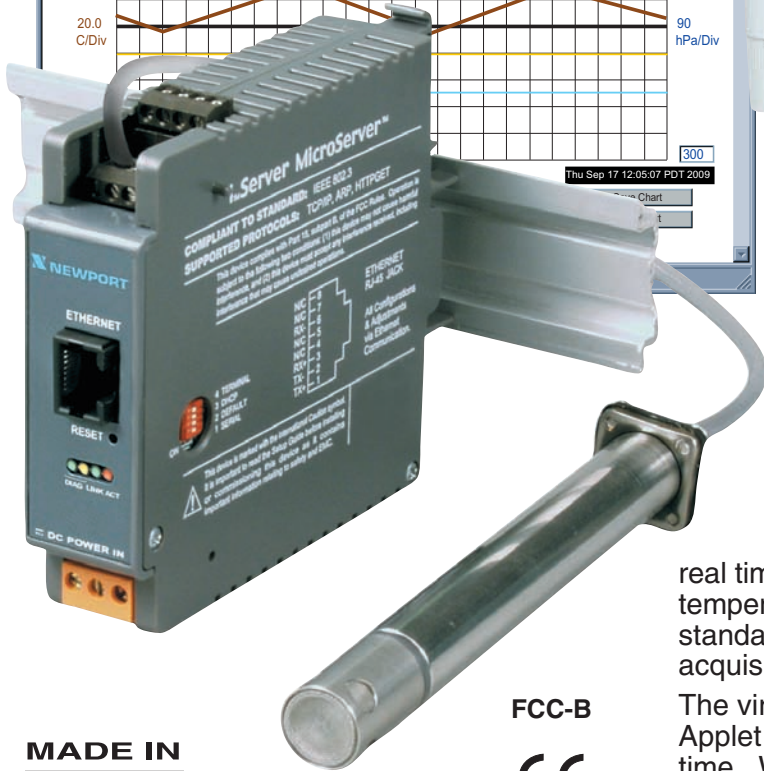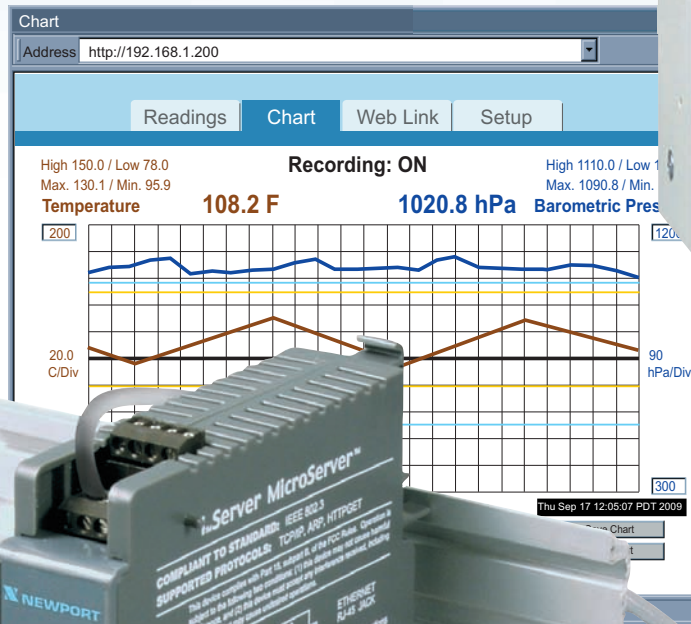# NEWPORT® Virtual Chart Recorder

Barometric Pressure, Temperature + Relative Humidity

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

SD Card
2 GB

Chart

Address http://192.168.1.200

| Readings | Chart | Web Link | Setup |

High 150.0 / Low 78.0
Max. 130.1 / Min. 95.9
Temperature   **108.2 F**

Recording: ON

High 1110.0 / Low 1
Max. 1090.8 / Min.
1020.8 hPa   **Barometric Pres**

200
1200

20.0 C/Div
90 hPa/Div

300
Thu Sep 17 12:05:07 PDT 2009

108.2 °F
1020.8hP

UNITS TIME/IP STBY BKLT

iServer

ETHERNET   RESET
ACTIVITY
NETWORK LINK
DIAGNOSTICS

NEWPORT®
BAROMETER
TEMPERATURE
HUMIDITY
i.Server MicroServer™

NEWPORT™
newportUSA.com™

9-12 Vdc
– +

MADE IN
USA

FCC-B

CE

The **NEWPORT® 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.

