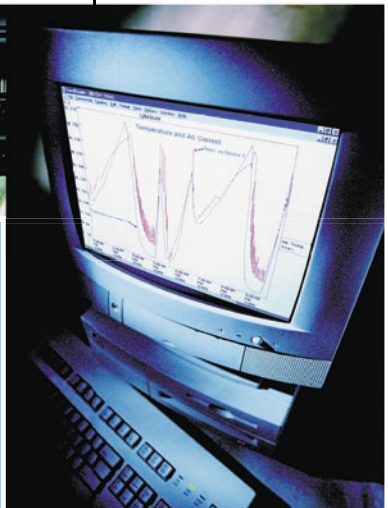




TECHNOLOGY
MADE TO MEASURE



ACR Systems Inc.
PRODUCT CATALOG

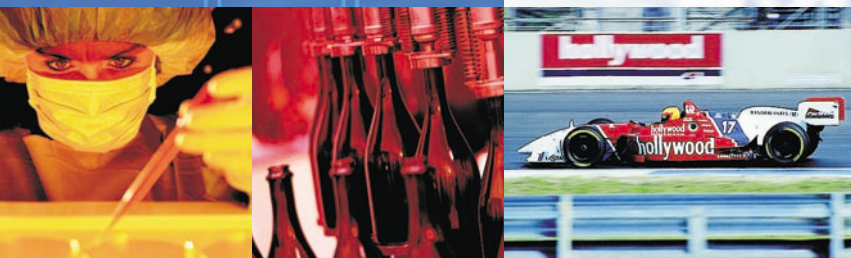


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Message from the President



ACR Systems Inc. has come a long way since we started designing and building data loggers in 1986. The fundamental values we established at our beginning – customer focus and dedication to quality – made it possible for ACR Systems to become one of the world’s leading manufacturers of compact, portable and self-powered data loggers.

Today, our data loggers can be found in a remarkable variety of places, from the space shuttle in outer space to rose farms in South America, museums in London and pharmaceutical laboratories in Chicago. ACR data loggers are renowned in the industry for their functionality, versatility, and robustness. Available in single channel or multi-channels, our data loggers measure and record temperature, relative humidity, electric current, voltage, pressure, process signals, pulse frequency, power quality, and much more.

By maintaining our position at the cutting edge of today’s technology and applications, ACR Systems continues to provide the solutions to all your data logging needs. The fundamental values we established at our beginning remain at the heart of our company. We take pride in the dedicated group of engineering, production, administration, sales and marketing professionals on our team. All are committed to providing the highest level of expertise and service to our customers, be it individuals, corporations, or institutions. They are joined by a worldwide network of partners – the distributors and dealers who sell and support our products and create satisfied and successful customers in a wide variety of industries around the world.

For additional information on ACR Systems, I invite you to visit our website at www.acrsystems.com.

On behalf of all of us at ACR Systems, I thank you for choosing our company. I appreciate your business and look forward to the opportunity of providing you with quality data logging products.

Albert C. Rock
President, ACR Systems Inc.

Product Overview

ACR Systems is the original manufacturer and pioneer of portable data loggers with an extensive product line to meet a variety of customers' needs. From low-cost, single channel data loggers to high-end multi-channel and multi-functioning data loggers, ACR has the right product for you.

SmartReader Plus



This line of 12-bit, multi-channel data loggers can measure temperature, relative humidity, current, voltage, pressure, pulse, and process signals. They have fast sampling rates, alarm dial-out capabilities and a 10-year battery life. They are network capable, modem accessible and wireless ready.

SmartReader



This line of 8-bit, multi-channel data loggers can measure temperature, relative humidity, current, voltage, pressure, pulse, and process signals. They are network capable, modem accessible, and have a 10-year battery life.

TRH



Low-cost and easy to use, this dual channel temperature and relative humidity data logger is equipped with a serial port plug for quick and simple downloads to your PC or laptop.

JR



Low-cost and easy to use, this single channel temperature data logger plugs directly into the serial port of your PC or laptop for quick and simple downloads. An Intrinsically Safe version is also available (JR-1001).

Nautilus



These single channel, waterproof temperature data loggers are encased in either aluminum or stainless steel, which enables them to withstand harsh environments. A high temperature version is also available (Nautilus135).

SmartButton



At the size of a dime, this single channel temperature data logger is ACR's most compact and affordable product. It comes with user-configurable software and several mounting devices to suit your needs.

OWL



Extremely versatile, these single channel temperature, current, voltage and process signal data loggers have an LED port for visual alarming and optical communication.

PowerWatch



This compact voltage disturbance recorder plugs directly into any power receptacle and records essential power quality information such as surges, sags, impulses, outages, dropouts, and frequency variations.

Specialty Loggers

These include the IAQ Logger, which monitors temperature, relative humidity and carbon dioxide; the Conservation Logger, which monitors temperature, relative humidity and light intensity; and the ACR-205, which monitors temperature, relative humidity, carbon dioxide, carbon monoxide and other gases.

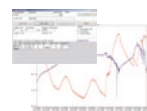


Communication

Communication with ACR products to a computer comes in a variety of forms - either direct or indirect via cables, modem (cellular analog or digital), radio frequency, and/or Ethernet. For real-time readings from the SmartReader Plus line of data loggers, use the SRP Display Module.



Software



ACR software is powerful, versatile and easy to use with features such as one-touch table views, presentation-quality graphs, and export capabilities.

Market Overview

ACR data loggers are recognized globally as the premium instrument of its kind and proven performers in a wide range of applications. The following represents the core markets in which ACR serves and the typical applications requiring the use of our data loggers.

HVAC



Temperature/Relative Humidity

Building Commissioning • Building Automation System Performance • Indoor Air Quality Monitoring and Recording • HVAC Systems Verification • Temperature Analysis • Moisture Analysis

Pressure

Building Pressurization • Mechanical Components Troubleshooting • Air-Flow Measurement • Odor Migration Analysis

Current/Voltage

Testing and Balancing • Troubleshooting HVAC Systems • Electrical Load Profiling • Energy Management Systems Audit • Energy Consumption Monitoring and Recording

Industrial



Temperature

Production Characteristics Monitoring (i.e. concrete curing, paint drying, etc.) • Product Storage Conditions • Ambient Conditions

Current/Voltage

Equipment and Machinery Performance Audit

Pressure

Pneumatic Controls and/or Equipment Monitoring • Manufacturing Processes Audit

Process Signals

Manufacturing or Processing Plant Audit • Plant Systems Verification • Quality Assurance • Shock, Flow, and/or Vibration Monitoring • System Profiling

Pulse

System Profiling • Pulse Counting (i.e. water flow, wind/air speed, etc.)

Electrical/Energy



Power Quality

Electronic and Medical Equipment Auditing • Computer Server Room Monitoring • UPS and TVSS Equipment Monitoring • Predictive Maintenance

Current/Voltage

Single-Phase Systems' Balancing • Energy Consumption Monitoring • Electrical Load Profiling • Energy Auditing

Pharmaceutical/Laboratory



Temperature/Relative Humidity

Data Validation • Critical Environment Monitoring • Clean Room and Metrology Management • Environmental Testing • Indoor Air Quality Monitoring and Recording

Food & Beverage



Temperature

Transportation and/or Storage Monitoring • Food Cool-Down or Heating Profiling • Liability Management • Refrigeration Systems Verification • Perishable Goods Monitoring • Defrost Cycle Performance • Quality Assurance

Current/Voltage

Equipment and Machinery Performance Audit

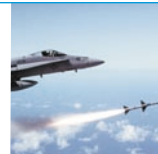
Process Signals

Processing Plant Audit • Systems Verification • Quality Assurance

Pulse

Equipment and Machinery Sequence Monitoring

Government/Military



Temperature and/or Relative Humidity

Munitions Storage and Transportation Monitoring • Environmental and Comfort Conditions Monitoring • Survival Suit Testing

Pressure

Cabin Pressure Monitoring



Product Selection Guide

	CHANNELS	MEASUREMENT RANGE	RESOLUTION	MEMORY (MAX.)
TEMPERATURE				
SmartButton	1	-10 to 85°C (14 to 185°F)	8 Bit	2 KB
Thermistor				
JR-1000/1001	1	-40 to 85°C (-40 to 185°F)	8 Bit	32 KB
OWL 100	1	-40 to 70°C (-40 to 158°F)	8 Bit	32 KB
OWL 200	1	-60 to 255°C (-76 to 491°F)	8 Bit	32 KB
SmartReader 1	2	-60 to 255°C (-76 to 491°F)	8 Bit	32 KB
SmartReader Plus 1	2	-60 to 255°C (-76 to 491°F)	12 Bit	1.5 MB
SmartReader 8	8	-60 to 255°C (-76 to 491°F)	8 Bit	32 KB
SmartReader Plus 8	8	-60 to 255°C (-76 to 491°F)	12 Bit	1.5 MB
Thermocouple				
SmartReader 5	3	J, K, S, T thermocouple ranges	8 Bit	32 KB
SmartReader Plus 5	3	E, J, K, S, T thermocouple ranges	12 Bit	128 KB
SmartReader 6	7	J, K, S, T thermocouple ranges	8 Bit	32 KB
SmartReader Plus 6	8	E, J, K, S, T thermocouple ranges	12 Bit	1.5 MB
RTD				
SmartReader Plus 10	4	-230 to 300°C (-385 to 572°F)	12 Bit	128 KB
Water Resistant				
OWL 100 - Poly	1	-40 to 70°C (-40 to 158°F) (IP67 rating)	8 Bit	32 KB
Nautilus85	1	-40 to 85°C (-40 to 185°F)	8 Bit	32 KB
Nautilus135	1	10 to 135°C (50 to 275°F)	8 Bit	32 KB
RELATIVE HUMIDITY				
TRH-1000	2	-40 to 70°C (-40 to 158°F) and 0 - 100% RH	8 Bit	64KB
SmartReader 2	4	-40 to 70°C (-40 to 158°F) and 0 - 95% RH	8 Bit	32 KB
SmartReader Plus 2	4	-40 to 70°C (-40 to 158°F) and 0 - 95% RH	12 Bit	128 KB
IAQ Logger	5	-40 to 70°C (-40 to 158°F) and 0 - 95% RH	8 Bit	32 KB
Conservation Logger	4	-40 to 70°C (-40 to 158°F) and 0 - 95% RH	12 Bit	128 KB
AC CURRENT/VOLTAGE				
OWL 300	1	5, 25, 100, 250 or 10, 50, 250, 500 Amps*	8 Bit	32 KB
SmartReader 3	4	50 or 60 Hz, 5 - 500A*	8 Bit	32 KB
SmartReader Plus 3	8	5 - 500A*, 0 - 5V or 120VAC, 480VAC	12 Bit	1.5 MB
		<i>* Up to 3,000 Amps with Current Transformer</i>		
PRESSURE				
SmartReader 4	5	0 - 5, 30, 100 & 150 PSI	8 Bit	32 KB
SmartReader Plus 4	4	0 - 5, 30, 100 & 150 PSI	12 Bit	128 KB
SmartReader Plus 4 LPD	2	+/- 0.5", 1", 2", 5", 10" WC	12 Bit	32 KB
PROCESS SIGNALS				
OWL 400	1	0 - 38.4V	8 Bit	32 KB
OWL 500	1	4 - 20mA	8 Bit	32 KB
SmartReader 7	8	0 - 2.5V, 0 - 5V, 0 - 10V, 4 - 20mA, 0 - 200mV	8 Bit	32 KB
SmartReader Plus 7	8	0 - 2.5V, 0 - 5V, 0 - 10V, 4 - 20mA, 0 - 200mV	12 Bit	1.5 MB
Conservation Logger	4	0-5V (2x)	12 Bit	128 KB
PULSE				
SmartReader 9	3	32, 64, 128 pulses/second	8 Bit	32 KB
SmartReader Plus 9	2	4095 pulses/sample period	12 Bit	128 KB
POWER QUALITY				
PowerWatch	1	120V or 240V, single phase	n/a	32 KB
CO₂ AND OTHER GASES				
ACR-205	5	0 - 5,000 ppm	12 Bit	128 KB
IAQ Logger	5	0 - 4,000 ppm	8 Bit	32 KB

# OF READINGS (MAX.)	SAMPLING RATE	SECONDARY CHANNEL(S)	BATTERY LIFE	PAGE #
2,048	1 to 255 minutes	n/a	10 yr	28
244,800	8 seconds to 34 minutes	n/a	5 yr	22
32,767	0.2 seconds to 12 hours	n/a	10 yr	25
32,767	0.2 seconds to 12 hours	n/a	10 yr	25
32,767	8 seconds to 120 hours	External temperature	10 yr	16
1,048,000	0.04 seconds to 8 hours	External temperature	10 yr	7
32,767	8 seconds to 120 hours	External temperature	10 yr	20
1,048,000	0.04 seconds to 8 hours	External temperature	10 yr	13
32,767	8 seconds to 120 hours	Ambient temperature	10 yr	18
87,000	0.04 seconds to 8 hours	Ambient temperature	10 yr	11
32,767	8 seconds to 120 hours	Ambient temperature	10 yr	18
1,048,000	0.04 seconds to 8 hours	Ambient temperature	10 yr	11
87,000	0.04 seconds to 8 hours	Ambient temperature	10 yr	14
32,767	0.2 seconds to 12 hours	n/a	10 yr	25
244,800	8 seconds to 34 minutes	n/a	10 yr	23
244,800	8 seconds to 34 minutes	n/a	3 yr	23
65,280	8 seconds to 34 minutes	n/a	5 yr	21
32,767	8 seconds to 120 hours	Temperature	10 yr	16
87,000	0.04 seconds to 8 hours	Temperature	10 yr	7
32,767	8 seconds to 120 hours	Temperature and CO2	10 yr	31
87,000	0.04 seconds to 8 hours	Temp and 0-5V process signals	5 yr	30
32,767	0.2 seconds to 12 hours	n/a	10 yr	26
32,767	8 seconds to 120 hours	Ambient temperature	10 yr	17
1,048,000	0.04 seconds to 8 hours	Ambient temperature	10 yr	8
32,767	8 seconds to 120 hours	Temperature and RH	10 yr	17
87,000	0.04 seconds to 8 hours	Temperature and RH	10 yr	9
21,500	0.04 seconds to 8 hours	Ambient temperature	10 yr	10
32,767	0.2 seconds to 12 hours	n/a	10 yr	26
32,767	0.2 seconds to 12 hours	n/a	10 yr	27
32,767	8 seconds to 120 hours	Various	10 yr	19
1,048,000	0.04 seconds to 8 hours	Various	10 yr	12
87,000	0.04 seconds to 8 hours	Temperature and RH	5 yr	30
32,767	8 seconds to 120 hours	Ambient temperature	10 yr	20
87,000	0.04 seconds to 8 hours	n/a	10 yr	13
4,000	continuous	n/a	10 yr	32
87,000	8 seconds to 8 hours	Temp, RH and various gases	2 yr	29
32,767	8 seconds to 120 hours	Temperature and RH	10 yr	31

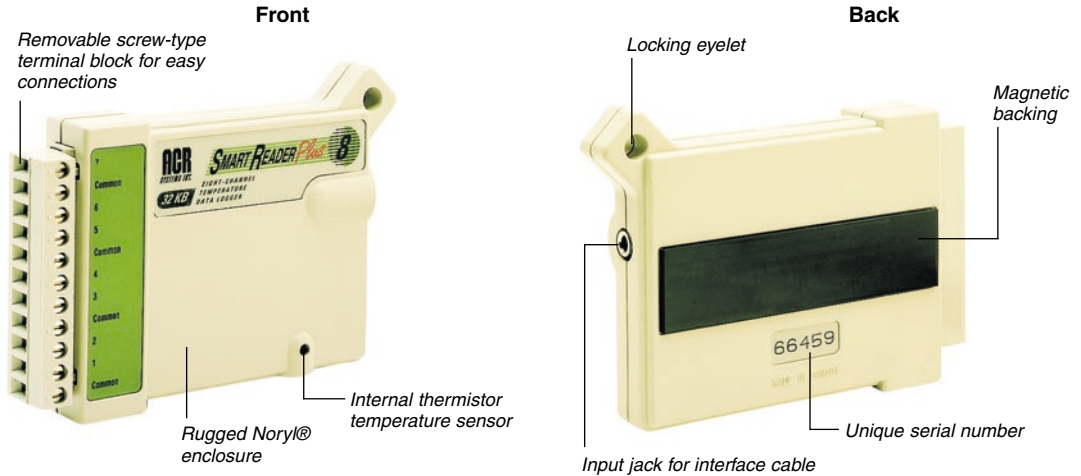


SmartReader Plus - Common Specifications

Multi-Channel, Configurable, 12-Bit Data Loggers

FEATURES

- Multiple channels
- Monitor a variety of parameters:
 - Temperature
 - Relative Humidity
 - Current
 - Voltage
 - Pressure
 - Process Signals
 - Pulse
- 12-bit resolution
- 10-year battery life
- 3-year warranty
- Up to 1.5 MB memory
- Fast sample rates (up to 25 samples per second)
- Remote access via modem or Ethernet
- Network capable (connect up to 10 data loggers)
- Alarm dial-out
- User configurable



PRODUCT SPECIFICATIONS

SmartReader Plus data loggers share many common features. For further specifications on individual models, refer to pages 7-14.

