



# TT-EIS-2B

## SIM-to-Web Interface

### Installation/Operation Instructions

#### General Information

Please read these instructions and keep them in a safe place. These instructions must be followed carefully to ensure proper operation.

The TT-iServer has been designed for use with TraceTek Sensor Interface Modules (SIM) and an optional TraceTek TTDM Alarm Panel. The TT-iServer allows up to 8 SIM units to be monitored via a LAN connection and a standard web browser. The TT-iServer is a micro web page server that displays the current status of TraceTek leak detection cables being monitored by the SIM units. Each SIM unit can monitor any variety of TraceTek sensor cable, probes or accessories. The TT-iServer continuously scans the connected SIM units and presents a one page summary of essential current information to any web browser that makes the appropriate request. This capability allows users to ascertain the status of their TraceTek leak detection systems through LAN systems within a facility and even through WAN or the world wide web if the appropriate LAN segment can be accessed from external computers. (e.g. with VPN).

The user has the option of installing a standard TraceTek TTDM Alarm Panel if a local alarm and status panel in addition to web based monitoring is desired.

TT-iServer is DIN rail mounted and requires nominal 24 VDC and a connection to the local LAN. It is design for indoor use or in an enclosure appropriate to its operating environment



#### Installation Items (not supplied)

- 35 mm Din Rail Mounting Strip
- Standard LAN Cable with RJ-45 Connectors
- Hook-up wire
- 24 VDC Power Supply

#### Tools required

- Small flat blade screwdriver
- Tool to mount DIN Rail

#### Storage

Keep the TT-iServer in its original package until ready to install. Store in dry location

#### Product Information:

|                          |  |
|--------------------------|--|
| <b>Supply Voltage</b>    | 10 – 32 VDC 2 Watts  |
| <b>Temperature</b>       | Operating: 0 to 50 C ( 32 to 120 F) Storage: -40 to 125 C (-40 to 257 F)         |
| <b>Enclosure</b>         | Plastic case, DIN Rail Mount 90.2 H x 25.1 W x 115 D mm ( 3.54 x 0.99 x 4.53 in) |
| <b>Weight</b>            | 113 gr. (0.25 lb)  |
| <b>Connections</b>       | RJ45 LAN, terminal blocks for RS-485 twisted pair                                |
| <b>Indicators</b>        | LEDs: Network Activity (red), Network Link (green), Tx (yellow), Rx (green)      |
| <b>Network Interface</b> | Ethernet 10 Base T   |
| <b>Network Protocol</b>  | HTTP,DHCP  |
| <b>Modbus Interface</b>  | 9600 Baud, N-8-1, RS-485   |

#### Approval and Certifications



FCC-B

Process Control Equipment  
76NK

### Installing the TT-iServer

Note: To avoid damage to the TT-iServer, store the unit in its packaging until ready to install.

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#### Select the mounting location:

Choose a location where the module is physically protected from the elements, temperature extremes or vibration. A connection to the local LAN should be nearby. The maximum distance between the iServer and the LAN router should be limited to 100 meters (328 feet). Connections to the SIM units to be monitored will be made with a twisted pair copper wire network. The maximum length of the twisted pair is 1200 meters or about 4000 feet.

The TT-iServer requires a 24 VDC power source and this can typically be provided by a small power supply unit mounted on the same DIN rail. Mains power (120/230 vac) is required for the power supply. Often the power supply, TT-iServer and SIM units will be co-located in the same cabinet or on the same DIN rail.

**Important:** The TT-iServer is an electronic unit.

- Take the following precautions to avoid damage to the electronic components:
- Handle with care, avoid shock and impact
- Keep dry
- Avoid exposure to static electricity by touching a nearby piece of grounded equipment or water pipe prior to handling the TT-iServer
- Avoid contact with metal filings, grease, pipe dope and other contaminants

#### Mounting the TT-iServer

- Secure a sufficient length of DIN rail to the desired mounting surface or locate existing DIN rail with sufficient space to install the TT-iServer
- Remove the TT-iServer from its packaging and snap onto the DIN rail
- Note: When properly oriented, the orange power connection terminal block will be to the bottom



