	**DL10-ISO:** 1 GHz
Rise Time (10-90%)	**DL03-ISO:** 1.1 ns	**DL07-ISO:** 575 ps	**DL10-ISO:** 435 ps
Differential Voltage Range (Pk to Pk)	2 V to 2500 V with different attenuating tips		
Common Mode Voltage Range	±60 kV (DC+Peak AC) (not for hand-held use, must maintain adequate spacing between probe components & earth ground)		
Maximum Input Voltage to Earth	±60 kV (DC+Peak AC) (not for hand-held use, must maintain adequate spacing between probe components & earth ground)		
Maximum Non-destruct Voltage (DC+Peak AC)	**DL-ISO-2V-TIP:** 50 V **DL-ISO-40V-TIP:** 250 V **DL-ISO-1000V-TIP:** 1,250 V		**DL-ISO-10V-TIP:** 100 V **DL-ISO-200V-TIP:** 300 V **DL-ISO-2500V-TIP:** 3,300 V
Sensitivity	**DL-ISO-2V-TIP:** 20 mV/div to 250 mV/div **DL-ISO-40V-TIP:** 400 mV/div to 5 V/div **DL-ISO-1000V-TIP:** 10 V/div to 125 V/div		**DL-ISO-10V-TIP:** 100 mV/div to 1.3 V/div **DL-ISO-200V-TIP:** 2 V/div to 25 V/div **DL-ISO-2500V-TIP:** 25 V/div to 320 V/div
DC Gain Accuracy	1.5% (after Precision Gain Calibration)		
DC Gain Drift	< 1 %/°C		
Offset	**DL-ISO-2V-TIP:** ±25 V **DL-ISO-40V-TIP:** ±150 V **DL-ISO-1000V-TIP**: ±1000 V		**DL-ISO-10V-TIP:** ±50 V **DL-ISO-200V-TIP:** ±150 V **DL-ISO-2500V-TIP:** ±2500 V
Input Impedance	**DL-ISO-2V-TIP:** 200 kΩ || 3.6 pF **DL-ISO-40V-TIP:** 1 MΩ || 2.1 pF **DL-ISO-1000V-TIP:** 8 MΩ || 1.5 pF		**DL-ISO-10V-TIP:** 1 MΩ || 2.1 pF **DL-ISO-200V-TIP:** 7.5 MΩ || 2 pF **DL-ISO-2500V-TIP:** 15 MΩ || 2.1 pF
Output Termination	50 Ω		
Input/Output Coupling	DC only		
Interface	ProBus		
Cable Length	3.375 m (11 feet) from probe tip to oscilloscope connection		

Noise, Rejection, and Electromagnetic Compatibility (EMC)

Noise

DL-ISO-2V-TIP	1 GHz	700 MHz	350 MHz
50 mV/div	1.98 mVrms	1.78 mVrms	1.12 mVrms
100 mV/div	3.37 mVrms	3.00 mVrms	2.25 mVrms
200 mV/div	9.22 mVrms	7.12 mVrms	4.49 mVrms

Noise scales proportional to 2 V tip voltage capability
10 V tip noise will be 10/2 = 5x of 2 V tip

CMRR

Probe Tip	DC	1 MHz	100 MHz	200 MHz	500 MHz	1 GHz
DL-ISO-2V-TIP	160 dB	110 dB	90 dB	90 dB	80 dB	75 dB
DL-ISO-10V-TIP	160 dB	100 dB	75 dB	75 dB	65 dB	65 dB
DL-ISO-40V-TIP	150 dB	100 dB	70 dB	60 dB	60 dB	50 dB
DL-ISO-200V-TIP	140 dB	95 dB	55 dB	50 dB	45 dB	35 dB
DL-ISO-1000V-TIP	125 dB	85 dB	30 dB	35 dB	25 dB	20 dB
DL-ISO-2500V-TIP	115 dB	80 dB	25 dB	30 dB	25 dB	15 dB

Electrostatic Discharge (ESD) Immunity	8 kV contact discharge and 10 kV air discharge per IEC61000-4-2, criteria A
Radiated RF Electromagnetic Field Immunity	Up to 25 V/m (80 MHz to 2.7 GHz) per IEC61000-4-3, criteria A when operating in standard configuration
Immunity to Conducted Disturbance Induced by RF Fields	Up to 10 V (150 kHz to 80 MHz) per IEC61000-4-6, criteria A when operating in standard configuration

Environmental

Temperature	5°C to 40°C (operating in standard configuration), -20°C to 70°C (non-operating)
Humidity	5% to 95% RH (non-condensing), 75% RH above 30°C, 45% RH above 40°C
Altitude	Up to 3000 m (operating), 10,000 m (non-operating)
Pollution Degree	2, Indoor Use Only

Certifications

CE Declaration of Conformity	Low Voltage Directive 2014/35/EU (IEC/EN 61010-1:2010+A1:2019; IEC/EN 61010-2-030:2021) EMC Directive 2014/30/EU (IEC/EN 61326-1:2013; IEC/EN 61326-2-1:2013) RoHS2 Directive 2011/65/EU (IEC/EN 63000:2018)
Laser Product certifications	IEC/EN 60825-1:2014; US 21CFR Part 1010; US 21CFR Part 1040

Product Description	**Product Code**
High Voltage Optically Isolated Probe Models	
High Voltage Optically Isolated Probe, 350 MHz Bandwidth	DL03-ISO
High Voltage Optically Isolated Probe, 700 MHz Bandwidth	DL07-ISO
High Voltage Optically Isolated Probe, 1 GHz Bandwidth	DL10-ISO
Accessories (must be ordered separately)	
DL-ISO 2 V MMCX Tip	DL-ISO-2V-TIP
DL-ISO 10 V MMCX Tip	DL-ISO-10V-TIP
DL-ISO 40 V MMCX Tip	DL-ISO-40V-TIP
DL-ISO 200 V MMCX Tip	DL-ISO-200V-TIP
DL-ISO 1000 V high-voltage 0.2" square pin Tip	DL-ISO-1000V-TIP
DL-ISO 2500 V high-voltage 0.2" square pin Tip	DL-ISO-2500V-TIP
DL-ISO accessories kit (Incl MMCX to Y-lead sockets/solder-ins, square pin socket/solder-ins, MMCX-sq pin adapter, grabbers)	DL-ISO-ACC-KIT

60 V COMMON MODE DIFFERENTIAL PROBES

Teledyne LeCroy
60 V Common Mode
Differential Probe Model
Numbers:

DL02-HCM
DL05-HCM
DL10-HCM

Key Applications

- **48 V motors and drives**
- **High-power DC-DC converters**
- **GaN-based PDNs**
- **AC-DC switch-mode power supplies**
- **Wireless charging systems**
- **Gate-drive measurements**

Key Features

Ideal probe for 48 V Power Conversion

- **250 MHz, 500 MHz and 1 GHz bandwidth**
- **80 V dynamic range**
- **60 V common mode**

Highest accuracy

- **0.5% gain accuracy**
- **Precision gain calibration**
- **Best LF flatness (0.1 dB)**

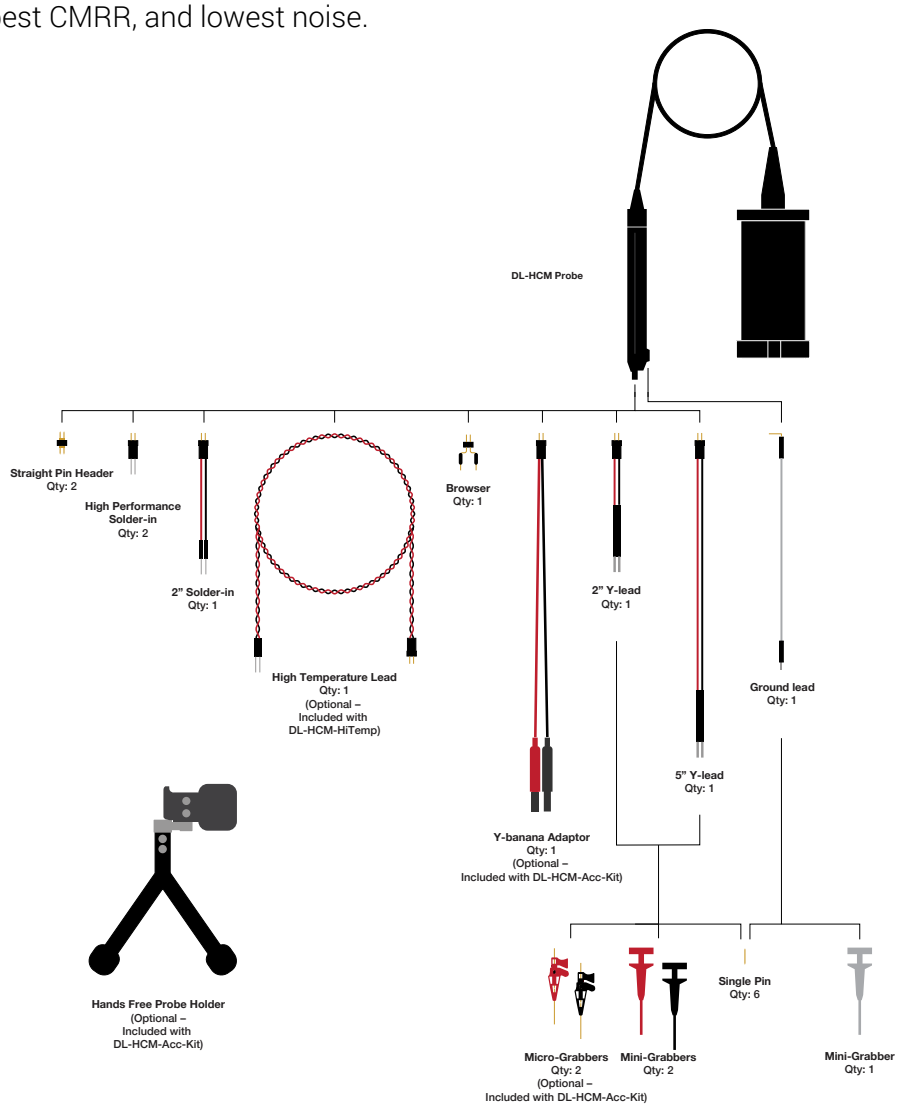
Lowest noise and highest rejection

Wide variety of tips

- **High performance solder-in**
- **Browser**
- **Single pins and header**
- **Mini and micro grabbers**
- **Socketed connections**
- **High temp solder-in**
- **Y-banana adaptor**

ProBus active probe interface

The 60 V Common Mode Differential Probes are the ideal probes for low voltage GaN power conversion measurement with the highest accuracy, best CMRR, and lowest noise.



