

## Temperature and Humidity Virtual Chart Recorder

### iTHX-W3 Series



Optional†

- Web Server
- Alarms by Email or Text Message
- Accurate Readings
- Data Logging
- No Special Software Required

### View Temperature and Humidity with a Web Browser

The OMEGA® iTHX transmitter lets 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 serves active web pages to display real-time readings, charts of temperature and humidity, 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, there is no need to invest time and money learning a proprietary software program to log or chart the data.

#### 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 (-40 to 254°F)], and 0 to 100% RH or within any narrow range such as 20 to 30°C (68 to 86°F).

#### Award-Winning Technology

The OMEGA iTHX is simple to install and use, and features OMEGA's award-winning iServer technology that requires no special software except a web browser.

The iTHX 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 the IP address or an easy-to-remember name such as "Cleanroom5" or "Server Room" in any web browser, and the iTHX serves a web page with the current readings.

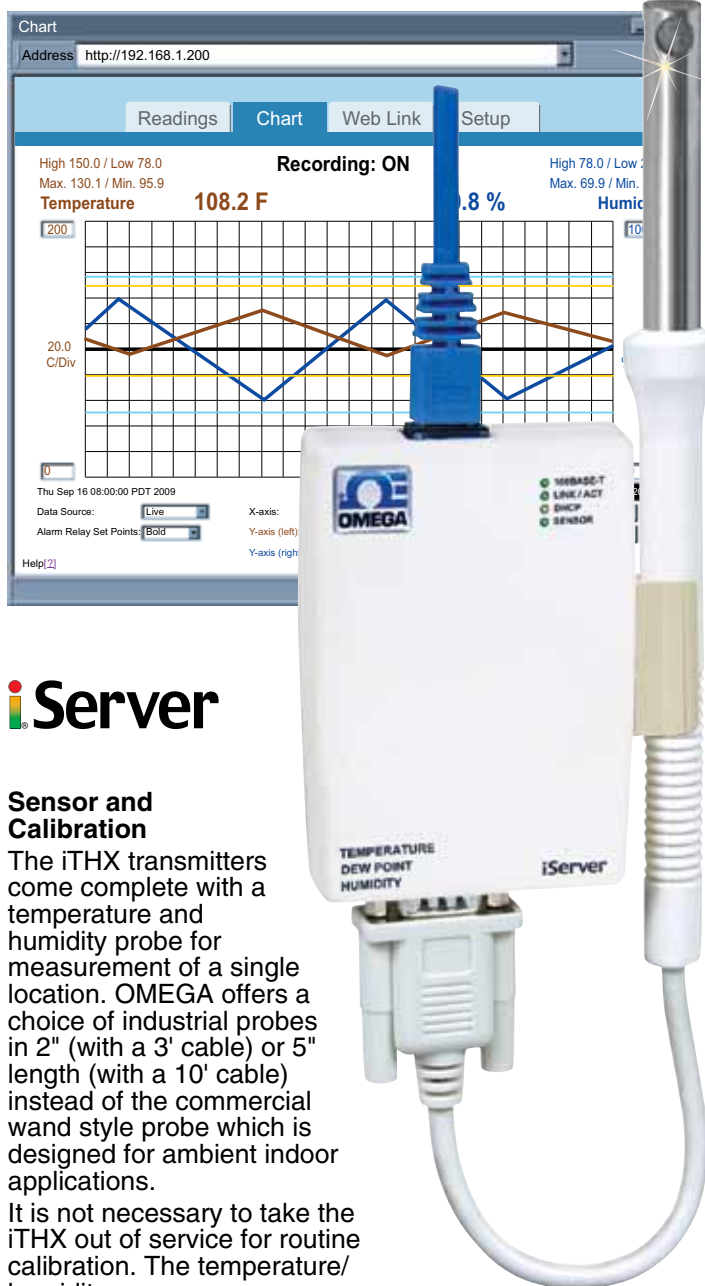
#### Email Alarms

All OMEGA iTHX 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.

