



mti instruments

Accumeasure D200HD

Picometer Resolution Capacitance
Measurement System

Accumeasure™ D200HD

The D200HD is a two-channel, picometer scale, capacitance based, displacement measurement instrument for conductive targets.

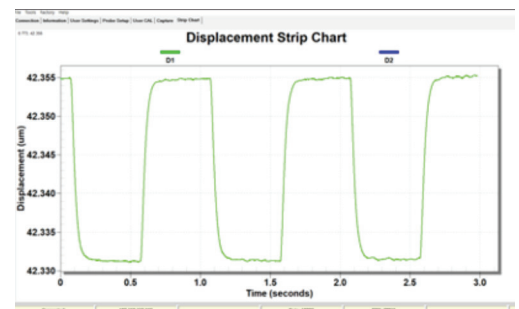
The D200HD achieves very high resolution with the aid of external preamplifiers that are located close to the probes that eliminate parasitic capacitance effects which cause noise. Digital communication is provided via Ethernet or USB. The bandwidth and range extension of the probes are digitally programmable. Resolutions as low 20pm may be achieved with a 10um range probe.

Specifications

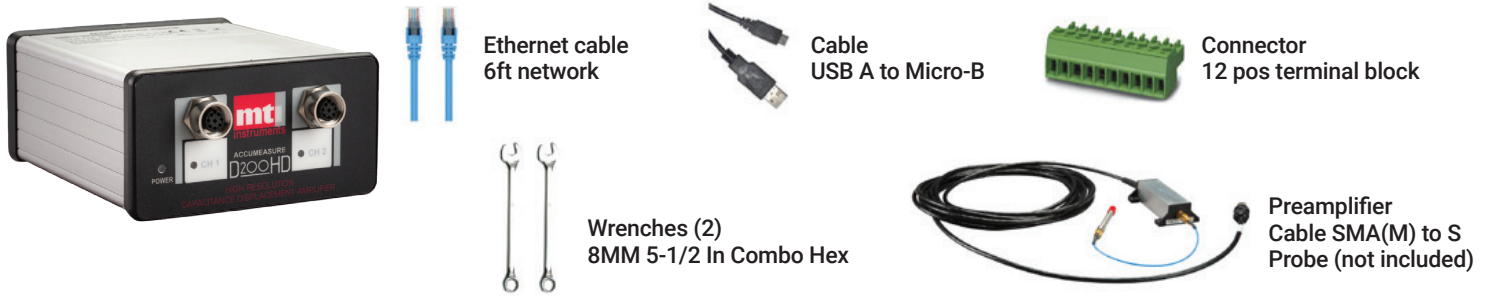
Resolution	$\leq 0.0000001 \sqrt{\text{Hz}}$ FSR
Temp	Amplifier useable from 0-40°C, Preamp up to 50°C, Probes up to 150°C
Drift	< 200 PPM / ° C (Amplifier & Probe Preamp)
Probe Standoff	10% of specified probe range
Linearity	$\pm 0.01\%$ FSR (at 1X)
Range Extensions	Up to 5X, and up to 10 range extensions per channel (2 standard)
Digital Frequency Response	5kHz

Displacement Strip Chart

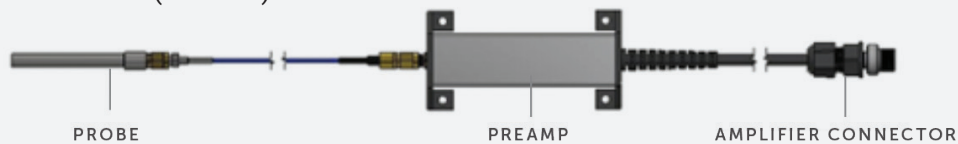
Shown is an actual 25nm displacement signal at 10Hz bandwidth. The resolution is 200 pico meters pk-pk with a 50 μm range probe using a 2X extension (100 μm total range).



What's in the Box



High definition probe, preamp and amplifier connector. The probe to preamp coaxial cable length is limited to 177 mm (7 inches).



Accumeasure D200HD Specifications

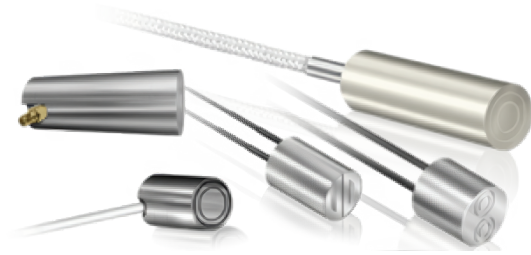
Measurement Range	0 to 2mm	Operating Temperature	0-40°C, 95% non-condensing
Noise	$\leq 0.0000001 \sqrt{\text{Hz}}$ FSR	Operating Environment	IP40
Repeatability	100PPB	Power Requirements	24 VDC < 8W
Digital Resolution (LSB)	1pm	Target Ground Return	Integrated with Power Connector
Long Term Stability/Drift	20ppm/month or better at 20°C	Input Protection	Reverse Polarity (Over Volt to 35VDC)
Digital Linearity Accuracy	$\pm 0.01 \%$ FSR	ESD Protection	$\pm 4\text{kV}$ Contact and $\pm 8\text{kV}$ Air
Digital Frequency Response	5kHz	Amplifier Case Dimensions	2" (53mm) H x 4" (103mm) W x 4.7" (120mm) D
Output Data Rate	20k (SPS)	Case Mount	DIN Mount Kit
Temperature Stability	± 100 ppm/°C	Preamp Connectors	M12-8
Digital Butterworth Filter	50, 100, 500, 1kHz, or 5kHz	Power and Connectors	Phoenix screw terminal
Exponential Filter	No filtering	Preamp to Amp Cable Length	3 meters
Range Extension	5X max	Preamp Case Dimensions	87mm L x 47mm W x 25 mm H
ADC Bit Count	24-bits	Probe Connectors	SMA
Basic Interface	Command-Response, ASCII commands	Probe to preamp Cable Length	177mm (7 inch)
Digital Output	Micro USB and RJ-45 Ethernet 10-100	Number of Channels	1-2
Digital Latency	< 4ms (Cap input to Ethernet output)	Multi-channel Synchronization	Master Slave (simple wire)
Encoder Input	0-24VDC max A quad B 500k RPM		
Included Software	MTI Basic, LabView, .NET and DLL Drivers		

MTI Basic Software Included

MTI has the expertise to create an HD probe suitable to specific requirements. Our probes can operate at multiple ranges through digital range extension. Contact MTI to discuss probe needs.

MTI Accumeasure High Definition Probes

MTI's easy user interface allows exporting data to image files or Excel CSV files or data logging for data analysis and reports. The user settings tab allows adjustment of range, filter, data rate and other items.



Which product is right for you?
Contact us today.

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