Size:
107 mm x 74 mm x 22 mm (4.2" x 2.9" x 0.9")

Weight:
110 g (3.75 oz)

Case Material:
Noryl® plastic

External Connector:
Removable screw-type terminal strip with Common (-) connection

Mounting:
Magnetic backing or locking eyelet

Operating Limits:
-40 to 70°C (-40 to 158°F) and 0 to 95% relative humidity (non-condensing)

Clock Accuracy:
+/- 2 seconds per day

Battery:
3.6 volt Lithium, 1 Amp-Hour

Battery Life:
10 years under normal use (factory replaceable)

Power Consumption:
5 to 10 microamps (continuous)

Memory Sizes*:
32 KB (21,500 readings)
128 KB (87,000 readings)
1.5 MB (1,048,000 readings)
**See specific models for availability*

Sampling Methods:

1. Continuous (First-in, First-out – not available with sample rates faster than 8 seconds)
2. Stop when full (Fill-then-stop)

Sampling Rates:
User selectable rates from 25 per second (0.04 seconds) to once every 8 hrs*
**BP-101 Battery Pack or PS-201 Power Supply required for sample rates faster than 8 seconds (see Accessories section for details)*

Resolution:
12-bit (1 part in 4,096)

PC Requirements:
IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 2 MB of hard drive disk space and one free serial port

Software Requirements:
TrendReader® Standard (see page 34 for details)

Certifications and Standards:

- Certified to CE standard EN50082-1: 1997 (European Generic Immunity) covering ESD, RFI, EFT/B, Surge, Conducted Immunity, Power Frequency Magnetic Field Immunity, and Voltage Dips and Interruptions
- Meets CE standards EN55011 Class B: 1997 (European Radiated Emissions) and CISPR Class B: 1991 (International Radiated Emissions)

Resistance to X-Rays:

- Tested for protection against a 160kV dose @ 5mA for 30 seconds (150mA-sec) @ 38 inches F.F.D. (about 100 times that of an airport x-ray machine)
- Tested for protection against Gamma Ray (equivalent to 0.137-1.38 mega volts) IR 192 - 28 curies @ 30 second exposure source to object distance 5"

INTERNAL TEMPERATURE SENSOR *(common on all models, except SmartReader Plus 9)*

Type:
Negative Temperature Coefficient Thermistor
10,000 ohms @ 25°C (77°F)

Range:
-40 to 70°C (-40 to 158°F)

Accuracy:
+/- 0.2°C over the range of 0 to 70°C (+/- 0.3°F over the range of 32 to 158°F)

Resolution:
0.03°C at 25°C (0.05°F at 77°F); better than 0.07°C (0.12°F) between -25 and 70°C (-13 and 158°F); better than 0.13°C (0.23°F) between -40 and -25°C (-40 and -13°F)



SmartReader Plus 1

Two-Channel Temperature (Thermistor) Data Logger

The SmartReader Plus 1 data logger is specifically designed for easy monitoring and recording of temperature. With one internal ambient temperature channel and one input for optional remote temperature or contact closure sensing, this data logger is ideal for quick and accurate temperature recordings in a variety of applications.



FEATURES

- Two channels
- Monitor and record temperature
- Option to monitor remote temperature, resistance or switch status
- Use with a variety of different temperature probes:
 - General purpose
 - High temperature
 - Low temperature
 - Waterproof temperature
 - Oven temperature
 - Skin surface temperature
 - Pipe surface temperature

PRODUCT SPECIFICATIONS

No. of Channels: Two - One for ambient temperature - One for temperature (with thermistor probe), switch status or resistance Memory Sizes: 32 KB, 128 KB and 1.5 MB Common Specifications: See page 6	Software Specifications: See page 34 Remote & Network Communications: See page 38 Accessories: ACR ET Series Temperature Probes or any NTC thermistor probe
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Order Information

MODEL	MEMORY	CATALOG #
SRP-001	32 KB	01-0008
SRP-001-128K	128 KB	01-0112
SRP-001-1.5M	1.5 MB	01-0141



SmartReader Plus 2

Four-Channel Temperature and Relative Humidity Data Logger

The SmartReader Plus 2 is a self-contained data logger that can monitor and record temperature and relative humidity - right out of the box. The on-board RH sensor is temperature compensated, permitting reliable, worry-free RH readings. For remote sensing of temperature and RH, simply attach ACR's temperature/RH probe, or for remote temperature sensing, attach up to two thermistor probes.



FEATURES

- Four channels
- Monitor temperature and RH
- Option to monitor remote temperature, RH and/or resistance
- Use with a variety of different temperature probes (see list above)
- N.I.S.T. traceable measurements
- Includes calibration certificate

PRODUCT SPECIFICATIONS

No. of Channels: Four - One for ambient temperature - One for relative humidity (internal sensor) - One for relative humidity (external sensor) - One for temperature, resistance or switch status Relative Humidity Sensor: Capacitive thin polymer film Range: 0 to 95% RH (non-condensing) Accuracy: +/- 3% RH from 10 to 90% RH (-20 to 40°C [-4 to 104°F]) Resolution: Better than 0.04% between 25 and 60% RH at 25°C (77°F) Response Time: Adequate ventilation increases the response time which is approximately 5 minutes in still air. Environmental Conditions: Like all relative humidity sensors, when exposed to contaminants and/or extreme environmental conditions,	accuracy degradation could result. For maximum long-term stability, sensor should not be exposed or subjected to organic solvents, corrosive agents (strong acids, SO ₂ , H ₂ SO ₄ , Cl ₂ , HCl, H ₂ S, etc.) and strong bases (compounds with PH greater than 7). Dust settling on the sensor surface will not affect sensor performance except possibly to decrease the speed of response. Memory Size: 128 KB Common Specifications: See page 6 Software Specifications: See page 34 Remote & Network Communications: See page 38 Accessories: ACR EH-020A Temperature & RH Probe ACR ET Series Temperature Probes or any NTC thermistor probe
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Order Information

MODEL	MEMORY	CATALOG #
SRP-002-128	128 KB	01-0113



SmartReader Plus 3

FEATURES

- Eight channels
- Monitor current and voltage (single or 3-phase)
- Determine energy consumption

Eight-Channel AC Current and Voltage Data Logger

The SmartReader Plus 3 easily and accurately records AC current and voltage. Simply connect ACR's current probes (which are clamped around the power leads) and ACR's voltage transducer to the data logger and begin recording. From the data collected, you can even determine energy consumption (kWh) using ACR's powerful, versatile and easy to use software, TrendReader[®] Standard.



PRODUCT SPECIFICATIONS

No. of Channels:

- Eight - One for ambient temperature
- Four for AC current (with ACR current probes)
- Three for AC voltage (with ACR voltage transducers, single phase or 3-phase)

Current Ranges*:

- 5, 25, 100, and 250 Amps - With A60FL (60 Hz) and A65FL (50 Hz) current probes
- 10, 50, 250, and 500 Amps - With A70FL (60 Hz) and A75FL (50 Hz) current probes

*Up to 3000 Amps with the ACR CT-50-2 current transformer

Nominal Voltage Ranges:

- 120 V (1 phase, 60 HZ)
- 480 V (3 phase, 60 HZ)

Accuracy:

- Voltage Channels: +/- 0.5% F.S.
- Current Channels: +/- 3.5% F.S. above the lowest 10% of range

Memory Size:

- 32 KB, 128 KB and 1.5 MB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

- ACR AC Current Probes
- ACR AC Voltage Transducers
- ACR CT-50-2 Current Transformer

Order Information

MODEL	MEMORY	CATALOG #
SRP-003	32 KB	01-0010
SRP-003-128K	128 KB	01-0114
SRP-003-1.5M	1.5 MB	01-0143



SmartReader Plus 4

Four-Channel Pressure, Temperature and Relative Humidity Data Logger

The SmartReader Plus 4 data logger provides easy monitoring and troubleshooting of pneumatic control systems. The unit is completely self-contained with a 1/4" quick-release pressure fitting to allow a fast and trouble-free connection. As an added bonus, the SmartReader Plus 4 also monitors ambient temperature and either external temperature (with thermistor probes) or temperature and relative humidity together (with an RH/temperature probe). Probes and sensors are sold separately through ACR.



FEATURES

- Four channels
- Monitor pressure, temperature and RH
- Choose from a variety of different pressure ranges
- Use with a variety of different temperature probes

PRODUCT SPECIFICATIONS

No. of Channels:

- Four - One for ambient temperature
- One for pressure
- One for relative humidity
- One for temperature, resistance or switch status

Calibrated Accuracy:

+/- 0.5% of full scale @ 25°C (77°F)

Memory Sizes:

32 KB and 128 KB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR EH-020A RH/Temperature Probe

ACR ET Series Temperature Probes or any NTC thermistor probe

PRESSURE SPECIFICATIONS

Range	Resolution	Pressure Accuracy	Thermal Accuracy
+/- 10" H ₂ O	0.006"	+/- 2% FS @ 25°C (77°F)	+/- 3% FS 0 to 70°C (32 to 158°F)
0 to 5 psi (30 kPa)	0.003 psi (0.02 kPa)	+/- 1% FS @ 25°C (77°F)	+/- 1.5% FS 0 to 70°C (32 to 158°F)
0 to 30 psi (200 kPa)	0.015 psi (0.10 kPa)	+/- 0.5% FS @ 25°C (77°F)	+/- 0.5% FS 0 to 70°C (32 to 158°F)
0 to 100 psi (700 kPa)	0.05 psi (0.34 kPa)	+/- 0.5% FS @ 25°C (77°F)	+/- 0.5% FS 0 to 70°C (32 to 158°F)

Order Information

MODEL	PRESSURE RANGE	MEMORY	CATALOG #
SRP-004-010	0-10" H ₂ O	32 KB	01-0090
SRP-004-010-128K	0-10" H ₂ O	128 KB	01-0120
SRP-004-5G	0-5 PSI-G	32 KB	01-0091
SRP-004-5G-128K	0-5 PSI-G	128 KB	01-0115
SRP-004-30G	0-30 PSI-G	32 KB	01-0093
SRP-004-30G-128K	0-30 PSI-G	128 KB	01-0117
SRP-004-30A	0-30 PSI-A	32 KB	01-0092
SRP-004-30A-128K	0-30 PSI-A	128 KB	01-0116
SRP-004-100G	0-100 PSI-G	32 KB	01-0095
SRP-004-100G-128K	0-100 PSI-G	128 KB	01-0119
SRP-004-100A	0-100 PSI-A	32 KB	01-0094
SRP-004-100A-128K	0-100 PSI-A	128 KB	01-0118
SRP-004-150G	0-150 PSI-G	32 KB	01-0097
SRP-004-150G-128K	0-150 PSI-G	128 KB	01-0139



SmartReader Plus 4 LPD

FEATURES

- Two channels
- Monitor very low pressure - several ranges to choose from
- Very precise and accurate measurements
- Extra fine pressure resolution
- Temperature compensated

Two-Channel Low Pressure Differential Data Logger

The SmartReader Plus 4 LPD data logger is designed to be used in applications where very precise, low differential pressure measurements are required.



PRODUCT SPECIFICATIONS

No. of Channels:

- Two - One for ambient temperature
- One for low pressure

Sensor Type:

Silicone piezoresistive strain gauge

Pressure Ranges (Water Column):

+/- 0.5", +/- 1.0", +/- 2.0", +/- 5.0", +/- 10"

Maximum Pressure:

Four times full scale

Media:

Non-corrosive gases and dry air

Temperature Range:

Operating: -40 to 70°C (-40 to 158°F)

Compensated: 0 to 70°C (32 to 158°F)

Accuracy:

Calibrated: +/- 0.05" for 0.5", 1.0" and 2.0" ranges
 +/- 1.0" for 5.0" and 10.0" ranges

Thermal: +/- 0.5% FS (over compensated range)

Resolution:

< 0.01" WC

Non-linearity:

+/- 0.05% FS (best fit straight line)

Hysteresis & Repeatability:

+/- 0.05% FS (typical)

Long Term Stability:

+/- 0.5% FS

Memory Size:

32 KB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Order Information

MODEL	PRESSURE RANGE	ACCURACY	MEMORY	CATALOG #
SRP-004-LPD-0.5	+/- 0.5" WC	+/- 0.05"	32 KB	01-0310
SRP-004-LPD-1	+/- 1.0" WC	+/- 0.05"	32 KB	01-0311
SRP-004-LPD-2	+/- 2.0" WC	+/- 0.05"	32 KB	01-0312
SRP-004-LPD-5	+/- 5.0" WC	+/- 1.0"	32 KB	01-0313
SRP-004-LPD-10	+/- 10.0" WC	+/- 1.0"	32 KB	01-0314



SmartReader Plus 5

Three-Channel Temperature (Thermocouple) Data Logger

The SmartReader Plus 5 data logger is ideal for those applications that require monitoring high temperatures or monitoring temperature over a wide range. The logger has one internal channel for measuring ambient temperature and two external channels for use with ACR thermocouple wire or any J, K, S, T or E type thermocouple wire. At 12-bit resolution, the SmartReader Plus 5 offers greater accuracy and more precise measurements than the SmartReader 5.



FEATURES

- Three channels
- Monitor extremely high temperatures
- Monitor temperature over a wide range
- Use with a variety of different thermocouple probes
- Greater resolution and accuracy than SR5

PRODUCT SPECIFICATIONS

No. of Channels:

- Three - One for ambient temperature (also for cold-junction compensation)
- Two for temperature (with thermocouples)

Accuracy:

+/- 0.5% of range + resolution*

Memory Size:

32 KB and 128 KB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR Thermocouple Wire or any J, K, S, T, and E type thermocouple wire

Order Information

MODEL	MEMORY	CATALOG #
SRP-005	32 KB	01-0012
SRP-005-128K	128 KB	01-0121



SmartReader Plus 6

Eight-Channel Temperature (Thermocouple) Data Logger

Monitor temperature over a wide range with the SmartReader Plus 6 data logger. Easily and accurately record temperature from any J, K, S, T or E type thermocouple probe. At 12-bit resolution, the SmartReader Plus 6 offers greater accuracy and more precise measurements than the SmartReader 6. With seven inputs for thermocouple probes and an on-board cold-junction thermistor, this logger is one of the most versatile thermocouple data loggers available.



FEATURES

- Eight channels
- Record temperature in eight different locations
- Monitor extremely high temperatures
- Monitor temperature over a wide range
- Use with a variety of different thermocouple probes
- Greater accuracy and resolution than SR6

PRODUCT SPECIFICATIONS

No. of Channels:

- Eight - One for ambient temperature (also for cold-junction compensation)
- Seven for temperature (with thermocouples)

Accuracy:

+/- 0.5% of range + resolution*

Memory Size:

32 KB, 128 KB and 1.5 MB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR Thermocouple Wire or any J, K, S, T, and E type thermocouple wire

Order Information

MODEL	MEMORY	CATALOG #
SRP-006	32 KB	01-0013
SRP-006-128K	128 KB	01-0122
SRP-006-1.5M	1.5 MB	01-0151

THERMOCOUPLE TEMPERATURE (For both SmartReader Plus 5 and 6)

Type	Range	*Resolution
J	-50 to 600°C (-55 to 1100°F)	0.30°C (0.55°F)
K	-100 to 1150°C (-145 to 2100°F)	0.50°C (0.90°F)
S	0 to 1450°C (32 to 2642°F)	1.0°C (1.8°F)
T	-200 to 400°C (-325 to 750°F)	0.40°C (0.75°F)
E	-50 to 680°C (-58 to 1250°F)	0.24°C (0.44°F)



SmartReader Plus 7

FEATURES

- Eight channels
- Connect virtually any device that has an analog output
- Record a variety of parameters (i.e. flow, level, pressure, etc.)
- Many different models to choose from

Eight-Channel Process Signal Data Logger

The SmartReader Plus 7 records a variety of different process signals including the popular 4-20mA and 0-5V. With seven input channels it is ideal for monitoring (through commercially available transducers) a wide variety of measurement parameters such as flow, level, pressure, and much more. All process signals can be displayed in their own engineering units using the simple equation editor in ACR's TrendReader® Standard software.



PRODUCT SPECIFICATIONS

No. of Channels:

- Eight - One for ambient temperature
- Seven for analog inputs

Standard Model:

Input type:	Input impedance:
0-2.5 V (1 channel)	Greater than 1M Ohm
0-5 V (2 channels)	Greater than 1M Ohm
0-10 V (1 channel)	Greater than 1M Ohm
0-200 mV (1 channel)	Greater than 1M Ohm
0-25 mA (2 channels)	20 Ohm

Other Models:

All inputs: 0-2.5 V, 0-5 V, 0-10 V, or 0-25 mA

Accuracy:

+/- 0.5% of full scale

Overload Protection:

- Voltage channels: +/- 40 Volts
- Current channels: +/- 70 mA (reverse polarity protected)

Transducer Restrictions:

The use of a single power supply is recommended to avoid ground loops or use loop isolators.

Memory Size:

32 KB, 128 KB and 1.5 MB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Order Information

MODEL	INPUT RANGE(S)	MEMORY	CATALOG #
SRP-007	Standard Model	32 KB	01-0014
SRP-007-128K	Standard Model	128 KB	01-0123
SRP-007-1.5MB	Standard Model	1.5 MB	01-0152
SRP-007-0-2.5V	0-2.5 Volt	32 KB	01-0018
SRP-007-0-2.5V-128K	0-2.5 Volt	128 KB	01-0127
SRP-007-0-5V	0-5 Volt	32 KB	01-0107
SRP-007-0-5V -128K	0-5 Volt	128 KB	01-0124
SRP-007-0-5V-1.5M	0-5 Volt	1.5 MB	01-0154
SRP-007-0-10V	0-10 Volt	32 KB	01-0020
SRP-007-0-10V-128K	0-10 Volt	128 KB	01-0125
SRP-007-0-10V-1.5M	0-10 Volt	1.5 MB	01-0155
SRP-007-25mA	0-25 mA	32 KB	01-0017
SRP-007-25mA-128K	0-25 mA	128 KB	01-0126
SRP-007-25mA-1.5M	0-25 mA	1.5 MB	01-0156



SmartReader Plus 8

Eight-Channel Temperature (Thermistor) Data Logger

The SmartReader Plus 8 data logger can measure temperature in eight different locations simultaneously using ACR's ET series thermistor probes. Monitor and record high temperature, low temperature, pipe surface, skin surface, or a variety of other temperatures.



FEATURES

- Eight channels
- Monitor temperature in eight different locations
- Use with a variety of different temperature probes:
 - General purpose
 - High temperature
 - Low temperature
 - Waterproof temperature
 - Oven temperature
 - Skin surface temperature
 - Pipe surface temperature

PRODUCT SPECIFICATIONS

No. of Channels:

- Eight - One for ambient temperature
- Seven for temperature (with thermistors), resistance, or switch status

Memory Sizes:

32 KB, 128 KB and 1.5 MB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR ET Series Temperature Probes or any NTC thermistor probe

Order Information

MODEL	MEMORY	CATALOG #
SRP-008	32 KB	01-0015
SRP-008-128K	128 KB	01-0129
SRP-008-1.5M	1.5 MB	01-0158



SmartReader Plus 9

Two-Channel Pulse Data Logger

The SmartReader Plus 9 is a versatile data logger designed for easy counting and recording of digital pulses or switch contact closures. It has two pulse/contact input channels. Data can be displayed in custom engineering units using the simple equation editor of ACR's TrendReader[®] Standard software.