60 V COMMON MODE DIFFERENTIAL PROBES

	DL02-HCM	DL05-HCM	DL10-HCM
Bandwidth*	250 MHz (gauranteed, without leads) 250 MHz (Browser) 250 MHz (2"" Y-lead) 250 MHz (5"" Y-lead) 30 MHz (Hi-Temp lead)	500 MHz (guaranteed, without leads) 500 MHz (High performance solder-in and browser) 500 MHz (2" Y-lead/solder-in) 500 MHz (5" Y-lead) 30 MHz (Hi-Temp lead)	1 GHz (guaranteed, without leads) 1 GHz (High performance solder-in and browser) 800 MHz (2" Y-lead) 700 MHz (solder-in) 500 MHz (5" Y-lead) 30 MHz (Hi-Temp lead)
Rise Time (10-90%)*	1400 ps	700 ps	350 ps
Differential Voltage Range	80 V (DC + peak AC) from 200 mV/div to 20 V/div		
Common Mode Voltage Range	±60 V (DC + peak AC)		
Maximum Input Voltage to Earth	80 V (DC + peak AC), max 60 V DC (either input to ground)		
Maximum Safe Input Voltage	For Hand-held use: 28.28 Vrms or 60 V DC (referenced to ground) per IEC/EN 61010-031:2015		
Sensitivity	200 mV/div to 1 V/div (7.8x) 1.02 V/div to 2.5 V/div (17.5x) 2.55 V/div to 20 V/div (70x)		
DC Gain Accuracy	±0.5% (guaranteed)		
DC Gain Drift	≤ 0.075%/°C, can be calibrated out with precision gain cal		
Frequency Response Flatness	DC to 50 MHz: 0.1dB	DC to 100MHz: 0.1 dB	
Offset Range	±60V		
Attenuation	7.8x / 17.5x / 70x		
Input Impedance	200 kΩ || 0.6 pF (between inputs), 100 kΩ || 1 pF (either input to ground)		
Input/Output Coupling	DC		
Output Termination	50 Ω		
Interface	ProBus		
Cable Length	1.42 m from probe sockets to oscilloscope connection		
Noise and Rejection			
CMRR	DC - 10 kHz: 80 dB 100 kHz: 70 dB 1 MHz: 55 dB 100 MHz: 50 dB 250 MHz: 40 dB	DC - 10 kHz: 80 dB 100 kHz: 70 dB 1 MHz: 55 dB 100 MHz: 50 dB 500 MHz: 35 dB	DC - 10 kHz: 80 dB 100 kHz: 70 dB 1 MHz: 55 dB 100 MHz: 50 dB 1 GHz: 30 dB
Noise (Probe)	200 mV/div to 1 V/div: 2.7 mVrms 1.02 V/div to 2.5 V/div: 3.5 mVrms 2.55 V/div to 20 V/div: 10.25 mVrms	200 mV/div to 1 V/div: 3.25mV$_{rms}$ 1.02 V/div to 2.5 V/div: 4.5mV$_{rms}$ 2.55 V/div to 20 V/div: 14.5mV$_{rms}$	200 mV/div to 1 V/div: 4.3mV$_{rms}$ 1.02 V/div to 2.5 V/div: 6mV$_{rms}$ 2.55 V/div to 20 V/div: 20mV$_{rms}$
Environmental			
Temperature	0°C to 50°C (Operating), -40°C to 70°C (Non-Operating)		
Humidity (Operating)	5% to 90% RH (Non-Condensing) up to 30°C, decreasing linearly to 45% RH at 50°C		
Humidity (Non-Operating)	5% to 95% RH (Non-Condensing), 75% RH above 40°C, 45% RH above 50°C		
Altitude (Operating)	Up to 3000 m (9842 ft)		
Certifications			
CE Declaration of Conformity	Conforms to EN61010-031:2015, EN61326-1:2013, and EN50581:2012		

** All Bandwidth and Rise Time measurements are made without leads and an oscilloscope bandwidth greater than the probe bandwidth.*

Ordering Information

Product Description	Product Code
250 MHz 60V Common Mode Differential Probe. Includes standard set of leads and tips.	DL02-HCM
500 MHz 60V Common Mode Differential Probe. Includes standard set of leads and tips.	DL05-HCM
1 GHz 60V Common Mode Differential Probe. Includes standard set of leads and tips.	DL10-HCM
DL-HCM series high-temperature solder-in tip, 30 MHz bandwidth, 1 meter length.	DL-HCM-HiTemp
DL-HCM series accessories kit with probe holder, micro IC grabbers (Qty 2.), and Y-banana adaptor.	DL-HCM-Acc-Kit

DL02-HCM
Standard leads and tips

Browser
Y-lead socket (5")
Ground lead
Single pin (Qty. 6)
Straight pin header (Qty. 2)

DL05-HCM and DL10-HCM
Standard leads and tips

High performance solder-in tips (Qty. 2)
2" solder-in tip
Browser
Y-lead socket (2" and 5")
Mini grabbers (Qty. 3)
Ground lead
Single pin (Qty. 6)
Straight pin header (Qty. 2)

Learn More:
teledynelecroy.com/powerprobes/#dl-hcm

ACTIVE VOLTAGE RAIL PROBES

Teledyne LeCroy
Active Voltage Rail Probe
Model Number:

RP2060
RP4060

Key Features

Up to 4 GHz Bandwidth

±60 V Offset Capability

±800 mV Dynamic Range

50 kΩ DC Input Impedance

1.2x Attenuation for low additive noise

MCX terminated cable with wide variety of connections:

- **Solder-in (4 GHz)**
- **Coaxial Cable to U.FL receptacle (3 GHz)**
- **MCX PCB Mount (4 GHz)**
- **Browser (500 MHz)**

ProBus Interface

The RP4060 and RP2060 probes are designed specifically to probe low-impedance DC power/voltage rails. Low attenuation means a low-noise view of small signal variations at high frequency, while the probe's built-in offset of up to ±60V enables compensation for the rail's DC voltage. The probe's high DC input impedance eliminates loading of the low-impedance DC rail.

Large Offset Range

Permits the DC signal to be displayed in the vertical center of the oscilloscope grid with a high-sensitivity gain setting.

Low Attenuation and Noise

The probe attenuation is a nominal 1.2x coupled to the oscilloscope at DC 50 Ω. This keeps additive noise to a minimum, and makes it exceptionally useful with Teledyne LeCroy's 12-bit High Definition oscilloscopes for lowest noise at highest sensitivity gain settings.

High DC Input Impedance

50 kΩ input impedance at DC effectively eliminates probe loading on the DC power/voltage rail and provides for more accurate measurements and signal fidelity.

High Bandwidth

The RP4060 provides 4 GHz of bandwidth, for power integrity characterization of the highest performance computing and embedded systems. The RP2060 provides the same excellent noise and loading performance in a lower-cost 2 GHz probe.

Wide Assortment of Tips and Leads

The RP4060 and RP2060 are supplied standard with solder-in and coaxial cables with MCX and U.FL PCB receptacle mounts. Receptacles or leads can be left connected in circuit for easy connection of different signals. A browser tip is optionally available.

Specifications

Electrical Characteristics	RP2060	RP4060
Bandwidth		
MCX receptacle	2 GHz	4 GHz
Solder-in lead	2 GHz	4 GHz
U.FL cable + receptacle	2 GHz	3 GHz
Browser	500 MHz	
Rise Time (10-90%)	220 ps	110 ps
Input Capacitance	0.1 uF (in series with 50Ω)	
DC Input Resistance	50 kΩ	
Offset Range	±60V	
Attenuation	1.2x	
Input Dynamic Range	±800 mV	
Non-destruct Voltage	±100 V (DC +Peak AC)	
Maximum Non-destruct AC Voltage	50 Ω oscilloscope input limit	
Maximum Safe Input Voltage	For Hand-held use: 60 V DC (referenced to ground) per IEC/EN 61010-031:2015	
Noise (probe only)	110 uVrms	160 uVrms
Oscilloscope Termination	DC 50Ω	

Environmental	
Operating Temperature Range	0 to 50 °C
Non-operating Temperature Range	-40 to +70 °C
Humidity	5% to 80% RH (non-condensing) up to 30 °C, decreasing linearly to 45% RH at 50 °C
Operating Altitude	3000 meters maximum

Physical	
RP2060/RP4060	**Probe:** 38.1 mm W x 15.9mm H x 73mm L (1-1/2" x 5/8" x 2-7/8") **SMA to MCX Cable:** 914mm L (36") **MCX to Solder-in Lead:** 191mm (7-1/2") usable length **MCX to U.FL Plug Coaxial Cable:** 102mm (4") usable length
RP4000-BROWSER	11.9mm W x 9.5mm H x 38mm L (15/32" x 3/8" x 1-1/2") **SMA to SMA Cable:** 1m (39-3/8") usable length

Other		
Oscilloscope Interface	Teledyne LeCroy ProBus	
Software Requirements	MAUI 10.2 or higher	MAUI 10.1 or higher
Weight	119 g (0.26 lb)	

Ordering Information

Product Description	Product Code
Power/Voltage Rail Probe 2 GHz, 1.2x, ±60V offset, ±800mV dynamic range	RP2060
Power/Voltage Rail Probe 4 GHz, 1.2x, ±60V offset, ±800mV dynamic range	RP4060

Includes Qty. 1 ProBus compatible probe offset amplifier with 50 kΩ DC input impedance and SMA input connection for provided 0.9m SMA to MCX extension cable. Also supplied are Qty. 3 MCX solder-in leads, Qty. 3 MCX PCB Mounts, Qty. 3 MCX to U.FL coaxial cables, Qty. 5 U.FL PCB Mounts, Qty. 1 MCX to SMA adapter, and soft carrying case. Browser tip sold separately.

500 MHz Browser Tip Accessory	RP4000-BROWSER

Includes 0 Ω (1x), 450 Ω (10x) and 950 Ω (20x) tips.

Accessories and Consumables

Qty. 3 MCX 4 GHz solder-in leads	RP4000-MCX-LEAD-SI

Learn More:
teledynelecroy.com/probes/active-voltage-rail-probe

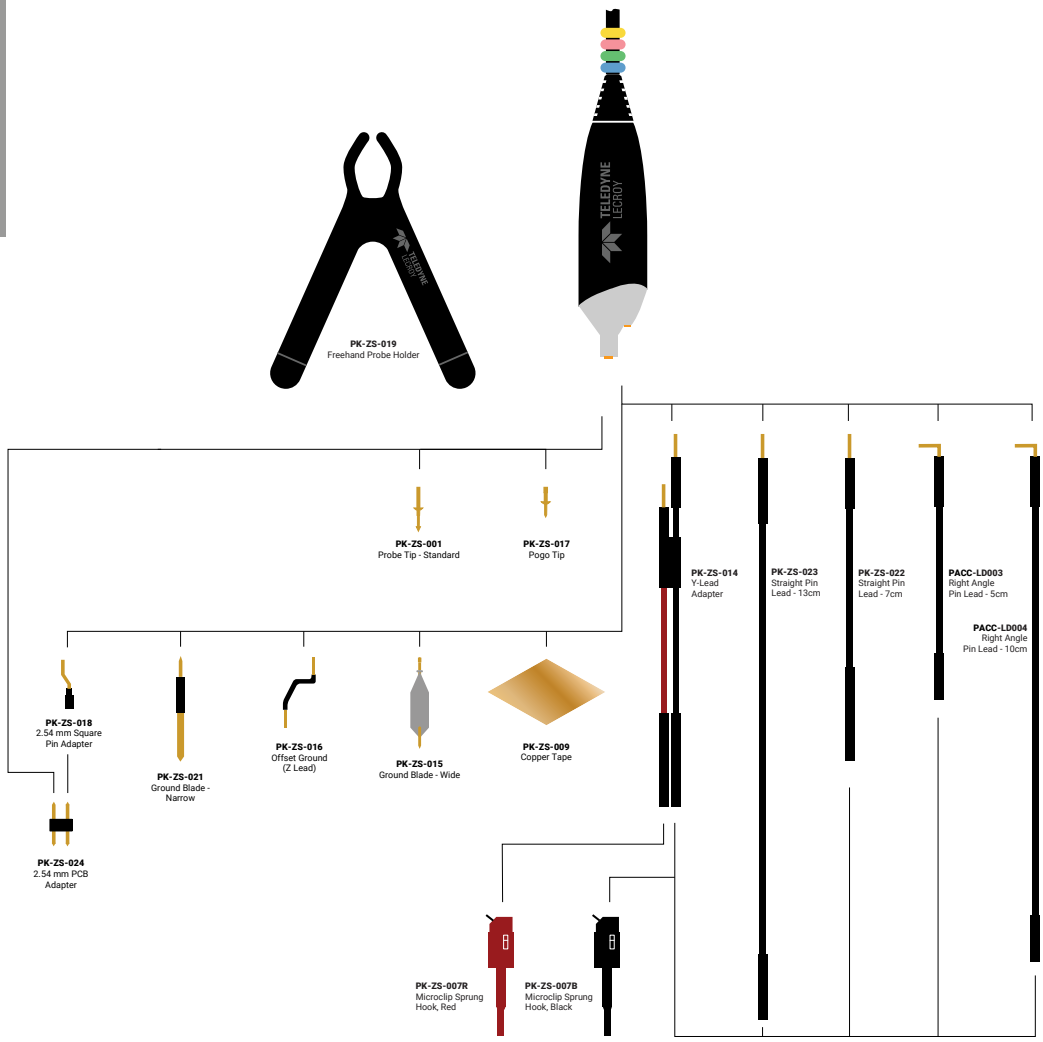
ZS-A SERIES ACTIVE VOLTAGE PROBES

Teledyne LeCroy Active Voltage Probe Model Numbers:

ZS1000A
ZS1500A
ZS2500A
ZS4000A

The ZS-A Series probes are high impedance, low capacitance active probes that maintain high signal fidelity through 4 GHz. A small form factor and a wide variety of accessories ensures the ZS-A Series probe meets every difficult probing challenge.

Engineers must commonly probe high frequency signals with high signal fidelity. Typical passive probes with high input R and C provide good response at lower frequencies but inappropriately load the circuit and distort signals at higher frequencies. The ZS-A Series features both high input R (1 MΩ) and low input C (0.6 pF to 0.9 pF) to reduce circuit Loading across the entire probe/oscilloscope bandwidth.



