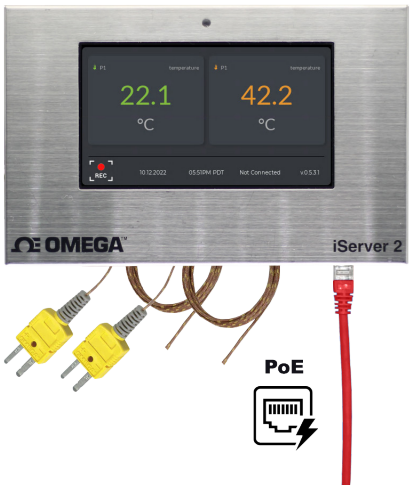
iServer 2 Series - Thermocouple

Virtual Chart Recorder and Webserver

- Intuitive built-in web server with live charting
- Internal data storage up to 11 GB
- Compatible with up to 2 thermocouples
- Front panel color display
- USB interface for easy local configuration and data extraction
- Compatible with the Omega Link Ecosystem



iServer 2: Introduction
The iServer 2 virtual chart recorder offers an intuitive way to collect and display live sensor readings through a web-based user interface or by integrating the device into an existing Omega Link Ecosystem.

The iS2-THB-DTC is packaged in a rugged, compact, stainless-steel housing designed for industrial applications and supports up to two thermocouple inputs.

Web UI and Live Charting
The iServer 2 web UI offers a myriad or configurable features to ensure the device operates at the preferred user preferences. Configurable features include selective data extraction, measurement and device traceability, local alarms, and adaptive transmission rates. Live charting provides real-time readings of probes attached to the iServer 2 unit.

Edge Control and Built in I/O
The iServer 2 features 2 configurable digital I/O and relay ports (Standard and Deluxe models only). These can be used for a myriad of applications including driving relays or physical alarms. The iServer 2 can also be utilized as an edge controller, with autonomous independent decision-making capabilities to generate local alarms or provide control outputs based on sensor inputs.

Omega Link Integration
Omega Link compatible devices, such as the iServer 2, can be added to an existing Omega Link Ecosystem to provide data anytime, anywhere, through the Omega Link Cloud.

Alarms and Notifications
A fully configurable alarm system is available in the web UI to create events and thresholds that will trigger a notification should those scenarios be met. A modern notification system allows users to be notified via email or text.

Easy Setup
The iServer 2 is simple to install and use, and features Omega's iServer technology that requires no special software except a web browser. The iServer 2 connects to an Ethernet Network with a standard RJ45 connector and uses TCP/IP or Modbus TCP protocols to communicate. It is easily configured with a simple menu using a web browser and is password protected. From within an Ethernet LAN, the user simply types the hostname or IP address in any web browser, and the iServer 2 provides a webpage with the current readings.

Power Over Ethernet
The iS2-THB-DTC variant of the iServer 2 offers a Power over Ethernet (PoE) feature that provides the device with sufficient power to operate when connected to a PC or router that supports Power over Ethernet.

Power Failure Alarm
The iServer 2 can trigger an alarm if the AC power fails. The iServer 2 will continue to collect data for 96-hours when powered by a standard 9 Volt alkaline backup battery (included). A failure on the Ethernet network will not interrupt data recording.

Note: A fully charged 9-volt battery will allow the iServer 2 to continue logging up to 10,000 data points for a period of 96 hours. When the 10,000 logged data points have been exceeded while running on the backup battery, the oldest logged data point on the Smart Probe will be overwritten starting from the oldest data point saved on the Smart Probe. A logging interval of at least 35 seconds or longer will prevent the overwriting of data during the 96-hour period the battery is in use.

iServer 2 Ordering Guide

Model Number	Model Name	Sensor	Screen	I/O	Power	Description
iS2-THB-DTC	iServer 2 - Deluxe Thermocouple	2x Thermocouples	4.3" LCD	Relay, DIO	AC to 12 VDC Adaptor; Power over Ethernet	iServer 2 - Deluxe Thermocouple virtual chart recorder and webserver with display and Power over Ethernet

Typical Applications

The iServer 2 is great for monitoring temperature in applications such as clean rooms, computer rooms, HVAC systems, hospitals, laboratories, semiconductor fabs, electronic assembly, warehousing, museums, manufacturing, farm animal shelters, greenhouses, pharmaceutical, food processing and storage, and many more.

Specifications

INTERFACES

Available input ports vary depending on the iServer 2 model

Ethernet (RJ45): 1x port (Power over Ethernet available on qualifying models)
Supported Protocols: TCP, UDP, SNMP, SNTP, ARP, ICMP, DNS, HTTP, and Telnet
Thermocouple: 2x ports
Digital I/O and Relays: Two contact inputs TTL 0.5 mA; one open collector output 150 mA @ 30 V DC
LED Indicators: 100 BASE-T, Network Link and Activity, Internet
Sample Rate: 1 sample per second max
Management: Device and probe configuration and monitoring through embedded WEB server
Embedded WEB Server: Embedded web pages containing real-time data and live updated gauge views and charts within definable time intervals.