FEATURES

- Two channels
- Count digital pulses or dry switch contact closures (i.e. on/off, open/close)
- Select slow or fast input
- Count up to 4095 pulses per sample period

PRODUCT SPECIFICATIONS

No. of Channels:

Two - Two for externally-generated pulse signals and dry switch contact closures

Pulse Inputs:

Range: 4095 pulses/sample period
 Accuracy: +/- 1 pulse/sample period
 Max Voltage: +24/-22 volts DC
 Input Impedance: > 1.0 M ohm for Vin < 5V
 > 4.0 K ohm for Vin > 5V

Min. Pulse Wide

50% Duty Cycle: Slow input: 2 milliseconds
 Fast input: 10 microseconds

Voltage Inputs:

Input type: Active logic signals
 Input voltage: Low = 0 to 0.5 volts DC
 High = 4.5 to 24 volts DC

Switch Inputs:

Input Type: Uncommitted "dry" contacts (relay or switch)
 Excitation: 5 microamps contact current
 3.6 volts open circuit
 Contacts: Sealed gold-plated recommended

Maximum Frequency:

100 KHz

Memory Size:

32 KB and 128 KB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Order Information

MODEL	MEMORY	CATALOG #
SRP-009	32 KB	01-0016
SRP-009-128K	128 KB	01-0130



SmartReader Plus 10

FEATURES

- Four channels
- Monitor temperature in four different locations
- Wide temperature range
- Extreme precision and accuracy
- Choose own RTD probe

Four-Channel Temperature (RTD) Data Logger

The SmartReader Plus 10 data logger is designed to precisely measure temperature over a wider temperature range than a thermistor without sacrificing accuracy or resolution. With four channels, measurements can be made in several different locations.



PRODUCT SPECIFICATIONS

No. of Channels:

- Four - One for ambient temperature
- Three for temperature (with RTD probes)

RTD Type:

Any 100 or 1000 Ohm Platinum RTD with a Temperature Coefficient of Resistance (TCR) of 0.00385

Accuracy (100 and 1000 Ohm):

+/- 0.3°C (+/- 0.54°F) + resolution

Resolution (100 and 1000 Ohm):

+/- 0.14°C (+/- 0.25°F)

Temperature Range (100 and 1000 Ohm):

-230 to 300°C (-382 to 572°F)

Wiring Configurations:

2, 3, or 4 wire RTDs

Memory Size:

128 KB

Common Specifications:

See page 6

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

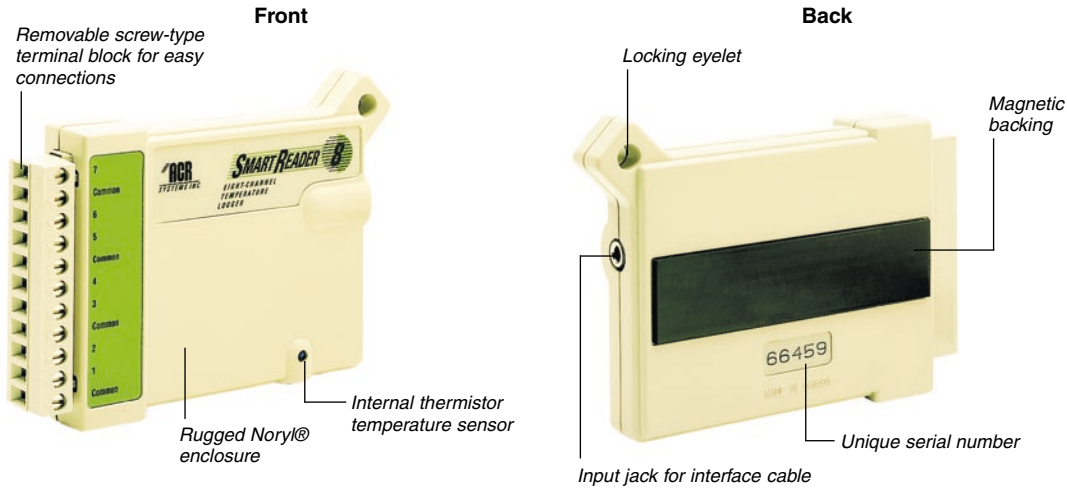
Order Information

MODEL	MEMORY	CATALOG #
SRP-010-128K	128 KB	01-0132



SmartReader - Common Specifications

Multi-Channel, Configurable, 8-Bit Data Loggers



FEATURES

- Multiple channels
- Monitor a variety of parameters:
 - Temperature
 - Relative Humidity
 - Current
 - Voltage
 - Pressure
 - Process Signals
 - Pulse
- 8-bit resolution
- 10-year battery life
- 3-year warranty
- 32 KB memory
- Remote access via modem or Ethernet
- Network capable (connect up to 10 data loggers)
- User configurable

PRODUCT SPECIFICATIONS

SmartReader data loggers share many common features. For further specifications on individual models, refer to pages 16-20.

Size:

107 mm x 74 mm x 22 mm (4.2" x 2.9" x 0.9")

Weight:

110 g (3.75 oz)

Case Material:

Noryl® plastic

External Connector:

Removable screw-type terminal strip with Common (-) connection

Mounting:

Magnetic backing or locking eyelet

Operating Limits:

-40 to 70°C (-40 to 158°F) and 0 to 95% relative humidity (non-condensing)

Clock Accuracy:

+/- 2 seconds per day

Battery:

3.6 volt Lithium, 1 Amp-Hour

Battery Life:

10 years under normal use (factory replaceable)

Power Consumption:

5 to 10 microamps (continuous)

Memory Size:

32 KB (32,767 readings)

Sampling Methods:

1. Continuous (First-in, First-out)
2. Stop when full (Fill-then-stop)

Sampling Rates:

User selectable rates from 8 seconds to once every 5 days

Resolution:

8-bit (1 part in 256)

PC Requirements:

IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 2 MB of hard drive disk space and one free serial port

Software Requirements:

TrendReader® Standard (see page 34 for details)

Certifications and Standards:

- Certified to CE standard EN50082-1: 1992 (European Generic Immunity) covering ESD, RFI, and EFT/B
- Meets CE standards EN55011 Class B: 1991 (European Radiated Emissions) and CISPR Class B: 1991 (International Radiated Emissions)

Resistance to X-Rays:

- Tested for protection against a 160kV dose @ 5mA for 30 seconds (150mA-sec) @ 38 inches F.F.D. (about 100 times that of an airport x-ray machine)
- Tested for protection against Gamma Ray (equivalent to 0.137-1.38 mega volts) IR 192 - 28 curies @ 30 second exposure source to object distance 5"

INTERNAL TEMPERATURE SENSOR

(common on all models)

Type:

Negative Temperature Coefficient Thermistor
10,000 ohms @ 25°C (77°F)

Accuracy:

+/- 0.2°C over the range of 0 to 70°C (+/- 0.3°F over the range of 32 to 158°F)

Range:

-40 to 70°C (-40 to 158°F)

Resolution:

0.4°C (0.7°F) @ 25°C; better than 1°C (1.8°F) between -25 and 70°C (-13° and 158°F); better than 2.0°C (3.6°F) between -40 and -25°C (-40°F and -13°F)



SmartReader 1

FEATURES

- Two channels
- Monitor and record temperature
- Option to monitor remote temperature, resistance or switch status
- Use with a variety of different temperature probes:
 - General purpose
 - High temperature
 - Low temperature
 - Waterproof temperature
 - Oven temperature
 - Skin surface temperature
 - Pipe surface temperature

Two-Channel Temperature (Thermistor) Data Logger

The SmartReader 1 data logger is a simple and easy-to-use data logger for monitoring and recording temperature. Quick and easy to set up, it works right out of the box, logging temperature readings from its internal, precision-calibrated temperature sensor. For added versatility, use the extra channel to record temperature (with an ACR thermistor probe), resistance or switch status.



PRODUCT SPECIFICATIONS

No. of Channels:

- Two - One for ambient temperature
- One for temperature (with thermistor probe), resistance, or switch status

Memory Size:

32 KB

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR ET Series Temperature Probes or any NTC thermistor probe

Order Information

MODEL	MEMORY	CATALOG #
SR-001	32 KB	01-0024



SmartReader 2

FEATURES

- Four channels
- Monitor and record temperature and relative humidity
- Option to monitor remote temperature, RH and/or resistance
- Use with a variety of different temperature probes (see list above)
- N.I.S.T. traceable measurements
- Includes calibration certificate

Four-Channel Temperature and Relative Humidity Data Logger

The SmartReader 2 data logger has a built-in temperature sensor, a plug-in relative humidity sensor and is equipped with two extra channels to connect either ACR's temperature/RH probe or thermistor probes. The RH plug-in sensor is field replaceable so you can always be assured of continuous recording. The SmartReader 2 is excellent for monitoring "air quality" conditions.



PRODUCT SPECIFICATIONS

No. of Channels:

- Four - One for ambient temperature
- One for relative humidity (internal sensor)
- One for relative humidity (external sensor)
- One for temperature, resistance or switch status

Relative Humidity Sensor:

Capacitive thin polymer film

Range:

0 to 95% RH (non-condensing)

Accuracy:

+/- 4% RH from 10 to 90% RH (-20 to 40°C [-4 to 104°F])

Resolution:

Better than 0.4% between 25 and 60% RH at 25° C (77°F)

Response Time:

Adequate ventilation increases the response time which is approximately 5 minutes in still air

Memory Size:

32 KB

Environmental Conditions:

Like all relative humidity sensors, when exposed to contaminants and/or extreme environmental conditions,

accuracy degradation could result. For maximum long-term stability, sensor should not be exposed or subjected to organic solvents, corrosive agents (strong acids, SO₂, H₂SO₄, Cl₂, HCl, H₂S, etc.) and strong bases (compounds with PH greater than 7). Dust settling on the sensor surface will not affect sensor performance except possibly to decrease the speed of response.

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR EH-020A Temperature & RH Probe
ACR ET Series Temperature Probe or any NTC thermistor probe

Order Information

MODEL	MEMORY	CATALOG #
SR-002	32 KB	01-0025



SmartReader 3

Four-Channel AC Current Data Logger

The SmartReader 3 data logger easily and conveniently records AC current. Simply connect the data logger to three ACR current probes (which are clamped around power leads) and begin recording three-phase systems or related equipment simultaneously. The probes allow accurate readings to be taken without interrupting any circuits. The logger also records ambient temperature.



FEATURES

- Four channels
- Monitor AC current and ambient temperature
- No interruptions

PRODUCT SPECIFICATIONS

No. of Channels:

- Four - One for ambient temperature
- Three for AC current (with ACR current probes)

Current Ranges*:

- 5, 25, 100, and 250 Amps - With A60FL (60 Hz) and A65FL (50 Hz) current probes
- 10, 50, 250, and 500 Amps - With A70FL (60 Hz) and A75FL (50 Hz) current probes

*Up to 3000 Amps with the ACR CT-50-1 current transformer

Accuracy:

+/- 4% F.S. above 10% of range

Memory Size:

32 KB

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

- ACR AC Current Probes
- ACR CT-50-1 Current Transformer

Order Information

MODEL	MEMORY	CATALOG #
SR-003	32 KB	01-0026



SmartReader 4

Five-Channel Pressure, Temperature and Relative Humidity Data Logger

The SmartReader 4 data logger records pressure, temperature and relative humidity. Use it to monitor and troubleshoot pneumatic systems. With a variety of pressure options (modules) available, you can tailor the logger to suit your needs. All probes and sensors are sold separately.



FEATURES

- Five channels
- Monitor pressure, temperature and RH
- Interchangeable pressure modules
- Use with a variety of different temperature (thermistor) probes

PRODUCT SPECIFICATIONS

No. of Channels:

- Five - One for ambient temperature
- One for pressure
- One for relative humidity (internal sensor)
- Two for temperature and/or relative humidity

Calibrated Accuracy:

+/- 0.5% F.S. @ 25°C (77°F)

Memory Size:

32 KB

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

- ACR Pressure Modules
- ACR RH-002 RH Sensor
- ACR EH-020A RH/Temperature Probe
- ACR ET Series Temperature Probes or any NTC thermistor probe

PRESSURE MODULES

Range	Resolution	Gauge P/N	Catalog #	Absolute P/N	Catalog #
0 to 5 psi (30 kPa)	0.03 psi (0.21 kPa)	PM-005-G	01-0045	N/A	N/A
0 to 30 psi (200 kPa)	0.15 psi (1.0 kPa)	PM-030-G	01-0047	PM-030-A	01-0046
0 to 100 psi (700 kPa)	0.5 psi (3.5 kPa)	PM-100-G	01-0049	PM-100-A	01-0048
0 to 150 psi (1000 kPa)	0.5 psi (3.5 kPa)	PM-150-G	01-0086	N/A	N/A

Order Information

MODEL	MEMORY	CATALOG #
SR-004	32 KB	01-0027



SmartReader 5

Three-Channel Temperature (Thermocouple) Data Logger

The SmartReader 5 data logger is ideal for those applications that require monitoring extremely high temperatures or monitoring temperatures over a wide range. The logger has one internal channel for measuring ambient temperature and two external channels for use with ACR thermocouple wire or any J, K, S or T type thermocouple wire. One external channel is for a narrow range and the other external channel is for a wider range.



FEATURES

- Three channels
- Monitor extremely high temperatures
- Monitor temperature over a wide range
- Use with a variety of different thermocouple probes

PRODUCT SPECIFICATIONS

No. of Channels:

- Three - One for ambient temperature (also for cold-junction compensation)
- One for narrow range thermocouple temperature
- One for wide range thermocouple temperature

Accuracy:

+/- 1% of range + resolution*

Memory Size:

32 KB

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR Thermocouple Wire or any J, K, S, or T type thermocouple wire

Order Information

MODEL	MEMORY	CATALOG #
SR-005	32 KB	01-0028



SmartReader 6

Seven-Channel Temperature (Thermocouple) Data Logger

The SmartReader 6 data logger is ideal for those applications that require multi-site temperature monitoring of extremely high temperatures or wide temperature ranges. The logger has one internal channel for measuring ambient temperature and six external channels for use with ACR thermocouple wire or any J, K, S or T type thermocouple wire. Narrow range or wide range models are available.



FEATURES

- Seven channels for recording temperature in seven different locations
- Monitor extremely high temperatures
- Monitor temperature over a wide range
- Use with a variety of different thermocouple probes
- Narrow range or wide range models available

PRODUCT SPECIFICATIONS

No. of Channels:

- Seven - One for ambient temperature (also for cold-junction compensation)
- Six for thermocouple temperature (*specify narrow range or wide range model when ordering*)

Accuracy:

+/- 1% of range + resolution*

Memory Size:

32 KB

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR Thermocouple Wire or any J, K, S, or T type thermocouple wire

Order Information

MODEL	RANGE	MEMORY	CATALOG #
SR-006N	Narrow	32 KB	01-0029
SR-006W	Wide	32 KB	01-0030

THERMOCOUPLE TEMPERATURE (For both SmartReader 5 and 6)

NARROW RANGE			WIDE RANGE		
Type	Range	*Resolution	Type	Range	*Resolution
J	-20 to 190°C (0 to 370°F)	1.4°C (2.5°F)	J	-50 to 600°C (-55 to 1100°F)	5°C (9°F)
K	-25 to 230°C (-10 to 440°F)	1.7°C (3°F)	K	-100 to 1150°C (-145 to 2100°F)	6.7°C (12°F)
S	0 to 960°C (32 to 1750°F)	7.0°C (12.6°F)	S	0 to 1760°C (32 to 3200°F)	23°C (41.5°F)
T	-35 to 200°C (-30 to 390°F)	1.7°C (3°F)	T	-200 to 400°C (-325 to 750°F)	6.7°C (12°F)



SmartReader 7

Eight-Channel Process Signal Data Logger

The SmartReader 7 is a versatile data logger that can monitor and record a variety of different process signals including the popular 4-20mA and 0-5V. With its seven input channels, the logger is ideal for monitoring (through commercially available transducers) a wide variety of measurement parameters such as flow, level, pressure, and much more. All process signals can be displayed in their own engineering units using the simple equation editor in ACR's TrendReader® Standard software.



FEATURES

- Eight channels
- Connect virtually any device that has an analog output
- Record a variety of parameters (i.e. flow, level, pressure, etc.)
- Several different models to choose from

PRODUCT SPECIFICATIONS

No. of Channels:

- Eight - One for ambient temperature
- Seven for analog inputs

Standard Model:

Input type:	Input impedance:
0-2.5 V (1 channel)	Greater than 1M Ohm
0-5 V (2 channels)	20K Ohm
0-10 V (1 channel)	40.9K Ohm
0-200 mV (1 channel)	Greater than 1M Ohm
0-25 mA (2 channels)	100 Ohm

Other Models:

- Input type (all external channels):
- 0-2.5 V
- 0-5 V
- 0-10 V
- 0-25 mA

Accuracy:

+/- 1% F.S.

Maximum Protection:

- Voltage channels: +/- 40 volts (reverse-polarity protected)
- Current channels: +/- 70 mA (reverse-polarity protected)

Transducer Restrictions:

It is recommended to use a single power supply or loop isolators to avoid ground loops.

Memory Size:

32 KB

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Order Information

MODEL	INPUT RANGE(S)	MEMORY	CATALOG #
SR-007	Standard Model	32 KB	01-0031
SR-007-0-2.5V	0-2.5 Volt	32 KB	01-0033
SR-007-0-5V	0-5 Volt	32 KB	01-0034
SR-007-0-10V	0-10 Volt	32 KB	01-0041
SR-007-25mA	0-25 mA	32 KB	01-0032



SmartReader 8

FEATURES

- Eight channels
- Monitor temperature in eight different locations
- Use with a variety of different temperature probes:
 - General purpose
 - High temperature
 - Low temperature
 - Waterproof temperature
 - Oven temperature
 - Skin surface temperature
 - Pipe surface temperature

Eight-Channel Temperature (Thermistor) Data Logger

The SmartReader 8 data logger can measure temperature in eight different locations simultaneously using ACR's ET series thermistor probes. Monitor and record high temperature, low temperature, pipe surface, skin surface, or a variety of other temperatures.



PRODUCT SPECIFICATIONS

No. of Channels:

- Eight - One for ambient temperature
- Seven for temperature (with thermistors), resistance, or switch status

Memory Size:

32 KB

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Accessories:

ACR ET Series Temperature Probe or any NTC thermistor probe

Order Information

MODEL	MEMORY	CATALOG #
SR-008	32 KB	01-0036



SmartReader 9

FEATURES

- Three channels
- Count digital pulses or dry switch contact closures (i.e. on/off, open/close)
- User selectable frequency ranges

Three-Channel Pulse Data Logger

The SmartReader 9 is a versatile data logger designed for counting and recording digital pulses or switch contact closures. It has two input channels, each with three selectable frequency ranges. Data can be displayed in custom engineering units using the simple equation editor of ACR's TrendReader® Standard software. It also has one internal channel for recording ambient temperature.