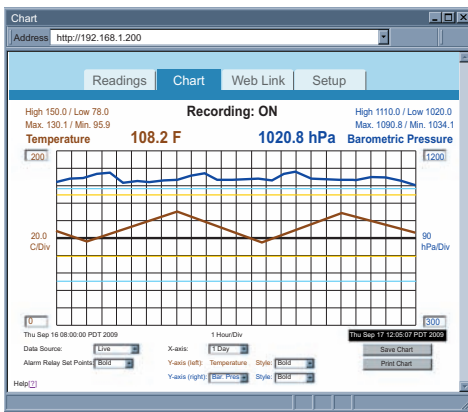## Adjustable Charts

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).
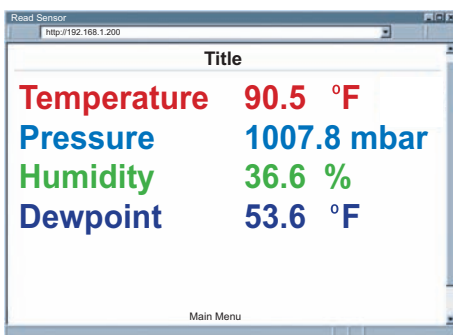

iBTX-SD Adjustable Chart

Display and Chart Measurements

The iBTHX transmitters come complete with a barometric pressure, temperature and humidity probe for measurement of a single location.

NEWPORT offers a choice of industrial probes in 5" lengths and a wand style for ambient indoor applications.

Reading Sensor Web Page

Award-winning Technology

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

The iBHTX 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 NEWPORT iBTX 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.
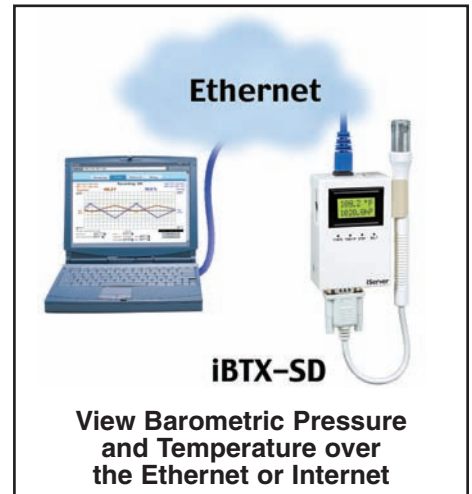
Typical Applications

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.

NEW iBTX-SD with SD Flash Memory Card and LCD Display

The NEWPORT model iBTX-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 iBTX-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.

View Barometric Pressure and Temperature over the Ethernet or Internet

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 iBTX-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 iBTX-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.

NEWPORT iServer products are designed and manufactured in Santa Ana, CA.

Barometric Pressure, Temperature + Relative Humidity

Sensor Specifications

Barometric Pressure (iBTX, iBTHX)
Accuracy/Range:
±2.0 mbar for 10 to 1100 mbar
(1 to 110 KPa)
Resolution: 0.1 mbar

Relative Humidity (iBTHX)
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 (iBTHX)
Accuracy/Range*
Wand Probe:
±0.5°C for 5 to 45°C; (±1°F for
41 to 113°F); ±0.5 to ±1°C for 0 to 5°C
and 45 to 70°C; (±1 to ±2°F for
32 to 41°F and 113 to 158°F)
Industrial Probe:
±0.5°C for 5 to 45°C
(±1°F for 41 to 113°F);
±0.5 to ±1.5°C for -40 to 5°C and
45 to 85°C; (±1 to ±2.7°F for
-40 to 41°F and 113 to 185°F)
*Note: extended temperature range is
for Ind. probe only, the iServer's
operating temperature is 0 to 70°C
Response Time:
5 to 30 seconds, tau 63%
Repeatability: ±0.1°C
Resolution: 0.1°C, 14 bit