MECHANICAL

Dimensions of Base Device: 101.6 mm L x 155.6 mm W x 330 mm H (4 in. L x 6.13 in. W x 12.99 in. H)
Material: Stainless Steel
Display: LCD 32 mm L x 93.5 mm W
Weight: 655 g (1.44 lbs.), including battery

POWER

Power Input: 9 to 12 V DC
Consumption: 4 W
AC Power Adapter (Included)
Nominal Output: 12 V DC @ 1.5 A
Power over Ethernet: IEEE 802.3AF, 44 V - 49 V, Power Consumption under 10 W
Input: 100 to 240 V AC, 50/60 Hz
Back-Up Battery: 9 V DC, alkaline. 96 hours at 5 seconds recording intervals and 1 second reading with two connected thermocouples

ENVIRONMENTAL

Operating Temperatures - iServer 2
iServer 2 Unit: 0 to 60°C (32 to 140°F)
Battery: -18 to 55°C (-0.4 to 131°F)
AC Power Adapter: 0 to 40°C (32 to 104°F)
Industrial Cable: -40 to 125°C (-40 to 257°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)

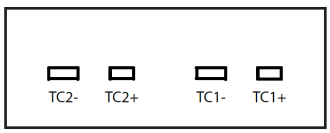
GENERAL

Configuration: Internal Web UI
Software: Access web server using any modern web browser such as Chrome, Edge, or Firefox on the same local network; Firmware upgrade from Internet; Export probe data log to CSV files
Agency Approvals: CE, UKCA, Canada ICES-3(B)/NMB-3(B), FCC (Part 15, Subpart B, Class B of the FCC rules)

Memory Capacity & Sample Rate
The sample rate table in the next column lists the lifespan of the internal storage before the 11 GB of storage is filled.

Sample Rate	2 Active Sensors
1 second (max)	4 years
5 seconds	24 years
10 seconds	40 years

Thermocouple Port



The iS2-THB-DTC features 2 thermocouple ports for thermocouple connectors.

SENSOR THERMOCOUPLE INPUT

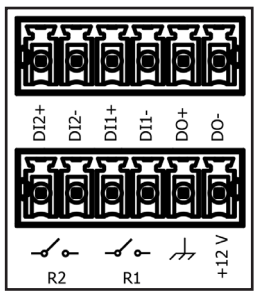
Temperature Range: Refer to the thermocouple chart below
Temperature Accuracy: Refer to the thermocouple chart below
Resolution: 1°/0.1°
Temperature Stability: 0.08°C/°C
Thermocouple Cold End Tracking: 0.05°C/°C
Thermocouple Lead Resistance: 100 Ω max
Thermocouple Type (ITS 90): J, K, T, E, R, S, B, C, N

Thermocouple Chart

Important: Thermocouple accuracy and range specifications are contingent on proper Cold Junction Compensation with the given thermocouple wire type.

Input Type		Range	Accuracy
J	Iron-Constantan	-200 to 760°C (-328 to 1400°F)	0.5°C (0.9°F)
K	CHROMEGA®-ALOMEGA®	-200 to -160°C (-328 to -256°F)	1.0°C (1.8°F)
		-160 to 1372°C (-256 to 2502°F)	0.5°C (0.9°F)
T	Copper-Constantan	-200 to -190°C (-328 to -310°F)	1.0°C (1.8°F)
		-190 to 400°C (-310 to 752°F)	0.5°C (0.9°F)
E	CHROMEGA®-Constantan	-200 to 1000°C (-328 to 1832°F)	0.5°C (0.9°F)
R	Pt/13%Rh-Pt	-50 to 40°C (-58 to 104°F)	1.0°C (1.8°F)
		40 to 1768°C (104 to 3214°F)	0.5°C (0.9°F)
S	Pt/10%Rh-Pt	-50 to 100°C (-58 to 212°F)	1.0°C (1.8°F)
		100 to 1768°C (212 to 3214°F)	0.5°C (0.9°F)
B	Pt/30%Rh - Pt/6%Rh	600 to 1820°C (1112 to 3308°F)	1.0°C (1.8°F)
C	W/5%Re - W/26%Re	0 to 2320°C (32 to 4208°F)	0.5°C (0.9°F)
N	OMEGALOY® Nicrosil-Nisil	-200 to -100°C (-418 to -148°F)	1.0°C (1.8°F)
		-100 to 1300°C (-148 to 2372°F)	0.5°C (0.9°F)

Digital I/O and Relays



The iS2-THB-DTC feature a digital I/O and relay terminal block.

The DI connections (DI2+, DI2-, DI1+, DI1-) accept a 5V (TTL) input. The DO connections (DO+, DO-) require an external voltage and can support up to 0.5 amp at 60 V_{DC}.

The relays (R2, R1) can support a load of up to 1 amp at 30 V_{DC}.