

WINDROCK 6400 DIESEL ENGINE ANALYZERS



The Windrock 6400 suite of diesel engine analyzers offers unmatched power to assess engine performance and mechanical condition. Using proven crank-angle referenced vibration and ultrasonic signatures combined with cylinder pressures, Windrock diesel engine analyzers provide a complete, non-intrusive, component level view of your engine. Each analyzer delivers the insight you need to boost efficiency, improve reliability, and save money on maintenance and repairs.

All Windrock diesel engine analyzers utilize innovative Windrock MD software for trending, reporting, and analysis. All models have integrated wireless communications with the encoder.



Diesel Application Specifications

<p>Model 6400/DA Dual-Channel Diesel Analyzer</p>	<p>Operators, mechanics, and engineers use this cost-effective tool to improve diesel engine performance, reliability, and safety as well as to identify component faults and mechanical condition. The 6400/DA is the only dual-channel diesel engine analyzer available that combines cylinder pressure measurements and calculations with phased vibration and ultrasonic vibration measurements for a comprehensive examination of internal components. Easy, single-person set up and operation makes this lightweight, rugged analyzer an efficient, effective tool to detect and isolate engine problems. An optional FFT/Spectrum Vibration capability allows for complete vibration assessment of rotating components such as turbochargers.</p>
<p>Model 6400/DA1 Single-Channel Diesel Analyzer</p>	<p>The 6400/DA1 is a single-channel analyzer offering the same powerful capabilities of the 6400/DA for cylinder pressure measurement and calculations, plus phased vibration and ultrasonic vibration measurement. Easy to use and built to last, this analyzer is the most advanced single-channel diesel analyzer available.</p>
<p>Model 6400/DC Combustion Analyzer</p>	<p>This single-channel analyzer is an advanced combustion analyzer that provides operators and engineers with full performance information on a diesel engine. It allows users to easily obtain engine parameters and calculations such as Peak Pressure and Peak Pressure Angle, Maximum Rise Rate, Start of Combustion, Indicated Horsepower, and Indicated Mean Effective Pressure.</p>
<p>Model 6400/DV Vibration Analyzer</p>	<p>A single-channel phased vibration analyzer that combines the capabilities of advanced phased vibration with ultrasonic measurements. It is designed for diesel engines that do not have indicator valves for cylinder pressure measurements.</p>

Detectable Malfunctions

- Peak Firing Pressure
- Fuel Injectors and Valves
- Leaking Valves and Rings
- Worn or Scored Liners
- Intake/Exhaust Port or Bridge Wear
- Worn or Defective Valve Train Components
- Damaged Connecting Rod and Wrist Pins
- Low Horsepower Output
- Damaged Bearings
- Turbocharger Defects
- Jacket Water and Lube Oil Pump Faults
- Excessive Frame Vibration
- Foundation or Grout

Performance Measures

- Pressure Time
- Pressure Volume
- Horsepower
- Peak Firing Statistics
- Peak Pressure Angle and Statistics
- Automated Diagnostics

WINDROCK 6400 DIESEL ENGINE ANALYZERS

Diesel Analyzer Models:	6400/DA	6400/DA1	6400/DC	6400/DV
Basic Analysis Functions				
Number of Input Channels	2 Plus Trigger	1 Plus Trigger	1 Plus Trigger	1 Plus Trigger
Hazardous Area Approval (Class I, Div. II, Groups A, B, C and D)	Optional	Optional	Optional	Optional
Wireless Link to 6400 Analyzer	Standard	Standard	Standard	Standard
Constant RPM Display	Standard	Standard	Standard	Standard
Combustion Analysis Functions				
Peak Pressure Statistics (10-250 Cycles) (Mean, Deviation, High, Low, Spread, Std. Deviation, Average Mean Pressure/Spread, Max Rise Rate, Start of Combustion, Horsepower, Indicated Mean Effective Pressure)	Standard	Standard	Standard	N/A
Cylinder Pressure Tracking (Up to 10 User-identified Crank Angles)	Standard	Standard	Standard	N/A
Pressure vs. Crank Angle Pattern/Pressure vs. Volume Pattern	Standard	Standard	Standard	N/A
1st & 2nd Derivative Plots	Standard	Standard	Standard	N/A
Engine Performance Report	Standard	Standard	Standard	N/A
Peak Pressure Angle Statistical Data (Mean, Deviation, High, Low, Spread, Std. Deviation, Average Mean Pressure/Spread)	Standard	Standard	Standard	N/A
Mechanical Analysis Functions				
Vibration (High, Low & Raw) vs. Crank Angle	Standard	Standard	N/A	Standard
Ultrasonic vs. Crank Angle	Standard	Standard	N/A	Standard
Ultrasonic Headphones (Simultaneous Use with 6400 Analyzer)	Optional	Optional	N/A	Optional
Vibration vs. Time/FFT Functions	Optional	Optional	N/A	Optional
O-Scope Mode	Standard	Standard	Standard	Standard
Infrared Temperature Integrated with Ultrasonic Sensor	Standard	Standard	N/A	Standard

