

# Monitor Temperature over the Internet



- ✓ Virtual Chart Recorder
- ✓ Web Server
- ✓ Dual Thermocouple (10 Types)
- ✓ Alarms by Email or Text Message
- ✓ Record Years of Data on Popular SD Cards
- ✓ No Special Software Required



Two Type K Thermocouples included

The **NEWPORT® iSD-TC** provides Web-based temperature monitoring in critical equipment and locations such as computer server rooms, clean rooms, laboratories, museums, warehouses, or any remote facility.

View and record temperature on two independent thermocouple channels, 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 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 **NEWPORT iSD-TC** 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-TC 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.

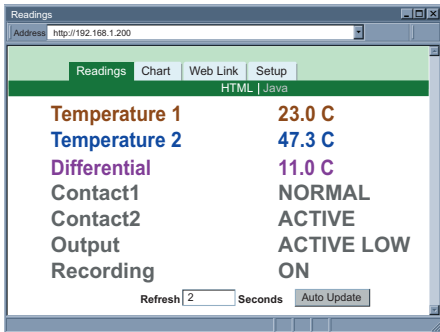
### LOCAL ALARMS

The **NEWPORT 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 two temperature inputs, 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.

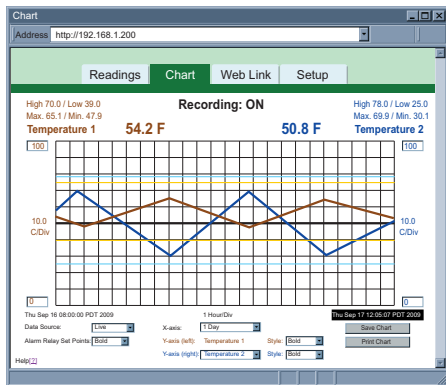
**VIEW CHARTS AND GRAPHS ON THE WEB**

The NEWPORT iSD-TC serves Active Web Pages to display real time readings, display charts of temperature, 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 NEWPORT iSD-TC, 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 can be charted across the full span or within any narrow range.

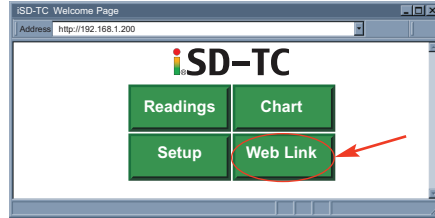


The iSD can display and chart absolute measurements in two locations and a differential measurement between the two locations.

The iSD can take thermocouple types J, K, T, E, R, S, B, C, N, and L measuring temperatures up to 1,820°C (3,308°F). The iSD includes a pair of type K thermocouples.

**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.



**SD FLASH MEMORY CARD**

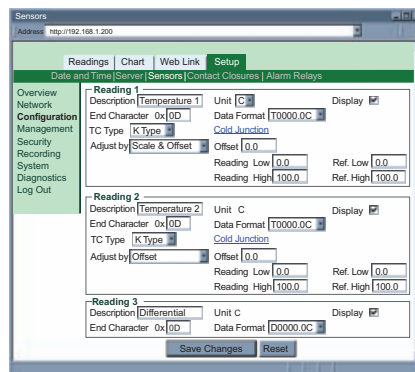
The iSD comes complete with a removable 2 GB SD Flash Memory card that can store up to seven years of readings taken at ten second intervals.



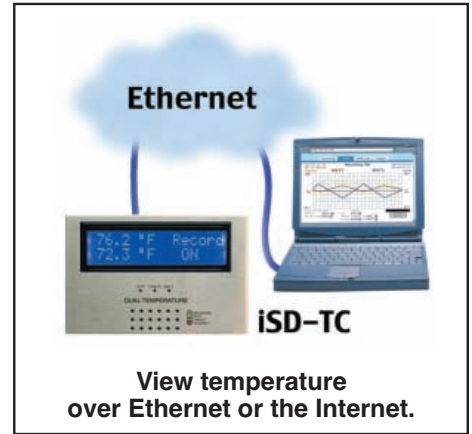
**RECORDS ON SD FLASH CARDS**

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.

