Environmental Monitoring and Recording Over the Internet
Temperature + Humidity and Dew Point

iSD–TH

- ✔ Virtual Chart Recorder
- ✔ Web Server
- ✔ Alarms by Email or Text Message
- ✔ No Special Software Required
- ✔ Record Years of Data on Popular SD Cards

iSD Series

1 YEAR WARRANTY CE FCC-B

iSD-TH, shown smaller than actual size.

The OMEGA® iSD environmental monitor provides Web-based remote surveillance of environmental conditions in critical HVAC applications such as computer server rooms, clean rooms, laboratories, museums, warehouses, or any remote facility.

View and record Temperature, Relative Humidity and Dew Point over an Ethernet network or the Internet with no special software—just a Web browser.

Email Alarms
The device can trigger an alarm if temperature or humidity goes above or below a set point that you determine. Your alarm can be sent by email to a single user or to a group distribution list, including text messages to cell phones and PDA's.

Physical Threats
The OMEGA iSD includes screw terminals for two contact closures that work with common alarm sensors. You can instruct the iSD monitor to send an alarm if a door is opened, a window is broken, or a fire sprinkler goes off.

Power Failure
The iSD monitor can trigger an alarm if the AC power fails. The iSD monitor will continue to collect data for two days powered by a standard 9 Volt alkaline battery (included). A failure on the Ethernet network will not interrupt data recording.
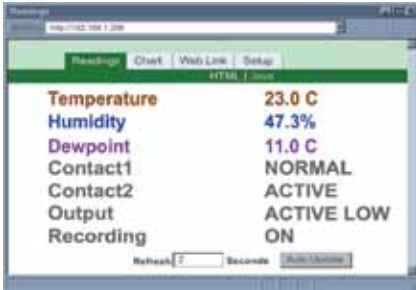
Local Alarms
The OMEGA iSD monitor includes two 1.5 Amp output relays that are controlled by the alarm conditions you select. The relays can trigger flashing lights and a siren for example to alert personnel near the scene.

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, as well as alarm conditions triggered by contact closures. The relays can also be programmed to turn off when conditions return to normal, or programmed to remain latched and require a manual reset.
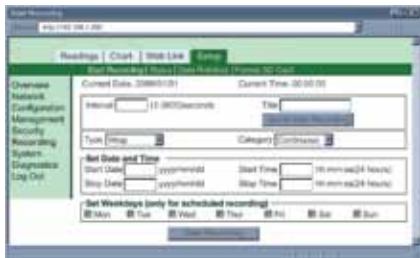
View Charts and Graphs on the Web

The OMEGA iSD serves Active Web Pages to display real time readings, display 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 OMEGA iSD, there is no need to invest time and money learning a proprietary software program to log or chart the data 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).

Recording Setup

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.

SD Flash Memory Card

The iSD 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.
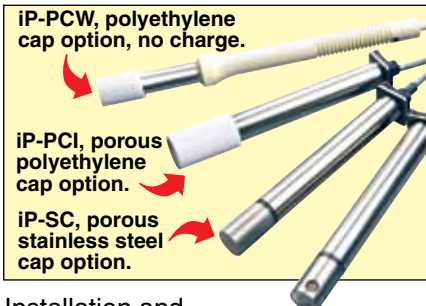

Records on SD Flash Cards

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 directly on a PC or MAC with a USB card reader. You can also download the data remotely over an Ethernet network or the Internet.
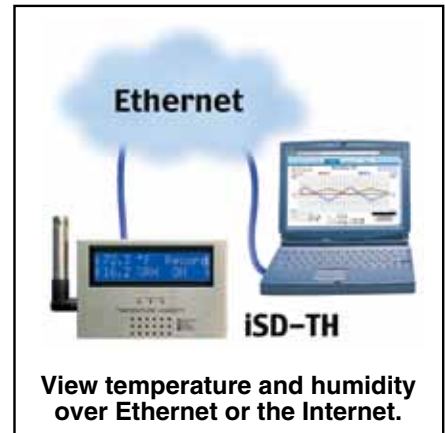
Sensor and Calibration

The iSD monitors come complete with a plug-in temperature and humidity probe that mounts on the instrument or separately with the six foot extension cable (included).

It is not necessary to take the iSD monitor 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. OMEGA offers replacement sensors with optional 3-point NIST traceable calibration certificates.

iP-PCW, polyethylene cap option, no charge.

iP-PCI, porous polyethylene cap option.

iP-SC, porous stainless steel cap option.

Installation and operation of the OMEGA iSD monitor requires no special training, tools, or software. The device connects to any Ethernet network with standard cable and plugs and is powered by any AC outlet supplying 110 to 240 Vac.

Award-Winning Technology

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

View temperature and humidity over Ethernet or the Internet.

The iSD 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 "Cleanroom 5" or "Midwest Server Room" in any Web Browser, and the iSD serves a Web Page with the current readings.

Typical Applications

The OMEGA iSD 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, electronic assembly, warehousing, museums, manufacturing, greenhouses, farm animal shelters, and many more.

