

# Portable Data Collector Specifications

Catalog Number 1441-DYN25

A portable data collector is designed for condition-monitoring data collection, analysis, and root cause correction in applications with rotating equipment, such as motors, pumps, fans, and gearboxes.

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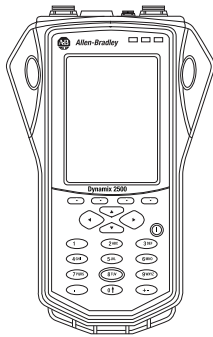
## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Dynamix 2500 Data Collector User Manual, publication <a href="#">1441-UM001</a>	Covers the Dynamix 2500 data collector module that is used for predictive maintenance using noise and vibration analysis.
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://www.rockwellautomation.com/global/certification/overview.page">http://www.rockwellautomation.com/global/certification/overview.page</a>	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/global/literature-library/overview.page>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

## Dynamix 2500 Portable Data Collector



The Dynamix™ 2500 data collector is a real-time, multi-channel fast Fourier transformer (FFT) analyzer and data collector for predictive maintenance and machinery vibration diagnostics. It can measure, process, display, and store a wide range of analysis functions. It can operate as a standalone instrument or you can download your measurements to your software application for program analysis.

**Table 1 - Technical Specifications - Dynamix 2500 Portable Data Collector**

Attribute	1441-DYN25
Input channels	Four
Input sources	<ul style="list-style-type: none"> <li>Acceleration, velocity, and displacement from hand-held or installed sensors or monitoring systems</li> <li>AC/DC sensors</li> <li>Pressure sensors</li> <li>Temperature sensors</li> <li>Keyboard entry measurements read from indicators or installed instruments entered in engineering units</li> <li>Universal tachometer input accepts pulse inputs in the range <math>\pm 25V</math></li> <li>Visual inspections added to measurement as coded notes or typed-in text notes</li> </ul>
Tachometer input parameters	<ul style="list-style-type: none"> <li>TTL/analog programmable to <math>\pm 25V</math></li> <li>RPM range 1...99,999</li> <li>Dynamic range &gt; 90 dB (24-bit ADC sigma-delta)</li> </ul>
Input overvoltage protection	<ul style="list-style-type: none"> <li><math>\pm 50V</math> AC, peak</li> <li>DC <math>\pm 50V</math> DC</li> </ul>
Amplitude accuracy	$\pm 5\%$
Resolution	Programmable 100, 200, 400, 800, 1600, 3200, 6400, or 25600 lines
Measurement windows	<ul style="list-style-type: none"> <li>Hanning</li> <li>Hamming</li> <li>Flat top</li> <li>Rectangular</li> </ul>
Multi-point automation	Up to 12 measurements can be linked for one-button automated data collection for each measurement location

**Table 1 - Technical Specifications - Dynamix 2500 Portable Data Collector**

Attribute	1441-DYN25
Preprocessing	gSE and ESP enveloping (demodulator) with four selectable input filters for enhanced bearing and gear mesh fault detection
Input filters, gSE	<ul style="list-style-type: none"> <li>100 Hz</li> <li>200 Hz</li> <li>500 Hz</li> <li>1 KHz</li> <li>2 KHz</li> <li>5 KHz</li> </ul>
Input filters, ESP	<ul style="list-style-type: none"> <li>0.6...1.25 KHz</li> <li>1.25...2.5 KHz</li> <li>2.5...5 KHz</li> <li>5...10 KHz</li> <li>10...20 KHz</li> </ul>
Nonroute frequency range	2 Hz...80 KHz
Offroute frequency range	0 Hz...80 KHz (ICP coupled measurements limited to 0.16 Hz...80 KHz)  High pass: OFF (~0 Hz), 0.18 Hz, 0.36 Hz, 2 Hz, 2.67 Hz, 5.3 Hz, 10 Hz, 23.8 Hz, and 70 Hz Low pass: 1 Hz...80 KHz
Low-frequency cutoff	0.18...70 Hz
Averaging	Programmable from 1...4096 Spectral, synchronous time, peak hold, and continuous
Cursor	<ul style="list-style-type: none"> <li>Fixed and cursor lock</li> <li>Single, harmonic, and peak pick</li> </ul>
Trigger modes	<ul style="list-style-type: none"> <li>Trigger: External or Laser Tach</li> <li>Trigger Level: Fixed or Automatic</li> <li>Ext Trig Slope: Amplitude and Slope</li> </ul>
Data Displays	Four-channel spectrum, four-channel time, phase table, orbit, process, cross channel phase, dual spectrum, time plots, and tri-axial plots <ul style="list-style-type: none"> <li>Up to 12 bands (fixed or order base) downloadable from host software</li> <li>User selection can show or hide band alarms</li> <li>User selection can show or hide grid</li> </ul>
System operating system	Microsoft Windows CE
Processors	Microprocessor Marvell Xscale PXA320 at 806 MHz DSP processor Motorola DSP56311
Communication	USB with Microsoft ActiveSync
Internal memory	Internal RAM 128 MB Application and user data 64 MB
Memory card	Secure digital (SDHC) card up to 16 GB
Battery	Rechargeable lithium ion, cat. no. 1441-PEN25-BAT
Weight, approx.	715 g (1.52 lb)
Dimensions, approx.	186 x 93 mm (7.32 x 3.66 in) narrowest point 186 x 134 mm (7.32 x 5.28 in) widest point
Casing	<ul style="list-style-type: none"> <li>80% High Impact ABS and 20% polycarbonate plastic</li> <li>Hand strap fixing either side of unit</li> </ul>