Installation and operation of the NEWPORT iSD-TC 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.



**Sensor Setup**



**AWARD-WINNING TECHNOLOGY**

The NEWPORT iSD-TC is simple to install and use, and features NEWPORT's award-winning iServer technology that requires no special software except a Web Browser. 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-TC serves a Web Page with the current readings.

**TYPICAL APPLICATIONS**

The NEWPORT iSD-TC is great for monitoring temperature 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, farm animal shelters, greenhouses, and many more.

| Time                  | Temp 1 | Temp 2 | Differential | Error |
|-----------------------|--------|--------|--------------|-------|
| 3/20/2008 11:05:00 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:05 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:10 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:15 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:20 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:25 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:30 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:35 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:40 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:45 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:50 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:05:55 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:00 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:05 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:10 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:15 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:20 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:25 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:30 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:35 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:40 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:45 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:50 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:06:55 AM | 67.28  | 67.28  | 2.78         | 0     |
| 3/20/2008 11:07:00 AM | 67.28  | 67.28  | 2.78         | 0     |

**Datalogging spreadsheet**

## SENSOR SPECIFICATIONS

### THERMOCOUPLE INPUT

#### Temperature Range:

refer to Thermocouple Chart

#### Temperature Accuracy:

refer to Thermocouple Chart

**Resolution:** 1°/0.1°

**Temperature Stability:** 0.08°C/°C

**Thermocouple Cold End Tracking:**

0.05°C/°C

**Thermocouple Lead Resistance:**

100 ohm max.

**Thermocouple Type (ITS 90):**

J, K, T, E, R, S, B, C, N, L

## iSERVER SPECIFICATIONS

### INTERFACES

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

### PROTOCOLS

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

### LCD DISPLAY

32 Digits 4.8 x 9.7mm (0.19 x 0.38")

### SD FLASH MEMORY CARD

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

### SAMPLE RATE

16 samples/sec max.

### RELAY OUTPUTS

Two Relays 1.5 A @ 30 Vdc

### ALARM I/Os

Two Contact Inputs TTL 0.5 mA with 10 K pull-up; One Open Collector Output 150 mA @ 30 Vdc

### POWER

**Input:** 9 to 12 Vdc

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

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

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

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

### ENVIRONMENTAL

**Operating Temperature:**

**iServer Unit:** 0 to 60°C (32 to 140°F)

**Battery:** -18 to 55°C (-0.4 to 131°F)

**ac Adapter:** 0 to 40°C (32 to 104°F)

**Storage Temperature:**

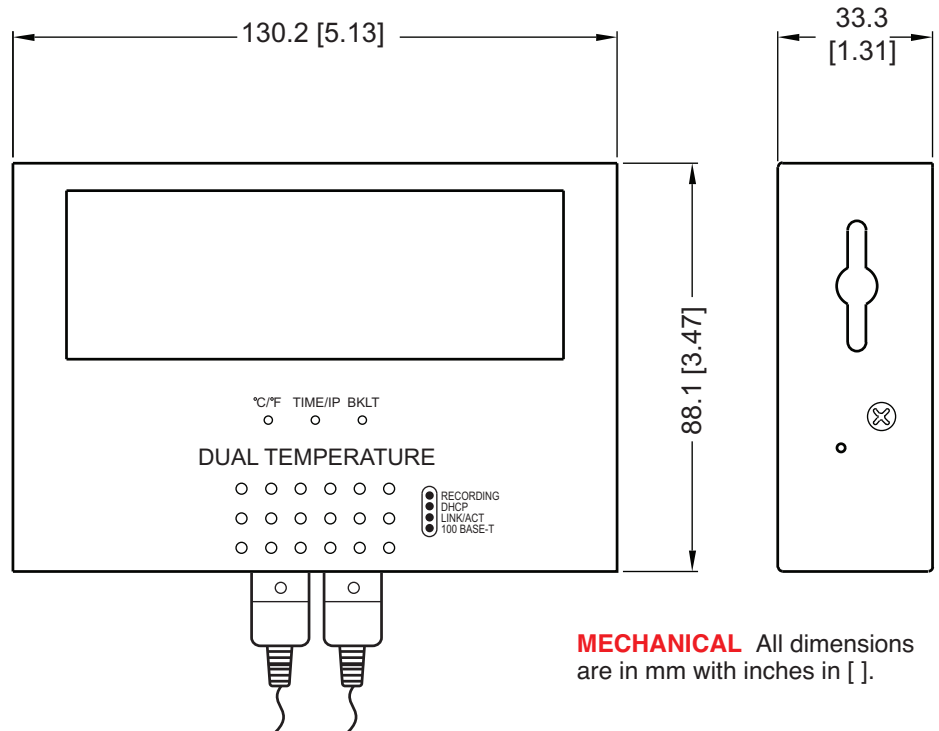
-40 to 85°C (-40 to 185°F)

