

**Temperature & Relative Humidity**

- ✓ **Web Server**
- ✓ **Alarms by Email or Text Message**
- ✓ **No Special Software Required**
- ✓ **Record Years of Data on Popular SD Cards**

**View Temperature + Humidity with a Web Browser**

The **NEWPORT® iTHX-SD** transmitter let's you monitor and record Temperature, Relative Humidity and Dew Point over an Ethernet network or the Internet with no special software except a Web Browser.

The iTHX-SD serves Active Web Pages to display real time readings, display charts of temperature, humidity, and dew point or log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic.

The virtual chart viewed on the web page is a **JAVA™** Applet that records a chart over the LAN or Internet in real time. With the iTHX-SD, there is no need to invest time and money learning a proprietary software program to log or chart the data.

**SD Flash Memory Card**

The iTHX-SD comes complete with a removable 2 GB SD Flash Memory card that can store up to seven years of readings taken at ten second intervals.

**Records on SD Flash Cards**

The data is recorded on widely available SD (Secure Digital) flash cards. The format is a simple ".txt" text file that is easily imported to spread sheets and other programs. It can be read on a PC or MAC with a USB card reader. You can also download the data remotely over an Ethernet network or the Internet.

**Alarm Relays**

The iTHX-SD features two 1.5 Amp relays. With the easy Web-based setup page, the two relays can be programmed for any combination of temperature or humidity, and high or low set points. The relays can also be programmed to remain latched and require a manual reset if a limit is exceeded.

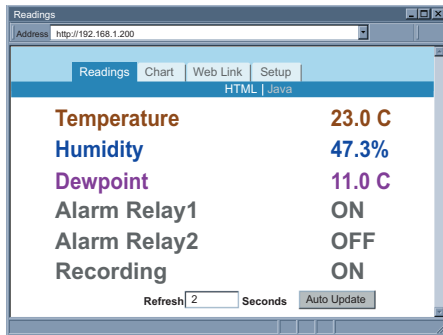
**Battery Backup**

The iTHX-SD comes with a universal 100 to 240 Vac power adapter. A standard 9 Volt Alkaline battery (also included) allows the device to log data for up to 2 days without external ac power. A failure on the Ethernet network will not interrupt data recording.



## Adjustable Charts

Chart scales are fully adjustable on the fly. For example, the chart can display one minute, one hour, one day, one week, one month or one year. Temperature and humidity can be charted across the full span (-40 to 124°C, and 0 to 100% RH) or within any narrow range such as (20 to 30°C).



**Readings**

When a second sensor is added, users can select a chart that records channel 1, channel 2 or the difference of the two channels.

## Display and Chart Two Channels

The iTHX-SD transmitters come complete with a temperature and humidity probe for measurement of a single location.

With the addition of a second probe, the iTHX-SD transmitter can measure and display temperature, humidity and dew point in a second location up to ten feet away.

The transmitter can display and chart absolute measurements in both locations, or a differential measurement between the two locations. The second probe requires no change to the basic iTHX-SD transmitter hardware, it can be added at the time of purchase or in the future. NEWPORT offers a choice of industrial probes in 2" and 5" lengths, and a wand style for ambient indoor applications. A simple DB9 "Y" connector is available for adding a second probe.

## Industrial Probes: iTHP-5, iTHP-2

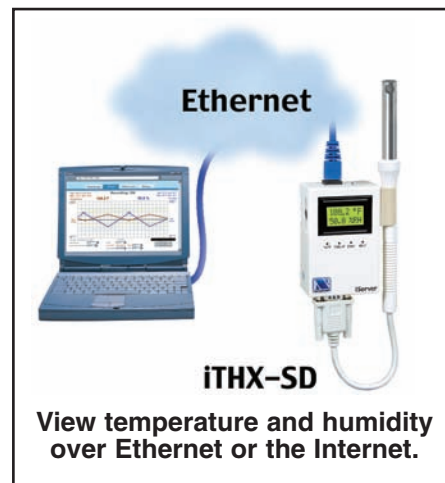


## Award-winning Technology

The iTHX-SD is simple to install and use, and features NEWPORT's award-winning iServer technology that requires no special software except a Web Browser.

The iTHX-SD connects to an Ethernet Network with a standard RJ45 connector and sends data in standard TCP/IP packets. It is easily configured with a simple menu using a Web Browser and can be password protected.

From within an Ethernet LAN or over the Internet, the user simply types its IP address or an easy to remember name such as "Cleanroom5" or "ServerRoom" in any Web Browser, and the iTHX-SD serves a Web Page with the current readings.