**colors may vary*

Learn More:
teledynelecroy.com/probes/active-voltage-probes

Specifications

	ZS1000A	ZS1500A	ZS2500A	ZS4000A
Electrical Characteristics				
Probe Bandwidth	1 GHz	1.5 GHz	2.5 GHz	4 GHz
Input Capacitance	0.9 pF		0.6 pF	
DC Input Resistance	1 MΩ			
Output Impedance	50 Ω			
Probe Offset Range	N/A	±15 V	±12 V	
Attenuation	÷10			
Input Dynamic Range	±15 V (DC or AC pk)		±8 V (DC or AC pk)	
Non-destruct Voltage	60 V		20 V	
Rise Time (10-90%)	500 ps	350 ps	180 ps	112 ps
DC-Offset-Error	±2 mV			
Frequency Response Ripple	50 - 500 MHz: ±0.5 db 0.5 - 1 GHz: ±1 db			
Min/Max Operating Temperature	0° to 50 °C			
Mechanical Characteristics				
Scope to Probe Interface	ProBus			
Weight	110 g			
Cable Length	1.2 m		1.3 m	

Ordering Information

Product Description	Product Code
4 GHz, 0.6 pF, 1 MΩ High Impedance Active Probe	ZS4000A
2.5 GHz, 0.6 pF, 1 MΩ High Impedance Active Probe	ZS2500A
1.5 GHz, 0.9 pF, 1 MΩ High Impedance Active Probe	ZS1500A
1 GHz, 0.9 pF, 1 MΩ High Impedance Active Probe	ZS1000A

Standard Accessory/Quantity

Accessory Description	Part Number	Quantity
Standard Straight Tip	PK-ZS-001	2
2.54 mm Square Pin Adapter	PK-ZS-018	1
Pogo Tip	PK-ZS-017	1
2.54 mm PCB Adapter	PK-ZS-024	2
Straight Pin Lead - Short	PK-ZS-022	1
Straight Pin Lead - Long	PK-ZS-023	1
Y Lead Adapter	PK-ZS-014	1
Right Angle Lead – Short	PACC-LD003	1
Right Angle Lead - Long	PACC-LD004	1
Offset Ground (Z Lead)	PK-ZS-016	1
Ground Blade - Narrow	PK-ZS-021	1
Copper Tape	PK-ZS-009	2
Ground Blade - Wide	PK-ZS-015	1
Micro-Grabbers (pair)	PK-ZS-007R PK-ZS-007B	1
Freehand Probe Holder	PK-ZS-019	1

Teledyne LeCroy Current Probe and Adapter Model Numbers:

CP030B
CP030B-3M
CP031
CP031A
CP150B
CP1000
CP500
DCS025
CA10

Key Features

- **ProBus active probe interface withautomatic scaling in A/div**
- **Autozero and degauss capabilities built into instrument's user interface**
- **Wide range of input currents and bandwidth capabilities**

CP030B
— 30 A_{rms} continuous current
— 50 A_{peak} current
— 50 MHz bandwidth
— 1 mA/div sensitivity

CP031
— 30 A_{rms} continuous current
— 50 A_{peak} current
— 100 MHz bandwidth

CP031A
— 30 A_{rms} continuous current
— 50 A_{peak} current
— 100 MHz bandwidth
— 1 mA/div sensitivity

CP150B
— 150 A_{rms} continuous current
— 300 A_{peak} current
— 10 MHz bandwidth

CP500
— 500 A_{rms} continuous current
— 700 A_{peak} current
— 2 MHz bandwidth

CP1000
— 1000 A_{rms} continuous current
— 1400 A_{peak} current
— 1.5 MHz bandwidth

DCS025
— Precise deskew of voltage and current probes.
— Compatible with most voltage probes along with 30, 150 and 500 Amp current probes

Learn More:
teledynelecroy.com/powerprobes/#current

CA10 Current Sensor Adapter
The CA10 enables a third-party current measurement device to operate like a Teledyne LeCroy probe. The CA10 is programmable and customizable to work with third-party current measurement devices that output voltage or current signals proportional to measured current. *(See page 50 for more information and specifications).*

Electrical Characteristics	CP030B (CP030B-3M)	CP031	CP031A	CP150B (CP150-6M)	CP500	CP1000
Max. Continuous Input Current	30 A_{rms}			150 A_{rms}	500 A_{rms}	1000 A_{rms}
Bandwidth	50 MHz (10 MHz)	100 MHz		10 MHz (5 MHz)	2 MHz	1.5 MHz
Rise Time (typical)	≤ 7 ns (<35 ns)	≤ 3.5 ns		≤ 35 ns (≤ 70 ns)	≤ 175 ns	≤ 235 ns
Max. Peak Current	50 A_{peak} (non-continuous)			300 A_{peak} (non-continuous); 500 A_{peak} ≤ 30 µs	700 A_{peak} (non-continuous)	1400 A_{peak} (non-continuous)
Output Voltage	0.1 V/A & 1 V/A	0.1 V/A	0.1 V/A & 1 V/A	0.01 V/A & 0.1 V/A		0.005 V/A & 0.05 V/A
Max Continuous Input Current at 1 V/A (100mA/div or less)	5 A	–	5 A	–		
Offset Range at 1V/A (100mA/div or less)	±5 A	–	±5 A	–		
Minimum Sensitivity	1 mA/div	10 mA/div	1 mA/div	100 mA/div		100 mA/div
Low-Frequency Accuracy	1%					
AC Noise at 20 MHz BWL	≤ 150 µA	≤ 2.5 mA	≤ 150 µA	≤ 1.8 mA	≤ 8.0 mA	≤ 10 mA
Coupling	AC, DC, GND					

General Characteristics						
Cable Length	1.5 m (3 m)	1.5 m		2 m (6 m)	6 m	
Weight	236 g (290 g)	240 g	260 g	490 g (600 g)	630 g	1.2 kg
Max. Conductor Size (Diameter)	5 mm			20 mm		33 mm
Interface	ProBus, 1 MΩ only					
Usage Environment	Indoor					
Operating Temperature	0˚ C to 40˚ C					
Max. Relative Humidity	80%					
Max. Altitude	2000 m					
Measurement Category	No rated measurement category					

Not intended for measurements on circuits directly connected to Mains supply or within Measurement Categories II, III, or IV. For oscilloscope firmware version compatibility, please refer to Current Probe User Manual.

Ordering Information

Product Description	Product Code
30 A; 50 MHz High Sensitivity Current Probe – AC/DC; 30 A_{rms}; 50 A Peak Pulse, 1.5 meter cable	CP030B
30A; 10 MHz Current Probe - AC/DC, 30 Arms; 50 A Peak Pulse, 3 meter cable	CP030B-3M
30 A; 100 MHz Current Probe – AC/DC; 30 A_{rms}; 50 A Peak Pulse, 1.5 meter cable	CP031
30 A; 100 MHz High Sensitivity Current Probe – AC/DC; 30 A_{rms}; 50 A Peak Pulse, 1.5 meter cable	CP031A
150 A; 10 MHz Current Probe – AC/DC; 150 A_{rms}; 300 A Peak Pulse, 2 meter cable	CP150B
150 A; 5 MHz Current Probe – AC/DC; 150 Arms; 500 A Peak Pulse, 6 meter cable	CP150B-6M
500 A; 2 MHz Current Probe – AC/DC; 500 A_{rms}; 700 A Peak Pulse, 6 meter cable	CP500
1000 A; 1.5 MHz Current Probe - AC/DC; 1000 A_{rms}; 1400 A Peak Pulse, 6 meter cable	CP1000
Deskew Calibration Source	DCS025

≤ 1.5 GHz DIFFERENTIAL PROBES

Teledyne LeCroy
≤1.5 GHz
Differential Probe
Model Numbers:
ZD500
ZD1000
ZD1500
AP033

The ZD Series probes provide wide dynamic range, excellent noise and loading performance and an extensive set of probe tips, leads, and ground accessories to handle a wide range of probing scenarios. The low 1 pF capacitance means this probe is ideal for all frequencies. The ZD Series differential probes provide full system bandwidth for all Teledyne LeCroy Oscilloscopes 1.5 GHz and lower.

Fully Integrated

With the ProBus interface, the ZD500, 1000, and 1500 become an integral part of the oscilloscope. All probe gain and offset controls are transparent to the user, making it easier to probe the circuit without concern for which gain setting to choose. When used with a Teledyne LeCroy digital oscilloscope, no external power supply is required.

Wide Dynamic Range

The ZD500, 1000, 1500 probes provides transparent probe attenuation so signals are always optimized for the display. The differential range is 16 Vp-p with a differential offset of ±18 and common mode range of ±10 V, making this versatile for every probing application.

Wide Applications

The wide dynamic range of 16 V_{p-p} and offset range of ±8V suit this probe to a wide range of applications and signal types. The ZD differential probes are ideally suited for Automotive, Serial Data, power, and general purpose use.

Specifications

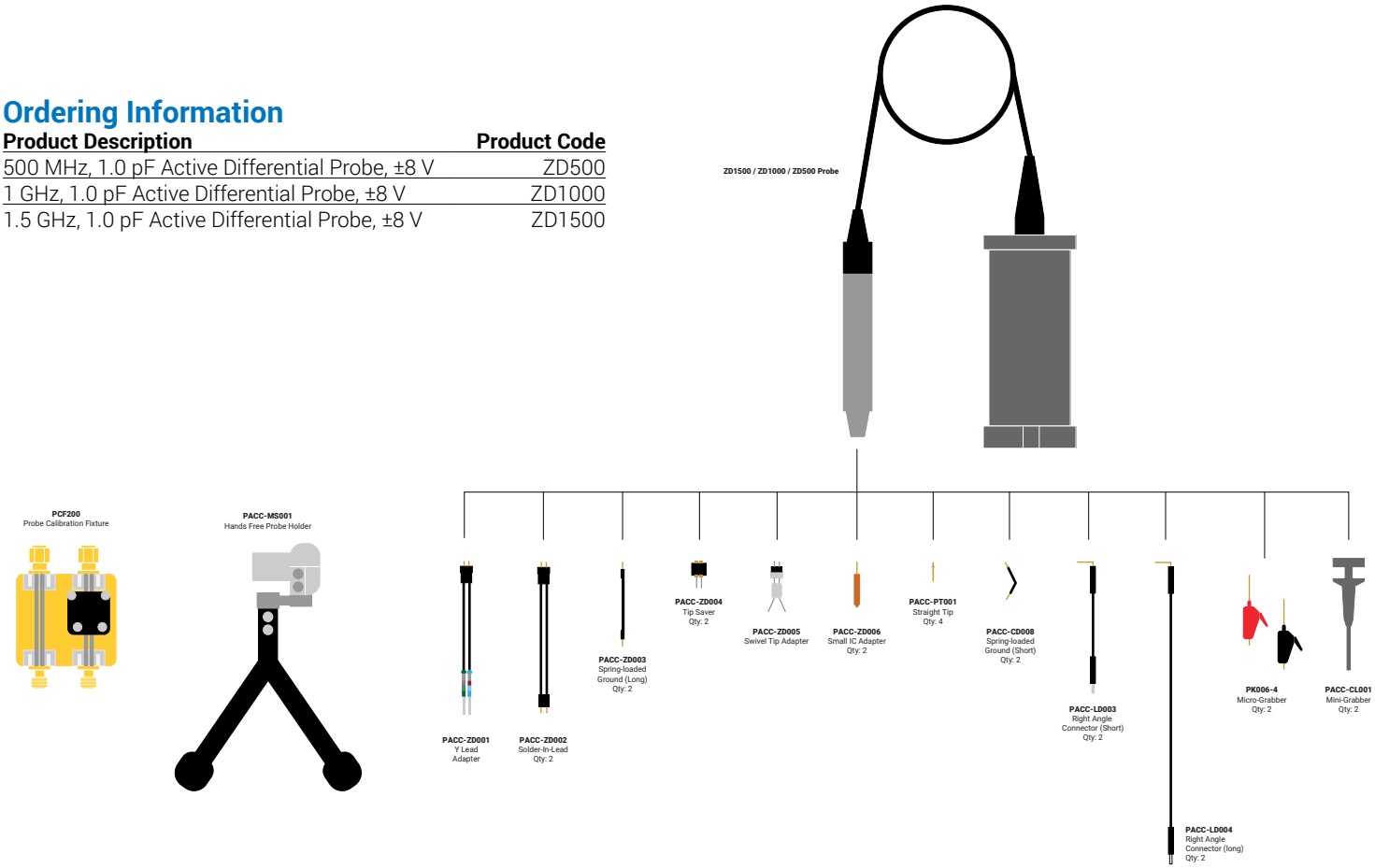
Electrical Characteristics

	ZD500	ZD1000	ZD1500
Bandwidth (Warranted)	500 MHz	1000 MHz	1500 MHz
Bandwidth (Typical)	650 MHz	1200 MHz	1700 MHz
Risetime 10–90% (Typical)	650 ps	375 ps	270 ps
Risetime 20–80% (Typical)	500 ps	280 ps	200 ps
LF Attenuation Accuracy (Warranted)	2%		
Zero Offset (Typical) (within 15 minutes after autozero)	5 mV		
System Noise (Typical)	1.3 mV_{rms}	1.75 mV_{rms}	
Probe Noise Density (Typical)	38 nV/rt (Hz)		
Input Differential Range (Nominal)	±8 V (16 V_{p-p})		
Differential Offset Range (Nominal)	±18 V		
Offset Gain Accuracy (Typical)	2%		
Common Mode Range (Nominal)	±10 V		
Maximum Non-destruct Voltage (Nominal)	30 V		
CMRR (Typical)	60 dB 50/60 Hz 30 dB 20 MHz 25 dB 500 MHz	60 dB 50/60 Hz 30 dB 20 MHz 25 dB @ 1000 MHz	60 dB 50/60 Hz 30 dB 20 MHz 25 dB @ 1500 MHz
DC Input Resistance (Nominal)	50 kΩ (Common Mode) 120 kΩ (Differential Mode)		
Differential Input Capacitance (Typical)	< 1.0 pF		