**Weight:** 462 g (1.02 lbs), with battery

**Material:** SS 304 case with wall mount bracket

## Thermocouple Chart

|          | Input Type             | Range  | Accuracy                       |
|----------|------------------------|--|--------------------------------|
| <b>J</b> | Iron - Constantan      | -210 to 760°C / -346 to 1400°F                                     | 0.4°C / 0.7°F                  |
| <b>K</b> | CHROMEPA® - ALOMEGA®   | -260 to -160°C / -160 to 1372°C<br>-436 to -256°F / -256 to 2502°F | 1.0°C / 0.4°C<br>1.8°F / 0.7°F |
| <b>T</b> | Copper - Constantan    | -270 to -190°C / -190 to 400°C<br>-454 to -310°F / -310 to 752°F   | 1.0°C / 0.4°C<br>1.8°F / 0.7°F |
| <b>E</b> | CHROMEPA® - Constantan | -270 to -220°C / -220 to 1000°C<br>-454 to -364°F / -364 to 1832°F | 1.0°C / 0.4°C<br>1.8°F / 0.7°F |
| <b>R</b> | Pt / 13%Rh-Pt          | -50 to 40°C / 40 to 1768°C<br>-58 to 104°F / 104 to 3214°F         | 1.0°C / 0.5°C<br>1.8°F / 0.9°F |
| <b>S</b> | Pt / 10%Rh-Pt          | -50 to 100°C / 100 to 1768°C<br>-58 to 212°F / 212 to 3214°F       | 1.0°C / 0.5°C<br>1.8°F / 0.9°F |
| <b>B</b> | 30%Rh-Pt / 6%Rh-Pt     | 600 to 1820°C / 1112 to 3308°F                                     | 1.0°C / 1.8°F                  |
| <b>C</b> | 5%Re-W / 26%Re-W       | 0 to 2320°C / 32 to 4208°F   | 0.4°C / 0.7°F                  |
| <b>N</b> | Nicrosil - Nisil       | -250 to -100°C / -100 to 1300°C<br>-418 to -148°F / -148 to 2372°F | 1.0°C / 0.4°C<br>1.8°F / 0.7°F |
| <b>L</b> | J DIN                  | -200 to 900°C / -328 to 1652°F                                     | 0.4°C / 0.7°F                  |



**MECHANICAL** All dimensions are in mm with inches in [ ].

| Model No.     | Description   |
|---------------|---|
| <b>iSD-TC</b> | iSD monitor for dual thermocouple input, includes an LCD display, 2 GB SD flash memory card, 2 relay alarms, battery back-up, universal (100 to 240 ac) power adapter, and two Type K thermocouples |
| Accessories   |   |
| <b>CAL-3*</b> | NIST traceable calibration certificate. Three temperature points for each input (for new units). For * insert: <b>J, K, T, E, R, S, C, N</b> (add <b>-C</b> for Celsius)                            |

**Ordering Example:** For a NIST traceable calibrated **iSD-TC**, include the type of thermocouple you want the unit calibrated for: **iSD-TC** monitor for dual thermocouple input and **CAL-3J** calibration certificate.