PRODUCT SPECIFICATIONS

No. of Channels:

- Three - One for ambient temperature
- Two for externally-generated pulse signals or dry switch contact closures

Ranges:

- 32 pulses/second
- 64 pulses/second
- 128 pulses/second

Minimum Pulse Width:

4 milliseconds

Switch Contact Closure Input:

Input type: Uncommitted switch or relay contacts

Voltage Inputs:

- Input type: Active logic signals
- Input voltage: Low = 0 to 0.5 volts DC
High = 4.5 to 24 volts DC

Input Impedance:

750K ohms

Memory Size:

32 KB

Common Specifications:

See page 15

Software Specifications:

See page 34

Remote & Network Communications:

See page 38

Order Information

MODEL	MEMORY	CATALOG #
SR-009	32 KB	01-0037



TRH-1000

Two-Channel Temperature and Relative Humidity Data Logger

The TRH-1000 is a low-cost, easy-to-use temperature and relative humidity data logger. With its precision calibrated internal temperature and relative humidity sensor, simply place the logger in the field and leave it to record. Once the desired information has been recorded, plug the logger into the serial port of your computer and begin downloading and viewing the logged data with ACR's TrendReader® Express software. No cables, wires or accessories are required, making the TRH-1000 the ideal data logger for quick and accurate temperature and humidity measurements in a variety of applications.



FEATURES

- Low-cost temperature and RH logger
- Easy to use
- No accessories required
- 5-year battery life
- User selectable sample method and rate
- NIST certificates available on special request

PRODUCT SPECIFICATIONS

Size:
25.4 mm x 58.4 mm x 81.3 mm (1" x 2.3" x 3.2")

Weight:
74 g (2.6 oz)

Case Material:
Cycloyl® (GE Plastics) C120 ABS + Polycarbonate

Mounting:
Magnetic backing and security loop

Operating Limits:
-40 to 70°C (-40 to 158°F) and 0 to 100% RH (non-condensing)

Clock Accuracy:
+/- 2 seconds per day

Battery:
3.6 volt Lithium, 1 Amp-Hour

Battery Life:
5 years under normal use (factory replaceable)

Memory Size:
64 KB (32,640 readings per channel)

Sampling Methods*:
1. Continuous (First-in, First-out)
2. Stop when full (Fill-then-stop)
**Option to delay start*

Sampling Rates*:
User selectable from 8 seconds to 34 minutes
**Readings stored to memory can be spot or averaged over the sample interval (except for the 8 second interval)*

Resolution:
8-bit (1 part in 256)

PC Requirements:
IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 10 MB of hard drive disk space and one free serial port

Software Requirements:
TrendReader® Express (included, see page 35 for details)

Certifications and Standards:

- Certified to CE standard EN61326: 1997 + A1: 1998 (European Emissions and Immunity) covering ESD, RFI, EFT/B, Surge, Conducted Immunity, and Voltage Dips and Interruptions
- Meets FCC standard 47 CFR Part 15, Subpart B: 1999, Class B (US Radiated and Conducted Emissions)

SENSOR SPECIFICATIONS

Internal Temperature/Relative Humidity Sensor:

Type: CMOSens® (by Sensiron)

Temp Range: -40 to 70°C (-40 to 158°F)

Temp Accuracy: +/- 0.6°C @ 25°C (+/- 1.0°F @ 77°F)
+/- 2.0°C from -40 to 70°C
(+/- 3.6°F from -40 to 158°F)

RH Range: 0 to 100% RH (non-condensing)

RH Accuracy: +/- 4% RH between 20 and 80% RH; otherwise +/- 5%

Calibration:
Factory calibration verification and NIST certificates are available upon special request.

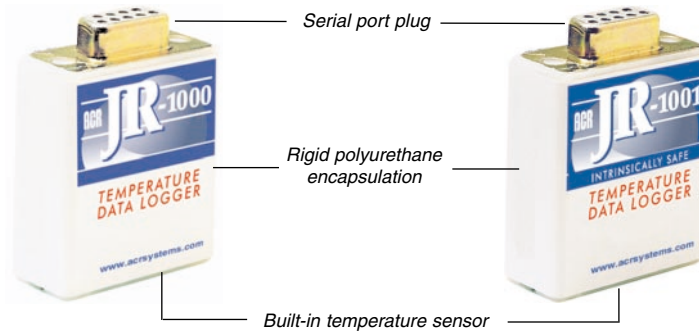
Order Information

MODEL	MEMORY	CATALOG #
TRH-1000	64 KB	01-0194



JR-1000 / JR-1001 (Intrinsically Safe)

Single Channel Temperature Data Logger



General Purpose

Intrinsically Safe

FEATURES

- Low-cost logger
- Intrinsically Safe version available (JR-1001)
- 5-year battery life
- User configurable
- Data compression capability - store up to 244,800 readings
- No accessories required
- Extremely durable

The JR-1000 series is the easiest to use temperature data logger available. With its precision calibrated internal temperature sensor, simply place the logger in the field and leave it to record. Once the desired information has been recorded, plug the logger into the serial port of your computer and begin downloading and viewing the logged data with ACR's TrendReader® Express software.

PRODUCT SPECIFICATIONS

Size:
33 mm x 43 mm x 20 mm (1.3" x 1.7" x 0.75")

Weight:
35 g (1.23 oz)

Case Material:
Polyurethane

Mounting:
Magnetic backing (JR-1000 only)

Operating Limits:
-40 to 85°C (-40 to 185°F) and 0 to 95% RH (non-condensing)

Clock Accuracy:
+/- 2 seconds per day

Battery:
3.6 volt Lithium, 0.45 Amp-Hour

Battery Life:
5 years under normal use

Memory Size:
32 KB (capable of storing up to 244,800 data points when data compression is selected)

Sampling Methods*:
1. Continuous (First-in, First-out)
2. Stop when full (Fill-then-stop)
**Option to delay start*

Sampling Rates*:
User selectable rates from 8 seconds to 34 minutes
**Readings stored to memory can be spot or averaged over the sample interval (except for the 8 second interval)*

Resolution:
8-bit (1 part in 256)

PC Requirements:
IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 2 MB of hard drive disk space and one free serial port

Software Requirements:
TrendReader® Express (included, see page 35 for details)

Accessories:
None

Certifications and Standards:
- Certified to CE standard EN61326: 1997 + A1: 1998 (European Emissions and Immunity) covering Radiated Electromagnetic Field, ESD and RFI
- Meets FCC standard 47 CFR Part 15, Subpart B: 1999, Class B (US Radiated and Conducted Emissions)

Product Approvals (JR-1001 only):
- UL approved Intrinsically Safe for use in Class I, Division 1, Groups A, B, C & D, Class II, Division I, groups E, F & G, Class III, Division I Hazardous Locations T3C

Resistance to X-Rays:
- Tested for protection against a 160kV dose @ 5mA for 30 seconds (150mA-sec) @ 38 inches F.F.D. (about 100 times that of an airport x-ray machine)
- Tested for protection against Gamma Ray (equivalent to 0.137-1.38 mega volts) IR 192 - 28 curies @ 30 second exposure source to object distance 5"

INTERNAL TEMPERATURE SENSOR

Type:
Negative Temperature Coefficient Thermistor
10,000 ohms @ 25°C (77°F)

Range:
-40 to 85°C (-40 to 185°F)

Accuracy:
+/- 0.2°C over the range of 0 to 70°C (+/- 0.3°F over the range of 32 to 158°F)

Resolution:
0.4°C (0.7°F) @ 25°C; better than 1°C (1.8°F) between -25 and 70°C (-13° and 158°F); better than 2.0°C (3.6°F) between -40 and -25°C (-40°F and -13°F)

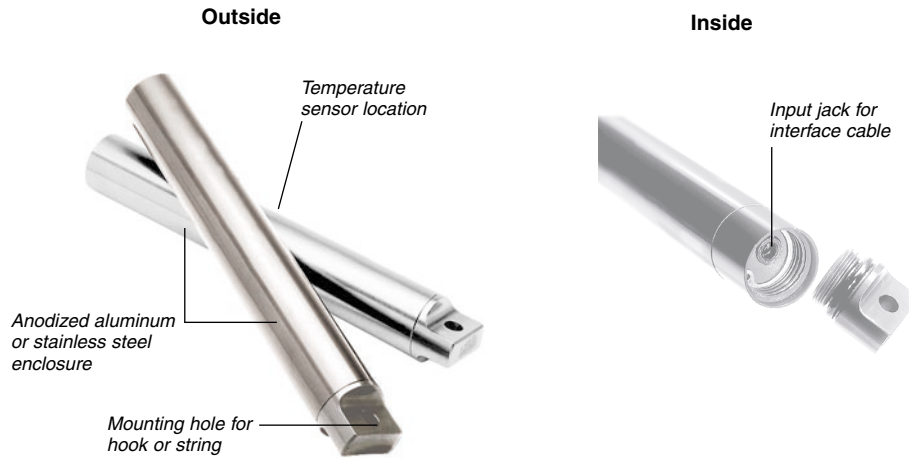
Order Information

MODEL	MEMORY	CATALOG #
JR-1000	32 KB	01-0192
JR-1001	32 KB	01-0193



Nautilus85 / Nautilus135

Single Channel, Waterproof, Temperature Data Loggers



FEATURES

- Monitor temperature in water, food or other liquids
- Available in stainless steel or aluminum
- Extremely durable and robust
- 10 year battery life
- Data compression capability
- Holds over 500 days of data
- User selectable sample methods and rates

The Nautilus85 and 135 are durable, robust data loggers that can monitor temperature in a variety of applications, but they are particularly well suited for the food and beverage, biomedical, pharmaceutical, and industries with hostile or "wet" environments (i.e. wastewater treatment plant). Housed in a stainless steel or aluminum casing, they can withstand virtually any environment and with an operating pressure range up to 2000 PSI, they are ideal for monitoring temperature in any type of water including oceans, ponds, rivers, streams and wastewater.

PRODUCT SPECIFICATIONS

Size:

18 mm x 127 mm (0.7" x 5.0")

Weight:

Aluminum case: 51 g (1.8 oz)

Stainless steel case: 112 g (4.0 oz)

Case Material:

Anodized aluminum or stainless steel

Mounting:

Locking hole on cap

Operating Limits:

Nautilus85: -40 to 85°C (-40 to 185°F) and waterproof

Nautilus135: 10 to 135°C (50 to 275°F) and waterproof

Operating Pressure Range:

Up to 2000 PSI

Clock Accuracy:

+/- 2 seconds per day

Battery:

3.6 volt Lithium, 0.95 Amp-Hour

Battery Life*:

Nautilus85: 10 years under normal use

Nautilus135: 3 years under normal use

*Batteries factory replaceable in both models

Power Consumption:

5 to 10 micro amps (continuous)

Memory Size:

32KB (up to 244,800 readings with data compression)

Sampling Methods*:

1. Continuous (First-in, First-out)

2. Stop when full (Fill-then-stop)

*Option to delay start

Sampling Rates*:

User selectable from 8 seconds to 34 minutes

*Readings stored to memory can be spot or averaged over the sample interval (except for the 8 second interval)

Resolution:

8-bit (1 part in 256)

PC Requirements:

IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2MB RAM, 2MB of hard drive disk space and one free serial port

Software Requirements:

TrendReader® Express (see page 35 for details)

INTERNAL TEMPERATURE SENSOR**Type:**

Negative Temperature Coefficient Thermistor
10,000 ohms @ 25°C (77°F)

Range:

Nautilus85: -40 to 85°C (-40 to 185°F)

Nautilus135: 10 to 135°C (50 to 275°F)

Accuracy:

Nautilus85: +/- 0.2°C over the range of 0 to 70°C
(+/- 0.3°F over the range of 32 to 158°F)

Nautilus135: +/- 0.5°C (+/- 0.9°F)

Order Information

MODEL	TYPE	CATALOG #
NTL-100	Nautilus85 - Aluminum	01-0261
NTL-101	Nautilus85 - Stainless Steel	01-0262
NTL-102	Nautilus135 - Aluminum	01-0263
NTL-103	Nautilus135 - Stainless Steel	01-0264

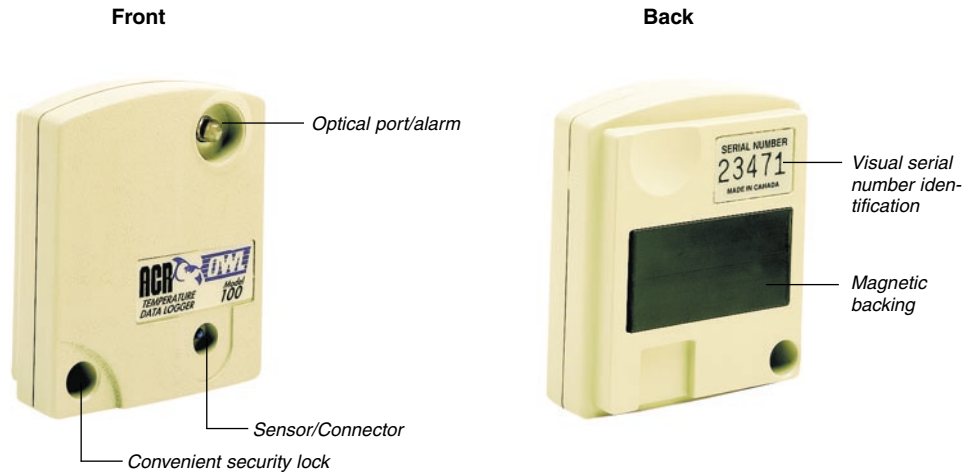


OWL - Common Specifications

Single Channel, Configurable, 8-Bit Data Loggers

FEATURES

- Single channel
- Monitor temperature, current, voltage or process signals
- 10-year battery life
- Flashing visual alarm
- Memory capacity of 32,767 readings
- Optical data transfer
- Fast sample capability



PRODUCT SPECIFICATIONS

OWL data loggers share many common features. For further specifications on individual models, refer to pages 25-27.

Size:

60 mm x 48 mm x 19 mm (2.4" x 1.9" x 0.7")

Weight:

54 g (1.9 oz) - all models except OWL 100-Poly
80 g (2.8 oz) - OWL 100-Poly (water-resistant model)

Case Material:

Noryl® plastic - all models except OWL 100-Poly
Polyurethane - OWL 100-Poly (water-resistant model)

External Connector:

Removable snap type connector

Mounting:

Locking eyelet or magnetic backing

Operating Limits:

-40 to 70°C (-40 to 158°F) and 0 to 95% RH (non-condensing) on non-watertight models

Clock Accuracy:

+/- 2 seconds per day

Battery:

3.6 volt Lithium

Battery Life:

10 years under normal use (factory replaceable)

Memory Size:

32 KB (32,767 readings)

Sampling Methods:

- Delayed start or trigger start:
1. Continuous (First-in, First-out – not available with sample rates faster than 8 seconds)
 2. Stop when full (Fill-then-stop)

Sampling Rates:

User selectable rates from 5 per second to once every 12 hours

Resolution:

8-bit (1 part in 256)

Communication:

Optical - send/receive data from up to 1" between logger and interface cable (with no obstructions)

Alarm Type:

Optical - flashing red LED

PC Requirements:

IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 2 MB of hard drive disk space and one free serial port

Software Requirements:

TrendReader® Standard (see page 34 for details)

Certifications and Standards:

- Certified to CE standard EN50082-1: 1992 (European Generic Immunity) covering ESD, RFI and EFT/B
- Meets CE standards EN55011 Class B: 1991 (European Radiated Emissions) and CISPR Class B: 1991 (International Radiated Emissions)

Resistance to X-Rays:

- Tested for protection against a 160kV dose @ 5mA for 30 seconds (150mA-sec) @ 38 inches F.F.D. (about 100 times that of an airport x-ray machine)
- Tested for protection against Gamma Ray (equivalent to 0.137-1.38 mega volts) IR 192 - 28 curies @ 30 second exposure source to object distance 5"



OWL 100

Single Channel Ambient Temperature Data Logger

The OWL 100 data logger records temperature in environments that typical data loggers cannot withstand. This model is also available in a water-resistant polyurethane enclosure (OWL 100-Poly) so it can be used in hostile environments where vibration or excess moisture is present.



FEATURES

- Compact and small, monitor temperature virtually anywhere
- Water-resistant version available

PRODUCT SPECIFICATIONS

Thermistor Type: NTC Thermistor (10K ohms @ 25°C) Range: -40 to 70°C (-40 to 158°F) Total Accuracy: +/- 0.5°C @ 25°C (0.9°F @ 77°F) <i>Can be increased by using narrow range feature</i> Standard Resolution: 0.5°C at 25°C (0.9°F @ 77°F); better than 1°C (1.8°F) between -25 and 70°C (-13 and 158°F); better than 2.0°C (3.6°F) between -40 and -25°C (-40 and -13°F) <i>Can be increased by using narrow range feature</i>	Submergence Rating (OWL 100-Poly): IP67 - 1 m depth (3.28 ft) in fresh water for 30 minutes Memory Size: 32 KB Common Specifications: See page 24 Software Specifications: See page 34
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Order Information

MODEL	CASE	CATALOG #
OWL-100 POLY	Water-resistant Poly	01-0050
OWL-100 PLASTIC	NORYL® Plastic	01-0250



OWL 200

Single Channel Temperature (Thermistor) Data Logger

The OWL 200 data logger can record temperature, resistance, or switch status. It can be placed in tight environments where typical data loggers cannot fit. Connect any one of ACR's ET series thermistor probes to the logger and begin recording. Monitor and record high temperature, low temperature, pipe surface, skin surface, or a variety of other temperatures.



FEATURES

- Monitor temperature virtually anywhere
- Use with a variety of different temperature probes:
 - General purpose
 - High temperature
 - Low temperature
 - Waterproof temperature
 - Oven temperature
 - Skin surface temperature
 - Pipe surface temperature

PRODUCT SPECIFICATIONS

Range: Varies depending on probe selected Logger Accuracy: +/- 1% of range Memory Size: 32 KB Common Specifications: See page 24	Software Specifications: See page 34 Accessories: ACR OWL ET Series Temperature Probes or any NTC thermistor probe
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Order Information

MODEL	CASE	CATALOG #
OWL-200 PLASTIC	NORYL® Plastic	01-0251



OWL 300

Single Channel AC Current Data Logger

The OWL 300 data logger records electric current in applications where typical data loggers cannot fit. Due to its small size, the OWL 300 can go directly into an electrical panel or even inside small electrical equipment allowing the user to record electric current in a safe, discreet, and convenient manner.



FEATURES

- Monitor a wide range of AC current
- Sense AC current from inside equipment

PRODUCT SPECIFICATIONS

Frequency Ranges:

60 Hz - with A60FL and A70FL current probes
 50 Hz - with A65FL and A75FL current probes

Current Ranges*:

5, 25, 100, and 250 Amps - With OWL A60FL and OWL A65FL current probes
 10, 50, 250, and 500 Amps - With OWL A70FL and OWL A75FL current probes

*Up to 3000 Amps with the ACR CT-50-2 current transformer

Accuracy:

+/- 4% F.S. above 10% of range

Memory Size:

32 KB

Common Specifications:

See page 24

Software Specifications:

See page 34

Accessories:

OWL AC Current Probes

Order Information

MODEL	CASE	CATALOG #
OWL-300-PLASTIC	NORYL® Plastic	01-0252



OWL 400

Single Channel Process Signal (DC Voltage) Data Logger

The OWL 400 is a rugged and versatile data logger that records DC voltage with ease and convenience. Ideal for monitoring (through commercially available transducers) a wide variety of measurement parameters. All voltage signals can be converted into custom engineering units using the simple equation editor in ACR's TrendReader® Standard software.