## Email Alarms

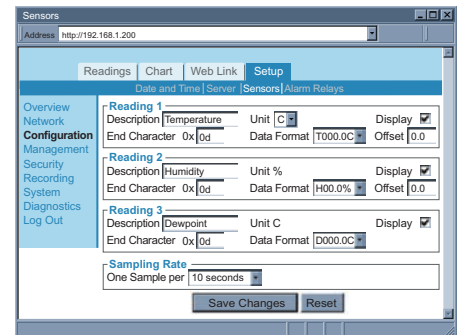
All NEWPORT iTHX-SD models that are on a LAN that is connected to the Internet can trigger an alarm that can be sent by email to a user or a distribution list anywhere in the world, including text messages to cell phones and PDA's.

## Link to Web CAM or IP Camera

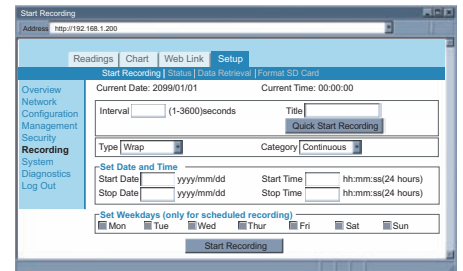
The Web page includes a link to a "Web Cam" or "IP camera" (not included). If you get a message about an alarm condition, you can quickly click on the link to view the actual scene over the Internet.

## Typical Applications

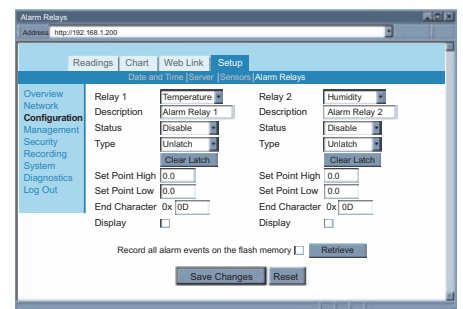
The iTHX-SD is great for monitoring temperature + humidity in applications such as: clean rooms, computer rooms, HVAC systems, pharmaceutical and food processing and storage, hospitals, laboratories, semiconductor fabs, warehousing, electronic assembly, museums,



**Sensor Configuration**



**Recording Setup**



**Alarm Relays**

| Time                  | Temperature | Humidity | Dewpoint | Free |
|-----------------------|-------------|----------|----------|------|
| 11/11/2002 5:18:20 PM | 26.74       | 35.65    | 12.75    |      |
| 11/11/2002 5:19:01 PM | 26.65       | 35.98    | 12.70    |      |
| 11/11/2002 5:19:06 PM | 26.53       | 36.81    | 12.39    |      |
| 11/11/2002 5:19:12 PM | 26.41       | 37.25    | 12.42    |      |
| 11/11/2002 5:19:17 PM | 26.25       | 37.76    | 12.49    |      |
| 11/11/2002 5:19:22 PM | 26.01       | 38.08    | 12.48    |      |
| 11/11/2002 5:19:27 PM | 27.24       | 38.54    | 12.34    |      |
| 11/11/2002 5:19:33 PM | 27.51       | 38.87    | 12.27    |      |
| 11/11/2002 5:19:38 PM | 27.23       | 39.36    | 12.21    |      |
| 11/11/2002 5:19:43 PM | 27.82       | 39.72    | 12.15    |      |
| 11/11/2002 5:19:48 PM | 26.99       | 39.85    | 12.21    |      |
| 11/11/2002 5:19:54 PM | 26.95       | 40.15    | 12.24    |      |
| 11/11/2002 5:19:59 PM | 26.89       | 39.94    | 12.11    |      |
| 11/11/2002 5:20:04 PM | 26.84       | 39.84    | 12.04    |      |
| 11/11/2002 5:20:09 PM | 26.78       | 40.21    | 12.14    |      |
| 11/11/2002 5:20:14 PM | 26.71       | 40.17    | 12.06    |      |
| 11/11/2002 5:20:19 PM | 26.65       | 40.43    | 12.10    |      |
| 11/11/2002 5:20:25 PM | 26.54       | 41.54    | 12.42    |      |
| 11/11/2002 5:20:30 PM | 26.47       | 41.64    | 12.39    |      |

**Datalogging Spreadsheet**

NIST Traceable Calibration Certificate available.  
In compliance with ISO9001:2008, ISO10012-1, 1992(E), ANSI/NCSL Z540-1.1994 and MIL-STD-45662A.

manufacturing, green-houses, farm animal shelters, and many more. NEWPORT iServer products are designed and manufactured in Santa Ana, California.