Learn More:
teledynelecroy.com/probes/differential-probes-1500-mhz

Ordering Information

Product Description	Product Code
500 MHz, 1.0 pF Active Differential Probe, ±8 V	ZD500
1 GHz, 1.0 pF Active Differential Probe, ±8 V	ZD1000
1.5 GHz, 1.0 pF Active Differential Probe, ±8 V	ZD1500



micro-grabber colors may vary

AP033

High bandwidth, excellent common-mode rejection ratio (CMRR) and low noise make these active differential probes ideal for applications such as disk drive design and failure analysis, as well as wireless and data communication design.

Specifications

Bandwidth	500 MHz
Gain	x10, x1, ÷10 (÷100 with plug-on ÷10 attenuator)
DC Accuracy	1% in x1 without external attenuator
Input Resistance	1 MΩ each input to ground 2 MΩ differential between inputs
Differential Mode Range	±400 mV (x1) ±40 mV (x10) ±4 V (÷10) ±40 V (÷100)
Offset Range	±400 mV (x1, x10) ±4 V (±10) ±40 V (±100)
Common-Mode Range	±42 V peak (±10) +4.2 V peak (±100)
CMRR	70 Hz 10,000:1 (80 dB) 100 kHz 10,000:1 (80 dB) 1 MHz 1000:1 (60 dB) 10 MHz 100:1 (40 dB) 250 MHz 5:1 (14 dB)

Ordering Information

Product Description	Product Code
500 MHz Differential Probe	AP033

4 GHz - 6 GHz DIFFERENTIAL PROBES

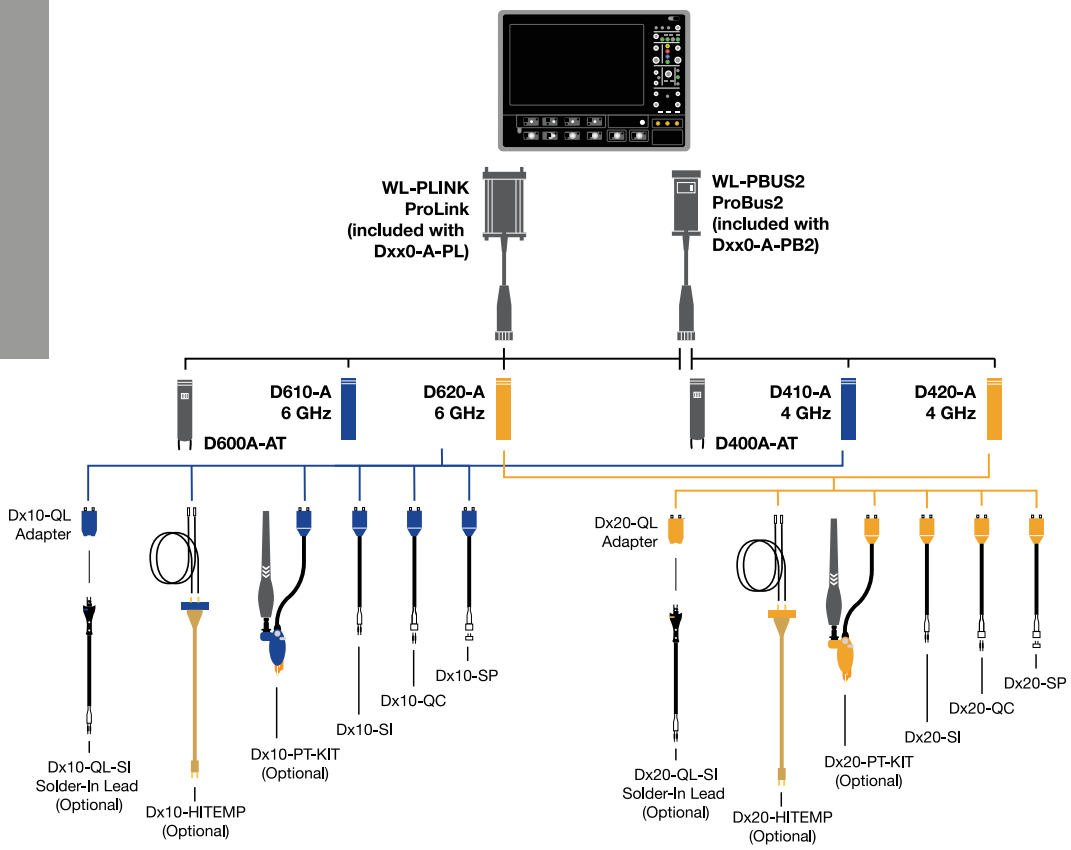
Teledyne LeCroy
4 GHz - 6 GHz
Differential Probe
Model Numbers:

D410-A-PB2
D420-A-PB2
D400A-AT-PB2
D610-A-PB2
D610-A-PL
D620-A-PB2
D620-A-PL
D600A-AT-PB2
D600A-AT-PL

Teledyne LeCroy's WaveLink 4-6 GHz Differential Probes are a general purpose probing solution with high-input dynamic range and offset range capability. The range of capabilities is ideal for a variety of high-speed DDR signals where high dynamic range and large offset requirements are common.

Key Features

- **4 GHz or 6 GHz models**
- **Up to 5 Vpk-pk dynamic range with low noise**
- **±3 V offset range**
- **Ideal for DDR2, LPDDR2, DDR3**
- **Innovative QuickLink architecture**
- **Wide variety of tips and leads**
  - Solder-In Lead
  - QuickLink Solder-In Lead
  - Positioner (Browser) Tip
  - Adjustable (Browser) Tip
  - Quick Connect Lead
  - Square Pin Lead
  - Hi-Temp Solder-In Lead
- **Low loading and high impedance for minimal signal disturbance**
- **Deluxe soft carrying case**



Learn More:
teledynelecroy.com/probes/differential-probes-4-6-ghz

	D610-A-PB2, D610-A-PL	D620-A-PB2, D620-A-PL	D410-A-PB2	D420-A-PB2	D600A-AT-PB2, D600A-AT-PL	D400A-AT-PB2
Bandwidth* (Probe only, guaranteed) (System bandwidth, typical)	**Dx10-SI, Dx10-QL-SI and Dx10-PT Tips** 6 GHz **Dx10-HiTemp** 5 GHz **Dx10-QC Tip** 4 GHz **Dx10-SP Tip** 3 GHz	**Dx20-SI, Dx20-QL-SI and Dx20-PT Tips** 6 GHz **Dx20-HiTemp** 5 GHz **Dx20-QC Tip** 4 GHz **Dx20-SP Tip** 3 GHz	**Dx10-SI, Dx10-QL-SI, Dx10-HiTemp, Dx10-QC and Dx10-PT Tips** 4 GHz **Dx10-SP Tip** 3 GHz	**Dx20-SI, Dx20-QL-SI, Dx20-HiTemp, Dx20-QC and Dx20-PT Tips** 4 GHz **Dx20-SP Tip** 3 GHz	6 GHz	4 GHz
Rise Time* (10–90%)	**Dx10-SI, Dx10-QL-SI and Dx10-PT Tips** 75 ps (typical) **Dx10-HiTemp** 90 ps (typical) **Dx10-QC Tip** 122.5 ps (typical) **Dx10-SP Tip** 150 ps (typical)	**Dx20-SI, Dx20-QL-SI and Dx20-PT Tips** 75 ps (typical) **Dx20-HiTemp** 90 ps (typical) **Dx20-QC Tip** 122.5 ps (typical) **Dx20-SP Tip** 150 ps (typical)	**Dx10-SI, Dx10-QL-SI, Dx10-HiTemp, and Dx10-PT Tips** 112 ps (typical) **Dx10-QC Tip** 122.5 ps (typical) **Dx10-SP Tip** 150 ps (typical)	**Dx20-SI, Dx20-QL-SI, Dx20-HiTemp, and Dx20-PT Tips** 112 ps (typical) **Dx20-QC Tip** 122.5 ps (typical) **Dx20-SP Tip** 150 ps (typical)	<75 ps (typical)	<112 ps (typical)
Rise Time* (20–80%)	**Dx10-SI, Dx10-QL-SI and Dx10-PT Tips** 56 ps (typical) **Dx10-HiTemp** 67.5 ps (typical) **Dx10-QC Tip** 92 ps (typical) **Dx10-SP Tip** 113 ps (typical)	**Dx20-SI, Dx20-QL-SI and Dx20-PT Tips** 56 ps (typical) **Dx20-HiTemp** 67.5 ps (typical) **Dx20-QC Tip** 92 ps (typical) **Dx20-SP Tip** 113 ps (typical)	**Dx10-SI, Dx10-QL-SI, Dx10-HiTemp, and Dx10-PT Tips** 84 ps (typical) **Dx10-QC Tip** 92 ps (typical) **Dx10-SP Tip** 113 ps (typical)	**Dx20-SI, Dx20-QL-SI, Dx20-HiTemp, and Dx20-PT Tips** 84 ps (typical) **Dx20-QC Tip** 92 ps (typical) **Dx20-SP Tip** 113 ps (typical)	56 ps (typical)	84 ps (typical)
Noise (System)	<36 nV/√Hz ($2.8\ mV_{rms}$) (typical) Referred to input, 6 GHz bandwidth	<61 nV/√Hz ($4.8\ mV_{rms}$) (typical) Referred to input, 6 GHz bandwidth	<36 nV/√Hz ($2.3\ mV_{rms}$) (typical) Referred to input, 4 GHz bandwidth	<67 nV/√Hz ($4.3\ mV_{rms}$) (typical) Referred to input, 4 GHz bandwidth	<74 nV/√Hz ($5.8\ mV_{rms}$) (typical) Referred to input, 6 GHz bandwidth	<74 nV/√Hz ($4.7\ mV_{rms}$) (typical) Referred to input, 4 GHz bandwidth
Input						
Input Dynamic Range (Nominal)	$2.5V_{pk-pk}$, ±1.25V	$5V_{pk-pk}$, ±2.5V	$2.5V_{pk-pk}$, ±1.25V	$5V_{pk-pk}$, ±2.5V	$4.8V_{pk-pk}$, ±2.4V	
Input Common Mode Voltage Range (Nominal)	±4 V				±2.4 Vmax	
Input Offset Voltage Range	±3 V Differential (nominal)				n/a	
Non-destructive Input Range (Nominal)	±20 V				±18 V	
Attenuation	1.7X / 1.0X (nominal)	3.2X / 1.9X (nominal)	1.7X / 1.0X (nominal)	3.2X / 1.9X (nominal)	2.5X	
DC Input Resistance (Nominal)	200 kΩ Differential 50 kΩ Common Mode				4 kΩ Differential 1 kΩ Common Mode	

** All Bandwidth and Rise Time measurements are made with an oscilloscope bandwidth greater or equal to the probe bandwidth*
† Through entire frequency range