FEATURES

- Connect virtually any device that has an analog output between 0-40 V
- Record a variety of parameters (i.e. flow, level, pressure, etc.)

PRODUCT SPECIFICATIONS

Input Range:

0 to 38.4 Volts DC (software selectable ranges available)

Input Impedance:

Greater than 100K Ohm

Accuracy:

+/- 1% of full scale

Memory Size:

32 KB

Common Specifications:

See page 24

Software Specifications:

See page 34

Order Information

MODEL	CASE	CATALOG #
OWL-400 PLASTIC	NORYL® Plastic	01-0253



OWL 500

Single Channel Process Signal (4-20mA) Data Logger

The OWL 500 is a rugged and versatile data logger that records the popular 4-20mA process signal with ease and convenience. It is ideal for monitoring (through commercially available transducers) a wide variety of measurement parameters. All current process signals can be converted into custom engineering units using the simple equation editor in ACR's TrendReader® Standard software.



FEATURES

- Connect virtually any device that has a 4-20mA output
- Record a variety of parameters (i.e. flow, level, pressure, etc.)

PRODUCT SPECIFICATIONS

Input Range: 0 to 24 mA DC	Memory Size: 32 KB
Input Impedance: 100 Ohm	Common Specifications: See page 24
Accuracy: +/- 1% of full scale	Software Specifications: See page 34

Order Information

MODEL	CASE	CATALOG #
OWL-500 PLASTIC	NORYL® Plastic	01-0254



SmartButton

Single Channel Temperature Data Logger

The ACR SmartButton is a miniature-sized temperature logger that is extremely low-cost and easy to use. Because of their small size and low-cost, you can purchase tens or hundreds of them for multiple-site temperature monitoring. To get you started, purchase the SmartButton Starter Pack. It includes one SmartButton, an interface cable, the SmartButton Reader software, and a mini manual. So simple and easy to use, anyone can start data logging today!



FEATURES

- Extremely small and low cost
- Multiple-site temperature monitoring (if more than one purchased)
- Record readings up to one year
- "Plug and play" ease of use
- User configurable

PRODUCT SPECIFICATIONS

Size:
17 mm diameter x 6 mm height (0.67" x 0.24")

Weight:
4 g (0.14 oz)

Case Material:
Stainless steel

Mounting:
Magnetic backing, plastic plate mount, or angled blue hard plastic

Operating Limits
-10 to 85°C (14 to 185°F)

Clock Accuracy:
+/- 2 minutes per month from 0 to 45°C (32 to 113°F)

Battery:
3.0 volt Lithium

Battery Life:
10 years under normal use

Memory Size:
2 KB (2,048 readings)

Sampling Methods:
1. Continuous (First-in, First-out)
2. Stop when full (Fill-then-stop)

Sampling Rates:
User selectable rates from 1 minute to 255 minutes

Readings:
Minimum - 2,048 @ 1 per min = 1.4 days
Maximum - 2,048 @ 255 per min = 363 days

Resolution:
8-bit (1 part in 256)

PC Requirements:
Pentium® 75 (Pentium® II or faster recommended), Windows® 9X/NT/2000/XP, 16MB RAM (64MB RAM strongly recommended), color monitor, 16-bit color graphics card, printer, pointing devices and one free serial port

Software Requirements:
SmartButton Reader (see page 35 for details)

Accessories:
Interface cable
Mounting accessories (magnetic backing strip, plastic plate mount, angled blue hard plastic)

INTERNAL TEMPERATURE SENSOR

Type:
Silicon

Range:
-10° to 85°C (14 to 185°F)

Accuracy:
+/- 1.0° C (1.8°F) from -10 to 45°C (14 to 113°F)
+/- 1.5° C (2.7°F) from 45.5 to 70°C (114 to 158°F)
+/- 2.5° C (4.5°F) from 70.5 to 85°C (159 to 185°F)

Resolution:
0.5°C (0.9°F)

Order Information

MODEL	TYPE	CATALOG #
ACRSB-SP	SmartButton Starter Pack	01-0055
ACRSB	SmartButton (single)	01-0052

Five-Channel Multi-Gas Monitor

With a built-in display and data logger, the ACR-205 provides the user with a reliable and accurate method of evaluating indoor air quality by measuring and recording temperature, relative humidity, carbon dioxide, and one or two other gases at the same time. These other gases can include: carbon monoxide (CO), nitrogen dioxide (NO₂), oxygen (O₂), ammonia (NH₃), chlorine (Cl₂), chlorine dioxide (ClO₂), fluorine (F₂), hydrogen (H), hydrogen chloride (HCl), hydrogen cyanide (HCN), hydrogen sulphide (H₂S), nitric oxide (NO), ozone (O₃), or sulphur dioxide (SO₂).



FEATURES

- Five channels to monitor and record:
 - Temperature
 - Relative Humidity
 - Carbon Dioxide
 - And other gases
- Choose from a variety of gas sensors
- Built-in display and data logger
- Accessories and software included

PRODUCT SPECIFICATIONS

Size:
214 mm x 152 mm x 55 mm (8.44" x 6.0" x 2.18")

Weight:
1.32 kg (2.91 lb)

Case Material:
Powder painted aluminum

Mounting:
Handheld, desk or wall mount

Operating Limits:
0 to 50°C (32 to 122°F) and 0 to 100% RH (non-condensing)

Clock Accuracy:
+/- 2 seconds per day

Battery (in logger):
3.6 volt Lithium

Battery (in monitor):
Integral sealed lead acid

Memory Size:
128 KB (87,000 readings)

Sampling Methods:
1. Continuous (First-in, First-out)
2. Stop when full (Fill-then-stop)

Sampling Rates:
User selectable from 8 seconds to once every 8 hours

Resolution:
12-bit (1 part in 4096)

PC Requirements:
IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 2 MB of hard drive disk space and one free serial port

Software Requirements:
TrendReader® Standard (included - see page 34 for details)

Accessories:
Carrying case and interface cable (included)

SENSOR SPECIFICATIONS

Temperature Sensor:
Type: NTC Thermistor
Range: 0 to 50°C (32 to 122°F)
Accuracy: +/- 0.5°C @ 25°C (+/- 0.9°F @ 77 °F)

Relative Humidity Sensor:
Type: Thin film capacitance
Range: 0 to 100% RH
Accuracy: +/- 2% RH

CO₂ Sensor:
Type: NDIR
Range: 0 to 5,000 ppm (standard)
Accuracy: +/- 20 ppm (typical)

CO Sensor:
Type: Electrochemical
Range: 0 to 50 ppm
Accuracy: < 2% per month in clean air

NO₂ Sensor:
Type: Electrochemical
Range: 0 to 5 ppm
Accuracy: < 3% @ 3 months

Other Gas Sensors (Range, Resolution):
O₂ (0 - 25.0% Volume, 0.2% Volume)
NH₃ (0 - 100 ppm, 1 ppm)
Cl₂ (0 - 5.0 ppm, 0.02 ppm)
ClO₂ (0 - 1.0 ppm, 0.02 ppm)
F₂ (0 - 1.0 ppm, 0.02 ppm)
H₂ (0 - 4000 ppm, <20 ppm)
HCl (0 - 30 ppm, 0.5 ppm)
HCN (0 - 30 ppm, 0.3 ppm)
H₂S (0 - 50 ppm, 0.05 ppm)
NO (0 - 100 ppm, 0.1 ppm)
O₃ (0 - 1.00 ppm, 0.02 ppm)
SO₃ (0 - 20 ppm, 0.1 ppm)

Order Information

MODEL	CONFIGURATION	CATALOG #
ACR-205	Temperature, RH, CO ₂ and 2 spare channels	01-0337
ACR-205-4	Temperature, RH, CO ₂ , CO and 1 spare channel	01-0332
ACR-205-5	Temperature, RH, CO ₂ , CO and NO ₂	01-0333



Conservation Logger

Five-Channel Temperature, RH and 5V Input Data Logger

FEATURES

- Monitor and record temperature, RH and any parameter with a 0-5VDC output
- Visual alarm
- 12-bit resolution
- 5-year battery life
- 128 KB memory (87,000 readings)
- Fast sample rates (up to 25 samples per second)
- Network capable
- Remote access via modem or Ethernet
- User configurable

The Conservation Logger is a self-contained temperature and relative humidity logger with two external channels for use with a variety of sensors. It is equipped with an LED light that will alert the user if measurements raise above set limits. With 12-bit resolution, user selectable sample rates, 5-year battery life and an LED light for visual alarming, it is the ideal solution for museums, libraries and archives where temperature, humidity and light are important factors to the preservation and conservation of precious, valuable items.*

*When used in conjunction with a light sensor



PRODUCT SPECIFICATIONS

Size:
107 mm x 74 mm x 22 mm (4.2" x 2.9" x 0.9")

Weight:
110 g (3.75 oz)

Case Material:
Noryl[®] plastic

Mounting:
Magnetic backing or lock eyelet

Operating Limits:
-40 to 70° C (-40 to 158° F) and 0 to 95% relative humidity (non-condensing)

Clock Accuracy:
+/- 2 seconds per day

Battery:
3.6 volt Lithium, 1 Amp-Hour

Battery Life:
5 years under normal use (factory replaceable)

Memory Size:
128 KB (87,000 readings)

Sampling Methods:

1. Continuous (First-in, First-out – not available with sample rates faster than 8 seconds)
2. Stop when full (Fill-then-stop)

Sampling Rates:
User selectable rates from 25 per second (0.04 seconds) to once every 8 hrs*

**BP-101 Battery Pack or PS-201 Power Supply required for sample rates faster than 8 seconds (see Accessories section for details)*

Resolution:
12-bit (1 part in 4096)

PC Requirements:
IBM PC or 100% compatible running Windows[®] 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 2 MB of hard drive disk space and one free serial port

Software Requirements:
TrendReader[®] Standard (see page 34 for details)

SENSOR SPECIFICATIONS

Temperature Sensor:

Type: NTC Thermistor
Range: -40 to 70°C (-40 to 158°F)
Accuracy: +/- 0.2°C over the range of 0 to 70°C (+/- 0.3°F over the range of 32 to 158°F)
Resolution: 0.03°C at 25°C (0.05°F at 77°F); better than 0.07°C (0.12°F) between -25 and 70°C (-13 and 158°F); better than 0.13°C (0.23°F) between -40 and -25°C (-40 and -13°F)

RH Sensor:

Type: Capacitive thin polymer film
Range: 0 to 95% RH
Accuracy: +/- 3% RH from 10 to 90% (-20 to 40°C [-4 to 104°F])
Resolution: Better than 0.04% RH between 25 and 60% RH at 25°C (77°F)

External Sensors (2):
Range: Any two sensors with a 0-5 VDC output

Order Information

MODEL	MEMORY	CATALOG #
Conservation Logger	128 KB	01-0133



IAQ Logger

Temperature, Humidity and CO₂ Data Logging Solution

The IAQ Logger, when combined with the Telaire 7001 Handheld CO₂ Monitor, records the three leading indicators of indoor air quality: (1) temperature, (2) relative humidity, and (3) carbon dioxide. This IAQ solution is ideal for those applications requiring long-term, close monitoring and recording. Quickly and easily verify the temperature and CO₂ on the Telaire's large, easy-to-read display.



IAQ Logger shown with Telaire CO₂ monitor

FEATURES

- Monitor and record indoor air quality:
 - Temperature
 - Relative Humidity
 - Carbon Dioxide
- Real time display
- Option to monitor resistance, switch status or 2nd temperature and RH measurement

PRODUCT SPECIFICATIONS

IAQ LOGGER

Size:
107 mm x 74 mm x 22 mm (4.2" x 2.9" x 0.9")

Weight:
110 g (3.75 oz)

Case Material:
Noryl® plastic

Mounting:
Magnetic backing or locking eyelet

Operating Limits:
-40 to 70°C (-40 to 158°F) and 0 to 95% RH (non-condensing)

Clock Accuracy:
+/- 2 seconds per day

Battery or Power Supply:
3.6 volt Lithium

Battery Life:
10 years under normal use

No. of Channels:
Five - One for ambient temperature
One for relative humidity
One for carbon dioxide
Two for temperature and/or RH (with ACR thermistor probes or ACR temp/RH probe)

Memory Size:
32 KB (32,767 readings)

Sampling Methods:
1. Continuous (First-in, First out)
2. Stop when full (Fill-then-stop)

Sampling Rates:
User selectable rates from 8 seconds to once every 5 days

Resolution:
8-bit (1 part in 256)

PC Requirements:
IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 2 MB of hard drive disk space and one free serial port

Software Requirements:
TrendReader® Standard (see page 34 for details)

TELAIRE 7001

Size:
170 mm x 80 mm x 40 mm (6.7" x 3.1" x 1.6")

Weight:
280 g (9.9 oz)

Case Material:
ABS plastic

Mounting:
Pull-out stand

Operating Limits:
0 to 50°C (32 to 122°F) and 0 to 95% RH (non-condensing)

Power Supply:
6 VDC from external AC/DC adapter (included) or 4 AA batteries (not included)

SENSOR SPECIFICATIONS

Temperature Sensor (in IAQ Logger):

Type: NTC Thermistor
Range: -40 to 70°C (-40 to 158°F)
Accuracy: +/- 0.2°C over the range of 0 to 70°C (+/- 0.3°F over the range of 32 to 158°F)
Resolution: 0.4°C (0.7°F) @ 25°C; better than 1°C (1.8°F) between -25 and 70°C (-13° and 158°F); better than 2.0°C (3.6°F) between -40 and -25°C (-40°F and -13°F)

RH Sensor (in IAQ Logger):

Type: Capacitive thin polymer film
Range: 0 to 95% RH
Accuracy: +/- 4% RH from 10 to 90% (-20 to 40°C [-4 to 104°F])
Resolution: Better than 0.4% RH between 25 and 60% RH at 25°C (77°F)

CO₂ Sensor (in Telaire):

Range: 0 to 4,000 ppm voltage output
0 to 10,000 ppm display
Sensitivity: +/- 1 ppm
Accuracy: +/- 50 ppm or +/- 5 % of reading (whichever is greater)
Repeatability: +/- 20 ppm

Order Information

MODEL	TYPE	CATALOG #
IAQ-100 System	IAQ Logger & Telaire 7001	01-0338
SR-IAQ	IAQ Logger only	01-0340
Telaire-7001	Telaire 7001 only	35-0034

Voltage Disturbance Recorder

Front



Back



North America
120 Volt



Australia
240 Volt



United Kingdom
240 Volt



Continental Europe
240 Volt

FEATURES

- Records essential voltage disturbance events:
 - Surges
 - Sags
 - Outages
 - Dropouts
 - Impulses
 - Frequency variations
- Records up to 4000 events
- 10-year battery life
- Safe, stand-alone operation
- No wires, alligator clips or other exposed wiring
- Hot-Neutral and Neutral-Ground monitoring

Use the PowerWatch as your first line of defence against power quality problems. Simply plug it into any power receptacle (120-volt North American or 220/240-volt Australian, European or UK) and begin monitoring and recording essential voltage disturbance information - surges, sags, outages, impulses, dropouts, and frequency variations. Set up your pre-determined disturbance threshold values or use the industry standard default values using PowerWatch software. No wiring or dangerous connections are required.

PRODUCT SPECIFICATIONS

Size:	85 mm x 68 mm x 35 mm (3.35" x 2.65" x 1.35")
Weight:	120 g (4 oz)
Case Material:	Noryl® plastic
Operating Limits:	-40 to 70°C (-40 to 158°F) and 0 to 95% RH (non-condensing)
Battery:	3.6 volt Lithium
Battery Life:	10 years under normal use (factory replaceable)
Fuse:	1/16A fast-blow (non-replaceable)
Memory Size:	32KB (4,000 events)
Storage Method:	First-in, First-out or Fill-then-stop
Sampling Method:	Continuous (half cycle integrated)
Alarm Type:	Optical (flashing red LED)
PC Requirements:	IBM PC or 100% compatible running Windows® 3.1, '95, '98, 2000, Me, NT or XP with at least 2 MB RAM, 2 MB of hard drive disk space and one free serial port
Software Requirements:	PowerWatch Software (see page 33 for details)
Certifications:	CSA, NRTL/C, and UL3111-1

MEASUREMENT SPECIFICATIONS:

Surge, Sag & Outage (120-volt version):		
	<u>Hot to Neutral</u>	<u>Neutral to Ground</u>
Range:	0 to 200 V rms	3 to 200 V rms
Accuracy:	+/- 1 V rms	+/- 1 V rms
	+ resolution	+ resolution
Resolution:	1 V rms	1 V rms
Surge, Sag & Outage (220/240-volt version):		
	<u>Hot to Neutral</u>	<u>Neutral to Ground</u>
Range:	0 to 400 V rms	3 to 200 V rms
Accuracy:	+/- 2 V rms	+/- 1 V rms
	+ resolution	+ resolution
Resolution:	2 V rms	1 V rms
Impulse:		
	<u>Hot to Neutral</u>	<u>Neutral to Ground</u>
Range:	100 to 2500 V peak	50 to 2500 V peak
Accuracy:	+/- 10% of reading	+/- 10% of reading
	+ resolution	+ resolution
Resolution:	10 V	10 V
Width Detection:	1 µsec minimum	1 µsec minimum
Phase Angle:		
Accuracy:	+/- 1° (20 to 180°, 200 to 360°)	+/- 1° (20 to 180°, 200 to 360°)
Resolution:	1°	1°
Frequency:		
Range:	45 to 65 Hz	
Accuracy:	+/- 0.1 Hz (3 cycles minimum)	
Resolution:	0.1 Hz	
Time:		
Events (< 1 sec):	<u>Hot to Neutral</u>	<u>Neutral to Ground</u>
Accuracy:	+/- 0.5 cycle	+/- 1 cycle
Resolution:	0.5 cycle	1 cycle
Time-stamp (> 1 sec):		
Accuracy:	+/- 2 sec/day + resolution	
Resolution:	8 seconds	

Order Information

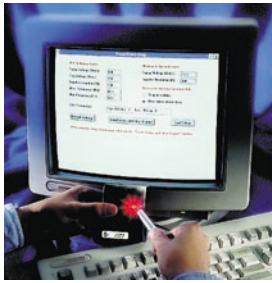
MODEL	COMPATIBILITY	CATALOG #
PWV-001	North America	01-0066
PWV-002-A	Australia	01-0205
PWV-002-U	United Kingdom	01-0200
PWV-002-E	Europe	01-0215



PowerWatch Software

For PowerWatch Voltage Disturbance Recorder

Compatible with Windows® 3.1, '95, '98, 2000, Me, NT and XP



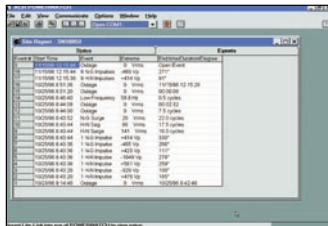
Easy setup and downloading

This powerful and easy-to-use power quality analysis software program is developed exclusively for ACR's voltage disturbance recorder, the PowerWatch. With no programming hassles or complex menus, setup and downloading occurs in seconds. Connection is simple: plug the optical interface cable (LIC-101 cable) into the serial port of your computer and point the other end to the optical port on the PowerWatch. Communication begins immediately. Detailed site reports are displayed for every voltage disturbance event recorded including:

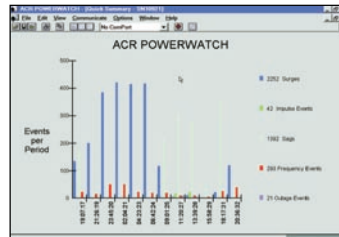
- Hot-to-Neutral and/or Neutral-to-Ground Surges
- Hot-to-Neutral and/or Neutral-to-Ground Sags
- Hot-to-Neutral and/or Neutral-to-Ground Impulses
- Outages
- Frequency Variations

With the Quick Summary option, all events are summarized and displayed individually in a bar graph format. This helps determine power quality trends quickly and effectively. The Event Distribution Graph plots the magnitude of events against duration on a logarithmic scale, allowing you to determine the importance of the data (a single random event may not be as important as a cluster of events). The Event Distribution Graph also helps determine what kind of power quality problems you have as all 4000 events can be plotted on this graph. You have the choice of analyzing hot-to-neutral or neutral-to-ground events or showing both in different colors. The CBEMA Curve can be used to determine the importance of each event.

