

# Barometric Pressure, Temperature, Humidity Virtual Recorder



## iBTX Series



- ✓ Virtual Chart Recorder
- ✓ Web Server
- ✓ Alarms by Email or Text Message
- ✓ No Special Software Required
- ✓ iBTX-SD: Records Years of Data on Popular SD Cards



iBTX-D iServer MicroServer™ with industrial barometric pressure/temperature probe (included), shown smaller than actual size.

RAIL-35-2, DIN rail, sold separately.

**PROBE INCLUDED!**



iBTX-SD shown smaller than actual size.

iBTX-W shown smaller than actual size.

**See Page Hu-12 to Order!**

### View Barometric Pressure, Temperature, and Humidity with a Web Browser

The TRODEX® iBTHX transmitter let's you monitor and record Barometric Pressure, Temperature, Relative Humidity and Dew Point over an Ethernet network or the Internet with no special software except a Web Browser.

The iBTHX serves Active Web Pages to display real time readings, display charts of Barometric Pressure, 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 iBTHX, there is no need to invest time and money learning a proprietary software program to log or chart the data.

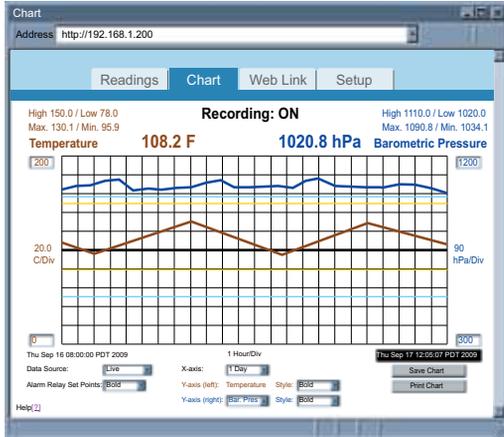


### Adjustable Charts

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 85°C, and 0 to 100% RH) or within any narrow range such as (20 to 30°C).

Barometric Pressure can be displayed in hectopascals (hPa), millimeters of Mercury (mmHg), or inches of Mercury (inHg).



Adjustable-chart Web page.

### Display and Chart Measurements

The iBTHX transmitters come complete with a barometric pressure, temperature and humidity probe for measurement of a single location. TRODEX offers a choice of industrial probes in 5" lengths and a wand style for ambient indoor applications.

### Award-winning Technology

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

The iBTHX 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 iBTHX serves a Web Page with the current readings.

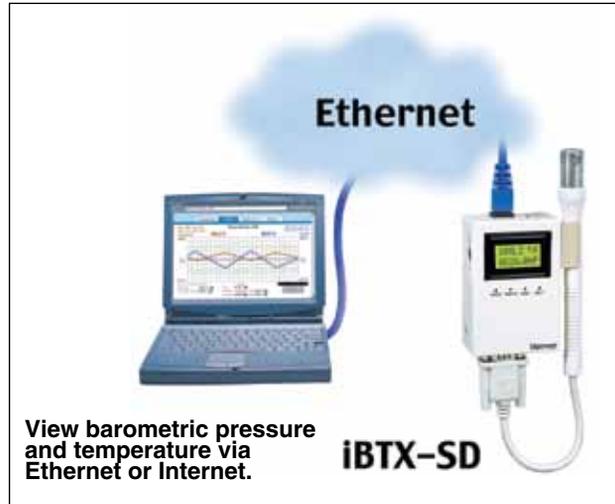
### Email Alarms

All TRODEX iBTHX 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.

NIST-traceable calibration certificate available.  
In compliance with ISO9001:2008, ISO10012-1:1992(E),  
ANSI/NCSL Z540-1:1994 and MIL-STD-45662A.

### Typical Applications

The iBTHX is great for monitoring barometric pressure, 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, green-houses, farm animal shelters, and many more.



View barometric pressure and temperature via Ethernet or Internet.

### NEW iBTHX-SD with SD Flash Memory Card and LCD Display

The TRODEX model iBTHX-SD with LCD display, adds several valuable features in addition to the backlit local display of barometric pressure and temperature.

### SD Flash Memory Card

The iBTHX-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 iBTHX-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 pressure, 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 iBTHX-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.



