



MDA 8000HD Motor Drive Analyzer

350 MHz – 2 GHz
8 Channels, 12-bit Resolution

Static, Dynamic, Complete



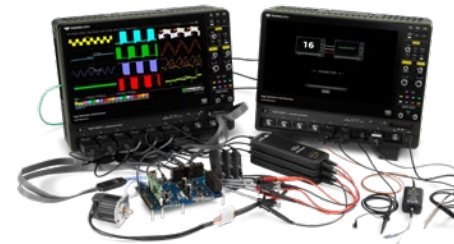
	MDA 8000HD Motor Drive Analyzer	Typical Oscilloscope	Typical Power Analyzer
Analog Inputs	8 + 8 (with OscilloSYNC)	4	8 to 12
Digital Inputs	16 (with MSO option)	16 (optional)	No
Resolution	12 bits	8 bits	16 bits ¹
Bandwidth	350 MHz - 2 GHz	350 MHz - 2 GHz	5 MHz
Sample Rate	10 GS/s	1.25 to 10 GS/s	2 MS/s
Memory	50 Mpts/Ch standard 1.25 Gpts/Ch maximum	50 Mpts/Ch standard 250 Mpts/Ch maximum	2 Mpts/Input
Display Size	15.6"	12.1" to 15.6"	8.4"
Static Power Analysis (3-phase)	Yes	No	Yes
Dynamic Power Analysis (3-phase)	Yes	No	No
Mechanical Interface	9 Speed, 5 Torque, 4 Angle (standard)	No	2 Speed, 1 Torque (optional)
Vector Display	Yes	No	Yes
Harmonics Calcs	Yes	No	Yes
Power Accuracy	~1%	-	0.10% to 0.25%
Voltage Probes	Yes	Yes	No
Current Probes	Yes	Yes	No
Serial Trigger & Decode	Yes	Yes	No

¹ - Crest factor settings of 3 or 6 reduce the practical resolution to less than this amount.

Test Coverage	Teledyne LeCroy MDA 8000HD Motor Drive Analyzer	Typical Oscilloscope	Typical Power Analyzer
Power Semiconductor	Complete	Complete	No Capability
Inverter Subsection	Complete	Limited	No Capability
Complete Drive System	Complete	Very Limited	No Capability
Embedded Control System	Complete	Limited	No Capability

“Channels and Probes” vs. “Elements”

Teledyne LeCroy MDA 8000HD



Analog and digital input channels

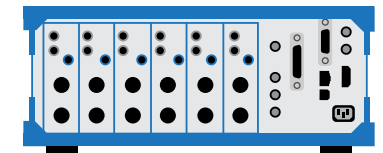
8 analog input channels up to 2 GHz.
Up to 16 analog channels using
OscilloSYNC™ technology.

16 digital channels (optional).

Probes provide HV isolation and
shielding from interference.

**Flexible high-bandwidth inputs can
measure any signal but require use of
probes that add cost and reduce accuracy.**

Typical Power Analyzer



Input modules (number varies)

Specialized for specific voltage and current
signals only.

HV isolated - typically 1000 Vdc.

Input cables not shielded - subject to
interference and noise.

No flexibility to measure digital, control, or
serial data signals.

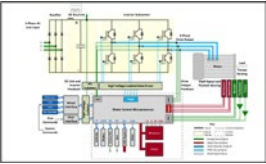

**Specialized inputs have built-in high
voltage isolation but no flexibility for
complete testing. Most accurate only
if not used with external transducer/
transformer.**

What Motor Drive Engineers Need - Static, Dynamic, Complete

Motor Drive Analyzer

Motor Interface
(Torque, Speed, Angle)

3-phase Power Analysis
(Inputs, Resolution)

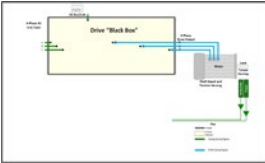
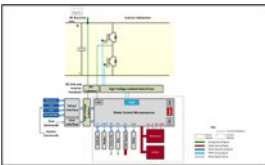
Teledyne LeCroy
Motor Drive Analyzer
8 channels, 12 bits

Complete Acquisition Capabilities
(BW, SR, Resolution, Memory;
Analog, Digital, Sensor, Serial Data)

Typical Oscilloscope + Power Analyzer

Motor Interface
(Torque, Speed, Angle)

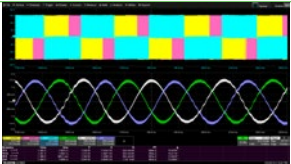

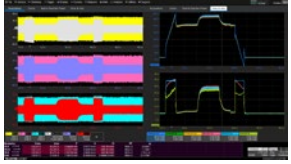

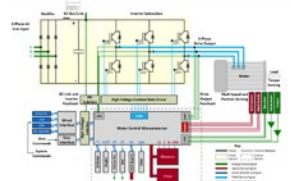
3-phase Power Analysis
(Inputs, Resolution)

Complete Acquisition Capabilities
(BW, SR, Resolution, Memory;
Analog, Digital, Sensor, Serial Data)

Teledyne LeCroy Motor Drive Analyzers combine capabilities of power analyzer instruments and oscilloscopes to provide complete drive system testing, including:

- IGBT/MOSFET Device Test
- Inverter Subsection Test
- Embedded Control System Test
- Control Loop Analysis
- Power Systems Analysis
- Drive System Validation

Capability	Teledyne LeCroy MDA 8000HD Motor Drive Analyzer	4-channel Oscilloscope + Power Analyzer
Static Power Analysis	<p>Yes</p> <p>Short records. Constant load/speed. Numerics value table. Correlation to controls.</p> 	<p>Yes</p> <p>Short records. Constant load/speed. Numerics value table.</p> 
Dynamic Power Analysis	<p>Yes</p> <p>Long time durations. Variable loads/speeds. Statistics table. Per-cycle Waveforms. Correlation to controls.</p> 	<p>No</p> 
Complete Test Coverage	<p>Yes</p> <p>View 3-phase waveforms. Mixed Signal (MSO). Serial trigger & decode. Probes & accessories. Combine two instruments for 16 channels.</p> 	<p>Very Limited</p> <p>Not enough channels. Not enough resolution. No simple capability to combine two instruments.</p> 