Product Description	Product Code
Complete Differential Probes	
4 GHz ProBus2 Differential Probe with Dx10-SI Solder-In Tip (Qty. 1), Dx10-SP Square Pin (Qty. 1), and Dx10-QC Quick Connect (Qty. 1)	D410-A-PB2
4 GHz ProBus2 Differential Probe with Dx20-SI Solder-In Tip (Qty. 1), Dx20-SP Square Pin (Qty. 1), and Dx20-QC Quick Connect (Qty. 1)	D420-A-PB2
6 GHz ProBus2 Differential Probe with Dx10-SI Solder-In Tip (Qty. 1), Dx10-SP Square Pin (Qty. 1), and Dx10-QC Quick Connect (Qty. 1)	D610-A-PB2
6 GHz ProLink Differential Probe with Dx10-SI Solder-In Tip (Qty. 1), Dx10-SP Square Pin (Qty. 1), and Dx10-QC Quick Connect (Qty. 1)	D610-A-PL
6 GHz ProBus2 Differential Probe with Dx20-SI Solder-In Tip (Qty. 1), Dx20-SP Square Pin (Qty. 1), and Dx20-QC Quick Connect (Qty. 1)	D620-A-PB2
6 GHz ProLink Differential Probe with Dx20-SI Solder-In Tip (Qty. 1), Dx20-SP Square Pin (Qty. 1), and Dx20-QC Quick Connect (Qty. 1)	D620-A-PL
4 GHz ProBus2 Differential Probe with Adjustable Tip	D400A-AT-PB2
6 GHz ProBus2 Differential Probe with Adjustable Tip	D600A-AT-PB2
6 GHz ProLink Differential Probe with Adjustable Tip	D600A-AT-PL
Positioner Tip (Browser) Kits	
WaveLink Dx10-PT Adjustable Positioner Tip Kit. For use with Dx10 amplifiers.	Dx10-PT-KIT
WaveLink Dx20-PT Adjustable Positioner Tip Kit. For use with Dx20 amplifiers.	Dx20-PT-KIT
QuickLink Solder-In Tip Set	
QuickLink Solder-In starter pack for use with Dx10 amplifier. Includes one QuickLink adapter and three QL-SI tips.	Dx10-QL-3SI
QuickLink Solder-In starter pack for use with Dx20 amplifier. Includes one QuickLink adapter and three QL-SI tips.	Dx20-QL-3SI
Hi-Temp Leads	
WaveLink Temperature Extension Cables for Dx10. Includes set of Matched 30" High Temperature Cables (Qty. 1) and solder-in lead set (Qty. 1)	Dx10-HiTemp
WaveLink Temperature Extension Cables for Dx20. Includes set of Matched 30" High Temperature Cables (Qty. 1) and solder-in lead set (Qty. 1)	Dx20-HiTemp

Product Description	Product Code
Accessories	
Probe Deskew and Calibration Test Fixture	TF-DSQ
Calibration Options	
NIST Calibration for D410-A. Includes test data.	D410-A-CCNIST
NIST Calibration for D420-A. Includes test data.	D420-A-CCNIST
NIST Calibration for D610-A. Includes test data.	D610-A-CCNIST
NIST Calibration for D620-A. Includes test data.	D620-A-CCNIST
NIST Calibration for D400A-AT. Includes test data.	D400A-AT-CCNIST
NIST Calibration for D600A-AT. Includes test data.	D600A-AT-CCNIST
Replacement Parts	
Single replacement QuickLink Solder-In Tip	QL-SI-1Pack
9-pack of replacement QuickLink Solder-In Tip	QL-SI-9Pack
Replacement Dx10-SI 4 & 6 GHz Solder-In Lead with Qty. 5 Spare Resistors.	Dx10-SI
Replacement Dx20-SI 4 & 6 GHz Solder-In Lead with Qty. 5 Spare Resistors.	Dx20-SI
Replacement Dx10-QC 4 & 6 GHz Quick Connect Lead	Dx10-QC
Replacement Dx20-QC 4 & 6 GHz Quick Connect Lead	Dx20-QC
Replacement Dx10-SP 4 & 6 GHz Square Pin Lead	Dx10-SP
Replacement Dx20-SP 4 & 6 GHz Square Pin Lead	Dx20-SP
Replacement SI Resistor Kit for Dx10/Dx20 - Kit of 20	PKxx0-SI
Replacement QC Resistor Kit for Dx10/Dx20 - 2 kits of 20	PKxx0-QC
Qty. 4 Replacement Pogo Pin Tips and Qty. 2 Replacement Sockets for Dx10-PT and Dx20-PT Adjustable Positioner Tips.	Dxx0-PT-TIPS
Replacement Probe Tip Holder Kit	PK600ST-3
Replacement Platform/Cable Assembly Mounting Kit	PK600ST-4
Quantity 1 Package of Black Adhesive Pads (10/pkg) and Quantity 1 Package of White Adhesive Pads (10/pkg)	Dxx0-PT-TAPE
Quantity 1 Package of Adhesive Probe Connection Guides (200 individual guides/package)	Dxx0-PT-GUIDES

8 GHz - 30 GHz DIFFERENTIAL PROBES

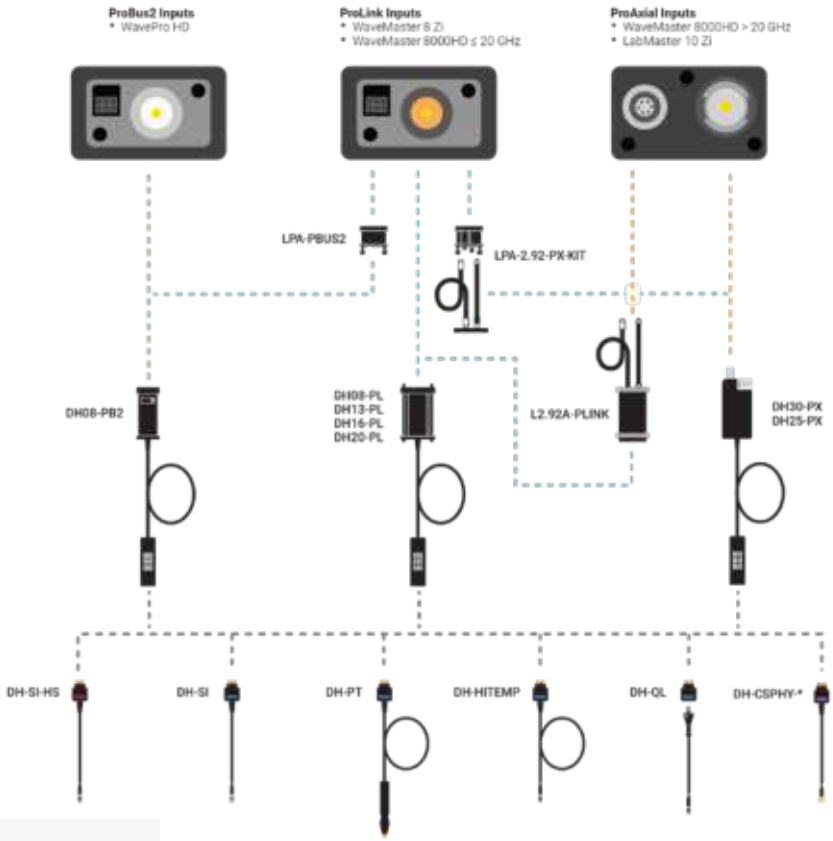
Teledyne LeCroy
8 GHz - 30 GHz
Differential Probe
Model Numbers:

DH08-PB2
DH08-PL
DH13-PL
DH16-PL
DH20-PL

The DH series of 8 to 30 GHz active differential probes provides high input dynamic range, large offset capability, low loading and excellent signal fidelity with a range of connection options.

Key Features

- **Bandwidth models from 8 GHz to 30 GHz**
- **Low loading and high impedance for minimal signal disturbance**
- **Wide variety of tips:**
  - Standard and high-sensitivity 30 GHz solder-in tips
  - High-temperature solder-in tip with 1-meter lead
  - QuickLink adapter for mixed-signal probing
  - Handheld browser tip
  - Tips for direct connection to CrossSync PHY™ protocol analyzer interposers
- **Built-in tip identification for simple setup and precise signal reproduction**
- **Ideal for debug and validation of:**
  - DDR3/LPDDR3
  - DDR4/LPDDR4
  - DDR5/LPDDR5
  - Other high-speed serial interfaces



Learn More:
teledynelecroy.com/probes/dh-series-differential-probes

8 GHz - 30 GHz DIFFERENTIAL PROBES

	DH08	DH13	DH16	DH20	DH25	DH30
Bandwidth						
Bandwidth (probe only)	8 GHz	13 GHz	16 GHz	20 GHz	25 GHz	30 GHz
Bandwidth with DH-SI or DH-SI-HS tip	8 GHz	13 GHz	16 GHz	20 GHz	25 GHz	30 GHz
Bandwidth with DH-HITEMP tip	8 GHz	13 GHz	16 GHz	16 GHz	16 GHz	16 GHz
Bandwidth with DH-PT browser	8 GHz	13 GHz	16 GHz	16 GHz	16 GHz	16 GHz
Bandwidth with DH-QL adapter and QL-SI tip	8 GHz	8 GHz	8 GHz	8 GHz	8 GHz	8 GHz
Rise Time*						
Rise Time (10-90%)	56 ps	34.5 ps	28 ps	22.5 ps	18 ps	15 ps
Rise Time (20-80%)	37.5 ps	23 ps	19 ps	15 ps	12 ps	10 ps
Probe noise (referred to input)*						
With DH-SI-HS tip	2.1 mV_{rms}	2.2 mV_{rms}	2.3 mV_{rms}	2.6 mV_{rms}	2.9 mV_{rms}	3.2 mV_{rms}
With all other tips	3.5 mV_{rms}	3.8 mV_{rms}	4.2 mV_{rms}	4.6 mV_{rms}	4.8 mV_{rms}	5.0 mV_{rms}
Probe noise density (referred to input)						
With DH-SI-HS tip	18 nV/rt(Hz)					
With all other tips	30 nV/rt(Hz)					
Input						
Input Dynamic Range						
With DH-SI-HS tip	2.0 Vpp (±1.0 V)					
With all other tips	3.5 Vpp (±1.75 V)					
Input Common Mode Voltage Range	±5.0 V					
Input Offset Voltage Range	±4.0 V					
Non-destructive Input Range	±16 V					
Attenuation						
With DH-SI-HS tip	1.8x / 3.2x (selected automatically by oscilloscope software)					
With all other tips	3.2x / 5.8x (selected automatically by oscilloscope software)					
Attenuation Accuracy	±2%					
DC Input Resistance (nominal)						
Differential	200 kΩ differential					
Common mode	50 kΩ differential					
Input Resistance > 10 kHz (typical)						
With DH-SI-HS tip	1100 Ω differential					
With all other tips	2100 Ω differential					
Environmental						
Temperature						
Non-operating	-40 °C to 70 °C					
Operating (DH-HITEMP tip)	-40 °C to 125 °C					
Operating (Probe and all other tips)	0 °C to 40 °C					

** All Rise Time and Probe noise measurements are made using a full-bandwidth solder-in tip, and with an oscilloscope bandwidth greater than or equal to the probe bandwidth. When using other tips, rise time and noise measurements correspond to those of the equivalent-bandwidth probe model with a DH-SI tip.*

Product Description	Product Code
Differential Probes (tips not included)	
8 GHz differential probe with ProBus2 interface	DH08-PB2
8 GHz differential probe with ProLink interface	DH08-PL
13 GHz differential probe with ProLink interface	DH13-PL
16 GHz differential probe with ProLink interface	DH16-PL
20 GHz differential probe with ProLink interface	DH20-PL
25 GHz differential probe with ProAxial interface	DH25-PX
30 GHz differential probe with ProAxial interface	DH30-PX
Solder-in Tips	
DH series solder-in tip, 30 GHz BW, 3.5 Vpp range	DH-SI
DH series high-sensitivity solder-in tip, 30 GHz BW, 2.0 Vpp range	DH-SI-HS
Positioner (Browser) Tips	
DH series PT browser tip, 16 GHz BW, 3.5 Vpp range	DH-PT
High-temperature Tips	
DH series high-temperature solder-in tip, 16 GHz BW, 3.5 Vpp range	DH-HITEMP
QuickLink Adapters and Kits	
DH series QuickLink adapter, 8 GHz BW	DH-QL
DH series QuickLink adapter kit with 3 x QL-SI tips	DH-QL-3SI
CrossSync PHY Tips	
DH series tip for PCIE 5.0 CEM interposer - connects to PE120ACA-X interposer accessory	DH-CSPHY-PCIE5-CEMX16
Accessories	
ProLink to 2.92 mm adapter with probe power and communication pass through	LPA-2.92
2.92 mm to ProLink adapter with probe power and communication pass through	L2.92A-PLINK