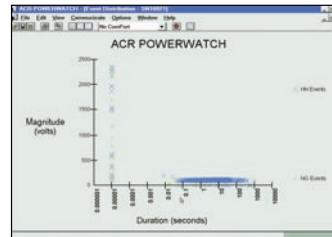
Detailed Site Reports



Quick Summary



Event Distribution Graph



Order Information

MODEL	DESCRIPTION	CATALOG #
PWV-100	PowerWatch Interface Package*	01-0060
PW	PowerWatch Software - Full Install	34-0004

*Includes software on CD, interface cable, and manual

FEATURES

- Simple and easy to use
- User-selectable threshold limits
- Detailed site reports
- Hot-to-neutral and neutral-to-ground readings
- Quick summary option
- Determine event importance



TrendReader® Standard 2 Software

For SmartReader Plus, SmartReader, IAQ and OWL Data Loggers - Compatible with Windows® 2000 and XP

FEATURES

- Serial & USB port interface
- Fast and easy logger setup
- One-touch table views
- Presentation-quality graphs
- Multi-graph display
- Zooming capabilities
- Export capabilities (TXT, BMP, PDF, JPG or CSV formats)
- Real-time readings

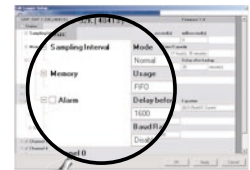
TrendReader® Standard 2 is a powerful, versatile, and easy-to-use software package designed exclusively for ACR's SmartReader Plus, SmartReader, IAQ and OWL data loggers. Powerful features and easy setup enables logged data to be collected and thoroughly analyzed in seconds.

DOWNLOADING AND COMMUNICATING WITH DATA LOGGER

Set up, download and view information from a single data logger with ACR's IC-102 interface cable (included in software interface package). Connection is simple: plug the interface cable into the USB port of your computer and connect the other end to the logger. No tools, cards or docking stations are required. To communicate from a modem or a network of data loggers, see Networking and Remote Communications sheet.

SETTING UP DATA LOGGER

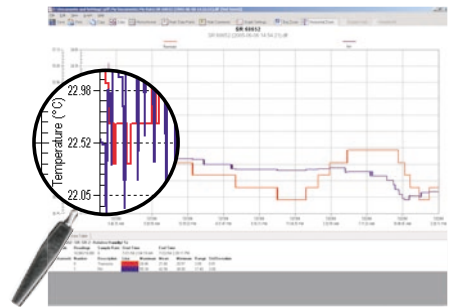
With built-in menus for sample rate and mode, start delay, equations and more, logger setup is fast and easy. In addition, equations are already included for all ACR sensors so you need only select the appropriate equation from the menu or customize your own equation. Real-time readings are displayed in the Setup window, allowing you to verify that your logger is working correctly before placing it in the field.



Logger Setup

VIEWING DATA

With TrendReader® Standard 2, data can be viewed in table or graphical format. For presentation purposes, view data in graphical format or for a more detailed analysis, view data in table format. Either way, multiple channels of data can be displayed at once. Multiple graphs can be displayed at once and compounded to create new graphs. For added presentation power, add comments, change graph colours, zoom in on specific portions of data, and display your data using custom engineering units. Print or copy and paste graphs into your reports and presentations. Select all or portions of the table and copy and paste into your favorite Windows® program.



Export Data

Use the export function in TrendReader® Standard 2 to export your data to other programs for further analysis. Data can be exported in TXT, BMP, PDF, JPG or CSV formats.

Order Information

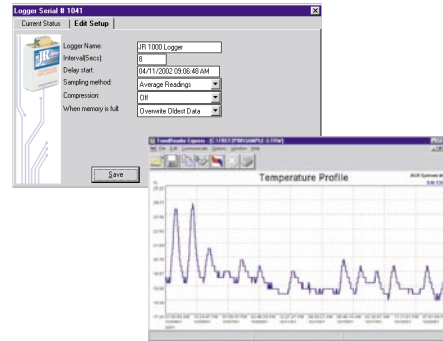
MODEL	DESCRIPTION	CATALOG #
TRS2-w/IC-101	TrendReader Std/IC-101 Package	01-0225
TRS2-w/IC-102	TrendReader Std/IC-102 Package	01-0226
TRS2-w/LIC-101	TrendReader Std/OWL Interface Package	01-0227
TRS2-Full Install	TrendReader Std - Full Install	01-0228
TRS2-Upgrade	TrendReader Std - Upgrade	01-0229



TrendReader® Express Software

For JR-1000/1001, Nautilus85/135 and TRH-1000 Data Loggers - *Compatible with Windows® 3.1, '95, '98, 2000, Me, NT and XP*

TrendReader® Express is an enhanced software package designed exclusively for the JR-1000/1001, Nautilus85/135 and TRH-1000 data loggers. This easy-to-use software incorporates the advantages of simple functionality with advanced features that are normally associated with more expensive data acquisition software. Some of these features include: statistical and tabular displays, advanced graph control, zooming capabilities, scale units and auto scale, battery life indicator, and exporting capabilities.



FEATURES

- Serial port interface
- “Plug-and-play” ease of use
- Zooming and graph control
- Battery life indicator
- Export capabilities

Order Information

MODEL	DESCRIPTION	CATALOG #
TR-EXPRESS/Nautilus	TrendReader Exp/Nautilus Interface Package	01-0275
TR-EXPRESS	TrendReader Express - Full Install	34-0017

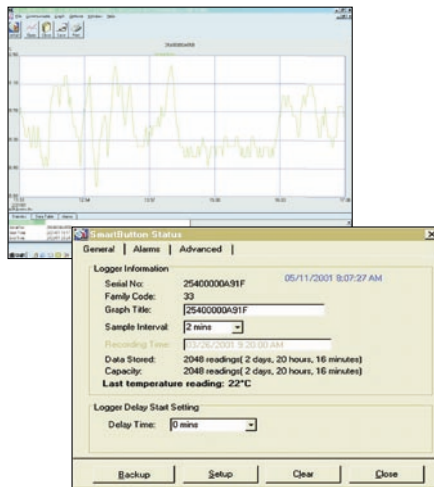
**Includes software on CD, interface cable, and manual*



SmartButton Reader Software

For SmartButton Data Loggers - *Compatible with Windows® 3.1, '95, '98, 2000, Me, NT and XP*

Presentation-quality graphs



SmartButton logger setup

Nothing is simpler to use than SmartButton Reader software. To set up, download or view information from an ACR SmartButton data logger, use an ACR SmartButton interface cable. Connection is simple: plug the interface cable into the serial port of your computer (interface cable sold separately or with the starter pack), snap the SmartButton into the receptor (face down), and begin loading the software. Easy setup and powerful software features enables logged data to be collected and thoroughly analyzed in seconds. SmartButton Reader software comes complete with built-in menus for Sample Rate, Start Delay, Alarm Setups, and more. Logged data can be viewed in table format, permitting detailed analysis, or graphical format. For added presentation power, SmartButton Reader lets you change graph colors, zoom in on specific portions of data, and print to any Windows-compatible printer with ease. If you prefer to use Excel®, PowerPoint®, or other popular Windows® programs, data can be exported in ASCII or CSV formats.

FEATURES

- Serial port interface
- Simple logger setup
- One-touch table views
- Presentation-quality graphs
- Multi-graph display
- Zooming capabilities
- Export capabilities

Order Information

MODEL	DESCRIPTION	CATALOG #
ACRSB-SW	SmartButton Reader Software - Full Install	34-0010
ACRSB-INT	SmartButton Interface Cable	01-0053
ACRSB-SP	SmartButton Starter Pack	01-0055

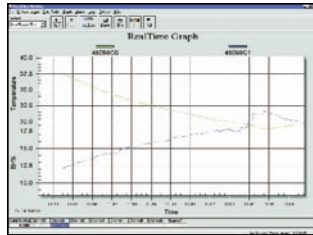


RealTime Graphing Software

For SmartReader, SmartReader Plus and PowerWatch

FEATURES

- Compatible with:
 - SmartReader 1-9
 - SmartReader Plus 1-10
 - PowerWatch
- Works with ACR data logger networks (remote or local)
- Displays multi-channels
- User selectable alarm thresholds
- Create custom alarm macros



With RealTime Graphing software, you can graph data in real time as an ACR data logger or PowerWatch records. This software plug-in only works with TrendReader Standard or PowerWatch software. Both programs (i.e. TrendReader Standard and RealTime Graphing) must run at the same time in order to view the real time data in a graphical format. Set alarm thresholds to trigger audio or visual alarms, or to run an alarm macro to simulate any key-strokes on your computer. RealTime Graphing software allows you to detect problems or potential problems giving you the edge to act before something drastic or damaging occurs. Since ACR data loggers and the PowerWatch accumulate historical data, you can still look back and analyze logged information at a later date. Data collected by RealTime Graphing software can also be saved for later use or exported to other Windows® programs (in ASCII format).

Order Information

MODEL	DESCRIPTION	CATALOG #
RTM-WIN	RealTime Graphing Software	01-0073

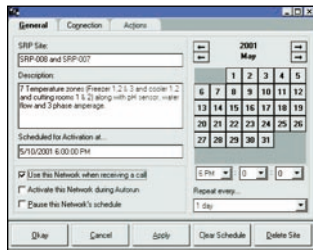


TalkBack Software

For SmartReader Plus Data Loggers

FEATURES

- Compatible with SmartReader Plus (SRP) data loggers
- Works with SRP networks (remote or local)
- Automatically downloads logged data
- Answers SRP alarms and will run a custom alarm macro



TalkBack software has two main features: (1) it automatically downloads logged information from any SmartReader Plus data logger and (2) it responds to SmartReader Plus alarms. TalkBack also works with SRP data loggers that are on a local or remote network.

Auto-Backup Feature

To automatically download information from a SmartReader Plus data logger, TalkBack will contact the logger (direct if local, by modem if remote), download the logger's information, and save it to the computer's hard drive at user-set intervals. This prevents manually backing up logged data when the logger's memory becomes full.

Alarm-Indicating Feature

TalkBack software can be set up to receive all tripped alarms from SmartReader Plus data loggers (initially set up in TrendReader® Standard software). When the data logger measures an exceeded value on any of its channels, the logger will call the computer and TalkBack will run an alarm macro, which has been set by you. Macro options include sounds, visual alarms, running of other programs, and calling a pager or cell phone with Caller ID capability.

Note: TalkBack software is only compatible with SmartReader Plus data loggers with a serial number of 42,508 or higher.

Order Information

MODEL	DESCRIPTION	CATALOG #
TBS-WIN	TalkBack Software	01-0076

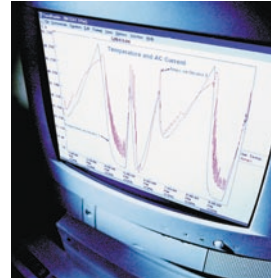


Solution Developer's Kit (SDK)

Software Code for ACR Data Loggers

ACR's Solution Developer's Kit is an all-in-one software and hardware kit designed to assist implementers and integrators in creating customized data logging solutions with ACR data loggers. Use the SDK to create applications that will interact and manipulate any of the supported ACR data loggers (see below) so you can integrate with 3rd-party applications. The SDK can be used in VB, VC++, Java and VBA Editor designing environments. There is an SDK available for each of the following ACR data loggers:

- SmartReader Plus 1-10
- JR-1000/1001
- Nautilus85/135
- TRH-1000



With the purchase of the full version SDK, you receive 90 days of free technical email support from ACR's highly qualified development staff.

Included in Kit

- COM control for specified ACR data logger
- 1 ACR data logger with appropriate interface cable
- Sample applications (VB and C++)
- User documentation
- 90-day email support (activated upon receipt of warranty card)

Order Information

MODEL	DESCRIPTION	CATALOG #
SDK (for SRP and Nautilus)	Solution Developer's Kit for SRP and Nautilus loggers	01-0900
SDK (for JR and TRH)	Solution Developer's Kit for JR and TRH loggers	01-0901

**Includes software on CD, data logger and interface cable.*

FEATURES

- All-in-one data logging solution
- Software code for:
 - SmartReader Plus 1-10
 - JR-1000/1001
 - Nautilus85/135
 - TRH-1000
- Use in the following designing environments:
 - VB
 - VC++
 - Java
 - VBA Editor
- Free technical support



Calibration Services

For SmartReader and SmartReader Plus Data Loggers

ACR Systems' data loggers are thoroughly tested during and after assembly to ensure that our customers obtain the most accurate information possible from our products. Most of ACR Systems' data loggers can then be re-calibrated as determined by usage characteristics of individual clients and ACR's own technical recommendations. In simple terms, loggers that have been regularly calibrated will help provide more reliable data logging results over the life of the logger.

Single Data Logger

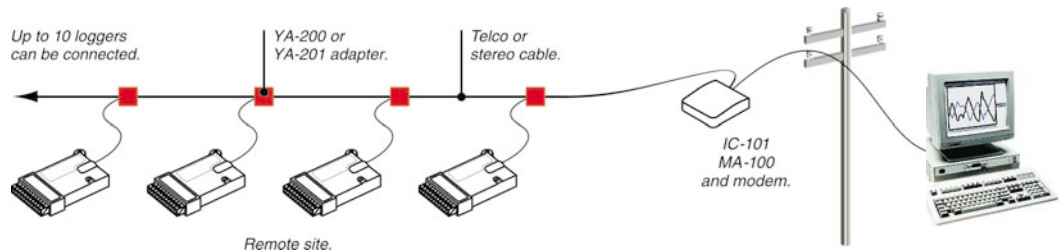
With each logger shipped, ACR Systems includes a calibration card for reference in case the logger's setup is altered. In addition, each external humidity sensor has its own unique set of calibration values that must be entered into the logger's setup. For each humidity logger and humidity sensor, a calibration label is included.

Multiple Data Loggers

To minimize the expense of yearly calibrations for individual loggers, ACR has devised calibration packages for SmartReader and SmartReader Plus data loggers. These packages are designed to offer greater savings as larger number of calibrations are purchased.

Contact ACR Systems for order and pricing information.

For SmartReader Plus Data Loggers

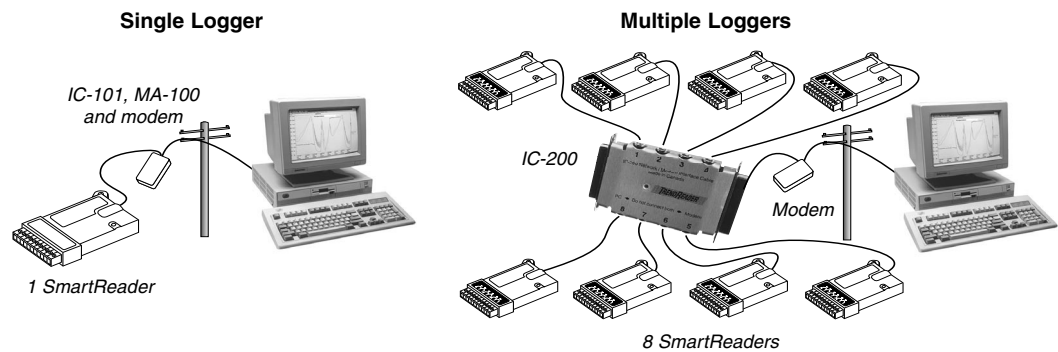


Up to 10 SmartReader Plus data loggers can be formed into a network. To do this, run stereo or telephone cable around the site and connect the loggers anywhere along the cable using ACR's network Y splitters (YA-200 for stereo cable or YA-201 for telco cable). If more than 3 data loggers are networked, plug in a power supply at one end of the network. At the opposite end of the network, connect ACR's interface cable. If communicating directly to a computer, connect the interface cable directly to the computer's serial port. If communicating via modem, connect ACR's modem adapter (MA-100) between the modem and interface cable.

Order Information

MODEL	DESCRIPTION	CATALOG #
	Stereo Cable Extension Cable - 20'	31-0024
	Telco/Logger Network Cable (Bulk)	31-0044
	Telco/Logger Network Connector Install	89-0002
YA-200	Network Y Splitter-Stereo	01-0098
YA-201	Network Y Splitter-Telco	01-0166
USM-C	Computer Station Modem	01-0300
USM-R	Remote Logger Site Modem	01-0301
MA-100	Modem Adapter for IC-101 Cable	18-0023
IC-101	Computer/Modem to Logger Interface Cable	01-0068
PS-201-NA	Network Power Supply (120 Volt)	01-0165
PS-201-EU	Network Power Supply (220 Volt)	01-0164

For SmartReader Data Loggers



To communicate with a single SmartReader data logger over a modem, use ACR's modem adapter (MA-100) and interface cable (IC-101). Connect up to 8 SmartReader data loggers (up to 64 channels) in a network and communicate with it locally or remotely via modem using ACR's multi-logger interface module (IC-200).

