Tactical Intelligence Gateway Datasheet

General Description

The Tactical Intelligence Gateway© (TiG) is a compact gateway that serves as a conduit for collecting and transferring sensor data from wireless and wired data loggers to the on-line monitoring and reporting *Analytics* system.

The TiG software engine runs on a Linux platform making it more robust and efficient than the Windows based Building Intelligence Gateway (BiG) system. The compact and headless platform allows for easy and practical deployments of multiple gateways in a single monitoring application.

For applications where a user interface and more advanced services are required, the BiG system may be more suitable.

Applications

Building Science Research

Field Applications/Research
- Long term structure monitoring
- Targeted repair monitoring
- Restoration Monitoring

Roof Monitoring
- Automated leak detection

Features

- Compact headless design
- Integrated 802.15.4 Wireless Interface (I3)
- Linux OS allows for better security and less error prone than Windows based systems.
- Rugged and portable. Suitable for outdoor applications.
- Removable solid state MicroSD storage.
- Wired 10/100 Mbit Ethernet
- WiFi 802.11n wireless connectivity.
- Supports CanKey interface used for CAN based wired networks.
- Multithreaded communication permits communication to large sensor networks. Dedicated data collection system makes it significantly faster and more reliable than the Windows BiG system.
- Real time clock (RTC) with built in battery backup.

Ordering Information

Standard Gateway	TiG-001
Gateway with integrated 802.15.4 USB Interface (I3)	TiG-001-I3
Accessories	
5V Power Supply	TiG-PWR

Specifications are subject to change without notice

SMT Research Ltd. – 103-1089 East Kent Ave N, Vancouver, BC V5X 4V9 – Tel: 778.373.2070 – Fax: 204.474.7453
Website: www.smtresearch.ca Email: info@smtresearch.ca RS-1131 Rev D

Structure Monitoring Technology

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Hardware Specifications

Operating System	Linux Debian
Memory	1GB
Storage	MicroSD 16GB/32GB
Local Input	Power/WiFi/Sync Buttons
Processor	ARM 4-Core 1.2 GHz
User Connectivity	10/100Base-T Ethernet 2.4 GHz 802.11n wireless
Expansion	3 USB 2.0 ports
Sensor Connectivity	Integrated 802.15.4 (I3) External CAN 2.0
Max Distance from coordinator node	Wireless 30m (IEEE 802.15.4) Wired 300m (CAN)
Power	MicroUSB 5V 2A
Dimensions	85mm x 56mm x 17mm
Weight	1 kg (2.2 lb)

Environmental

Operating and Storage Temperature	-40C° to 85°C
Humidity	5% to 95% RH non-condensing
Electrostatic Discharge (ESD)	8kVdc air, 4 kVDC contact (exposed inputs)

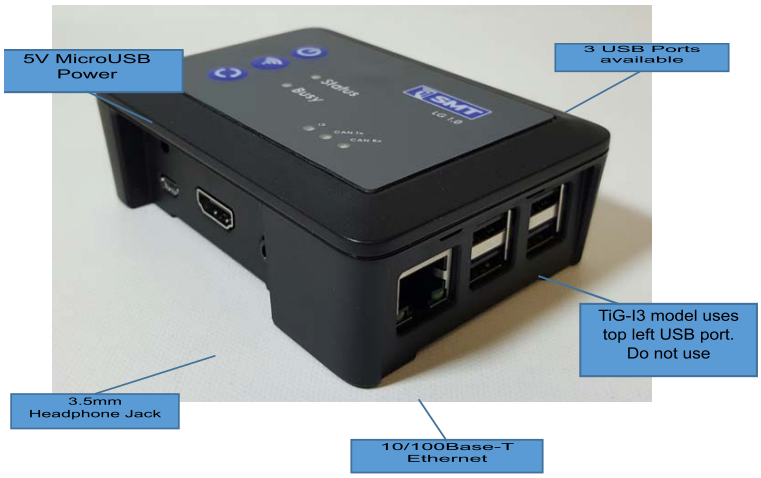
Regulatory

FCC Compliance	FCC Part 15 Class A
Industry Canada Emissions Compliance	Class A Digital Apparatus complies with ICES-003
Safety Requirements	This product shall only be connected to a external power supply rated at 5V with a maximum current of 2A
Wireless Radio Compliance	• Contains FCC ID: W7OMRF24J40MDME • Contains IC: 7693A-24J40MDME
RPI3 FCC ID	2ABCB-RPI32

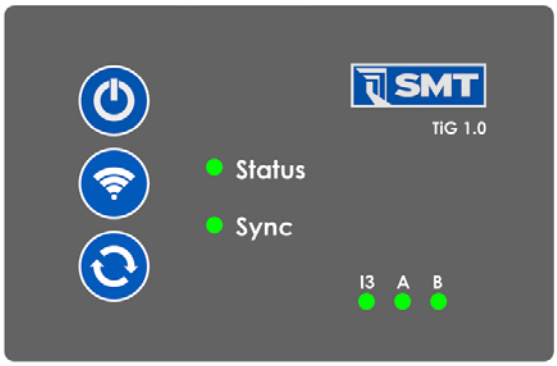
TiG Configuration

- TiG systems are pre-configured to report to a specific Analytics project and job.
- Consult an SMT Technician if either of these need to be changed.

Ethernet and USB Ports



User Interface



Turn ON/OFF TiG. Ensure Sync light is OFF before removing power

Speak local IP address through headphone jack

Synchronize data with Analytics

LED States

Status	Software Inactive	All Systems Active	Internet Inactive
	Software Inactive, Internet Active		
Sync	Sync Failed	Sync OK	Inactive

I3 LED blinks when I3 is active.