Temperature (iBTX)
Wand Probe:
±0.8°C @ 20°C (±1.5°F @ 68°F);
±2°C for 0 to 70°C
(±3.6°F for 32 to 158°F)
Industrial Probe:
±0.8°C @ 20°C (±1.5°F @ 68°F);
±2°C for -20 to 85°C
(±3.6°F for -4 to 185°F)
*Note: extended temperature range is
for Ind. probe only, the iServer's
operating temperature is 0 to 70°C

Probe Physical Dimensions
Wand Probe:
Ø 19 x 159 mm lg (Ø 0.75 x 6.25" lg)
Cable length 152 mm (6"), with DB9
Connector
Cable operating temperature:
0 to 80°C (32 to 176°F)
Industrial Probe:
Ø 16 x 137 mm lg (Ø 0.63 x 5" lg)
Housing material: SS 316
Cable length 3m (10'), stripped leads
Cable operating temperature:
-55 to 105°C (-67 to 221°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
Sensor: Digital 4-wire (DB9):
iBT(H)X-W, iBTX-SD;
removable 8 position screw terminals:
iBT(H)X-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

LCD Display (iBTX-SD)
16 Digits 6mm (0.23")

SD Flash Memory Card (iBTX-SD)
2GB card: 8 months of data storage
at 1 second recording intervals or 7
years at 10 second intervals

Relay Outputs (iBTX-SD)
Two Relays 1.5A @ 30 Vdc

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

Environmental
Operating Temperature:
0 to 70°C (32 to 158°F) iBTX-W, -2
0 to 60°C (32 to 140°F) iBTX-SD
Battery: -18 to 55°C (0 to 131°F)
ac Adapter: 0 to 40°C (32 to 104°F)
Storage Temperature:
-40 to 85°C (-40 to 185°F)

Power
Input:
9 to12 Vdc: iBT(H)X-W, iBTX-SD;
10 to 32 Vdc: iBT(H)X-D
Safety Qualified ac power adapter:
  Nominal Output: 9 Vdc @ 0.5A
  Input: 100 to 240 Vac, 50/60Hz
  included: iBT(H)X-W, iBTX-SD
Switching Power Supply sold
separately: iBT(H)X-D
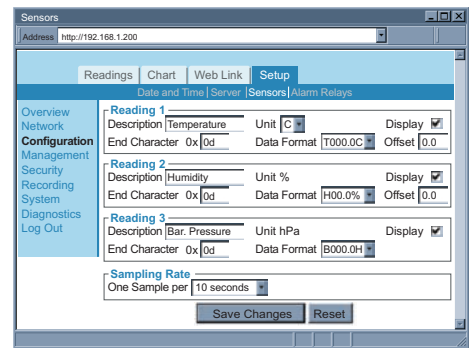**Back-up Battery:**
9Vdc, Alkaline for iBTX-SD
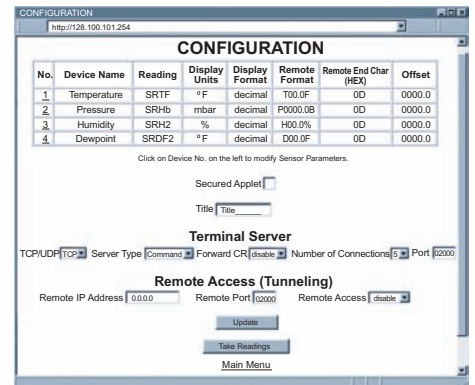
Packaging
Material:
Steel metal case with wall mount
bracket: iBTX-SD;
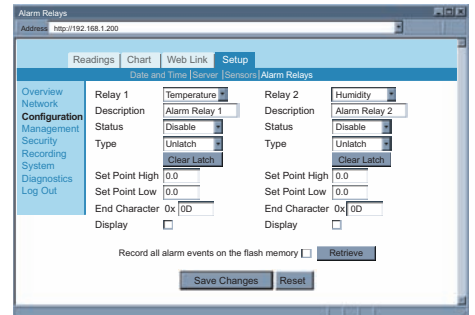Valox 364 PBT case with wall mount
bracket: iBT(H)X-W;
Polycarbonate case with DIN Rail
mount: iBT(H)X-D

