

iServer 2 Series - Smart Probe

Virtual Chart Recorder and Webserver

- Intuitive built-in web server with live charting
- Internal data storage up to 11 GB
- Modular compatibility with up to two Omega Link Smart Probes (PN#: M12-MT-079-2F required)
- Front panel color display (only on qualifying models)
- USB interface for easy local configuration and data extraction
- Compatible with the Omega Link Ecosystem

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 iServer 2 is packaged in a rugged, compact, stainless-steel housing designed for industrial applications and comes in variants that support different Omega Link Smart Probe types:

- iS2-THB-B
- iS2-THB-ST
- iS2-THB-DP

Web UI and Live Charting

The iServer 2 web UI offers a myriad of 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.

Alarm 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.



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.

Power Over Ethernet

The iS2-THB-DP variant of the iServer 2 both offer 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.

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.

Dual Probe Functionality

Dual probe functionality can be enabled on the iServer 2 when two Omega Link Smart Probes are connected to the iServer 2 using an Omega **M12-MT-079-2F** Y-splitter cable, sold separately. An iServer 2 firmware upgrade to the latest version is required to enable dual probe functionality. Refer to the full list of compatible Omega Link Smart Probes on the last page of this data sheet.

Power Failure

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 V 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.

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, SNT, ARP, ICMP, DNS, and HTTP

Omega Link Smart Probe: 1x M12 8-Pin port (PN#: M12-MT-079-2F cable is required for dual Smart Probe functionality, sold separately)

Digital I/O and Relays (Standard and Deluxe Models Only): Two contact inputs TTL 0.5 mA; one open collector output 150 mA @ 30 VDC

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) not including bracket and M12 connector

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 VDC

Consumption: 4 W

AC Power Adapter (Included) Nominal Output: 12 VDC @ 1.5 A

Power over Ethernet: IEEE 802.3AF, 44 V - 49 V, Power Consumption under 10 W

Input: 100 to 240 VAC, 50/60 Hz

Back-Up Battery: 9 VDC, alkaline. 96 hours at 5 seconds recording intervals and 1 second reading with two connected probes

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 table below lists the lifespan of the internal storage before the 11 GB of storage is filled. Some Smart Probes

come with more than one active sensor. These sensors can be individually enabled and disabled using Omega's SYNC configuration software.

Sample Rate	2 Active Sensors	4 Active Sensors
1 second (max)	4 years	2 years
5 seconds	24 years	12 years
10 seconds	40 years	20 years

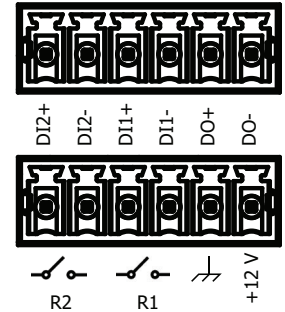
Digital I/O and Relays

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

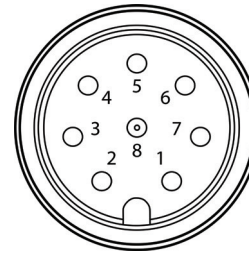
The DI connections (DI2+, DI2-, DI1+, DI1-) accept a 5V (TTL) input.

The DO connections (DO+, DO-) require an external voltage and can support up to 0.5 amp at 60 VDC.

The relays (R2, R1) can support a load of up to 1 amp at 30 VDC.



M12 8-Pin Smart Probe Wiring



Pin No.	Description
Pin 1	I2C-2_SCL
Pin 2	Interrupt Signal
Pin 3	I2C-1_SCL
Pin 4	I2C-1_SDA
Pin 5	Shield Ground
Pin 6	I2C-2_SDA
Pin 7	Power Ground
Pin 8	Power Supply

The iS2-THB-B, iS2-THB-ST, and iS2-THB-DP feature an M12 8-Pin Smart Probe Port.

SP-003-1 Probe Accuracy Specifications

(Included with iServer 2 M12 Smart Probe variants)

Temperature

Range: -40 to 85 °C (-40 to 185 °F)

Accuracy at 25 °C: ± 0.3 °C (±0.6 °F)

Response Time: Less than 1 second

Temperature Coefficient: Less than 0.01 C/C

Repeatability: ±0.15 °C

Relative Humidity

Accuracy at 25 °C: ±2.5 % (0 to 80 %) non-condensing

Hysteresis: ±0.8 %

Response Time: 8 seconds

Barometric Pressure

Accuracy Over Full Range: ±6 mbar from 300 to 1100 mbar

Accuracy @ 25 °C: ±4 mbar from 700 to 1100 mbar

iServer 2 Ordering Guide

Model No.	Model Name	Sensor	Screen	I/O	Power	Description
iS2-THB-B	iServer 2 - Basic	M12 Smart Probe	No Display	No Relay, No DIO	AC to 12 V DC Adaptor	iServer 2 - Basic virtual chart recorder and webserver, no display
iS2-THB-ST	iServer 2 - Standard	M12 Smart Probe	4.3" LCD	Relay, DIO	AC to 12 V DC Adaptor	iServer 2 - Standard virtual chart recorder and webserver with display
iS2-THB-DP	iServer 2 - Deluxe Probe	M12 Smart Probe	4.3" LCD	Relay DIO	AC to 12 V DC Adaptor; PoE	iServer 2 - Deluxe Probe virtual chart recorder and webserver with display and Power over Ethernet

This product is for sale only in the US, Canada, the UK and EU member countries. At this time, the Product does not meet regulatory compliance requirements outside of the aforementioned regions.

Omega Link Smart Probes

Compatible Omega Link Smart Probes are integrated with an advanced suite of IIoT Smart Core features. These features enable plug and play connectivity, alarms and notifications, data assurance, data logging, and storage. A full list of compatible Omega Link Smart Probes can be found on the Omega website.

Model Number	Description
SP-003 Series	Temperature, Humidity, Barometric Pressure, Dewpoint, Humidex, and Heat Index Smart Probe - Tube Housing
SP-004 Series	Temperature, Humidity, Dewpoint, Humidex, and Heat Index - Tube housing or Bulkhead housing, 5" variant also available
SP-005 Series	Temperature and RTD Smart Probe
SP-006 Series	Pressure Monitoring Smart Probe
SP-010 Series	Load Cell Smart Probe
SP-014 Series	Process Monitoring Smart Probe
SP-016 Series	Heat Flux Smart Probe

Important Note: The use of additional Omega Link Smart Probe will require a firmware update of the Smart Probe. The iServer 2 web interface is capable of downloading and updating the firmware of any Smart Probe that is compatible with the iServer 2.

CAL-3 SKU's

CAL-3 is available for iServer 2 M12 Models for temperature and humidity only by ordering the SKU's below. For Barometric Pressure or additional calibration requirements, please contact Omega.

- iS2-THB-B-CAL-3
- iS2-THB-ST-CAL-3
- iS2-THB-DP-CAL-3

Accessories Ordering Guide

Model Number	Description
M12-MT-079-2F	M12-8 connector Y-splitter cable for iServer 2 dual smart probe functionality
DM12CAB-8-1-RA	1 m (3.3') cable dual M12-8 connector, right angle terminator
DM12CAB-8-3-RA	3 m (9.8') cable dual M12-8 connector, right angle terminator
DM12CAB-8-5-RA	5 m (16.4') cable dual M12-8 connector, right angle terminator
DM12CAB-8-1	1 m (3.3') cable dual M12-8 straight connector
DM12CAB-8-3	3 m (9.8') cable dual M12-8 straight connector
DM12CAB-8-5	5 m (16.4') cable dual M12-8 straight connector