**Power Supply Connections**

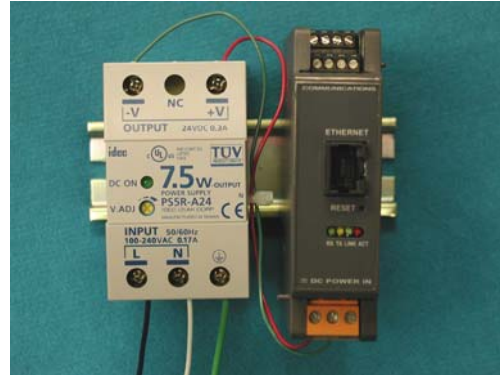
TT-iServer requires 24 VDC (acceptable range is 10 to 32 VDC). The load is 2 watts. There are many sources of small DIN rail mounted power supplies with suitable output voltage and power. (The example show here is PS5R-A24 from B and B Electronics [www.bb-elec.com](http://www.bb-elec.com) )

Connect the DC output of the power supply to the orange power input terminal block of the TT-iServer with two lengths of hook-up wire. Connect the positive output terminal to the positive input terminal and the negative output terminal to the negative input terminal.

Note: The orange terminal block can be pulled away from the TT-iServer to make wiring easier

Connect the power supply input to a suitable source of mains power ( 100 VAC to 240 VAC 50/60 Hz for the example power supply shown)

**Caution:** Disconnect the power source at the circuit breaker prior to making the mains wire connections.



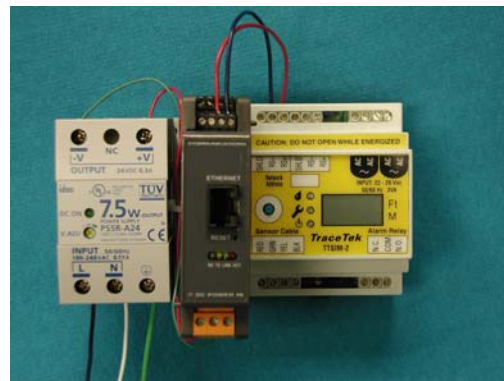
**RS-485 Network Connections to TT-SIM units**

Wiring between the TT-iServer and the SIM units is made with a shielded, twisted pair of copper wires. The wire gauge should be between 18 AWG and 22 AWG.

| Connections at the TT-iServer                     | Connection at the SIM unit(s) |
|---|-------------------------------|
| Pin 3 of black terminal block                     | RS +                          |
| Pin 4 of black terminal block                     | RS -                          |
| Pin 2 of black terminal block (shield drain wire) | SHLD                          |

Notes:

1. Each SIM unit needs to have a unique RS-485 network address. Use TT-Talk program or TTDMM to assign network addresses, or arrange with the TraceTek distributor to pre-address the SIM units prior to installation.
2. The black terminal blocks can be removed from the TT-iServer to facilitate wiring.
3. Each SIM unit has two sets of RS-485 connections terminals. They allow the RS-485 wiring to be "daisy-chained" from one SIM unit to the next. There is no preferred in-bound or out-bound connection sequence. The two sets of terminals are provided to make wiring easier.
4. The last SIM unit should be commissioned with the End-of-Line (EOL) installed to improve network performance. (See individual SIM installation instructions)
5. If necessary a 120 ohm resistor can be connected across terminals 3 and 4 of the TT-iServer to further improve network performance
6. The maximum number of SIM units that can be monitored by the TT-iServer is 8



**Optional alternate configuration when a TTDM-128 is required**

In some installations it is desirable to have a local Alarm Panel in addition to web based monitoring.

The TT-iServer works in conjunction with TTDM-128 and a maximum of 8 external SIMs to provide a combination of web based monitoring and local display of sensor status, leak locations, event history, etc.

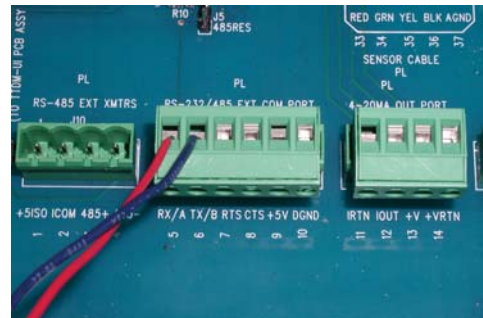
**Complete a normal installation for TTDM-128 and TT-SIM units**

See the following (available at [www.tracetek.com](http://www.tracetek.com)):

1. TTDM-128 Alarm and Locating Module Installation Instructions
2. TTA-SIM Alarm Module Installation Instructions
3. TTSIM-1A Sensor Interface Module Installation/Operation Instructions
4. TTSIM-2 Sensor Interface Module Installation/Operation Instructions