Data logging spreadsheet

Specifications

RELATIVE HUMIDITY SENSOR
Accuracy/Range: ±2% for 10 to 90%; ±3% for 5 to 10% and 90 to 95%; ±4% for 0 to 5% and 95 to 100%

Non-linearity: ±3%

Hysteresis: ±1% RH

Response Time: 8 seconds, tau 63%

Repeatability: ±0.1%

Resolution: 0.1%, 12 bit

TEMPERATURE SENSOR
Accuracy/Range*

Wand Probe: ±0.5°C (±1°F) for 5 to 45°C (41 to 113°F); up to ±1°C (up to ±2°F) for 0 to 5°C and 45 to 60°C (32 to 41°F and 113 to 140°F)

Industrial Probe: (see chart in manual) ±0.5°C (±1°F) for 5 to 45°C (41 to 113°F); up to ±1.5°C (up to ±2.7°F) for -40 to 5°C and 45 to 124°C (-40 to 41°F and 113 to 255°F)

*Note: extended temperature range is for Ind. probe only, the iServer's operating temperature is 0 to 60°C

Response Time: 5 to 30 secs, tau 63%

Repeatability: ±0.1°C

Resolution: 0.1°C, 14 bit

Standard Probe Dimensions: Ø13 x 83.8 mm L (Ø 0.5 x 3.3" L)

INDUSTRIAL PROBE ISD-THP-5
Probe: Ø16 x 137 mm L (0.63 x 5")

Housing Material: SS 316

Cable Length: 3 m (10')

Cable Operating Temperature: -40 to 125°C (-40 to 257°F)

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

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

LCD Display: 32 digits 4.8 x 9.7 mm (0.19 x 0.38")

SD FLASH MEMORY CARD
2 GB Card: 8 months of data storage at 1 second recording intervals or 7 years at 10 secintervals

Relay Outputs: Two relays 1.5A @ 30 Vdc

Alarm I/Os: Two contact inputs, TTL 0.5 mA with 10K pull-up; one open collector output 150 mA @ 30 Vdc

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

POWER
Input: 9 to 12 Vdc

AC Power Adaptor (Included):
Input: 100 to 240 Vac, 50/60Hz
Nominal Output: 9 Vdc @ 0.5 A

Back-Up Battery: 9 Vdc, Alkaline (included)

Operating Temperature:
iServer Unit: 0 to 60°C (32 to 140°F)
Battery: -18 to 55°C (0 to 131°F)
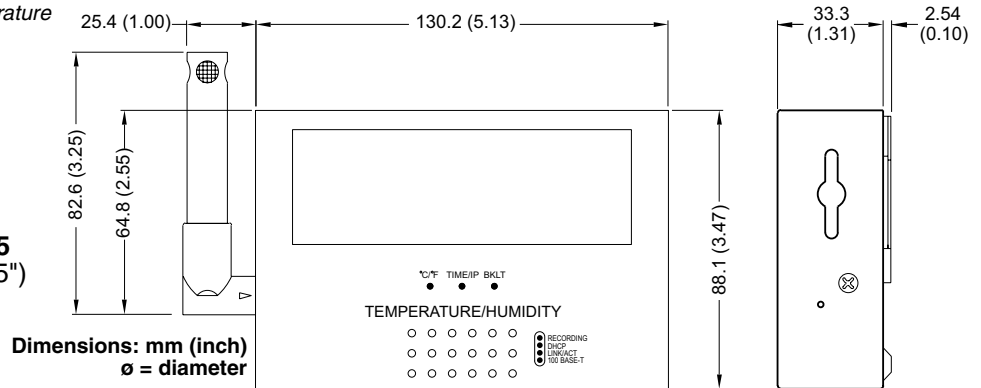**AC Adaptor:** 0 to 40°C (32 to 104°F)

PACKAGING
Weight: 490 g (1.08 lb)

Material: SS 304 case with wall mount bracket

> Replacement probes with calibration certificate available, just add: **"-CAL-3-HU"**
> No need to take your unit out of service to get re-calibrated, order a calibrated probe instead.

Dimensions: mm (inch)
ø = diameter

To Order *Visit omega.com/isd-th for Pricing and Details*

Model No.	Description
iSD-TH	iSD monitor for temperature + humidity, standard probe, 1.8 m (6') extension cable
iSD-TH-5	iSD monitor for temperature + humidity, 137 mm (5") industrial probe with 3 m (10') cable
Accessories	
iSDTHP	Replacement standard right angle probe
iSDTHP-5	Replacement industrial 137 mm (5") probe, cable 3 m (10')
iP-PCW-10P	Porous polyethylene right angle probe cap, for wet environments, 10 pack
IP-PCI-10P	Porous polyethylene industrial probe cap, for wet environments, 10 pack
iP-SC	Porous stainless steel probe cap, 5 μm porosity, for dusty and pressurized (<35 psi) environments
Calibration for New Units	
CAL-3-HU	NIST traceable calibration certificate. Three humidity points: 25%, 50%, 75%, one temperature 25°C, for new units.
CT485B-CAL-KIT	Calibration kit, 33% and 75% RH standards
For Calibrated Replacement Probes, Including Calibration Certificate	
iSDTHP-CAL-3-HU	Standard right angle probe and NIST traceable calibration certificate
iSDTHP-5-CAL-3-HU	Industrial probe and NIST traceable calibration certificate

Comes complete with LCD display, 2 GB SD flash memory card, 2 relay alarms, battery back-up, universal 100 to 240 Vac power adaptor and operator's manual.

Ordering Examples: iSD-TH, *monitor for temperature plus humidity with a right angle probe and 1.8 m (6') extension cable.*

iSD-TH-5, *monitor for temperature plus humidity with industrial 137 mm (5") probe and 3 m (10') cable.*