

SYMPHONIEPRO[®] DATA LOGGER



An advanced, 26-channel data logging system, SymphoniePRO is purpose-built for the renewable energy professional.

SymphoniePRO Data Logger Kit (#8547)

DESCRIPTION	
Instrument type	26 channel internet-enabled micropower data logger for the renewable energy industry
Applications	Wind and solar resource assessment, power performance monitoring, and forecasting
Instrument compatibility	Symphonie iPack Communication + Power Modules: <ul style="list-style-type: none">• iPackGPS GSM/GPRS• iPackGPS 3G GSM• iPackGPS CDMA• iPackACCESS BGAN M2M Satellite• iPackACCESS Modbus TCP
DATA COLLECTION	
Sampling interval	1 Hz (IEC 61400-12-1 compliant)
Averaging interval	10-minute by default; user-selectable alternatives (1, 2, 5, 10, 15, 30, and 60 minutes)
Real time clock	Internal battery-backed with GPS or internet time synchronization (with iPack)
Storage medium	<ul style="list-style-type: none">• User-selectable storage of statistical data with optional storage of raw (1 Hz) sample data• 8 MB internal flash memory• Options for either 512 MB or 2 GB SD card

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Channel Capacity

- 12 counter channels
 - 14 analog channels: 7 built-in, 7 configurable with signal conditioning modules (P-SCMs)
 - Two (2) RS-485 communication channels, each full or half duplex with support for up to 6 devices
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Counter Channels Sensor Compatibility

Compatible with a wide array of industry-standard anemometers including:

- RNRG 40C, Class 1, or compatible sine wave anemometers
- Opto anemometers
- Reed switch anemometers
- Other frequency signals up to 2,500 Hz, 12 V excitation is provided by logger

Includes totalizer mode for Tipping Bucket Rain Gauge and other accumulator sensors

Analog Channels Sensor Compatibility

Compatible with a wide array of sensors including:

- RNRG standard analog sensors (200P Wind Direction Vane, 110S Temperature, BP20 Barometric Pressure, RH5X Relative Humidity, etc.)
 - Industry-standard pyranometers (Li-Cor LI-200SZ, Hukseflux LP02, SR11, SR12, SR20, Kipp & Zonen CMP3, CMP11, CMP21)
Wide range of other compatible sensors, individually verified upon request
 - Built-in channels 13-15: 0 to 5 V Analog; 2.5 or 5 V excitation; no P-SCMs required
 - Built-in channels 16-19: 0 to 5 V Analog; 5 or 12 V excitation; no P-SCMs required
 - P-SCM Channels 20-26 (signal range dependent on individual P-SCM card)
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Analog Measurement Accuracy

0.04% of full scale

RS-485 Channels Sensor Compatibility

Contact RNRG to discuss support for specific model types

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Parameters recorded for each channel	<ul style="list-style-type: none">• Average• Standard Deviation• Minimum / Maximum 1-sec sample• Maximum 3-sec gust with direction• Sum for totalizer inputs <p>Note: Statistics reported on each channel dependent on measurement type</p>
Data delivery	<ul style="list-style-type: none">• Automated delivery via iPack• Direct live connection through iPack• USB connection• Read from SD card
Security	<ul style="list-style-type: none">• Logger access PIN with 2-day lockout after 8 failed attempts• 128-bit data file encryption with user-specified password
RESOLUTION	
Analog measurement resolution	16-bit A/D conversion (76 uV resolution across 5 V range)
SOFTWARE	
Type	Windows (XP or later) compatible application
Capabilities	<ul style="list-style-type: none">• Import data files• Output tabular text files• Configure SymphoniePRO data loggers and Symphonie iPacks• Store configuration files for repeat programming• View live data including diagnostics via remote connections• Manage automated connections• Administer firmware updates to SymphoniePRO data loggers and Symphonie iPacks• Integrate with enterprise-level programs via command line mode• Includes integrated map and exports KML files

CONFIGURATION

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User interface	<ul style="list-style-type: none">• Symphonie Desktop Application• LCD with 16 button keypad with audible feedback
Configurable parameters	<ul style="list-style-type: none">• All parameters configured with PC using SymphoniePRO Desktop Application through MetLink connection (USB or TCP/IP)

CONNECTIONS

Sensor wiring	<ul style="list-style-type: none">• Sensors connected to wiring panel• Field wiring panel mounted in shelter box connected to logger via interconnect cable• Ground stud connects to earth ground with included ground cable
Expansion slots	Seven (7) signal conditioning module slots accept analog P-SCMs
Communication ports	<ul style="list-style-type: none">• Dedicated USB-B port on logger faceplate for configuration• Dedicated male DB25 interfaces to one optional iPack communications module• Two (2) RS-485 serial communication ports on wiring panel

POWER REQUIREMENTS

Batteries	<ul style="list-style-type: none">• Two (2) 1.5 volt D-Cell batteries (included with logger)• iPackGPS equipped with PV provides autonomous power to data logger when connected, making D-Cell batteries back up power (nominal configuration)
External power input	Provided by iPack
External solar input	Provided by iPack
External power output	Provided by iPack (iPackACCESS only)

INSTALLATION

Mounting	<ul style="list-style-type: none">• Logger and iPack attach to logger mounting bracket; Keyed slots allow for easy installation/removal in shelter box• Wiring panel mounts separately to shelter box back plate with four (4) Phillips 10-32 x 0.5 in. screws
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