**Connecting the TT-iServer to TTDM-128**

| Connections at the TT-iServer                     | Connection at the TTDM -128 |
|---|-----------------------------|
| Pin 3 of black terminal block                     | J 13 RX/A                   |
| Pin 4 of black terminal block                     | J 13 TX/B                   |
| Pin 2 of black terminal block (shield drain wire) | No Connection               |



**TTDM-128 Set-up (from the front panel):**

1. Press Menu
2. Use down arrow to select TTDM Network (Enter)
3. Use down arrow to select TTDM (Enter)
4. Use arrows to enter password 04000 (Enter)
5. Select iServer (Enter)
6. Press Menu to return to normal monitoring

**Limitations:**

- TT-iServer can only monitor external SIM units. It is not possible to monitor the internal SI card installed inside the TTDM
- Although the TTDM can monitor up to 128 external SIM units, only 8 of the SIMs can be monitored by the TT-iServer.

### Connecting the TraceTek iServer to the LAN

The TT- iServer is a micro web server. Like every computer device connected to the enterprise LAN, it needs to be uniquely identified. Once physically connected and uniquely addressed the TT- iServer has the capability to send a web page to any browser (e.g. Internet Explorer) But, it must have an its own address so that a user can point his browser to the appropriate web page name (URL).

The following procedure is a guideline that will work well for most users with a corporate LAN environment.

*[Note: Local IT managers should always be consulted before connecting any server to a LAN and in many cases local policy may override these guidelines.]*

1. Remove the orange terminal block to remove all power from the TT-iServer
2. Dynamic addressing (DHCP) is the easiest method to connect the TraceTek iServer to a LAN. In order to use the DHCP capability of the iServer, locate the small block of DIP switches on the side of the TraceTek iServer and **position switch #3 DHCP to ON**. (The LAN must be configured to support DHCP for this procedure to work. )
3. Make a note of the **MAC address** for this particular iServer. It will have the form 00:03:34:00:38:C3 It is a unique physical address, distinct for each iServer.
4. Using a standard RJ-45 connection cable, make the connection from the iServer to the LAN.
5. Apply power to the TT-iServer by re-inserting the orange power connection terminal block.
6. When the iServer is connected to the LAN and first energized, it will automatically request an IP address from the LAN's DHCP server. It will also announce its name to the DHCP server using the letters "eis" and the last four digits of its MAC address. For instance if the MAC address of the iServer is 00:03:34:00:38:C3, the initial name for the iServer will be "**eis38C3**"
7. Check the set-up with any browser connected to the same LAN. Enter <http://eis38C3> (using the last four digits of your MAC address) in the URL. If you see the TraceTek iServer page, you have successfully connected the iServer to your LAN. Go on to [Configuring the TT-iServer Main Page](#).
8. If the browser cannot find the TraceTek iServer, the most likely cause is that the local LAN does not support DHCP or the DHCP server is not configured to publish device names. See Appendix 1 for a note to the IT representative.
9. If the DHCP method fails entirely, there is an alternate procedure to assign a **static IP address** to the iServer. The procedure will require more coordination with the IT department. DHCP is preferable and convenient. Static IP addressing is a back-up procedure. See Appendix 2 for details