## Sensor Specifications Barometric Pressure (iBTX, iBTHX)

**Accuracy/Range:**  $\pm 2.0$  mbar/  
10 to 1100 mbar (1 to 110 kPa)

**Resolution:** 0.1 mbar

## Relative Humidity (iBTHX)

**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 (iBTHX)

**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  $113^\circ\text{F}$ ); up to

$\pm 1^\circ\text{C}$  for 0 to  $5^\circ\text{C}$  and 45 to  $70^\circ\text{C}$

(up to  $2^\circ\text{F}$  for 32 to  $41^\circ\text{F}$  and

113 to  $158^\circ\text{F}$ )

**Industrial Probe:** (see chart in manual)

$\pm 0.5^\circ\text{C}$  for 5 to  $45^\circ\text{C}$

( $\pm 1^\circ\text{F}$  for 41 to  $113^\circ\text{F}$ );

up to  $\pm 1.5^\circ\text{C}$  for  $-40$  to  $5^\circ\text{C}$  and

45 to  $85^\circ\text{C}$  (up  $\pm 2.7^\circ\text{F}$  for

$-40$  to  $41^\circ\text{F}$  and 113 to  $185^\circ\text{F}$ )

\* **Note:** Extended temperature range is for industrial probe only; the iServer's operating temperature is 0 to  $70^\circ\text{C}$ .

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

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

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

## Temperature (iBTX)

**Accuracy/Range\*:**

**Wand Probe:**  $\pm 0.8^\circ\text{C}$  @  $20^\circ\text{C}$

( $\pm 1.5^\circ\text{F}$  @  $68^\circ\text{F}$ );  $\pm 2^\circ\text{C}$  for 0 to  $70^\circ\text{C}$

( $\pm 3.6^\circ\text{F}$  for 32 to  $158^\circ\text{F}$ )

**Industrial Probe:**  $\pm 0.8^\circ\text{C}$  @  $20^\circ\text{C}$

( $\pm 1.5^\circ\text{F}$  @  $68^\circ\text{F}$ );  $\pm 2^\circ\text{C}$  for  $-40$  to  $85^\circ\text{C}$

( $\pm 3.6^\circ\text{F}$  for  $-4$  to  $185^\circ\text{F}$ )

\* **Note:** Extended temperature range is for industrial probe only; the iServer's operating temperature is 0 to  $70^\circ\text{C}$ .