iBTX-SD Sensor Configuration
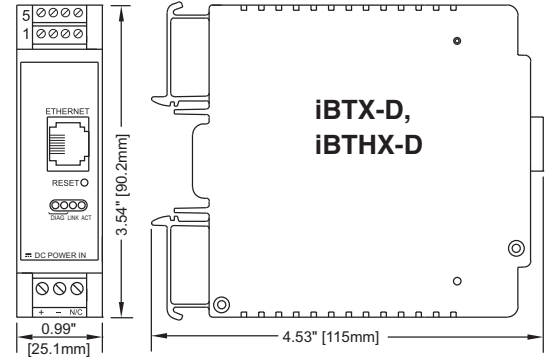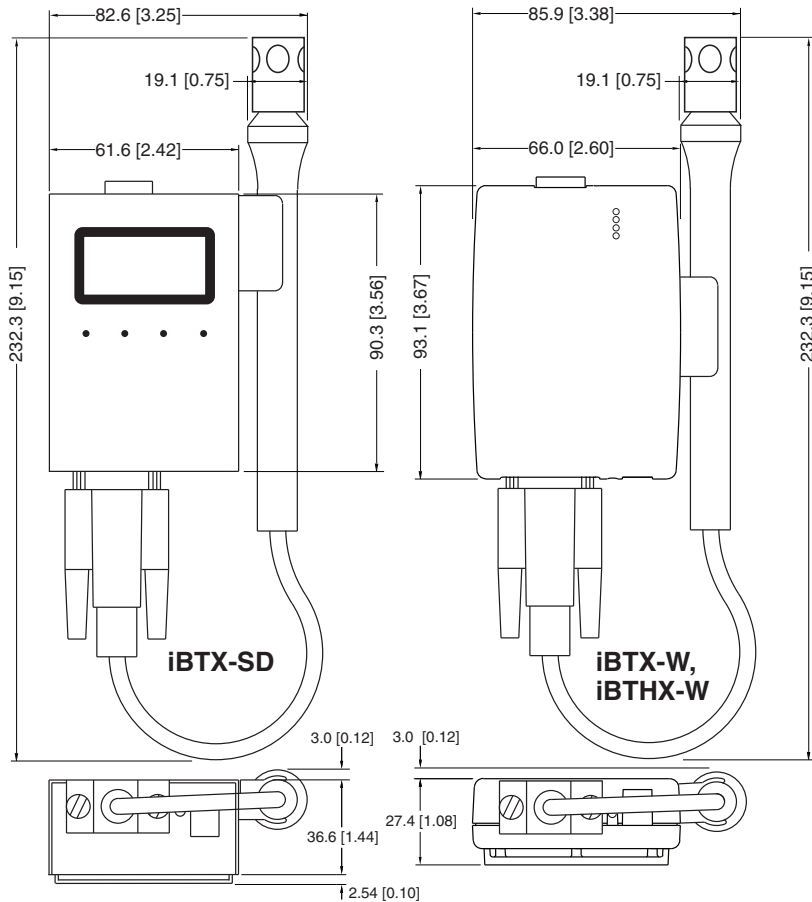

iBTHX-W and iBTHX-D Configuration

iBTX-SD Alarm Relays

Datalogging Spreadsheet

Mechanical Specifications

82.6 [3.25]
19.1 [0.75]
61.6 [2.42]
232.3 [9.15]
90.3 [3.56]
93.1 [3.67]

iBTX-SD

85.9 [3.38]
19.1 [0.75]
66.0 [2.60]
232.3 [9.15]

iBTX-W, iBTHX-W

5 / 1
ETHERNET
RESET
DIAG LINK ACT
DC POWER IN
+ − N/C
0.99" [25.1mm]
3.54" [90.2mm]
4.53" [115mm]

iBTX-D, iBTHX-D

3.0 [0.12]   3.0 [0.12]
36.6 [1.44]
27.4 [1.08]
2.54 [0.10]

iDRN-PS-1000
- ✔ 24Vdc Supply
- ✔ Mounts to 35mm DIN rails
- ✔ Switching Power Supply powers up to 7 units

