# Temperature and Relative Humidity
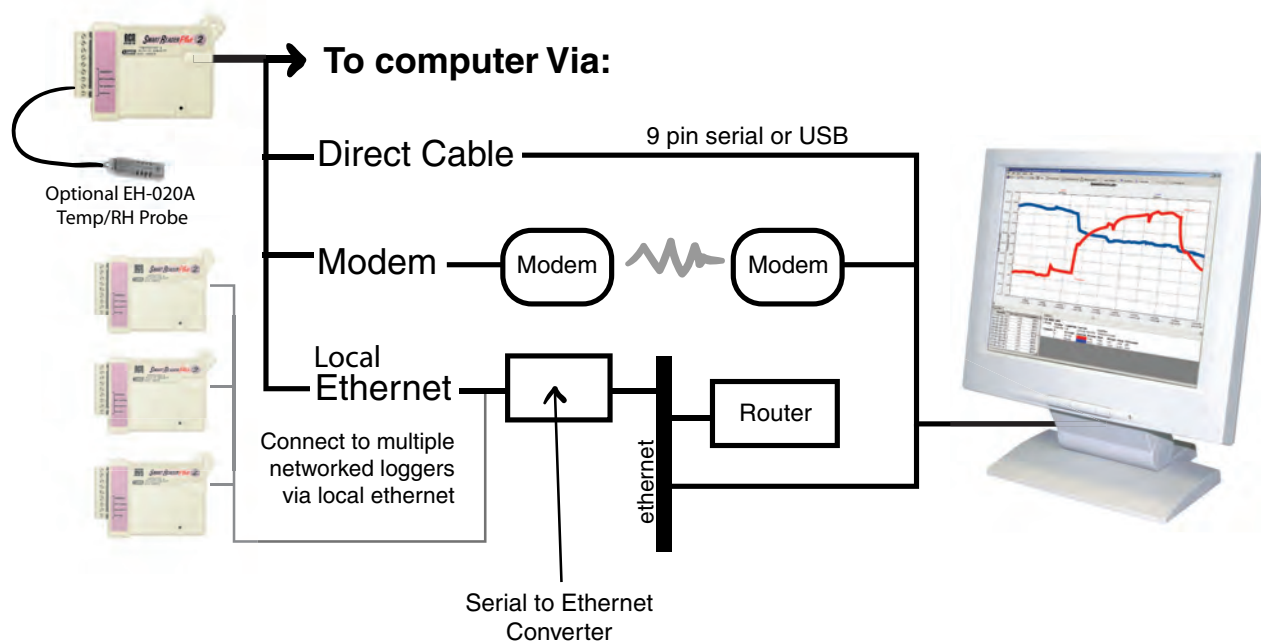
**Monitoring heating and cooling in different locations**



HEATING    COOLING    RELATIVE HUMIDITY

The ACR SmartReader Plus 2 Data Logger collects valuable information on heating, cooling and relative humidity. Unbalanced temperatures and humidity can put stress on air conditioning systems causing them to malfunction and use more energy than required. The SmartReader Plus2 Data Logger is an easy to use 24/7 device that monitors HVAC systems performance to keep energy consumption and costs under control. Collected information can be easily uploaded to a PC and analyzed using the ACR TrendReader 2 software.

## Features:

- **10 year battery life**
- **Accessible remotely via modem or intranet connectivity**
- **N.I.S.T. traceable measurements**
- **Calibration certificate available**
- **Optional remote temperature and humidity sensor EH-020A**



**To computer Via:**

Optional EH-020A
Temp/RH Probe

Direct Cable — 9 pin serial or USB

Modem — Modem — Modem

Local Ethernet

Connect to multiple networked loggers via local ethernet

ethernet

Router

Serial to Ethernet Converter

# SmartReader Plus 2

## Product Specifications

*Type:* Four-Channel Temperature and Relative Humidity

## GENERAL SPECIFICATIONS

**Size:** 107 mm x 74 mm x 22 mm (4.2" x 2.9" x 0.9")
**Weight:** 110 grams (3.75 ounces)
**Case Material:** Noryl® plastic
**Battery:** 3.6 volt Lithium
**Resolution:** 12-bit (1 part in 4096)
**Mounting:** Magnetic backing or locking eyelet
**Clock Accuracy:** +/- 2 seconds per day
**Sampling Methods:** Continuous (First-in, First-out)*, Stop When Full (Fill-then-stop)
*Not available with sample rates faster than eight seconds*
**Operating Limits:** -40 to 70°C (-40 to 158°F) and 0 to 95% RH (non-condensing)
**PC Requirements:** IBM PC or 100% compatible with at least one free serial port, 2 MB of RAM memory, and 2 MB of hard disk space
**Software Requirements:** TrendReader® 2 *(compatible with Windows® 2000 and XP)*

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**Memory Size:** 128KB *(capable of storing up to 87,000 readings)*
**Sampling Rates:** User selectable rates from 25 per second to once every eight hours *(BP-101 battery pack or PS-201 power supply required for sampling rates faster than eight seconds)*
**Number of Channels:** Four *(one for the internal temperature sensor, one for the internal RH sensor and two for remote measurements of temperature and RH [with ACR's EH-020A probe])*

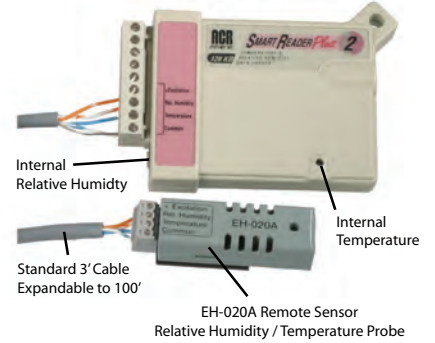## SENSOR SPECIFICATIONS

**Temperature Sensor (internal)**
  Type: NTC Thermistor - 10,000 Ohm @ 25°C (77°F)
  Range: -40 to 70°C (-40 to 158°F)
  Accuracy: +/- 0.2ºC over the range of 0 to 70ºC (+/- 0.3ºF over the range of 32 to 158ºF)
  Resolution: 0.03°C (0.05°F) @ 25ºC; better than 0.07ºC (0.12ºF) between -25 and 70°C (-13º and 158°F); better than 0.13ºC (0.23˚F) between -40 and -25˚C (-40ºF and -13ºF)

**Relative Humidity Sensor (internal)**
  Type: Capacitive thin polymer film
  Range: 0 to 95% RH (non-condensing)
  Acccuracy: +/- 3% RH from 10 to 90% RH (-20 to 40˚C [-4 to 104˚F])
  Resolution: Better than 0.04% RH between 25 and 60% RH @ 25°C (77°F)

**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.**



Internal Relative Humidty
Internal Temperature
Standard 3' Cable Expandable to 100'
EH-020A Remote Sensor Relative Humidity / Temperature Probe

## WARRANTY
**Internal Battery:** 10 Years
**Data Logger:** 3 Years

## APPLICATIONS
**Monitoring the transportation or storage conditions of perishable and/or pharmaceutical goods, tracking "air quality", HVAC system testing and balancing, etc.**

| Model#: | Cat#: |
|---|---|
| SRP-002-128K | 01-0113 |