Product Description	Product Code
Calibration Options	
3-year warranty	DH08-W3, DH13-W3, DH16-W3, DH20-W3, DH25-W3, DH30-W3
5-year warranty	DH08-W5, DH13-W5, DH16-W5, DH20-W5, DH25-W5, DH30-W5
3-year annual NIST calibration	DH08-C3, DH13-C3, DH16-C3, DH20-C3, DH25-C3, DH30-C3
5-year annual NIST calibration	DH08-C5, DH13-C5, DH16-C5, DH20-C5, DH25-C5, DH30-C5
3-year warranty with annual NIST calibration	DH08-T3, DH13-T3, DH16-T3, DH20-T3, DH25-T3, DH30-T3
5-year warranty with annual NIST calibration	DH08-T5, DH13-T5, DH16-T5, DH20-T5, DH25-T5, DH30-T5
NIST traceable calibration with test data	DH08-CCNIST, DH13-CCNIST, DH16-CCNIST, DH20-CCNIST, DH25-CCNIST, DH30-CCNIST
Replacement Parts	
Replacement SI resistor kit for DH-SI and DH-SI-HS solder-in tips	DH-SI-RESISTORS

HIGH VOLTAGE DIFFERENTIAL PROBES

Teledyne LeCroy High Voltage Differential Probe Model Numbers:

HVD3102A
HVD3106A
HVD3106A-6M
HVD3206A
HVD3206A-6M
HVD3220
HVD3605A
AP031

The HVD3000A series high voltage differential probes provide high CMRR over a broad frequency range to simplify the measurement challenges found in noisy, high common-mode power electronics environments. The probe's design is easy-to-use and enables safe, precise high voltage floating measurements.

Key Features

- **1 kV, 2 kV, 6 kV CAT safety rated models**
- **Widest differential voltage ranges available**
- **Exceptional common-mode rejection ratio (CMRR) across a broad frequency range**
- **1% gain accuracy**
- **High offset capability at both high and low attenuation**
- **AC and DC coupling**
- **ProBus active probe interface with automatic scaling**
- **AutoZero with auto disconnect switch**
- **Wide oscilloscope compatibility**

Product Description	Product Code
1 kV, 25 MHz High Voltage Differential Probe with 2 m cable	HVD3102A
1 kV, 120 MHz High Voltage Differential Probe with 2 m cable	HVD3106A
1 kV, 80 MHz High Voltage Differential Probe with 6 m cable	HVD3106A-6M
1 kV, 25 MHz High Voltage Differential Probe with 2 m cable without tip Accessories	HVD3102A-NOACC
1 kV, 120 MHz High Voltage Differential Probe with 2 m cable without tip Accessories	HVD3106A-NOACC
2 kV, 120 MHz High Voltage Differential Probe with 2 m cable	HVD3206A
2 kV, 80 MHz High Voltage Differential Probe with 6 m cable	HVD3206A-6M
2 kV, 400 MHz High Voltage Differential Probe with 2 m cable	HVD3220
6 kV, 100 MHz High Voltage Differential Probe with 6 m cable	HVD3605A
High Voltage Replacement Accessories Kit (Includes 2 each): High Bandwidth 4 mm Probe Tip Adapters, Safety Alligator Clips, Plunger Pincer Clips, Plunger Hook Clips, Plunger Alligator Clips, Spade Terminals	PK-HV-001
700 V, 25 MHz HighVoltage Differential Probe (÷10, ÷100)	AP031

AP031

Key Features

- Safe floating measurements
- 15 MHz bandwidth
- 700 V maximum input voltage
- Works with any 1 MΩ input oscilloscope

Specifications

Attenuation	÷10 / ÷100
Bandwidth	15 MHz
Input R	4 MΩ
Differential Mode Range	±70 V / ±700 V DC + Peak AC
Common Mode Range	±700 V DC + Peak AC
CMRR	86 dB @ 50 Hz
	56 dB @ 200 kHz

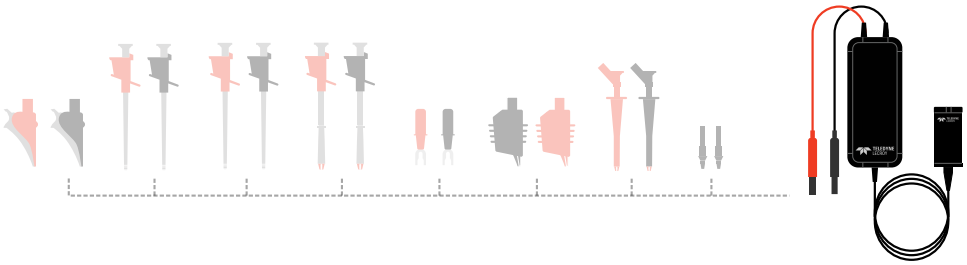
Power Requirements: four AA batteries

Learn More:
teledynelecroy.com/powerprobes/#hvd

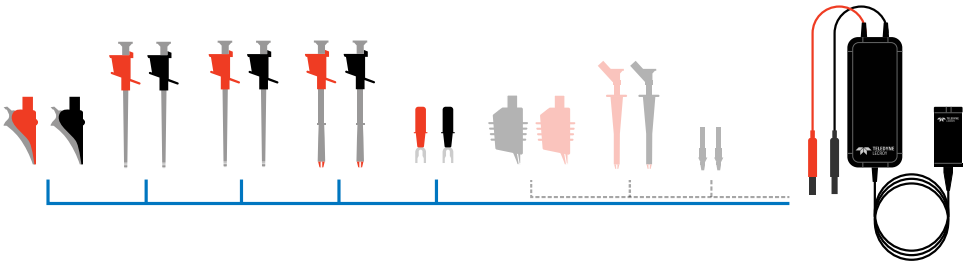
	HVD3102A	HVD3106A/ HVD3106A-6M	HVD3206A/ HVD3206A-6M	HVD3220	HVD3605A
Bandwidth	25 MHz	120 MHz/ 80 MHz	120 MHz/ 80 MHz	400 MHz	100 MHz
Differential Voltage Range	1500 V (DC + peak AC) (1750V maximum typical measurable before saturation)	1500 V (DC + peak AC) (2000V maximum typical measurable before saturation)	2000 V (DC + peak AC)		7000 V (DC + peak AC) (7600 V maximum typical measurable before saturation)
Max Safe Input Voltage	1000 V_{rms} CAT III		2000 V (DC + peak AC) CAT I 1500 Vdc CAT III 1000 Vrms CAT III		8485 V (DC + peak AC) CAT I 6000 V_{rms} CAT I 1000 V_{rms} CAT III 1000 V_{dc} CAT III
Gain Accuracy	1%*				
Cable Length	2.25 meters	2.25 meters/ 6.8 meters	2.25 meters/ 6.8 meters	2 meters	6.8 meters
Included Tip Accessories	Yes				

**Up to 0.35% on HVD3220*

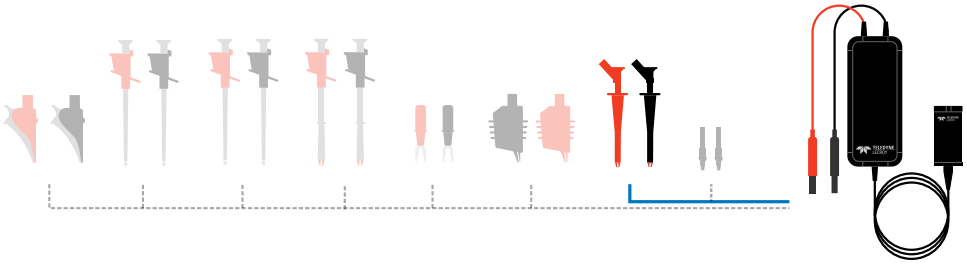
HVD310xA-NOACC



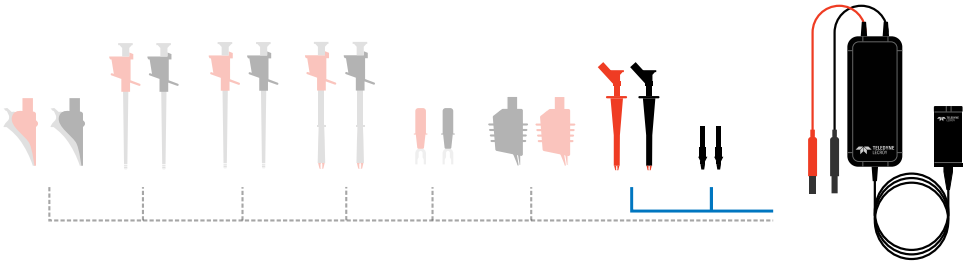
HVD310xA / 310xA-6M



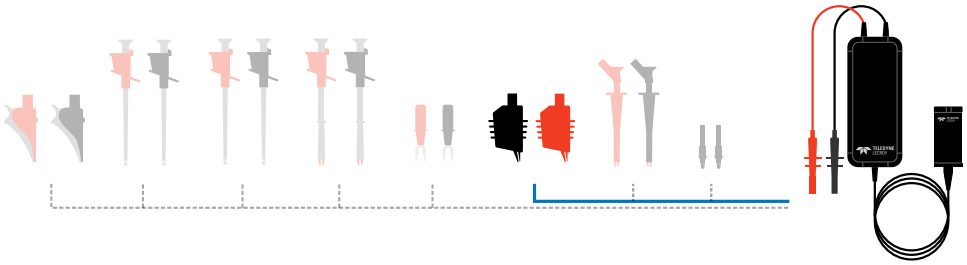
HVD3206A / 3206A-6M



HVD3220



HVD3605A



HIGH VOLTAGE PASSIVE PROBES

Teledyne LeCroy High Voltage Passive Probe Model Numbers:

PPE6KV-A
HVP120

The PPE6KV-A and HVP120 can handle up to 6000 Vpeak transient overvoltages and are designed for probing up to 2000 Vrms and 1000 Vrms respectively. Fast rise times, excellent frequency response, and a variety of standard accessories make these probes safe and ideal for high voltage measurement applications.

Key Features

- **2000 V_{rms} input**
- **6000 V_{peak} transients**
- **Up to 500 MHz bandwidth**
- **Ideal for Surge/EFT testing**

Electrical Characteristics	PPE6KV-A	HVP120
Bandwidth	500 MHz	400 MHz
Risetime (10% - 90%)	800 ps (typical)	900 ps (typical)
Maximum Input Voltage		
Measurement Category II*	1000 V_{rms} 1500 V_{dc}	1000 V_{rms}
Measurement Category I**	6 kV transient at 0 V_{rms} 4 kV transient at 2000 V_{rms}	6 kV transient at 0 V_{rms} 4 kV transient at 1000 V_{rms}
Pollution Degree*	2	
Input Capacitance	2.8 pF (typical)	7.5 pF (typical)
Compensation Range	10 pF - 30 pF (typical)	10 pF - 50 pF (typical)
Attenuation Ratio	100:1 ± 2%	

Environmental	
Temperature (Operating)	0°C to 50°C
Temperature (Non-Operating)	-40°C to 70°C
Humidity (Operating)	90% RH (non-condensing) up to 31°C, decreasing linearly to 50% RH at 50°C
Altitude (Operating)	up to 2,000 m
Altitude (Non-Operating)	up to 15,000 m

General Characteristics		
Weight (probe)	80 g (2.8 oz)	68 g (2.4 oz)
Cable Length	2 m (6.56 ft)	
Probe Tip Diameter	8.6 mm (0.34 inches)	5 mm (0.20 inches)

** As defined in IEC 61010-031:2015*
*** Category I as defined in IEC 61010-031:2008. No Rated Measurement Category as defined in IEC 61010-031:2015.*