# Temperature + Humidity

## Sensor Specifications

### Relative Humidity (RH)

**Accuracy/Range:**  $\pm 2\%$  for 10 to 90%;  
 $\pm 3\%$  for 5 to 10% and 90 to 95%;  
 $\pm 4\%$  for 0 to 5% and 95 to 100%

**Non-linearity:**  $\pm 3\%$

**Hysteresis:**  $\pm 1\%$  RH

**Response Time:** 8 seconds, tau 63%

**Repeatability:**  $\pm 0.1\%$

**Resolution:** 0.1%, 12 bit

### Temperature (T)

#### Accuracy/Range\*

**Wand Probe:**  $\pm 0.5^\circ\text{C}$  for 5 to  $45^\circ\text{C}$   
 $(\pm 1^\circ\text{F}$  for 41 to  $113^\circ\text{F})$ ;  $\pm 0.5$  to  $\pm 1^\circ\text{C}$  for  
0 to  $5^\circ\text{C}$  and 45 to  $60^\circ\text{C}$  ( $\pm 1$  to  $\pm 2^\circ\text{F}$  for  
32 to  $41^\circ\text{F}$  and 113 to  $140^\circ\text{F}$ )

**Industrial Probe:** (see chart in manual)  
 $\pm 0.5^\circ\text{C}$  for 5 to  $45^\circ\text{C}$   
 $(\pm 1^\circ\text{F}$  for 41 to  $113^\circ\text{F})$ ;

$\pm 0.5$  to  $\pm 1.5^\circ\text{C}$  for  $-40$  to  $5^\circ\text{C}$  and  
45 to  $124^\circ\text{C}$  ( $\pm 1$  to  $\pm 2.7^\circ\text{F}$  for  
 $-40$  to  $41^\circ\text{F}$  and 113 to  $255^\circ\text{F}$ )

**\*Note:** extended temperature range is  
for Ind. probe only, the iServer's  
operating temperature is 0 to  $60^\circ\text{C}$

**Response Time:** 5 to 30 secs, tau 63%

**Repeatability:**  $\pm 0.1^\circ\text{C}$

**Resolution:**  $0.1^\circ\text{C}$ , 14 bit

### Probe Physical Dimensions

#### Wand Probe iTHP-W

Probe:  $\varnothing 19 \times 198\text{mm}$  lg (0.75 x 7.8");  
Cable length 152mm (6") with DB9;  
Cable operating temp: 0 to  $80^\circ\text{C}$   
(32 to  $176^\circ\text{F}$ )

#### Industrial Probe iTHP-5, iTHP-2:

Probe:  $\varnothing 16 \times 137$  or 51 mm lg  
(0.63 x 5 or 2" lg)

Housing material: SS 316

Cable length 3 m (10') or 0.9 m (3')

Cable operating temperature:

$-40$  to  $125^\circ\text{C}$  ( $-40$  to  $257^\circ\text{F}$ )

## iServer Specifications

### Interfaces

**Ethernet (RJ45):** Fixed or auto-  
negotiating 10/100BASE-T,  
Auto MDI/MDIX

**Sensor:** Digital 4-wire (DB9)

**Protocols:** TCP, UDP, SNMP, SMTP,  
NTP, ARP, ICMP, DHCP, DNS, HTTP,  
and Telnet

### LCD Display

16 Digits 6mm (0.23")

### SD Flash Memory Card

2GB card: 8 months of data storage  
at 1 second recording intervals or  
7 years at 10 second intervals

### Relay Outputs

Two Relays 1.5A @ 30 Vdc

### Environmental

#### Operating Temperature:

**iServer unit:** 0 to  $60^\circ\text{C}$  (32 to  $140^\circ\text{F}$ )

**Battery:**  $-18$  to  $55^\circ\text{C}$  (0 to  $131^\circ\text{F}$ )

**ac Adapter:** 0 to  $40^\circ\text{C}$  (32 to  $104^\circ\text{F}$ )

#### Storage Temperature:

$-40$  to  $85^\circ\text{C}$  ( $-40$  to  $185^\circ\text{F}$ )