Order Information

MODEL	DESCRIPTION	CATALOG #
	Stereo Cable Extension Cable - 20'	31-0024
IC-200-120V	8-Port Network Int. Cable-120V (120 Volt, 60 Hz version)	01-0043
IC-200-220V	8-Port Network Int. Cable-220V (220 Volt, 50 Hz version)	01-0085
IC-200-NPS	8-Port Network Int. Cable-NPS (Requires 5V DC power supply)	01-0065
MA-100	Modem Adapter for IC-101 Cable	18-0023
IC-101	Computer/Modem to Logger Interface Cable	01-0068

FEATURES

- Up to 10 loggers (80 channels) on one network
- Compatible with any modem
- Automatic data download
- Simple wiring; no hub required

FEATURES

- Up to 8 loggers (64 channels) on one network
- Compatible with any modem
- Automatic data download
- Simple wiring; no hub required



SRP Display Module

For SmartReader Plus Data Loggers

The SRP Display Module is an external display option for the SmartReader Plus line of data loggers. It is designed to let you view real-time readings of an SRP data logger. Use it for verification and spot checking purposes while the logger is still in the field, eliminating the need to bring the logger in to connect to a computer. The LCD display shows data in the units of the base channel type (i.e. volts, current, temperature, etc.) with the ability to convert between Celsius and Fahrenheit scales for channels measuring temperature. Operation is simple: use a stereo cable (included) to connect the device to an SRP data logger, push any button on the display module, and begin scrolling through the channels to view real-time readings. Like ACR's other products, the SRP Display Module is portable, battery-powered and easy to use.



SRP Display Module (black) shown with an SRP data logger

FEATURES

- View real-time readings
- For use with SmartReader Plus data loggers
- Portable, battery powered and easy to use
- For verification and spot-checking purposes
- Optional power supply for continuous visual display

PRODUCT SPECIFICATIONS

Size: 26.6 mm x 126.9 mm x 76.2 mm (1.05" x 5.0" x 3.0") Weight: 185 g (6.5 oz) Display Window Size: 15.0 mm x 62.0 mm (0.56" x 2.5") Display Type: Liquid Crystal Display (LCD)	Font Size: 20 point Batteries: 2 AA batteries (included) Operating Limits: 0 to 50°C (32 to 122°F) and 0 to 95% RH (non-condensing)
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Order Information

MODEL	DESCRIPTION	CATALOG #
SRP-DM	SRP Display Module	01-0171



Alarm Module 100

For SmartReader Plus Data Loggers

The Alarm Module is intended for use with the SmartReader Plus line of data loggers. It utilizes the alarm dial-out capability of the SRP data loggers, providing a blinking LED light and audio beeper to indicate that an alarm threshold has been tripped. The Alarm Module stays in alarm state until the reset button has been pressed. Additionally, two sets of relay contacts are provided for general purpose use. The Alarm Module can be used with a single data logger or with a network of data loggers. External power supply is required.



FEATURES

- Two alarm methods:
 - Blinking LED light
 - Audio beeper
- User-configurable
- Network capable
- Two-channel output

PRODUCT SPECIFICATIONS

Size: 107 mm x 74 mm x 22 mm (4.2" x 2.9" x 0.9") Weight: 110 g (3.75 oz)	Case Material: Noryl® plastic
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Order Information

MODEL	DESCRIPTION	CATALOG #
AM-100-120	North American power supply	01-0167
AM-100-240	European power supply (Shuko plug)	01-0168



FEATURES/DESCRIPTION	RANGE/ACCURACY	LENGTH/SIZE	COMPATIBILITY	MODEL	CAT. NO.
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SENSORS: Temperature – Thermistor Type

1 GENERAL PURPOSE TEMPERATURE PROBE

With its wide range, it is ideal for sensing temperature. The temperature sensor is housed inside a stainless steel tip for fast response time.

-35 to 95°C (-30 to 200°F)
 +/-0.2°C (0.4°F) from 0 to 70°C (32 to 158°F)
 +/-0.5°C (+/-0.9°F) from -35 to 0°C (-30 to 32°F)

Cable:
 6 meters (20 feet)
 Probe:
 25mm x 5mm
 (1" x 3/16")

SR1, SR2, SR4, SR8,
 SRP1, SRP2, SRP4,
 SRP8, OWL 200*

ET-016
 OWL-ET-016

35-0001
 01-0004

5 WATERPROOF TEMPERATURE PROBE

This waterproof (IP-67 rated) temperature sensor is 10k ohms and has a wide operating range. This sensor conforms to the same specifications as the ET-016 temperature sensor. Please contact ACR for special adapter to connect to OWL 200.

-40 to 105°C (-40 to 221°F)
 +/-0.2°C (0.36°F) from 0 to 70°C (32 to 158°F)

Cable:
 6 meters (20 feet)
optional angled connector (contact ACR)
 Probe:
 59.69mm length x
 6.35mm diameter
 (2.35" x 0.25")

SR-001, SR-008,
 SRP-001, SRP-008

Waterproof
 Temperature Sensor

35-0035

1 LOW TEMPERATURE PROBE

For applications where the center of the temperature sensing point will be approximately 0°C (32°F). The temperature sensor is housed inside a stainless steel tip for fast response time.

-60 to 55°C (-75 to 130°F)
 +/-0.2°C (0.4°F) from 0 to 55°C (32 to 113°F)
 +/-0.6°C (1.1°F) from -50 to -30°C (-58 to -22°F)
 +/-0.3°C (0.54°F) from -30 to 0°C (-22 to 32°F)

Cable:
 6 meters (20 feet)
 Probe:
 From 25mm x 5mm
 (1" x 3/16")

SR1, SR2, SR4, SR8,
 SRP1, SRP2, SRP4,
 SRP8, OWL 200*

ET-004-GP
 OWL-ET-004-GP

35-0028
 01-0111

2 LOW TEMPERATURE PENETRATION PROBE

For applications where the center of the temperature sensing point will be approximately 0°C (32°F). The temperature sensor is housed inside a stainless steel probe for fast response time.

-60 to 55°C (-75 to 130°F)
 +/-0.2°C (0.4°F) from 0 to 55°C (32 to 113°F)
 +/-0.6°C (1.1°F) from -50 to -30°C (-58 to -22°F)
 +/-0.3°C (0.54°F) from -30 to 0°C (-22 to 32°F)

Cable:
 3 meters (10 feet)
 Probe:
 89mm long x 19mm
 diameter (3-1/2" x 3/4")
 tapered tip with
 tapered handle

SR1, SR2, SR4, SR8,
 SRP1, SRP2, SRP4,
 SRP8, OWL 200*

ET-004
 OWL-ET-004

35-0000
 01-0005

1 HIGH TEMPERATURE PROBE

For applications where the center of the temperature sensing point will be approximately 80°C (176°F). The temperature sensor is housed inside a stainless steel tip for fast response time.

10 to 170°C (50 to 335°F)
 +/-0.5°C (0.9°F) from 10 to 170°C (50 to 335°F)

Cable:
 6 meters (20 feet)
 Probe:
 25mm x 5mm
 (1" x 3/16")

SR1, SR2, SR4, SR8,
 SRP1, SRP2, SRP4,
 SRP8, OWL 200*

ET-081
 OWL-ET-081

35-0002
 01-0006

1 OVEN TEMPERATURE PROBE

For applications where the center of the temperature sensing point will be approximately 150°C (302°F). The temperature sensor is housed inside a tiny stainless steel tip for fast response time.

70 to 255°C (155 to 490°F)
 +/-1°C (1.8°F) from 70 to 255°C (155 to 490°F)

Cable:
 6 meters (20 feet)
 Probe:
 25mm x 5mm
 (1" x 3/16")

SR1, SR2, SR4, SR8,
 SRP1, SRP2, SRP4,
 SRP8, OWL 200*

ET-086
 OWL-ET-086

35-0003
 01-0007

3 SKIN SURFACE TEMPERATURE PROBE

A simple external sensor used to monitor skin temperature on humans and animals. The center of the temperature point will be approximately 37°C (98.6°F). To mount the sensor, simply use medical tape to adhere the sensor onto the skin of the subject.

20 to 40°C (68 to 104°F)
 +/-0.2°C (0.36°F) @ 25°C (77°F)
 +/-0.1°C (0.18°F) @ 37°C (98.6°F)

Cable:
 1.5 meters (5 feet)
 Probe:
 9.7mm x 3.6mm
 (1/3" x 9/64")

SR1, SR2, SR4, SR8,
 SRP1, SRP2, SRP4,
 SRP8, OWL 200*

ET-016-STP
 OWL-ET-016-STP

35-0020
 01-0109

4 PIPE SURFACE TEMPERATURE PROBE

Convenient and easy to install, it wraps around any pipe less than 2" in diameter with its Velcro® strapping system. No tools required!

-35 to 95°C (-30 to 200°F)
 +/-0.2°C (0.4°F) from 0 to 70°C (32 to 158°F)

Cable:
 6 meters (20 feet)
 Probe:
 25mm x 5mm
 (1" x 3/16")

SR1, SR2, SR4, SR8,
 SRP1, SRP2, SRP4,
 SRP8, OWL 200*

ET-016-SMP
 OWL-ET-016-SMP

35-0025
 01-0110

*Note: There are separate model and catalog numbers for OWL sensors. Cable length is 8 meters (25 feet).

FEATURES/DESCRIPTION	RANGE	LENGTH/SIZE	COMPATIBILITY	MODEL	CAT. NO.
SENSORS: Temperature – Thermocouple Type					
1 J TYPE WELDED TIP THERMOCOUPLE WIRE					
Wire is 20 gauge with duplex insulated Teflon® jacket.	-50 to 600°C (-55 to 1100°F)	30 cm (12")	SR5, SR6, SRP5, SRP6	TCJ-Welded	01-0102
1 K TYPE WELDED TIP THERMOCOUPLE WIRE					
Ideal for high temperature applications. Wire is 20 gauge with duplex insulated Teflon® jacket.	-100 to 1150°C (-145 to 2100°F)	30 cm (12")	SR5, SR6, SRP5, SRP6.	TCK-Welded	01-0103
1 T TYPE WELDED TIP THERMOCOUPLE WIRE					
Ideal for low temperature applications. Wire is 20 gauge with duplex insulated PVC jacket.	-200 to 400°C (-325 to 750°F)	30 cm (12")	SR5, SR6, SRP5, SRP6	TCT-Welded	01-0104
2 J TYPE BULK THERMOCOUPLE WIRE					
Wire is 20 gauge with duplex insulated Teflon® jacket. Customer must either twist or weld the tip.	-50 to 600°C (-55 to 1100°F)	Specify length in feet	SR5, SR6, SRP5, SRP6	TCJ	31-0014
2 K TYPE BULK THERMOCOUPLE WIRE					
Ideal for high temperature applications. Wire is 20 gauge with duplex insulated Teflon® jacket. Customer must either twist or weld the tip.	-100 to 1150°C (-145 to 2100°F)	Specify length in feet	SR5, SR6, SRP5, SRP6	TCK	31-0015
2 T TYPE BULK THERMOCOUPLE WIRE					
Ideal for low temperature applications. Wire is 20 gauge with duplex insulated PVC jacket. Customer must either twist or weld the tip.	-200 to 400°C (-325 to 750°F)	Specify length in feet	SR5, SR6, SRP5, SRP6	TCT	31-0016
1 THERMOCOUPLE TIP WELDING SERVICE					
ACR can weld any thermocouple tip. Provides the best contact, preventing contaminants from affecting sensor reliability.	N/A	Order thermocouple wire separately	J, K, and T type thermocouples	TC-Weld	89-0003
SENSORS: Relative Humidity					
3 PLUG-IN REPLACEMENT RH SENSOR FOR POST 20,000 SERIAL # LOGGERS					
Relative humidity sensing element that simply plugs into the existing RH sensor port on compatible ACR RH data loggers. The sensor is equipped with a filter to protect it from many contaminants. For environmental susceptibility, see any ACR RH data logger specification.	10 to 90% RH and -20 to 40°C (-4 to 104°F)	N/A	SR2, SR4, SRP2	RH-002	35-0009
4 REMOTE RH AND TEMPERATURE SENSING PROBE FOR POST 20,000 SERIAL # LOGGERS					
An external Relative Humidity and Temperature Probe for tight or remote locations. Every RH reading is temperature compensated for accurate readings. For environmental susceptibility, see any ACR RH data logger specification. Maximum extension is 30m (100').	10 to 90% RH and -20 to 40°C (-4 to 104°F)	90 cm (3')	SR2, SR4, SRP2, SRP4* <i>*(except SRP4 LPD)</i>	EH-020A	01-0040
RH CALIBRATION SERVICE					
Recalibration for ACR RH data loggers and external RH Probes. A 3-point calibration is performed against a NIST traceable reference sensor.	N/A	N/A	SR2, SR4, SRP2, SRP4, EH-020A	RH-CALIB	Call for RMA #





Accessories

FEATURES/DESCRIPTION	RANGE	LENGTH/SIZE	COMPATIBILITY	MODEL	CAT. NO.
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SENSORS: Electrical – AC Voltage

1 120 VAC, 60 HZ SINGLE PHASE VOLTAGE TRANSDUCER

Converts a single phase, 120 VAC, 60 Hz power systems to a proportional 0 to 5 volt DC output.	0 to 150 V	79mm x 51mm x 104mm (3.1" x 2.0" x 4.1")	SRP3, SR7, SRP7, OWL 400	VT-1P	35-0110
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1 480 VAC, 60 HZ THREE PHASE VOLTAGE TRANSDUCER

Converts a three phase, 480 VAC, 60 Hz power system to three proportional 0 to 5 volt DC outputs. (Not exactly as shown).	0 to 600 V (3-phase)	112mm x 97mm x 119mm (4.4" x 3.8" x 4.7")	SRP3, SR7, SRP7	VT-3P	35-0120
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SENSORS: Electrical – AC Current

2 250 AMP, 60 HZ AC CURRENT PROBE AND 250 AMP, 50 HZ AC CURRENT PROBE

To easily data log AC current, simply clamp the ACR Current Probe around the electric lead. No tools or wiring required, permitting safe and reliable operation. Operating amperage ranges are switch selectable.	5, 25, 100, 250 Amps	1.5 m (5') Clamp inside diameter: 2.5 cm (1")	SR3, SRP3, OWL 300	A60FL (60 Hz version)	35-0004
				OWL-A60FL*	01-0000
				A65FL (50 Hz version)	35-0006
				OWL-A65FL*	01-0002

2 500 AMP, 60 HZ AC CURRENT PROBE AND 500 AMP, 50 HZ AC CURRENT PROBE

To easily data log AC current, simply clamp the ACR Current Probe around the electric lead. No tools or wiring required, permitting safe and reliable operation. Operating amperage ranges are switch selectable.	10, 50, 250, 500 Amps	1.5 m (5') Clamp inside diameter: 5cm (2")	SR3, SRP3, OWL 300	A70FL (60 Hz version)	35-0005
				OWL-A70FL*	01-0001
				A75FL (50 Hz version).	35-0007
				OWL-A75FL*	01-0003

3 LINE SPLITTER/MULTIPLIER - 120 VOLT 60 HZ AND EUROPEAN VERSION

To quickly monitor the AC current in-line on any convenience outlet, simply plug the splitter in between the outlet and the equipment that is being monitored. For monitoring very small loads, there is a 10x multiplier slot for increased sensitivity. No wiring, safe to use.	N/A	N/A	A60FL and A70FL	A-47L	38-0001
			A65FL and A75FL	A-47CL	38-0002

4 AMPROBE 50 TO 1 CURRENT TRANSFORMER

Extends the AC current sensing range of an ACR Current Probe by 50 times up to 3000 Amps maximum continuous duty. Must be clamped around an A60, A65, A70, or A75 FL Current Probe.	Up to 3000 Amps	2.5 m (8') Clamp inside diameter: 9.8 cm (3-7/8")	Any ACR Current Probe	CT-50-2	38-0000
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*OWL current probes require an IP-67 connector. The cable length is 2 meters (6 feet). Note the different model and catalog numbers when ordering.

SENSORS: Miscellaneous

5 OCCUPANCY DETECTOR

Detect if a room is occupied and log it with no tools or wiring. The sensor is self-powered with a user replaceable battery. Plugs directly into ACR process signal data loggers. Used in energy management studies and security situations.	0-10 m (0-30')	30 cm (12")	SR7, SRP7, OWL 400	OC-DET-100	01-0100
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FEATURES/DESCRIPTION	RANGE	LENGTH/SIZE	COMPATIBILITY	MODEL	CAT. NO.
SENSORS: SmartReader – Pressure					
1 SMARTREADER 4 PRESSURE MODULES					
Plug-in pressure modules for any SmartReader 4 data logger (not compatible with SmartReader Plus 4). Available in Absolute and Gauge. Comes with a quick release pressure hose connector (not shown).	0-5 PSI Gauge 0-30 PSI Gauge 0-100 PSI Gauge 0-150 PSI Gauge 0-30 PSI Absolute 0-100 PSI Absolute	N/A	SR4	PM-005-G PM-030-G PM-100-G PM-150-G PM-030-A PM-100-A	01-0045 01-0047 01-0049 01-0086 01-0046 01-0048
2 1/4" PRESSURE HOSE					
Connects to most SmartReader or SmartReader Plus pressure sensors/modules.	0 to 75 PSI -15 to 60°C (4 to 140°F)	OD: 6.35 mm (0.25") ID: 4.24 mm (0.167")	SR4, SRP4 up to 100 PSI	PH-025-075	30-0004
2 1/4" PRESSURE HOSE - HIGH PRESSURE					
Connects to most SmartReader or SmartReader Plus pressure sensors/modules.	0 to 150 PSI -15 to 60°C (-4 to 140°F)	OD: 6.35 mm (0.25") ID: 3.0 mm (0.12")	SRP4 150 PSI PM-150G	PH-025-150	30-0006
SENSOR WIRING					
3 2 CONDUCTOR 22 GAUGE SHIELDED WIRE					
For increasing the length of temperature probes. User must solder wire together; use ACR QUICK CONNECT connectors or have ACR professionally extend your sensor's reach.	22 Gauge -20 to 80°C (-4 to 176°F)	Specify length in feet	Any temperature probe. Other products may be extended. Call for compatibility.	2-22-WIRE	31-0007
4 4 CONDUCTOR 24 GAUGE SHIELDED WIRE					
For increasing the length of temperature and relative humidity probes. User must solder wire together; use ACR QUICK CONNECT connectors or have ACR professionally extend your sensor's reach.	24 Gauge -20 to 80°C (-4 to 176°F) Oil resistant	Specify length in feet	Any ACR RH probe. Other products may be extended. Call for compatibility.	4-24-WIRE	31-0006
5 FEMALE REPLACEMENT IP67 OWL EXTERNAL CABLE					
For use when connecting external transducers on the OWL 400 and 500 data loggers.	26 Gauge -20 to 80°C (-4 to 176°F). Oil resistant	2 m (6')	OWL 200, OWL 400, OWL 500	OWL-EXT	31-0003
INSTALLATION OF EXTENSION WIRE TO PROBE					
For customers who require ACR to extend the length of external sensors or probes. Each connection is soldered, sealed and then heat-shrunk for a secure water resistant connection. Contact ACR for maximum length extensions for specific products (order cable separately).	N/A	N/A	Any temperature or RH probe. Other products may be extended. Call for compatibility.	EXT-WIRE	88-9997



FEATURES/DESCRIPTION	RANGE	LENGTH/SIZE	COMPATIBILITY	MODEL	CAT. NO.
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SENSOR CONNECTORS

1 11 PIN TERMINAL BLOCK

Leave terminal blocks connected to your sensors. No need to rewire your sensors in every time you use your data logger at a different location. Convenient and time-saving.