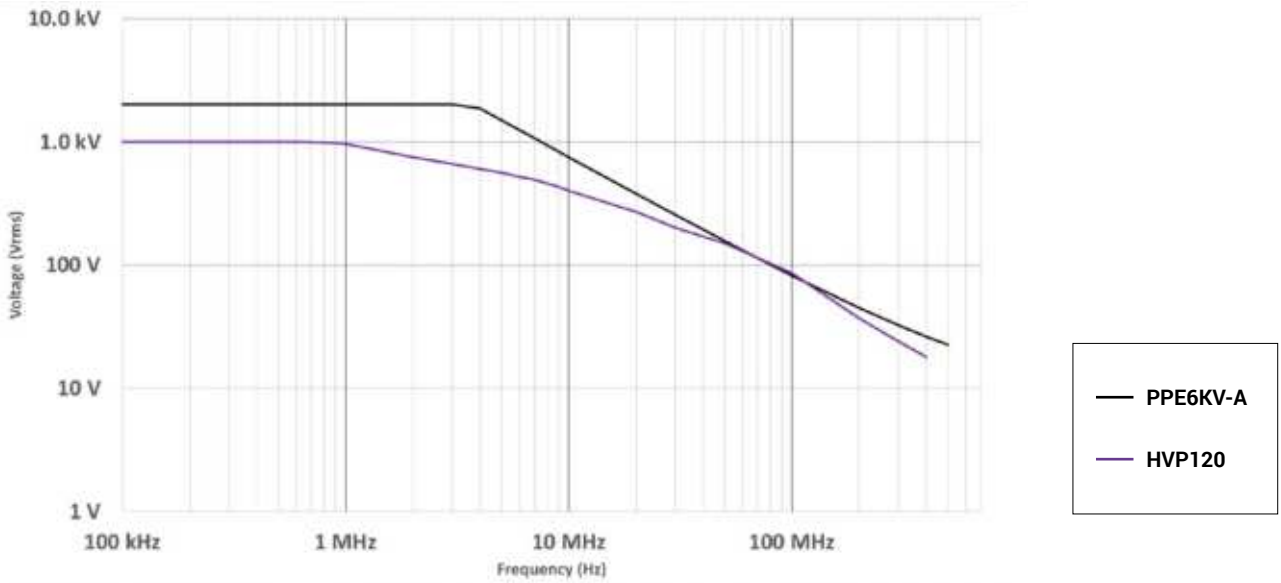
Product Description	Product Code
2 kV HV Probe, 6 kV overvoltage capability	PPE6KV-A
1 kV HV Probe, 6 kV overvoltage capability	HVP120
PPE6KV-A Replacement Accessories Kit	PK112
HVP120 Replacement Accessories Kit	PK-HV-002

Standard Accessories

PPE6KV-A and HVP120 are sold with the following standard accessories. No extra purchase necessary.

	PPE6KV-A	HVP120
Trimming Tool	✓	✓
Color Coding Rings	✓	✓
Ground Lead (22 cm)	✓	✓
Security Ground Lead	✓	✓
Crocodile Clips	✓	✓
Flexible Security Adapter	✓	✓
Sprung Hook	✓	✓
BNC Adapter	✓	✓
Insulating Tip	✓	✓
Swivel Ground Lead and Lead Adapter	✓	×
Solid and Spring Tips	×	✓

PPE6KV-A and HVP120 Voltage Derating



Learn More:
teledynelecroy.com/probes/high-voltage-passive-probes

HIGH VOLTAGE FIBER OPTICALLY ISOLATED PROBES

Teledyne LeCroy
High Voltage Fiber
Optically Isolated Probe
Model Number:

HVFO108

The HVFO is an affordable, optimally designed probe for measurement of small signals floating on an HV bus in power electronics designs or for EMC, EFT, ESD, and RF immunity testing sensor monitoring. It far surpasses the measurement capabilities and signal fidelity of both conventional HV differential probes and acquisition systems that rely on galvanic high voltage isolation. Furthermore, it mitigates the need to rely on dangerous test setups that require floating the oscilloscope and probe.

Key Features

- **150 MHz bandwidth**
- **35 kV common-mode voltage rating (fiber optic isolation)**
- **Superior Noise and Rejection**
  - **140 dB CMRR**
  - **Low loop inductance**
  - **Low attenuation**
- **Optical isolation reduces adverse loading of DUT**
- **Selectable tips from ±1V to ±40V**
- **Applications**
  - **Upper-side gate drive signal measurements**
  - **Floating control signal or sensor voltage measurements**
  - **EMC, EFT, ESD, and RF immunity testing and system optimization**
  - **Any small signal measurements with high common-mode voltage**

Learn More:
teledynelecroy.com/powerprobes/#hvfo

Electrical

Bandwidth	150 MHz (typical, with tip attached)
Rise Time (10-90%)	3.3 ns (typical)
Input Dynamic Range	±1V, ±5V, ±10V, ±20V, ±40V (DC+peak AC) respectively with 1X, 5X, 10X, 20X or 40X attenuating tips. All tips are purchased as accessories (none are included with HVFO108 probe).
Maximum Non-destruct Voltage	5 times the operating voltage rating (tip dependent)
Common Mode Voltage Range	±35 kV (DC+Peak AC) (not for hand-held use, with adequate spacing between probe components and earth ground)
Maximum Input Voltage to Earth	±35 kV (DC+Peak AC) (not for hand-held use, with adequate spacing between probe components and earth ground)
Maximum Safe Input Voltage	For hand-held use, 30 Vrms / 60 Vdc per IEC/EN 61010-031:2015
Offset	Offset capability determined by oscilloscope offset available in a given gain (V/div) setting after accounting for total probe attenuation (total probe attenuation is twice the tip attenuation).
Sensitivity	10 mV/div to 1 V/div (1X tip), 50 mV/div to 5 V/div (5X tip), 100 mV/div to 10 V/div (10X tip), 200 mV/div to 20 V/div (20X tip), 400 mV/div to 40 V/div (40X tip)
Gain Accuracy	2.5% (typical), 4% (guaranteed)
Input Impedance	1 MΩ || 34 pF (1X tip); 5 MΩ || 26 pF (5X tip); 8 MΩ || 23 pF (10X tip); 10 MΩ || 22 pF (20X tip); 10 MΩ || 22 pF (40X tip)
Input/Output Coupling	DC only
Interface	ProBus
Cable Length	1.25 m (4.1 feet) from input lead to oscilloscope connection (using included 1 meter fiber optic cable)
Battery	6 hour battery life (typical). 2.5 hour re-charge time (typical, with user-supplied dedicated USB charger). 5 hour re-charge time (typical) using supplied USB charging cable connected to oscilloscope USB port

Noise, Rejection, and Electromagnetic Compatibility (EMC)

CMRR (typical)	140 dB (100 Hz), 120 dB (to 1 MHz), 85 dB (to 10 MHz), 60 dB (to 60 MHz), 35 dB (to 150 MHz)
Noise (Probe only)	7 mVrms (1X tip), 35 mVrms (5X tip), 70 mVrms (10X tip), 140 mVrms (20X tip), 280 mVrms (40X tip)
Noise Density (Probe only)	570 nV/√Hz
Electrostatic Discharge (ESD) Immunity	8 kV contact discharge and 10 kV air discharge per IEC61000-4-2, criteria A
Radiated RF Electromagnetic Field Immunity	25 V/m (80 MHz to 2.7 GHz) per IEC61000-4-3, criteria A
Immunity to Conducted Disturbance Induced by RF Fields	10 V/m (150 kHz to 80 MHz) per IEC61000-4-6, criteria A

Environmental

Temperature	10°C to 40°C (operating), -20°C to 70°C (non-operating)
Humidity	5% to 80% RH (non-condensing) up to 30°C, decreasing linearly to 45% RH at 50°C (operating) 5% to 95% RH (non-condensing), 80% RH above 30°C, 45% RH above 50°C (non-operating)
Altitude	Up to 3000 m (operating), 10,000 m (non-operating)
Pollution Degree	2, Indoor Use Only

Certifications

CE Declaration of Conformity	Low Voltage Directive 2014/35/EU (IEC/EN 61010-031:2015 EMC Directive 2014/30/EU (IEC/EN 61326-1:2013) RoHS2 Directive 2011/65/EU

Ordering Information

Product Description	Product Code
High Voltage Fiber Optically-isolated Probe Models and Accessories	
High Voltage Fiber Optic Probe, 150 MHz Bandwidth. Includes soft-carrying case, Qty. 1 Amplifier/Modulating Transmitter, Qty. 1 Demodulating Receiver, Qty. 1 1m Fiber Optic Cable, Qty. 1 USB Charging Cable, Qty. 1 Micro-gripper set.	HVFO108
Attenuating Tips must be ordered separately.	
HVFO10X +/-1V (1x Attenuation) Universal Tip Accessory	HVFO100-1X-TIP-U
HVFO10X +/-5V (5x Attenuation) Universal Tip Accessory	HVFO100-5X-TIP-U
HVFO10X +/-10V (10x Attenuation) Universal Tip Accessory	HVFO100-10X-TIP-U
HVFO10X +/-20V (20x Attenuation) Universal Tip Accessory	HVFO100-20X-TIP-U
HVFO10X +/-40V (40x Attenuation) Universal Tip Accessory	HVFO100-40X-TIP-U
NIST Traceable Calibration Certificate	HVFO108-CCNIST

PASSIVE PROBES

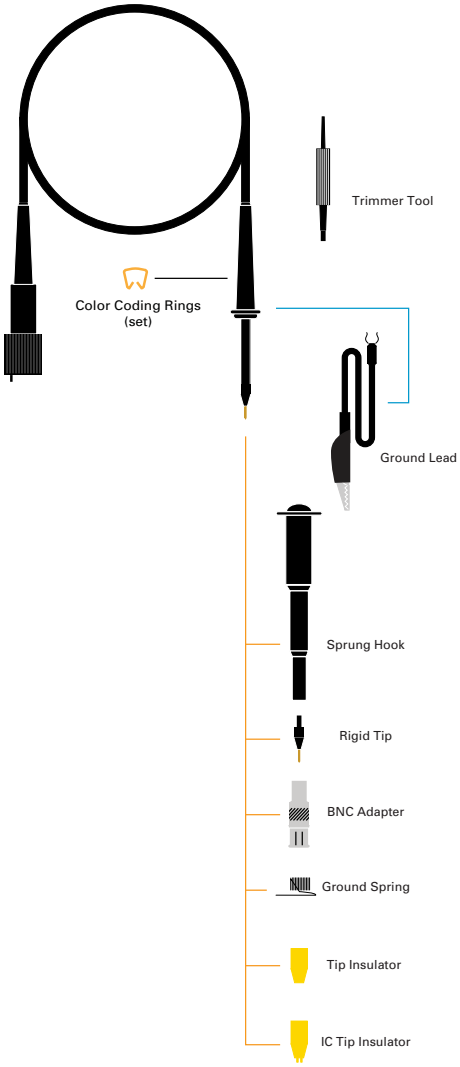
Teledyne LeCroy Passive Probe Model Numbers:
PP016
PP018
PP019
PP020
PP021
PP022
PP023
PP024
PP026

Each passive probe is recommended for a certain oscilloscope, using the right passive probe with the right oscilloscope means that the probe can be properly compensated across the entire bandwidth. Using probes with a different oscilloscope will only let you compensate for low frequencies.