† Refer to next page for NIST calibration ordering information.



## iServer

### Sensor and Calibration

The iTHX transmitters come complete with a temperature and humidity probe for measurement of a single location. OMEGA offers a choice of industrial probes in 2" (with a 3' cable) or 5" length (with a 10' cable) instead of the commercial wand style probe which is designed for ambient indoor applications.

It is not necessary to take the iTHX out of service for routine calibration. The temperature/humidity sensors are interchangeable and can be replaced for about the same cost as a typical calibration.

iTHX-W3 iServer  
MicroServer™.



An optional Porous  
Stainless Steel Cap  
iP-SC is available  
for industrial  
probes.

iP-SC

Standard

OMEGA offers replacement probes with optional 3-point NIST traceable calibration certificates.

## Typical Applications

The OMEGA iTHX is great for monitoring temperature and humidity in applications such as: clean rooms, computer rooms, HVAC systems, pharmaceutical and food processing and storage, hospitals, laboratories, semiconductor labs, electronic assembly, warehousing, museums, manufacturing, greenhouses and, farm animal shelters.

## Sensor Specifications

### RELATIVE HUMIDITY (RH)

**Accuracy/Range:**

10 to 90%:  $\pm 2\%$

5 to 10% and 90 to 95%:  $\pm 3\%$

0 to 5% and 95 to 100%:  $\pm 4\%$

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

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

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

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

**Resolution:** 0.1%, 12 bit

### TEMPERATURE

**Accuracy/Range\*\*:**

**Wand Probe:**  $\pm 0.5^\circ\text{C}$  ( $\pm 1^\circ\text{F}$ ) for 5 to  $45^\circ\text{C}$  (41 to  $113^\circ\text{F}$ ); up to  $\pm 1^\circ\text{C}$  (up to  $\pm 2^\circ\text{F}$ ) for 0 to  $5^\circ\text{C}$  and 45 to  $70^\circ\text{C}$  (32 to  $41^\circ\text{F}$  and 113 to  $158^\circ\text{F}$ )

**Industrial Probe:** (see chart in manual)  $\pm 0.5^\circ\text{C}$  ( $\pm 1^\circ\text{F}$ ) for 5 to  $45^\circ\text{C}$  (41 to  $113^\circ\text{F}$ ); up to  $\pm 1.5^\circ\text{C}$  (up to  $\pm 2.7^\circ\text{F}$ ) for  $-40$  to  $5^\circ\text{C}$  and 45 to  $124^\circ\text{C}$  ( $-40$  to  $41^\circ\text{F}$  and 113 to  $255^\circ\text{F}$ )

\*\* Note: Extended temperature range is for industrial probe only, refer to the iServer's operating temperature spec.

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

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

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

## Probe Specifications

**iTHP-W:** 198 x 19 mm Dia ( 7.8 x 0.75")

**Cable:** 152 mm L (6") with DB9 conn.

**Cable Operating Temperature:** 0 to  $80^\circ\text{C}$  (32 to  $176^\circ\text{F}$ )

**iTHP-5, iTHP-2:** 137 or 51 L x 16 mm Dia (5 or 2 x 0.63")

**Housing Material:** 316 SS

**Cable:** 3 or 0.9 m L (10 or 3')

**Cable Operating Temperature:**  $-40$  to  $125^\circ\text{C}$  ( $-40$  to  $257^\circ\text{F}$ )

NIST-Traceable Calibration Certificate available.  
In compliance with ISO9001:2008, ISO10012-1:1992(E), ANSI/NCSS 2540-1:1994 and MIL-STD-45662A.