**DIP Switch Block**

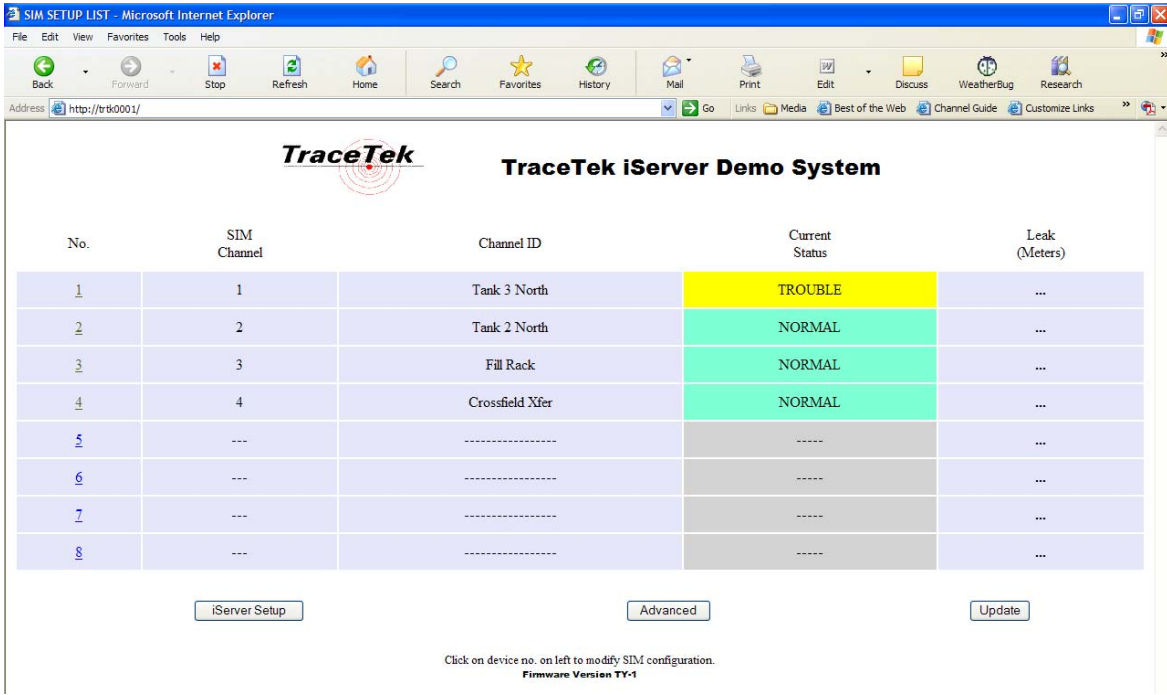


**MAC Address**

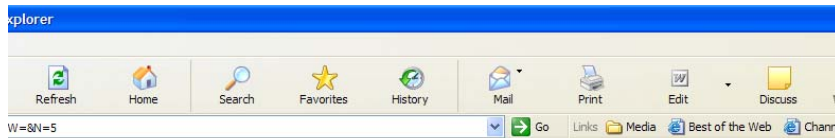
**Configuring the TT-iServer Web Page**

After completing the physical connections between the SIMs and TT-iServer and after successfully establishing the TT-iServer on the local LAN, the primary web page can be configured:

1. Select a blank row on the main iServer page and click the row number in the left column
2. The server links to a page that allows you to enter the SIM channel number and a tag or "SIM name" for that particular SIM address.
3. You may enter a name or "tag" for this SIM channel up to 24 characters
4. Click Update after completing the entry



Main Page



**TraceTek CHANNEL SETUP**

Device No. 5

SIM Channel

Channel ID

[Main Menu](#)

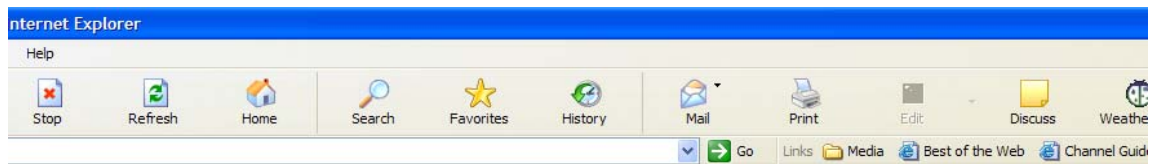
Channel Set-up Page

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### TT-iServer Set-up Page

The TT-iServer contains several additional fields that most users will wish to customize for their installation

1. From the main page select iServer Setup
2. When requested enter the default password: **12345678**
3. The first thing to change is the TT-iServer's web name. You can replace the default name (e.g eis38C3) with something that makes more sense for your installation. In the example below, the name assigned was **TRTK0001**. The limit is eight characters. This is the name that users will enter into their browser to check the TraceTek system in the future. (e.g. <http://TRTK0001> )
4. You can also enter a title for the facility and select between feet or meters for leak location display.
5. Before you exit the page, note the IP address that has been assigned to the iServer by the DHCP server.
6. To exit this page, press Save then Power Recycle. The iServer will be commanded to store all the changes in its onboard memory, and then perform a power cycle re-boot. Should there be a problem with the URL name that you assigned to the iServer, you can always find it again using the IP address format (e.g. <http://10.133.30.217>)



## CONFIGURATION

Unit of Distance, Change to:

Baud Rate

Polling  sec per Channel

Location Title

### Network Settings

Login Password

Host Name

MAC Address

IP Address

Gateway Address

Subnet Mask

[Main Menu](#)