Time	Temperature	Humidity	Pressure	Error
09:05 11:04:03 AM	86.54	44.780	1012.50	0
09:05 11:05:00 AM	86.54	44.780	1012.50	0
09:05 11:05:36 AM	86.54	44.780	1012.50	0
09:05 11:06:00 AM	86.54	44.780	1012.50	0
09:05 11:06:36 AM	86.54	44.780	1012.50	0
09:05 11:07:00 AM	86.54	44.780	1012.50	0
09:05 11:07:36 AM	86.54	44.780	1012.50	0
09:05 11:08:00 AM	86.54	44.780	1012.50	0
09:05 11:08:36 AM	86.54	44.780	1012.50	0
09:05 11:09:00 AM	86.54	44.780	1012.50	0
09:05 11:09:36 AM	86.54	44.780	1012.50	0
09:05 11:10:00 AM	86.54	44.780	1012.50	0
09:05 11:10:36 AM	86.54	44.780	1012.50	0
09:05 11:11:00 AM	86.54	44.780	1012.50	0
09:05 11:11:36 AM	86.54	44.780	1012.50	0
09:05 11:12:00 AM	86.54	44.780	1012.50	0
09:05 11:12:36 AM	86.54	44.780	1012.50	0
09:05 11:13:00 AM	86.54	44.780	1012.50	0
09:05 11:13:36 AM	86.54	44.780	1012.50	0
09:05 11:14:00 AM	86.54	44.780	1012.50	0
09:05 11:14:36 AM	86.54	44.780	1012.50	0
09:05 11:15:00 AM	86.54	44.780	1012.50	0
09:05 11:15:36 AM	86.54	44.780	1012.50	0
09:05 11:16:00 AM	86.54	44.780	1012.50	0
09:05 11:16:36 AM	86.54	44.780	1012.50	0
09:05 11:17:00 AM	86.54	44.780	1012.50	0
09:05 11:17:36 AM	86.54	44.780	1012.50	0
09:05 11:18:00 AM	86.54	44.780	1012.50	0
09:05 11:18:36 AM	86.54	44.780	1012.50	0
09:05 11:19:00 AM	86.54	44.780	1012.50	0
09:05 11:19:36 AM	86.54	44.780	1012.50	0
09:05 11:20:00 AM	86.54	44.780	1012.50	0
09:05 11:20:36 AM	86.54	44.780	1012.50	0
09:05 11:21:00 AM	86.54	44.780	1012.50	0
09:05 11:21:36 AM	86.54	44.780	1012.50	0
09:05 11:22:00 AM	86.54	44.780	1012.50	0
09:05 11:22:36 AM	86.54	44.780	1012.50	0
09:05 11:23:00 AM	86.54	44.780	1012.50	0
09:05 11:23:36 AM	86.54	44.780	1012.50	0
09:05 11:24:00 AM	86.54	44.780	1012.50	0
09:05 11:24:36 AM	86.54	44.780	1012.50	0
09:05 11:25:00 AM	86.54	44.780	1012.50	0
09:05 11:25:36 AM	86.54	44.780	1012.50	0
09:05 11:26:00 AM	86.54	44.780	1012.50	0
09:05 11:26:36 AM	86.54	44.780	1012.50	0
09:05 11:27:00 AM	86.54	44.780	1012.50	0
09:05 11:27:36 AM	86.54	44.780	1012.50	0
09:05 11:28:00 AM	86.54	44.780	1012.50	0
09:05 11:28:36 AM	86.54	44.780	1012.50	0
09:05 11:29:00 AM	86.54	44.780	1012.50	0
09:05 11:29:36 AM	86.54	44.780	1012.50	0
09:05 11:30:00 AM	86.54	44.780	1012.50	0
09:05 11:30:36 AM	86.54	44.780	1012.50	0
09:05 11:31:00 AM	86.54	44.780	1012.50	0
09:05 11:31:36 AM	86.54	44.780	1012.50	0
09:05 11:32:00 AM	86.54	44.780	1012.50	0
09:05 11:32:36 AM	86.54	44.780	1012.50	0
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09:05 11:38:00 AM	86.54	44.780	1012.50	0
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09:05 11:41:36 AM	86.54	44.780	1012.50	0
09:05 11:42:00 AM	86.54	44.780	1012.50	0
09:05 11:42:36 AM	86.54	44.780	1012.50	0
09:05 11:43:00 AM	86.54	44.780	1012.50	0
09:05 11:43:36 AM	86.54	44.780	1012.50	0
09:05 11:44:00 AM	86.54	44.780	1012.50	0
09:05 11:44:36 AM	86.54	44.780	1012.50	0
09:05 11:45:00 AM	86.54	44.780	1012.50	0
09:05 11:45:36 AM	86.54	44.780	1012.50	0
09:05 11:46:00 AM	86.54	44.780	1012.50	0
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09:05 11:47:00 AM	86.54	44.780	1012.50	0
09:05 11:47:36 AM	86.54	44.780	1012.50	0
09:05 11:48:00 AM	86.54	44.780	1012.50	0
09:05 11:48:36 AM	86.54	44.780	1012.50	0
09:05 11:49:00 AM	86.54	44.780	1012.50	0
09:05 11:49:36 AM	86.54	44.780	1012.50	0
09:05 11:50:00 AM	86.54	44.780	1012.50	0
09:05 11:50:36 AM	86.54	44.780	1012.50	0
09:05 11:51:00 AM	86.54	44.780	1012.50	0
09:05 11:51:36 AM	86.54	44.780	1012.50	0
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09:05 11:52:36 AM	86.54	44.780	1012.50	0
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09:05 11:53:36 AM	86.54	44.780	1012.50	0
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09:05 11:55:00 AM	86.54	44.780	1012.50	0
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09:05 11:56:00 AM	86.54	44.780	1012.50	0
09:05 11:56:36 AM	86.54	44.780	1012.50	0
09:05 11:57:00 AM	86.54	44.780	1012.50	0
09:05 11:57:36 AM	86.54	44.780	1012.50	0
09:05 11:58:00 AM	86.54	44.780	1012.50	0
09:05 11:58:36 AM	86.54	44.780	1012.50	0
09:05 11:59:00 AM	86.54	44.780	1012.50	0
09:05 11:59:36 AM	86.54	44.780	1012.50	0
09:05 12:00:00 AM	86.54	44.780	1012.50	0

Data logging spreadsheet.

Title	
Temperature	90.5 °F
Pressure	1007.8 mbar
Humidity	36.6 %
Dewpoint	53.6 °F

Main Menu

Sensor reading Web page.

