

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

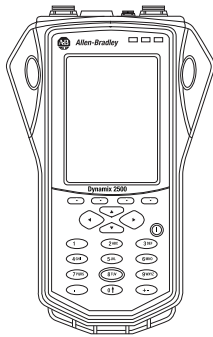
These documents contain additional information concerning related products from Rockwell Automation.

| Resource | Description |
|---|---|
| Dynamix 2500 Data Collector User Manual, publication 1441-UM001 | 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 1770-4.1 | Provides general guidelines for installing a Rockwell Automation industrial system. |
| Product Certifications website, http://www.rockwellautomation.com/global/certification/overview.page | 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"> Acceleration, velocity, and displacement from hand-held or installed sensors or monitoring systems AC/DC sensors Pressure sensors Temperature sensors Keyboard entry measurements read from indicators or installed instruments entered in engineering units Universal tachometer input accepts pulse inputs in the range $\pm 25V$ Visual inspections added to measurement as coded notes or typed-in text notes |
| Tachometer input parameters | <ul style="list-style-type: none"> TTL/analog programmable to $\pm 25V$ RPM range 1...99,999 Dynamic range > 90 dB (24-bit ADC sigma-delta) |
| Input overvoltage protection | <ul style="list-style-type: none"> $\pm 50V$ AC, peak DC $\pm 50V$ DC |
| Amplitude accuracy | $\pm 5\%$ |
| Resolution | Programmable 100, 200, 400, 800, 1600, 3200, 6400, or 25600 lines |
| Measurement windows | <ul style="list-style-type: none"> Hanning Hamming Flat top Rectangular |
| 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"> 100 Hz 200 Hz 500 Hz 1 KHz 2 KHz 5 KHz |
| Input filters, ESP | <ul style="list-style-type: none"> 0.6...1.25 KHz 1.25...2.5 KHz 2.5...5 KHz 5...10 KHz 10...20 KHz |
| 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"> Fixed and cursor lock Single, harmonic, and peak pick |
| Trigger modes | <ul style="list-style-type: none"> Trigger: External or Laser Tach Trigger Level: Fixed or Automatic Ext Trig Slope: Amplitude and Slope |
| 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"> Up to 12 bands (fixed or order base) downloadable from host software User selection can show or hide band alarms User selection can show or hide grid |
| 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"> 80% High Impact ABS and 20% polycarbonate plastic Hand strap fixing either side of unit |

Table 1 - Technical Specifications - Dynamix 2500 Portable Data Collector

| Attribute | 1441-DYN25 |
|---------------------------------|---|
| Display | <ul style="list-style-type: none"> LCD, backlit color 1/4 VGA (240 x 320) 58 x 72 mm (2.28 x x 2.83 in) viewable |
| Input connectors | <ul style="list-style-type: none"> Connector A and Connector B are 7-pin LEMO connectors Trigger input is a 7-pin Fischer connector Laser tachometer DC power-in is on POWER/USB/TRIGGER input connector. This connector cannot be used in hazardous locations. |
| 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 ⁽¹⁾ | 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"> EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions |
| 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.

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Rockwell Automation Support

Use the following resources to access support information.

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

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