Specifications

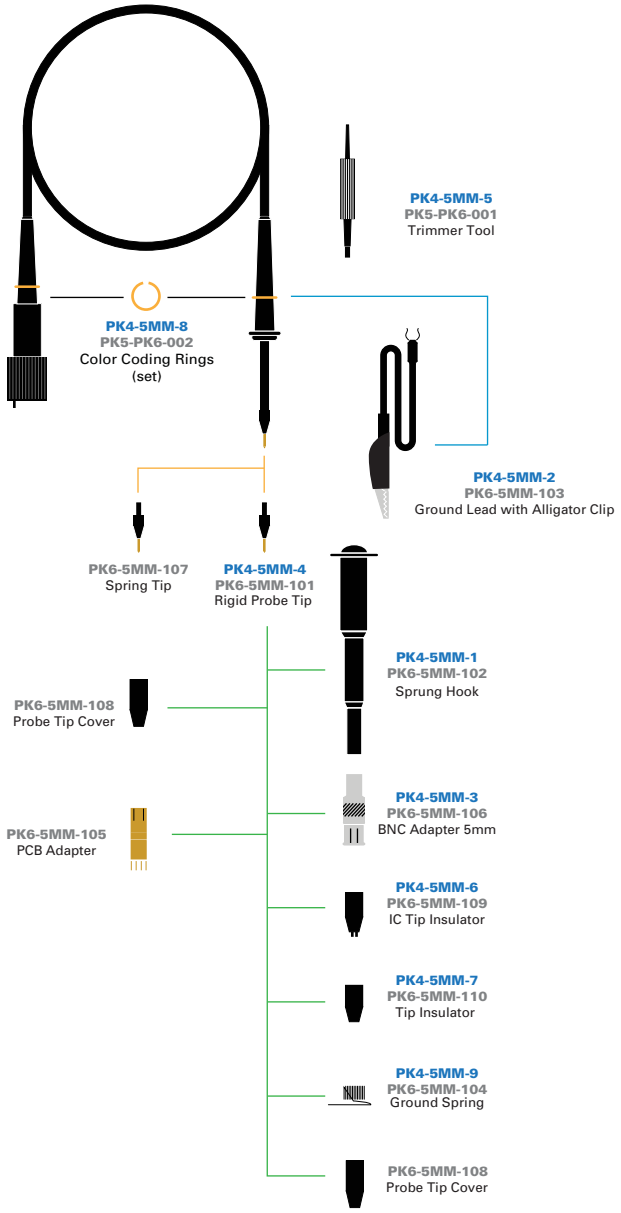
Types	Bandwidth	Input R	Input C	Attenuation	Maximum Voltage	Diameter
PP016	300 MHz/ 10 MHz	10 MΩ/ 1 MΩ	12 pF/ 46 pF	÷10/ ÷1	600 V	5 mm
PP018	500 MHz	10 MΩ	10 pF	÷10	350 V	5 mm
PP019	200 MHz	10 MΩ	12 pF	÷10	500 V	5 mm
PP020	500 MHz	10 MΩ	11 pF	÷10	500 V	5 mm
PP021	500 MHz	10 MΩ	11 pF	÷10	500 V	2.5 mm
PP022	500 MHz	10 MΩ	10 pF	÷10	500 V	2.5 mm
PP023	500 MHz	10 MΩ	10 pF	÷10	500 V	2.5 mm
PP024	500 MHz	10 MΩ	10 pF	÷10	500 V	5 mm
PP025	500 MHz	10 MΩ	10 pF	÷10	500 V	5 mm
PP026	500 MHz	10 MΩ	10 pF	÷10	500 V	5 mm

Passive Probe Accessories for PP016
Replacement Part Kit: PKIT3-5MM-101

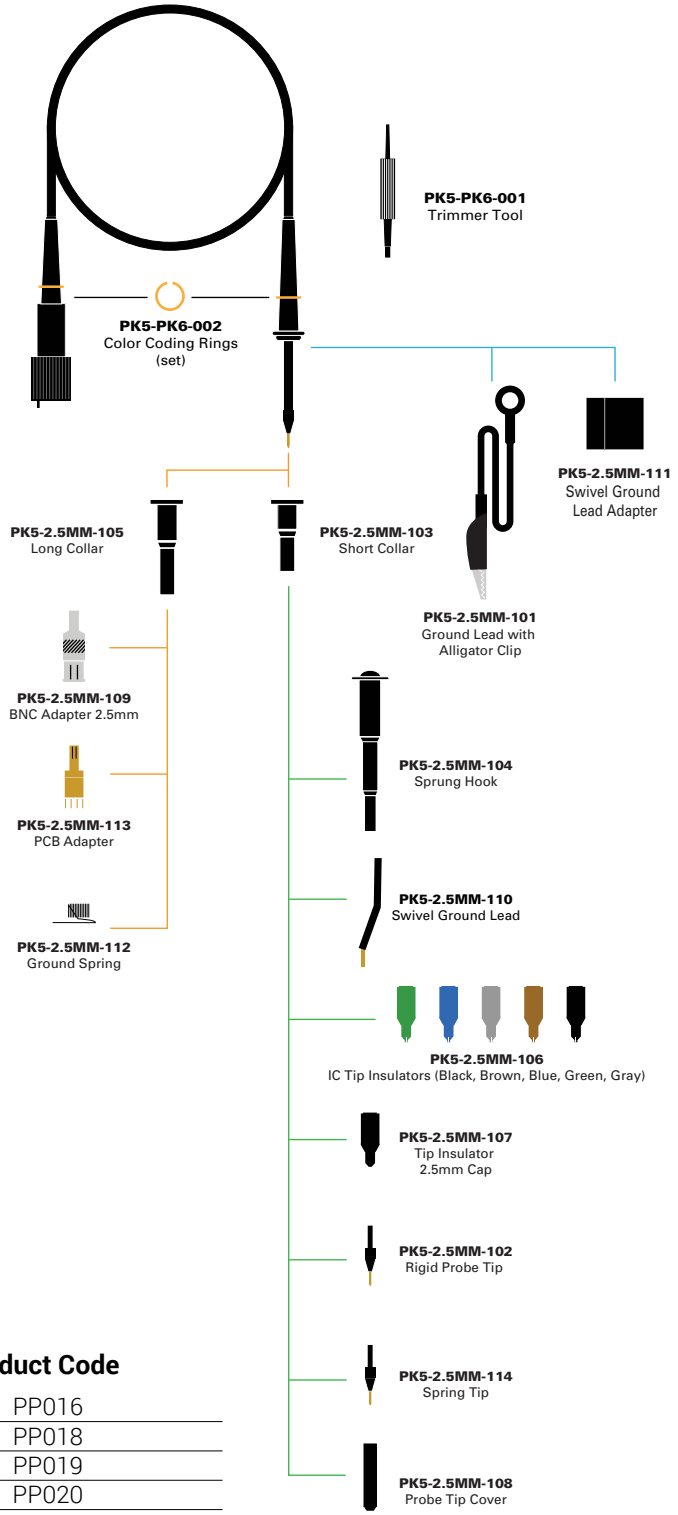


Learn More:
teledynelecroy.com/probes/passive-probes

Passive Probe Accessories for
PP019 and PP020 – *Part numbers in blue*
Replacement Part Kit: PKIT4-5MM-101
PP024, PP025, and PP026 – *Part numbers in gray*
Replacement Part Kit: PKIT6-5MM-101



Passive Probe Accessories for
PP021, PP022, and PP023
Replacement Part Kit: PKIT5-2.5MM-101



Ordering Information

Product Description	Product Code
10:1, 10 MΩ, 300 MHz Passive Probe	PP016
500 MHz Passive Probe, 10:1, 10 MΩ	PP018
250 MHz Passive Probe, 10:1, 10 MΩ	PP019
500 MHz Passive Probe, 10:1, 10 MΩ	PP020
500 MHz Passive Probe, 2.5mm, 10:1, 10 MΩ	PP021
500 MHz Passive Probe, 2.5mm, 10:1, 10 MΩ	PP022
500 MHz Passive Probe, 2.5mm, 10:1, 10 MΩ	PP023
500 MHz Passive Probe, 5mm, 10:1, 10 MΩ	PP024
500 MHz Passive Probe, 5mm, 10:1, 10 MΩ	PP025
500 MHz Passive Probe, 5mm, 10:1, 10 MΩ	PP026

PROBE ADAPTERS

Teledyne LeCroy Probe Adapter Model Numbers:

CA10
TPA10

Probe adapters provide simple and easy interface of third-party probes as well as change between the different Teledyne LeCroy Oscilloscope input and cable types (ProBus, ProLink, K/2.92 mm, BNC and SMA). Depending on the adapters, changing between the Teledyne LeCroy Oscilloscope's input type may have an effect on the overall performance of the channel.

CA10

The CA10 is a programmable and customizable interface device that seamlessly incorporates third party current transducers/transformers with Teledyne LeCroy oscilloscopes or motor drive analyzers. The easy to use interface provides the ability for the CA10 to be programmed to contain the specifications of the current sensor allowing it to automatically correct for the gain or attenuation and display results in Ampere units. This allows the third party device to be recognized and operate as if it were a Teledyne LeCroy probe.

Key Features

- **Provides ability for third party current sensor to operate like a Teledyne LeCroy probe**
- **Programmable EEPROM for saving third party current sensor parameters**
- **Allows for addition of shunt resistor and RLC filter components**
- **ProBus Active interface with automatic scaling in A/div**
- **Easy to use, saves time and possible errors**

Specifications

Input Coupling	DC, AC, Both
Input Termination	1MΩ or 50Ω
Programmable Bandwidth Filters	Full, 200 MHz, 20 MHz
Transformer/Transducer Interface	BNC
Scaling Factors	Programmable
Resistive Termination (if required)	Customizable (See Operator's Manual for details)
Oscilloscope Interface	Teledyne LeCroy ProBus

Note: Some third party devices will require a separate power supply or batteries. The CA10 does not have the ability to supply the power to these devices.

Ordering Information

Product Description	Product Code
ProBus Current Sensor Adapter	CA10

Included with Standard Configuration CA10

Description	Qty
CA10 ProBus Current Adapter	1
Heat-Shrink tubing (6" length)	1
Removable Labels (sheet of 20)	1

Learn More:
teledynelecroy.com/probes/probe-adapters

TPA10

The TPA10 ProBus™ Probe Adapter enables you to connect select TekProbe interface level II probes to any ProBus-equipped Teledyne LeCroy instrument. The TPA10 supplies all necessary power and offset control to the probe and automatically detects which probe is attached.

Specifications

Electrical Characteristics

Bandwidth	4 GHz (adapter only)
Power Supplies	+15V, -15V, +5V, -5V (each 2%)
Offset Voltage	±1V (1%)
Max. Input Voltage	47 V_{pk}, 33 V_{rms}

Environmental

Operating Temperature Range	0 to 50 °C
Non-operating Temperature Range	-40 to +70 °C
Humidity	5% to 95% RH (10 to 40 °C); 5% to 75% (above 40 °C); RH not controlled below 10 °C
Operating Altitude	3000 meters maximum

Physical

Dimensions (WxHxD)	39 mm x 31.1 mm x 88.6 mm (1.54" x 1.22" x 3.49")
Weight	119 g (0.26 lb)

The TPA10 requires the Teledyne LeCroy oscilloscope to be running firmware version 7.8.0.0 or greater.

Ordering Information

Product Description	Product Code
TPA10 ProBus Adapter	TPA10

Key Features

- **Allows TekProbe™ interface level II probes to work with any ProBus-equipped Teledyne LeCroy oscilloscope**
- **Automatic probe detection**
- **Provides all necessary power and offset control to the attached probe**
- **Supports probes up to 4 GHz**
- **Easy firmware updates**
- **Wide variety of probes supported including**:
  - Preamplifiers
  - Current Probes
  - Single-Ended Active Probes
  - Differential Active Probes

Supported Probes

The following TekProbe devices are supported for use with TPA10:

Preamplifiers

1 MHz Differential Preamplifier	ADA400A

Current Probes

50 MHz AC/DC Current Probe	TCP202/TCP202A

Single-ended Active Probes

750 MHz Single-ended Active Probe	P6205
1 GHz Single-ended Active Probe	P6243
1.5 GHz Single-ended Active Probe	P6245
4 GHz Single-ended Active Probe	P6241
4 GHz Single-ended Active Probe	P6249

Differential Active Probes

100 MHz Differential Probe	P5205/P5205A
50 MHz Differential Probe	P5210/P5210A
400 MHz Differential Probe	P6246
1 GHz Differential Probe	P6247
1.5 GHz Differential Probe	P6248
500 MHz Differential Probe	P6250
1 GHz Differential Probe	P6251

Teledyne LeCroy Transmission Line Probe Model Number:

PP066

Key Features:

- **Interchangeable attenuator tips**
- **Signal integrity at high bandwidth**
- **Standard SMA cable connection**
- **Ultra low capacitance**

PP066

The PP066 is a high-bandwidth passive probe designed for use with the WaveMaster and other high-bandwidth oscilloscopes with 50 Ω input termination. This very low capacitance probe provides an excellent solution for higher frequency applications, especially the probing of transmission lines with 20–100 Ω impedance. The PP066 accommodates a wide range of applications, including probing of analog and digital ICs commonly found in computer, communications, data storage, and other high-speed designs.

Specifications

Electrical Characteristics	
Bandwidth	DC to 7.5 GHz
Risetime	< 47 ps
Input Capacitance	< 0.20 pF
Input Resistance	500 Ω (÷10 cartridge) 1000 Ω (÷20 cartridge)
Maximum Voltage	15 V rms
Cable Length	1 m

Ordering Information

Product Description	**Product Code**
7.5 GHz Low Capacitance Passive Probe (÷10, 1 kΩ; ÷20, 500 Ω)	PP066

Included with PP0066

PACC-AD001, SMA to BNC Adapter

Learn More:
teledynelecroy.com/probes/transmission-line-probes

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Learn More:
teledynelecroy.com/probes

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