## Probe Physical Dimensions

**Wand Probe:** 19 Dia x 159 mm L

(0.75 Dia x 6.25" L)

**Cable with DB9 Connector:**

**Length:** 152 mm (6")

**Operating Temp:** 0 to  $80^\circ\text{C}$

(32 to  $176^\circ\text{F}$ )

**Industrial Probe:** 16 Dia x 137 mm L

(0.63 Dia x 5" L)

**Cable with DB9 or Stripped Leads:**

**Length:** 3 m (10')

**Operating Temp:**  $-55$  to  $105^\circ\text{C}$

( $-67$  to  $221^\circ\text{F}$ )

## iServer Specifications Interfaces

**Ethernet (RJ45):**

Fixed or auto-negotiating

10/100BASE-T, Auto MDI/MDIX:

iBTX-SD; 10BASE-T: iBT(H)X-W, -D

**Protocols**

TCP, UDP, SNMP, SMTP, NTP,

ARP, ICMP, DHCP, DNS, HTTP,

and Telnet: iBTX-SD;

TCP, UDP, ARP, ICMP, DHCP, DNS,

HTTP, and Telnet: iBT(H)X-W, -D

No.	Device Name	Reading	Display Units	Display Format	Remote Format	Remote End Char (HEX)	Offset
1	Temperature	SRTF	°F	decimal	TA000.0F	0D	0000.0
2	Pressure	SRHb	mbar	decimal	P0000.0b	0D	0000.0
3	Humidity	SRH2	%	decimal	H000.00%	0D	0000.0
4	Dewpoint	SRDP2	°F	decimal	DB00.00F	0D	0000.0

Secured Applet  
Title [Title]  
Terminal Server  
TCP/UDP/TCP Server Type [Command] Forward CR [Disable] No. of Sockets [5] Port [2000]  
Remote Access (Tunneling)  
Remote IP Address [0.0.0.0] Remote Port [2000] Remote Access [Disable]  
Update  
Take Readings  
Click on device no. on left to modify device parameters.  
Main Menu

iBTHX-W and iBTHX-D device configuration Web page.

## Sensor:

Digital 4-wire (DB9): iBT(H)X-W,

iBTX-SD;

removable 8 position screw terminals:

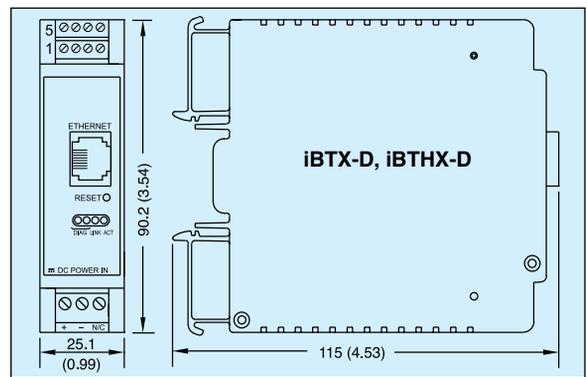
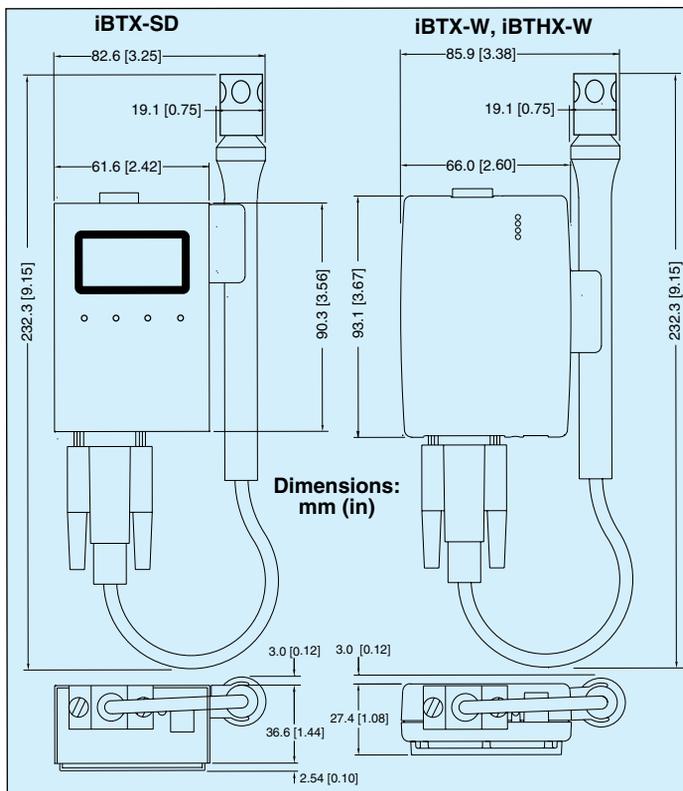
iBT(H)X-D