A, B LEDs for future use

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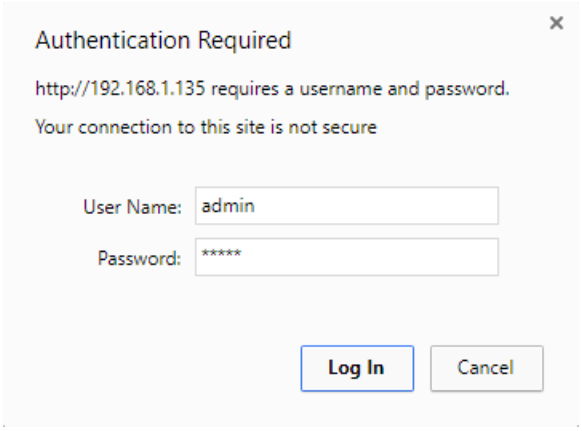
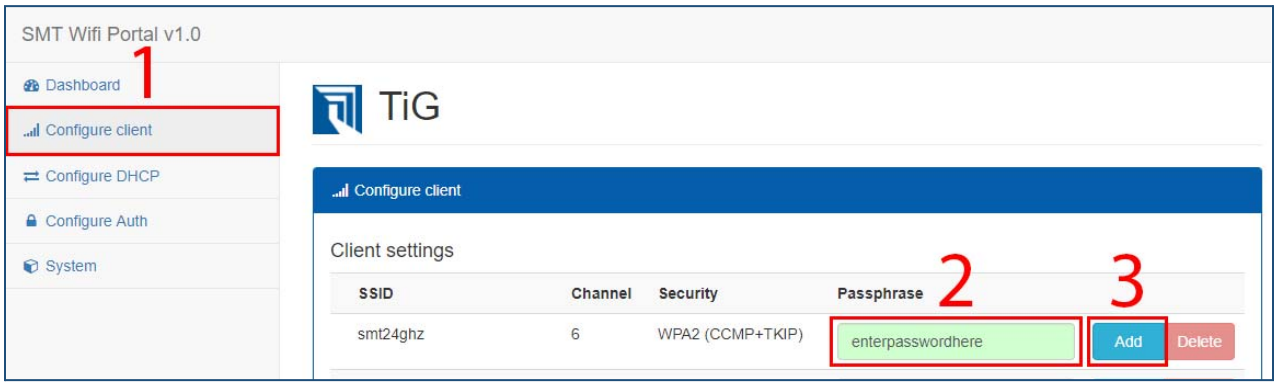
Getting the TiG's IP Address

1. **Through your device's hotspot**
    a. each TiG has SMT's Wifi network saved (contact SMT for credentials)
    b. Create a hotspot on your device
    c. power-cycle the TiG and monitor list of connected devices on your device's hotspot
    d. get the IP address from this list
2. **Router page**
    a. Connect the TiG to your network via ethernet cable and find the IP address from the list of connected devices.
3. **3.5mm audio jack**
    a. insert 3.5mm earphones into the audio jack and press the "Wifi" button.
4. Identify the IP address of the TiG by plugging in an audio device into the 3.5mm headphone jack, pressing the WiFi button ( ), and listening for the readout.
5. Type this IP address into a browser on a device on the same network to access the WiFi Portal.
6. Enter the login information when prompted. The defaults are:
   Username: admin
   Password: admin
   (This can be changed later in 'Configure Auth')

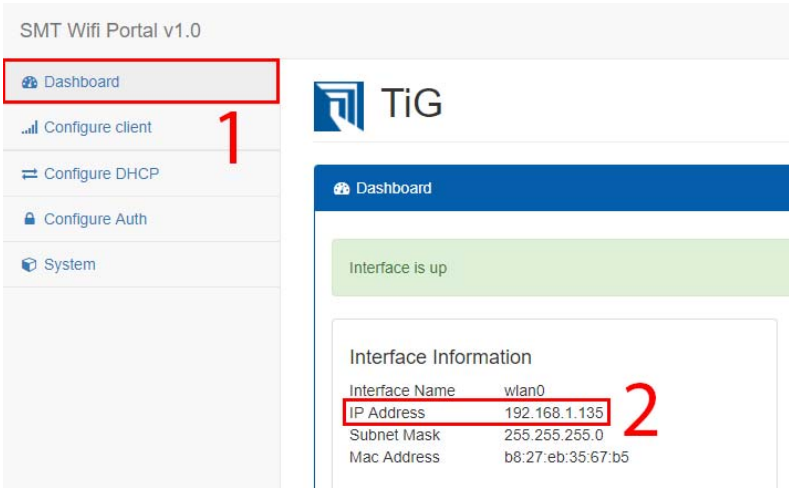


Connecting to an on-site Wifi network

1. Navigate to the ‘Configure client’ page. Enter the password for your desired Wifi network and click add.



2. At this point, you may be disconnected from the TiG. This is working as intended as this signifies that the TiG has switched over to a different network.
3. Switch your device over to the same Wifi network as the TiG. Navigate to the ‘Dashboard’ page. If your WiFi logon is correct, you will see an IP address here. This will be your new address once you switch to wireless.
4. Unplug the ethernet cable and the TiG should switch to WiFi automatically. To access the WiFi portal again, enter the new IP address. If you ever forget it, repeat Step 2.



Verifying TiG internet

The middle button Wifi button can be used to verify that the TiG has a valid internet connection. Once the button is pressed:

1. The “Sync” LED will light up red for a moment
2. After a few seconds, the “Status” LED will light up green if internet access is available.

PAN/Timer Setup

1. Navigate to the ‘Configure devices’ page.
2. The number of physically connected devices to the TiG will be shown here.
3. To change the PAN or timer, enter the desired PAN or timer and click the corresponding button. (This will change all the connected devices to the value entered)