NIST Traceable Calibration Certificate available.
In compliance with ISO9001:2008,
ISO10012-1.1992(E),
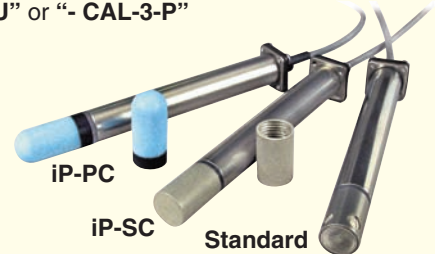ANSI/NCSL Z540-1.1994 and MIL-STD-45662A.

Model No.		Description
iBTX-SD		iServer MicroServer™ for Barometric Pressure + Temp LCD Display, 2GB SD Flash Memory Card, 2 Relay Alarm, Battery Back-up, with universal ac power adapter
iBTX-W		iServer MicroServer™ for Barometric Pressure + Temp
iBTHX-W		iServer MicroServer™ for Barometric Pressure + Temp
	*	Standard 152 mm (6") Wand Probe, Cable 152 mm (6") with DB9 Connector. No Entry required
	-5	Industrial 137 mm (5") Probe, Cable 3 m (10 ft) with DB9 Connector. Substitution for Wand Probe
Accessories		
iBTP-W-6		Replacement 152 mm (6") Wand Probe, Cable 152mm (6") with DB9 Connector, Bar. Pres. + Temp
iBTHP-W-6		Replacement 152 mm (6") Wand Probe, Cable 152 mm (6") with DB9 Connector, Bar. Pressure + Temperature + Humidity
iBTP-5-DB9		Replacement Industrial 137 mm (5") Probe, Cable 3 m (10 ft) with DB9 Connector, Bar. Pres. + Temp
iBTHP-5-DB9		Replacement Industrial 137 mm (5") Probe, Cable 3 m (10 ft) with DB9 Connector, Bar. Pres. + Temperature + Humidity
DB9-CA-3		Extension Cable, 0.9 m (3 ft) with DB9 Connector

Common 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 of 25%, 50%, 75% RH, temp. 25°C, for new units
CAL-3-HU-P-T	NIST Traceable Calibration Certificate. 3 Humidity, Barometric Pressure & Temp Points, for new units
CAL-3-P	NIST Traceable Calibration Certificate. 3 points of Bar. Pressure Points, Temp 25°C, for new units
CT485B-CAL-KIT	Calibration Kit, 33% and 75% RH Standards
* - CAL-3-HU	Calibrated replacement probe and Certificate
* - CAL-3-HU-P-T	Calibrated replacement probe and Certificate
* - CAL-3-P	Calibrated replacement probe and Certificate

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

Optional Probe Caps shown, fits industrial or wand probe

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	
iBTX-D	iServer MicroServer™ for Barometric Pressure and Temperature, DIN Rail Mount. Industrial Probe 137mm (5"), Cable 3 m (10 ft)	
iBTHX-D	iServer MicroServer™ for Bar. Pressure, Temperature + Humidity, DIN Rail Mount. Industrial Probe 137mm (5"), Cable 3 m (10 ft)	
Accessories		
iBTP-5	Industrial Probe 137 mm (5"), Cable 3 m (10 ft) for Barometric Pressure and Temperature	
iBTHP-5	Industrial Probe 137 mm (5"), Cable 3 m (10 ft) for Barometric Pressure and Temp + Humidity	
iDRN-PS-1000	Power Supply (switching), 95 to 240 Vac input, 24 Vdc output @ 850 mA (powers up to 7 units)	
RAIL-35-2	2 m (6.5 ft) section of 35mm DIN rail	

Ordering Examples for iBTX-SD with LCD display, SD card, 2 relay alarm, battery back-up and wand probe: **iBTX-SD**
For iBTX-W-5 with industrial probe : **iBTX-W-5**
For calibrated replacement probe, with certificate: **iBTHP-W-6-CAL-3-HU.**
* Volume discounts are available.