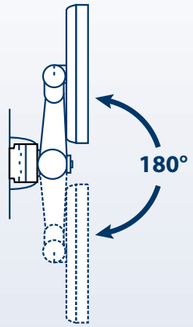
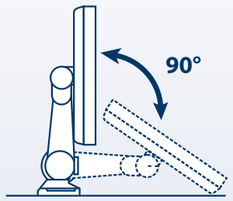
Monitor Adjustments

The H355 Series Monitor Control System allows maximum side-to-side and vertical adjustments during testing. The monitor can be positioned by the technician for the best viewing angle with less eye strain and fatigue during testing.

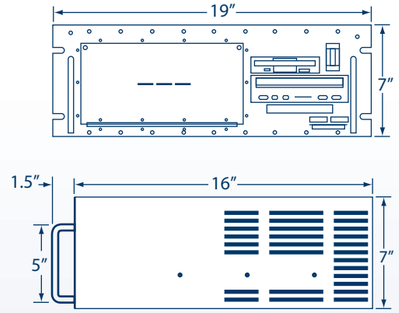


Vertical Mount

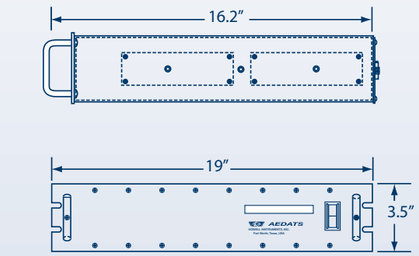


Horizontal Mount

TCIP Unit:



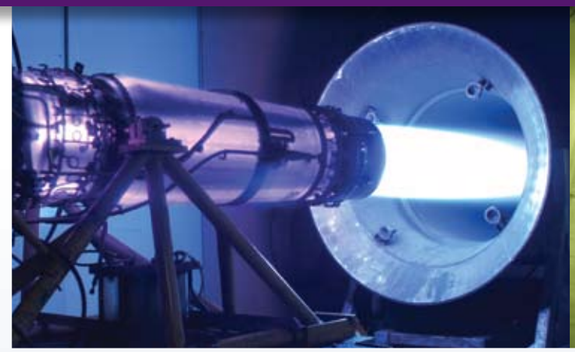
AEDATS Unit:



Specifications	
Weight	Approximately 25 lbs
Sample Rate	Configurable to 60 samples/second
Processor Information	Dual processors for enhanced performance
Memory	Minimum of: 70 MB DRAM, 6.0 GB Hard Drive, 4.0 MB Flash
Power	85 to 265 VAC, 50 to 400 Hz, 135W max per MIL-STD-704
Interfaces	Printer, Keyboard, RS-232, Parallel, CD-ROM, Ethernet, 1553
Channel Capacity	Up to 255 Channels including:
	• Discretes
	• High Level(s)
	• Low Level(s)
	• Frequency
	• Syncro
	• Second Harmonic Fuel Flow

Howell Instruments, Inc.
8945 South Freeway
Fort Worth, Texas 76140
www.howellinst.com
817-336-7411
Fax: 817-336-7874
info@howellinst.com

ENGINE TEST CELL INSTRUMENTATION



H355 Series

Test Cell Instrumentation Package (TCIP)
Automatic Engine Data Aquisition Test System(AEDATS)

Howell's H355 Series engine Test Cell Instrumentation Package provides an adaptable, internet protocol (IP) based platform for accurately testing and monitoring gas turbine engines. Designed to interface with multiple applications, our system automates test and calibration procedures, unifies evaluation standards, and provides power settings and target conditions for a wide range of engine types and parameters. This flexible system can be used in diverse capacities including engine test cells, power generating stations, nuclear power plants and other various process industries.