## iServer Specifications

### INTERFACES

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

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

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

**Management:** Device configuration and monitoring through embedded web server

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

**Embedded Web Server:** Serves web pages containing real-time data and live updated charts within definable time intervals

**Power Input:** 5 Vdc @ 200 mA

### ENVIRONMENTAL

**Operating Temperature:**

0 to  $70^\circ\text{C}$  (32 to  $158^\circ\text{F}$ ) for iTHX-W3;

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

iTHX-W3-2 or iTHX-W3-5

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

**Safety Qualified AC Power Adaptor (Included):**

**Nominal Output:** 5 Vdc @ 0.6A

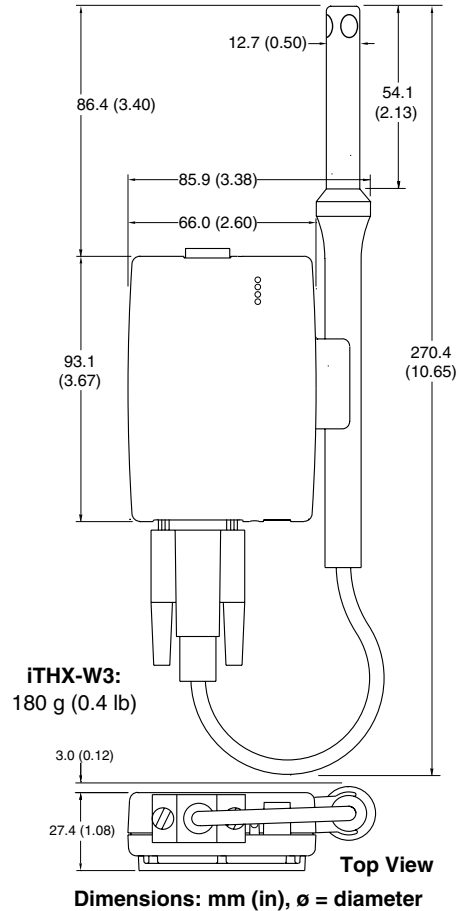
**Input:** 100 to 240 Vac, 50/60 Hz

**Storage Temp:**  $-40$  to  $125^\circ\text{C}$

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

**Packaging Material:** Valox® 364 PBT case with wall mount bracket

## Mechanical Specifications



**To Order Visit [omega.com/ithx-w3](http://omega.com/ithx-w3) for Pricing and Details**

Model No.	Description
<b>iTHX-W3</b>	iServer MicroServer™ for temperature + humidity and dew point, commercial wand probe on 152 mm (6") cable with DB9 connector
<b>iTHX-W3-2</b>	iServer MicroServer™ with industrial 51 mm (2") probe on 0.9 m (3') cable with DB9 connector
<b>iTHX-W3-5</b>	iServer MicroServer™ with industrial 137 mm (5") probe on 3 m (10') cable with DB9 connector
Accessories	
<b>iTHP-W-6</b>	Replacement wand probe, 203 mm (8"), 152 mm (6") cable
<b>iTHP-2-DB9</b>	Replacement industrial probe 51 mm (2"), 0.9 m (3') cable with DB9
<b>iTHP-5-DB9</b>	Replacement industrial probe 137 mm (5"), 3 m (10') cable with DB9
<b>DB9-CA-3</b>	Extension cable, 0.9 m (3') with DB9 connectors
<b>iP-PCW-10P</b>	Porous Polyethylene commercial wand probe cap, for wet environments, 10 caps per pack
<b>iP-PCI-10P</b>	Porous Polyethylene industrial probe cap, for wet environments, 10 caps per pack
<b>iP-SC</b>	Porous stainless steel probe cap, 5 $\mu\text{m}$ porosity, for dusty, pressurized (<35 psi) environments
<b>CAL-3-HU†</b>	NIST-traceable calibration certificate. 3 points of 25%, 50%, 75% RH, temperature $25^\circ\text{C}$ ( $77^\circ\text{F}$ ), for new units
<b>CT485B-CAL-KIT</b>	Calibration kit, 33% and 75% RH standards
<b>* -CAL-3-HU</b>	Calibrated replacement probe and calibration certificate

Volume discounts available.

**Ordering Examples:** iTHX-W3, iServer MicroServer™ with temp and humidity and dew point, 203 mm (8") wand probe.

iTHP-W-6-CAL-3-HU\*, calibrated replacement probe with certificate.