## LCD Display (iBTX-SD)

16 Digits, 6 mm (0.23")

## SD Flash Memory Card (iBTX-SD)

2



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

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



#### iDRN-PS-1000

- 24 Vdc supply
- Switching power supply powers up to 7 units



## To Order Visit [TRODEX.com/ibtx\\_ibthx](http://TRODEX.com/ibtx_ibthx) for Pricing and Details

Model No.	Description
iBTX-SD	iServer MicroServer™ for barometric pressure and temperature, LCD, 2 GB SD flash memory card, 2-relay alarm and battery backup, with universal AC power adaptor
iBTX-W	iServer MicroServer™ for barometric pressure and temperature, with AC power adaptor
iBTHX-W	iServer MicroServer™ for barometric pressure, temperature, humidity and dew point, with AC power adaptor
*	Standard wand probe, cable 152 mm (6") with DB9 connector (no entry required)
-5	Industrial 5" probe, cable 3 m (10') with DB9 connector (substitution for wand probe)

#### Accessories

iBTP-W-6	Wand probe, cable 152 mm (6") with DB9 connector (barometric pressure/temperature)
iBTHP-W-6	Wand probe, cable 152 mm (6") with DB9 connector (barometric pressure/temperature/humidity)
iBTP-5-DB9	Industrial 137 mm (5") probe, cable 3 m (10') with DB9 connector (barometric pressure/temperature)
iBTHP-5-DB9	Industrial 137 mm (5") probe, cable 3 m (10') with DB9 connector (barometric pressure/temp/humidity)
DB9-CA-3-2	Extension cable, 0.9 m (3') with DB9 connector

Model No.	Description
iBTX-D	iServer industrial MicroServer™ for barometric pressure and temp; industrial probe 137 mm (5"), cable 3 m (10'), stripped wire leads; DIN rail mount
iBTHX-D	iServer industrial MicroServer™ for barometric pressure, temp, humidity and dew point; industrial probe 137 mm (5"), cable 3 m (10'), stripped wire leads; DIN rail mount

#### Accessories

iBTP-5	Industrial probe 137 mm (5"), cable 3 m (10') with stripped wire leads; barometric pressure/temp
iBTHP-5	Industrial probe 137 mm (5"), cable 3 m (10') with stripped wire leads; bar, pressure/temp/humidity
iDRN-PS-1000	Power supply (switching), 95 to 240 Vac input, 24 Vdc output @ 850 mA (powers up to 7 units)

#### Common Accessories

CAL-3-HU	NIST-traceable calibration certificate, 3 humidity points: 25%, 50%, 75%, temp 25°C (for new units)
CAL-3-HU-P-T	NIST-traceable calibration certificate, 3 humidity, barometric pressure and temp points (for new units)
CAL-3-P	NIST-traceable calibration certificate, 3 barometric pressure points, temp 25°C (for new units)
* -CAL-3-HU	Calibrated replacement probe, and NIST traceable calibration certificate (for * insert probe type)
* -CAL-3-HU-P-T	Calibrated replacement probe, and NIST traceable calibration certificate (for * insert probe type)
* -CAL-3-P	Calibrated replacement probe, and NIST traceable calibration certificate (for * insert probe type)
CT485B-CAL-KIT	Calibration kit, 33% and 75% RH standards
iP-PCI-10P	Porous polyethylene industrial probe cap for wet environments, 10 caps per pack
iP-SC	Porous stainless steel probe cap, 5 µm porosity, for dusty and pressurized (<35 psi) environments

**Ordering Examples:** iBTHX-D, DIN rail mount industrial MicroServer™ for barometric pressure, temperature, humidity and dew point, with iDRN-PS-1000, power supply.

iBTX-W, bracket mounted iServer Microserver™ for barometric pressure and temperature, with DB9-CA-3-2, extension cable.

For calibrated replacement probe, with certificate: iBTHP-W-6-CAL-3-HU.