The H355 Series can replace most test cell hardware including the following:

- Variable Filter (Vibration)
- Vibration Amplifiers
- Calculation Counter
- Temperature Indicators
- Fuel Quantity Gage
- Compressor Inlet Total Pressure Indicator
- Compressor Inlet Static Pressure Indicator
- Barometer
- Engine Dyno Control Panel
- Fault Light Panel
- Ignition Start Timer
- Engine Run Timer
- Fuel Flow Discharge Pressure Indicator
- Fuel Inlet Pressure Indicator
- Compressor Discharge Pressure Indicator
- Engine Stator Vane Position Indicator
- Dyno Shroud Position Indicator
- Lube Discharge Pressure Indicator
- Lube Scavenge Pressure Indicator
- Dyno Lube Inlet Pressure Indicator
- Ng RPM Indicator
- Nf RPM Indicator
- T5 Indicator
- PLA Indicator

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ENGINE TEST CELL INSTRUMENTATION

ENGINE TEST CELL INSTRUMENTATION

The H355 Series equipment can be utilized in many configurations.

One example is a Test Cell Instrumentation Package (TCIP) that replaces current gauges, indicators and displays. This method presents all data on the monitor with the ability to instantly record all parameters. The TCIP is a cost effective way to replace existing test cell instrumentation that has become obsolete or difficult to support.

Another configuration is an Automatic Engine Data Acquisition Test System (AEDATS), which adds an engine application computer program to the TCIP hardware. Currently fielded to the US Army's Flexible Engine Diagnostic System (FEDS), this program prompts the test cell operator through each engine test, monitors the test results, keeps track of test progress, and alerts the operator of dangerous operating conditions. AEDATS performs all calculations and can present performance information corrected to standard day conditions.

The H355 will perform the following:

- Monitor and display engine, facility and calculated parameters
- Scale, convert and calibrate inputs to engineering units
- Alert the operator of unsafe conditions
- Remind the operator when transducers need calibration
- Provides virtual instrumentation for visual reference and rate of change information

Other H355 features include:

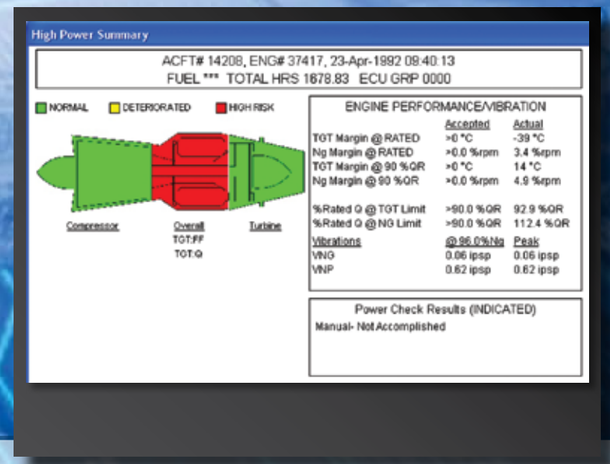
- Parameter inputs and channel assignments are software configurable
- Printed Circuit Boards carry their own calibration allowing for off-site calibration
- Microsoft Windows®[1] operating environment
- Prompts the operator through test procedures

H355 Optional Features

- Engine application software
- Standard or customized printed reports
- Engine diagnostics using Howell's patented Referred Engine Diagnostic Data (REDD)®[2] analysis program
- Second Liquid Crystal Display to enhance data presentation
- Integradeable with other vendor's systems
- Integrated vibration system
- Battery-backed uninterruptable power supply

Pictured at left: On the upper half of the screen, the grid window displays up to 32 parameters outlining the parameter name, the value of the parameter and measurement units. The lower right screen displays the bar graph/round dial window, providing visual verification that testing is within range of a given condition.

Pictured above: AEDATS Virtual Instrumentation Screen



Developed by Howell, the Referred Engine Diagnostic Data (REDD)® analysis program is a comprehensive thermodynamic analysis program that identifies abnormal engine operation by comparing actual engine performance with expected engine performance. Summarized performance reports make engine condition determination easy. Good engine performance tracking is simplified with a quantified ranking of engine condition. Weak engines are highlighted for attention. Probable causes of substandard performance are identified, providing the mechanic with a logic path for repair.

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1 Windows® is a registered trademark of Microsoft Corporation.
2 REDD® is a registered trademark of Howell Instruments, Inc.