**Table 1 - Technical Specifications - Dynamix 2500 Portable Data Collector**

Attribute	1441-DYN25
Display	<ul style="list-style-type: none"> <li>LCD, backlit color</li> <li>1/4 VGA (240 x 320)</li> <li>58 x 72 mm (2.28 x x 2.83 in) viewable</li> </ul>
Input connectors	<ul style="list-style-type: none"> <li>Connector A and Connector B are 7-pin LEMO connectors</li> <li>Trigger input is a 7-pin Fischer connector</li> <li>Laser tachometer</li> <li>DC power-in is on POWER/USB/TRIGGER input connector. This connector cannot be used in hazardous locations.</li> </ul>
North American temperature code	T4 A
IEC temperature code	T4

**Table 2 - Environmental Specifications - Dynamix 2500 Portable Data Collector**

Attribute	1441-DYN25
Temperature, operating	-10...50 °C (14...122 °F)
Temperature, storage	-20...60 °C (-4...140 °F)
Relative humidity	0...95% noncondensing
Vibration	2 g @ 10...500 Hz
Drop	2 m (to Mil-Std 810)
Sealing	IP65 (dust and waterproof)
Emissions	Group 1, Class A

**Table 3 - Certifications - Dynamix 2500 Portable Data Collector**

Certification <sup>(1)</sup>	1441-DYN25
cCSAus	CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations. See CSA file LR236028.
CE	European Union 2004/108/IEC EMC Directive, compliant with: <ul style="list-style-type: none"> <li>EN 61000-6-2; Industrial Immunity</li> <li>EN 61000-6-4; Industrial Emissions</li> </ul>
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions

(1) When marked. See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

## Dynamix 2500 Accessories

The portable data collector is available as a kit (catalog number 1441-DYN25-2C). The kit includes the data collector and the following accessories.

**Table 4 - Accessories Included in a Dynamix 2500 Kit**

Accessory	Cat. No.
Operating system and information Cd	1441-DYN25-CD
Global power supply	1441-DYN25-PS
Battery	1441-PEN25-BAT
Transit case	1441-PEN25-CASE-T
Communication cable USB power splitter	1441-PEN25-COMS-US
Hand strap	1441-PEN25-HS
Rubber bump sleeve	1441-PEN25-RBS

Individual accessories include these items.

**Table 5 - Individual Dynamix 2500 Accessories**

Accessory	Cat. No.
Dust cap set for inputs	1441-DYN25-CAP
2-channel adapter cable	1441-DYN25-CBL2CH
Headset adapter cable	1441-DYN25-CBLHS
Operating system and information Cd	1441-DYN25-CD
4-channel extension module	1441-DYN25-M4CH
2-plane balancing extension module	1441-DYN25-MBAL
Bump test extension module	1441-DYN25-MBMP
Frequency response extension module	1441-DYN25-MFRF
Time recorder extension module	1441-DYN25-MREC
Run up/coast down extension module	1441-DYN25-MRUC
Global power supply	1441-DYN25-PS
Spare battery	1441-PEN25-BAT
Transit case	1441-PEN25-CASE-T
Communication cable USB power splitter	1441-PEN25-COMS-US
Hand strap	1441-PEN25-HS
Neck strap	1441-PEN25-NS
Rubber bump sleeve	1441-PEN25-RBS
100 mV per G accelerometer kit	1443-KIT-DATACTRL0

## 1441-PEN25-BAT Battery

**Table 6 - 1441-PEN25-BAT Specifications**

Attribute	1441-PEN25-BAT
Type	Rechargeable lithium ion, cat. no. 1441-PEN25-BAT
Capacity	2600 mAh
Power	18.7 Wh
Gauge	Battery capacity indicator, 8 hours
Rechargeable	In unit or via an off-the-shelf external DC power supply

### Accelerometers and Sensors

For standard accelerometers to use with the 1441-DYN25 data collector, see the 1443 Series Accelerometers Specifications Technical Data, publication [1443-TD001](#).

## Important User Information

Solid-state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation, and Maintenance of Solid State Controls (publication [SGI-1.1](#) available from your local Rockwell Automation Sales Office or online at <http://www.rockwellautomation.com/literature/>) describes some important differences between solid-state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid-state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements that are associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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## Rockwell Automation Support

Use the following resources to access support information.

<b>Technical Support Center</b>	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	<a href="http://www.rockwellautomation.com/knowledgebase">www.rockwellautomation.com/knowledgebase</a>
<b>Local Technical Support Phone Numbers</b>	Locate the phone number for your country.	<a href="http://www.rockwellautomation.com/global/support/get-support-now.page">www.rockwellautomation.com/global/support/get-support-now.page</a>
<b>Direct Dial Codes</b>	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	<a href="http://www.rockwellautomation.com/global/support/direct-dial.page">www.rockwellautomation.com/global/support/direct-dial.page</a>
<b>Literature Library</b>	Installation Instructions, Manuals, Brochures, and Technical Data.	<a href="http://www.rockwellautomation.com/literature">www.rockwellautomation.com/literature</a>
<b>Product Compatibility and Download Center (PCDC)</b>	Get help determining how products interact, check features and capabilities, and find associated firmware.	<a href="http://www.rockwellautomation.com/global/support/pcdc.page">www.rockwellautomation.com/global/support/pcdc.page</a>

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Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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