**Weight:** 389 g (0.86 lbs)

**Material:** Steel metal case with wall  
mount bracket

### Power

**Input:** 9 to 12 Vdc

**Safety qualified ac power adapter,  
included:**

**Nominal Output:** 9 Vdc @ 0.5A

**Input:** 100 to 240 Vac, 50/60Hz

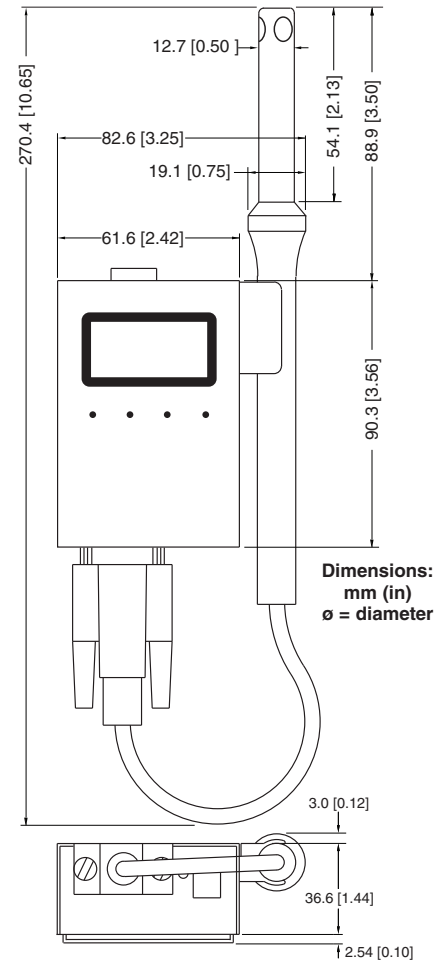
**Back-up Battery:** 9Vdc, Alkaline

### Embedded WEB Server

Serves WEB pages containing  
real-time data and live updated  
charts within definable time  
intervals

**Software:** OPC Server; macro  
for datalogging in Excel  
program; compatible with  
Windows operating systems

## Mechanical Specifications



Replacement Probes with Calibration Certificate  
available, just add: “- CAL-3-HU”

Optional Probe Caps  
shown

iP-PC

iP-SC

Standard

No need to take your unit out of service for routine  
calibration. Order a calibrated probe instead.

| Model No. | Description                                                                                                                   |
|-----------|-------------------------------------------------------------------------------------------------------------------------------|
| iTHX-SD   | iServer MicroServer™ for Temp + Humidity and Dew-point, LCD Display, 2GB SD Flash Memory Card, 2 Relay Alarm, Battery Back-up |
| *         | Standard 203 mm (8") Wand Probe, Cable 152 mm (6") with DB9 Connector. No Entry required                                      |
| -2        | Industrial 51 mm (2") Probe, Cable 0.9 m (3 ft) with DB9 Connector. Substitution for Wand Probe                               |
| -5        | Industrial 137 mm (5") Probe, Cable 3 m (10 ft) with DB9 Connector. Substitution for Wand Probe                               |

### Accessories

|            |                                                                                 |
|------------|---------------------------------------------------------------------------------|
| iTHP-W-6   | Replacement 203mm (8") Wand Probe, Cable 152mm (6") with DB9 Connector          |
| iTHP-2-DB9 | Industrial 51 mm (2") Probe, Cable 0.9 m (3 ft) with DB9 Connector <sup>1</sup> |
| iTHP-5-DB9 | Industrial 137 mm (5") Probe, Cable 3 m (10 ft) with DB9 Connector <sup>1</sup> |
| DB9-Y      | DB9 "Y" Connector Adapter for 2 Probes with DB9 Connector                       |
| DB9-CA-3   | Extension Cable, 0.9 m (3 ft) with DB9 Connector                                |

### Accessories

|                |                                                                                                       |
|----------------|-------------------------------------------------------------------------------------------------------|
| iP-PC          | Polyethylene Probe Cap, for wet environments                                                          |
| iP-SC          | Porous Stainless Steel Probe Cap, 5um porosity, for dusty and pressurized (< 35 psi) environments     |
| CAL-3-HU       | NIST Traceable Calibration Certificate. 3 points of 25%, 50%, 75% RH, temperature 25°C, for new units |
| CAL-3-HU-DUAL  | Same as CAL-3-HU, for new units with 2 probes                                                         |
| CT485B-CAL-KIT | Calibration Kit, 33% and 75% RH Standards                                                             |
| * -CAL-3-HU    | Calibrated replacement probe and Certificate                                                          |

**Ordering Examples** for iTHX-SD with LCD display, SD card, 2 relay alarm, battery back-up and 5" industrial probe: **iTHX-SD-5**.

For Calibrated Replacement Probe, with Certificate: **iTHP-W-6-CAL-3-HU**.

<sup>1</sup> Other lengths of cable (up to 40 ft) are available, please contact our Sales Department.

\* Volume discounts are available.