N/A	N/A	SR, SRP	TB-11	29-0004
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2 11 PIN TERMINAL BLOCK WIRE STRAIN RELIEF

When multiple external sensors are connected to a SmartReader or SmartReader Plus data logger, this strain relief easily snaps on to the connector and locks all the wiring connections to the terminal block.

N/A	N/A	SR, SRP	STR-11	29-0013
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3 QUICK CONNECT - WIRE EXTENSION SYSTEM

An easy method of extending the length of any cable. Strip the wire ends to be connected, crimp them to the connector and heat with a lighter. This will provide a soldered, rugged and reliable connection for assured accuracy.

18 to 22 gauge wire	N/A	Any temperature or RH probe. Other products may be extended. Call for compatibility.	DS-1822	18-0019
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4 TERMINAL BLOCK SCREWDRIVER

Fits all ACR data logger terminal blocks, to tighten and loosen sensor leads.

N/A	N/A	Any ACR data logger with a terminal block.	SD-100	21-0059
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COMMUNICATIONS: All Loggers - Logger to PC

5 IC-101 COMPUTER TO LOGGER INTERFACE CABLE

Connects an ACR data logger to a computer.

N/A	1.2 meters (4 feet)	SR, SRP, Nautilus	IC-101	01-0068
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6 IC-102 USB COMPUTER TO LOGGER INTERFACE CABLE

Connects an ACR data logger to a computer USB port

N/A	1.2 meters (4 feet)	SR, SRP, Nautilus	IC 102	01-0088
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7 LIC-101 COMPUTER TO LOGGER INTERFACE CABLE

Connects an ACR data logger to a computer.

N/A	1.8 meters (6 feet)	OWL and PowerWatch	LIC-101	01-0023
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8 IC-101 STEREO CABLE REPLACEMENT

Replaces the 4' stereo cord on the IC-101 interface cable.

N/A	1.2 meters (4 feet)	IC-101, IC-200, YA-200	SC-004	31-0009
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9 IC-101 EXTENSION CABLE

20' extension, male-female stereo cable.

N/A	6 meters (20 feet)	IC-101, YA-200	CB-020	31-0024
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10 9 - 25 PIN ADAPTER

Use to convert 25 pin serial ports to 9 pin for use with ACR interface cables.

N/A	N/A	IC-101, LIC-101, JR-1000 and JR-1001	9-25-ADP	18-0010
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11 9 PIN RS-232 EXTENSION CABLE

Extends the RS-232 port from the back of the computer to the front.

N/A	2 meters (6 feet)	IC-101, LIC-101, JR-1000 and JR-1001	RS-232-EXT	31-0017
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12 USB SERIAL ADAPTER

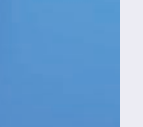
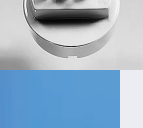
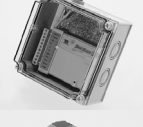
Allows communication with an ACR data logger through USB for computers that do not have a serial port. Compatible with ACR software on Windows 98, 2000 and XP.

Note: For XP install use Win2000 drivers.

N/A	N/A	Any ACR data logger with a terminal block, except the JR-1000 & 1001 data loggers.	USB-100	01-0075
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FEATURES/DESCRIPTION	RANGE	LENGTH/SIZE	COMPATIBILITY	MODEL	CAT. NO.
COMMUNICATIONS: SmartReader - Networking					
1 IC-200 SMARTREADER NETWORK MODULE (120 VOLT VERSION)					
Allows up to eight SmartReader data loggers to be connected to one serial port or modem. Includes power supply, 9–25 pin adapter, and 6" stereo cables.	N/A	N/A	SR	IC-200-120V	01-0043
1 IC-200 SMARTREADER NETWORK MODULE (220 VOLT VERSION)					
Allows up to eight SmartReader data loggers to be connected to one serial port or modem. Includes power supply, 9–25 pin adapter, and 6" stereo cables.	N/A	N/A	SR	IC-200-220V	01-0085
1 IC-200 SMARTREADER NETWORK MODULE (NO POWER SUPPLY VERSION)					
Allows up to eight SmartReader data loggers to be connected to one serial port or modem. Includes 9–25 pin adapter, and 6" stereo cables (customer must provide power supply).	N/A	N/A	SR	IC-200-NPS	01-0065
2 IC-101 EXTENSION CABLE					
Male-Female 20' extension cable for extending the length of the logger from the IC-200	N/A	6 meters (20feet)	IC-200, IC-101	CB-020	31-0024
COMMUNICATIONS: SmartReader Plus - Networking					
3 YA-200 STEREO Y-ADAPTER					
Allows SmartReader Plus to be networked using 3-wire stereo cable.	N/A	N/A	SRP	YA-200	01-0098
4 YA-201 Y-ADAPTER FOR TELCO CABLE					
Allows SmartReader Plus data loggers to be networked using standard telephone cable.	N/A	N/A	SRP	YA-201	01-0166
Adapter only.	N/A	N/A	SRP	YAdapter	31-0018
5 20' STEREO EXTENSION CABLE					
20' extension, male–female stereo cable.	N/A	6 meters (20 feet)		CB-020	31-0024
6 NETWORK POWER SUPPLY (120 VOLT)					
Required when network length is greater than 50' or when more than three loggers are on the network. Also works as a power supply for fast sampling with any SmartReader Plus.	N/A	N/A	SRP	PS-201-NA	01-0165
6 NETWORK POWER SUPPLY (220 VOLT, SHUKO PLUG)					
Required when network length is greater than 50' or when more than three loggers are on the network. Also works as a power supply for fast sampling with any SmartReader Plus.	N/A	N/A	SRP	PS-201-EU	01-0164





FEATURES/DESCRIPTION	RANGE	LENGTH/SIZE	COMPATIBILITY	MODEL	CAT. NO.
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COMMUNICATIONS: Remote Communications

1 COMPUTER STATION MODEM

External modem for use with a PC factory programmed for communication with ACR data logger networks.	N/A	N/A	SR, SRP	USM-C	01-0300
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1 REMOTE LOGGER SITE MODEM

Factory programmed external modem for use on an ACR data logger network.	N/A	N/A	SR, SRP	USM-R	01-0301
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2 MODEM ADAPTER

Required to link a single SmartReader data logger to a modem. Also required on any SmartReader Plus remote network. Adapts between the IC-101 and the modem.	N/A	N/A	SR, SRP	MA-100	18-0023
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MISCELLANEOUS: Environmental

3 WEATHERPROOF BOX FOR ACR DATA LOGGERS

Ideal for washdown bays or other environments where condensation or other contaminants may contact your data logger. Has a metal backing inside to allow the logger to suspend magnetically inside. One external connection sealing system is supplied permitting use of external probes with logger. NEMA 4x rated. Holds up to 3 data loggers.	N/A	127mm x 127mm x 76mm (5" x 5" x 3")	SR, SRP, JR-1000/1001, and OWL	WB-100	01-0057
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4 ADDITIONAL WEATHERPROOF BOX EXTERNAL SEALING CONNECTORS

Use with the Weatherproof Box to connect additional external sensors to a SmartReader or SmartReader Plus logger. Will seal up to a 1/4" diameter cable.	N/A	N/A	Weatherproof Box	WBC-100	21-0011
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5 GORTEX® LOGGER SOCK

Protects loggers from dust and debris while allowing air flow to the logger. Ideal for relative humidity loggers.	N/A	Fits all SmartReader and SmartReader Plus data loggers	SR, SRP	GLS	27-0027
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6 JR-1000 PROTECTIVE CAP

Protects the DB-9 connector on the JR-1000 data logger from dirt and debris.	N/A	N/A	JR	JR-CAP	21-0032
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7 SMARTREADER PROTECTIVE CAP

Protects the SmartReader stereo jack from dirt and debris.	N/A	N/A	SR, SRP	SR-CAP	21-0029
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MISCELLANEOUS: PowerWatch – Adapters

8 SOCKET ADAPTER STYLE #1

Plugs into the Schuko (Europe) version of PowerWatch to convert the plug-in connection.	240 Volt North American	N/A	PowerWatch (Europe version)	PWA-001	21-0039
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9 SOCKET ADAPTER STYLE #2

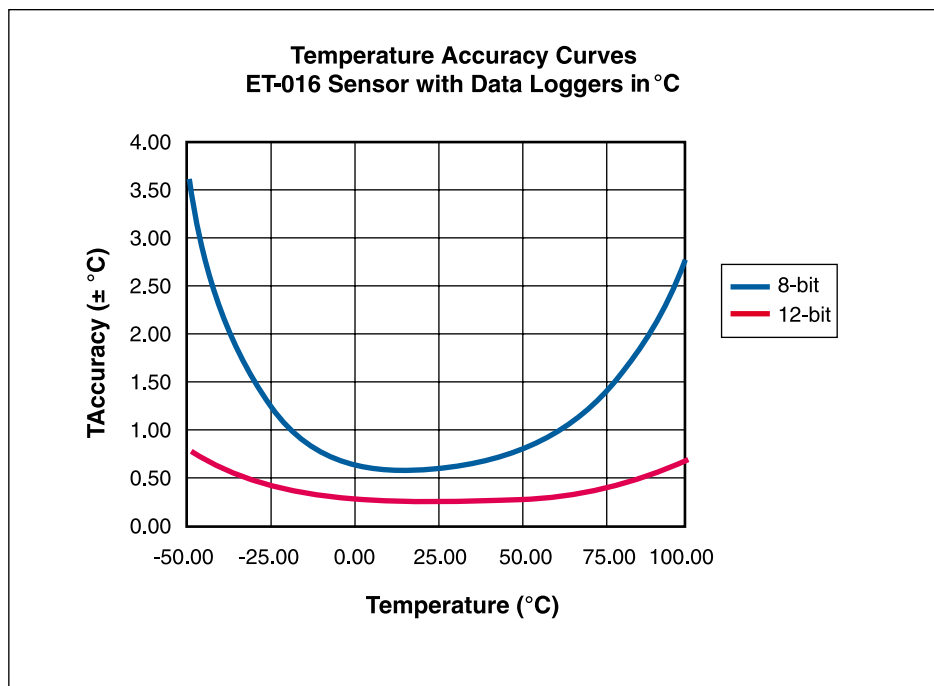
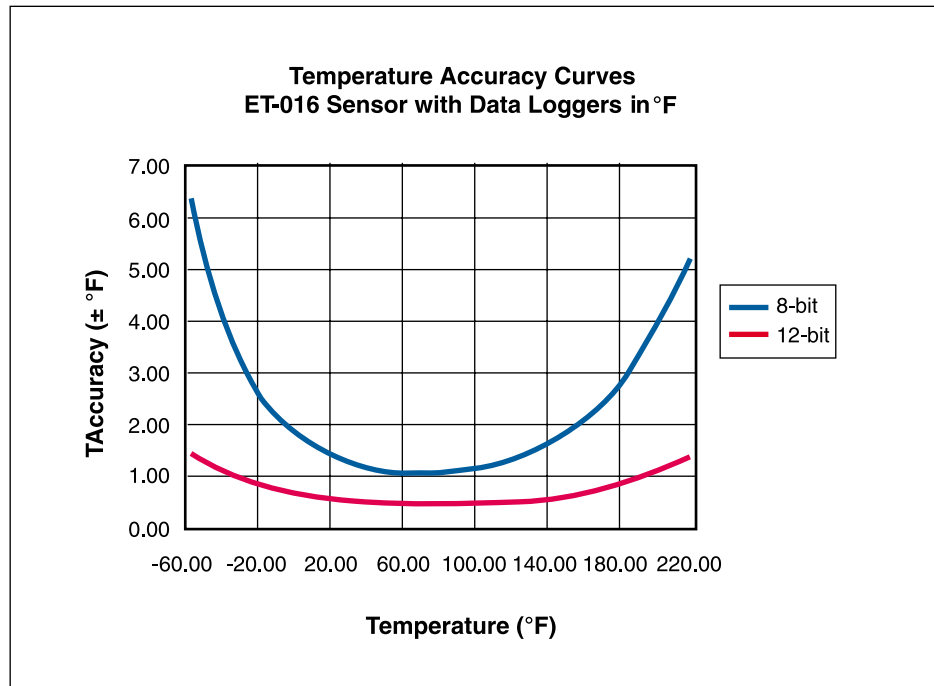
Plugs into the Schuko (Europe) version of PowerWatch to convert the plug-in connection.	240 Volt Chile	N/A	PowerWatch (Europe version)	PWA-002	21-0043
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FEATURES/DESCRIPTION	RANGE	LENGTH/SIZE	COMPATIBILITY	MODEL	CAT. NO.
MISCELLANEOUS: PowerWatch – Adapters cont.					
1 SOCKET ADAPTER STYLE #3					
Plugs into the Schuko (Europe) version of PowerWatch to convert the plug-in connection.	240 Volt Swiss	N/A	PowerWatch (Europe version)	PWA-003	21-0040
MISCELLANEOUS: Other					
2 FAST SAMPLING BATTERY PACK					
SmartReader Plus data loggers require the BP-101 Battery Pack to log at rates faster than once every 8 seconds. A male stereo jack and cable plugs directly into the communication port on the logger. It uses 4 AAA batteries (included) which are user replaceable.	N/A	82mm x 53mm x 30mm (3.2" x 2.1" x 1.2")	SRP	BP-101	01-0078
3 DATA LOGGER STORAGE CASE					
A convenient way to protect and organize your ACR data logger investment. Rugged and stylish, the case is made from Polystyrene for years of solid protection. Inside layout can be customized since the foam is die cut. Key locks provide added security. Can hold up to 21 data loggers plus accessories.	N/A	45cm x 35cm x 16cm (17.75" x 13.75" x 6.5")	All ACR data loggers and accessories, notebook computers.	SC-100	01-0106
4 MANUAL SETS: (MANUALS ONLY, NO SOFTWARE)					
OWL hardware and TrendReader software manuals in a binder.				Ref-OWL-Win	01-0082
SmartReader hardware and TrendReader software manuals in a binder.				Ref-SR-Win	01-0083
SmartReader Plus hardware and TrendReader software manuals in a binder.				Ref-SRP-Win	01-0084
PowerWatch manual, pages only.				–	37-0012
TrendReader software manual, pages only.				–	37-0005
SmartReader hardware manual, pages only.				–	37-0001
SmartReader Plus hardware manual, pages only.				–	37-0007
OWL hardware manual, pages only.				–	37-0004
SMARTBUTTON					
5 INTERFACE CABLE					
For reading any ACR SmartButton.	N/A	N/A	ACRSB	ACRSB-INT	01-0053
6 PERMANENT PLATE MOUNT					
For affixing ACR SmartButton to permanent installation.	N/A	N/A	ACRSB	ACRSB-HPM	45-0000
7 SOFT PLASTIC MOUNT					
For identifying individual SmartButtons.	N/A	N/A	ACRSB	ACRSB-SPM	45-0001
8 ANGLED BLUE HARD PLASTIC MOUNTING PLATE					
With security eyelet.	N/A	N/A	ACRSB	ACRSB-AF	45-0002
9 ACR SMARTBUTTON ADHESIVE					
Pre-cut to size.	N/A	N/A	ACRSB	ACRSB-AT	45-0003



Temperature Accuracy Curves

The internal temperature sensor located in almost all ACR data loggers is the ET-016 thermistor. Thermistors are non-linear which means the accuracy of the sensor varies over the entire temperature range of the logger. The graph below outlines the accuracy curves for the ET-016 thermistor. ACR data loggers with this thermistor on-board include: SmartReader, SmartReader Plus, OWL (if using standard range), JR, and Nautilus. These curves also apply to the ET-016 external thermistor probes with lengths less than 30 meters (100 feet).



ACR Systems Inc.

Our Quality and Customer Service Commitment



ACR Systems' products are extremely accurate measurement tools for engineers, technicians, scientists, managers, and just about anyone who needs to log data that is crucial to solving problems and improving performance in their company and/or application.

As an ISO 9001 company, ACR Systems is committed to quality: quality products, quality service, and quality management and operations. Our customers have discovered that we provide them with a great deal more than quality products - we deliver a level of service that adds real value to the relationship.

We are committed to answering all enquiries, processing all orders and assisting you with any technical support issues with the utmost speed, courtesy and professionalism. We guarantee a return response in the format that you request within 24 hours.

We have a number of tools available for you to reach us. You may call and speak one-to-one with a customer service or sales rep on the phone during regular business hours Monday to Friday 8:00am to 4:30pm PST. You may phone, fax or email us or visit our website at www.acrsystems.com. In fact, our website includes an extremely useful and informative Knowledge Center with frequently asked questions (FAQs), troubleshooting guides, product presentations, and an equation generator and conversion program.

In addition to providing quality products and unsurpassed customer service, we offer:

- Exceptional warranties;
- Next-day shipping; and
- Calibration services.

ACR's commitment to quality and customer service is company-wide; responsibility for it begins at the highest levels. With the full commitment of our president, Albert C. Rock, the Customer Service department and everyone at ACR Systems pledges to address all of your data logging needs.

We thank you for your business and hope that you enjoy data logging ACR Systems'-style.

Eric Durand

Customer Service Manager/
ISO Management Representative
ACR Systems Inc.
customerservice@acrsystems.com

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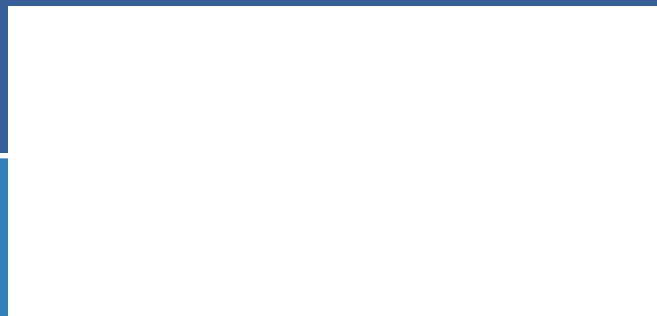
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