



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

**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	-40°C 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	<ul style="list-style-type: none">• Contains FCC ID: W70MRF24J40MDME• Contains IC: 7693A-24J40MDME
RPI3 FCC ID	2ABCB-RPI32

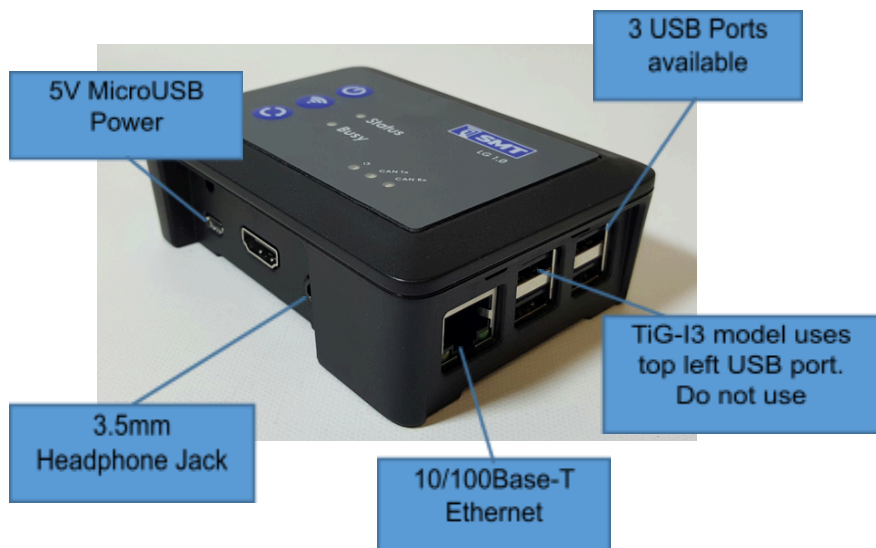
Approval

CSA/UL, IC & FCC Standards	'ICES-003 Issue 7' and 'CFR Title 47 FCC Part 15' Tested by QAI Labs: E11349 Conforms to CSA22.2 No.62368-1 and UL 62368-1
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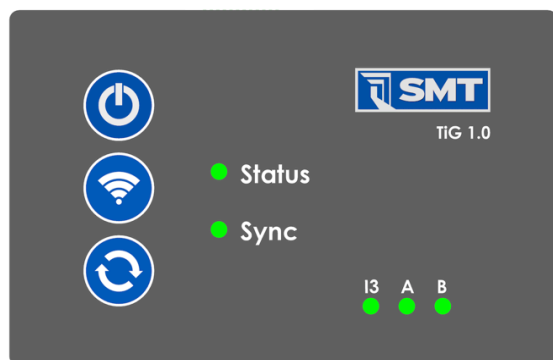
TiG Configuration

- 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



Press to restart TiG
Hold 3 seconds to shutdown TiG



Press to update Status and B LEDs
Hold 3 seconds to output local IP address through headphone jack



Press to synchronize data with Analytics

LED States

Sync

- (Blinking) TiG is currently syncing to Analytics
- The last sync to Analytics was successful
- The last sync to Analytics failed

Status

- TiG is connected to internet
- TiG is not connected to internet

I3

- (Blinking) I3 is active
- (Off) I3 is inactive / not integrated on TiG


A

- (Blinking) Data is being received and saved on the TiG
- (Off) No data is being received

B

- Software is running
- (Off) Software is not running

Get the IP Address (Existing Network)

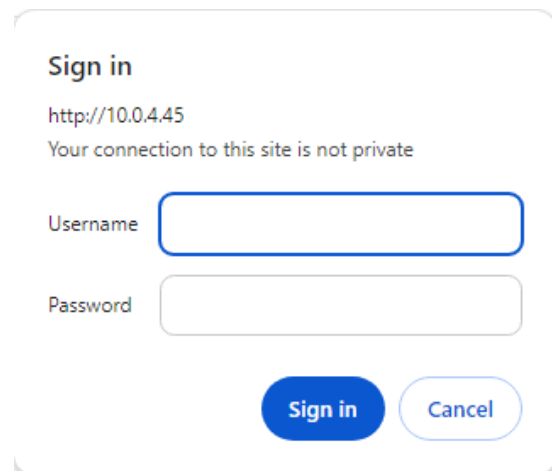
1. Connect the TiG to your network via ethernet cable.
2. Identify the IP address of the TiG by:
 - accessing your network's router page and find the IP on the list of connected devices.
 - plugging in an audio device into the 3.5mm headphone jack, pressing and holding the WiFi button  for 3 seconds, and listening to the readout.

Get the IP Address (Hotspot)

1. Create a hotspot with the SSID and password of the SMT office WiFi. (Contact SMT for this information)
2. The TiG will automatically connect to this hotspot.
3. The IP can be found in your device's list of connected devices, or by using the audio jack as described in the first method.

WiFi Setup

1. Type this IP address into a browser on a device on the same network to access the WiFi Portal.
2. Enter the login information when prompted. The defaults are:
Username: admin
Password: admin
(This can be changed later in 'Authentication')
3. Navigate to the WiFi Client' page. Enter the password for your network and click 'Add'
4. Navigate to the 'Networking' page. If your WiFi login is correct, you will see an IP address here next to 'wlan0'. This will be your new address once you switch to wireless.
5. 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 the first method of getting the IP address.



Sign in

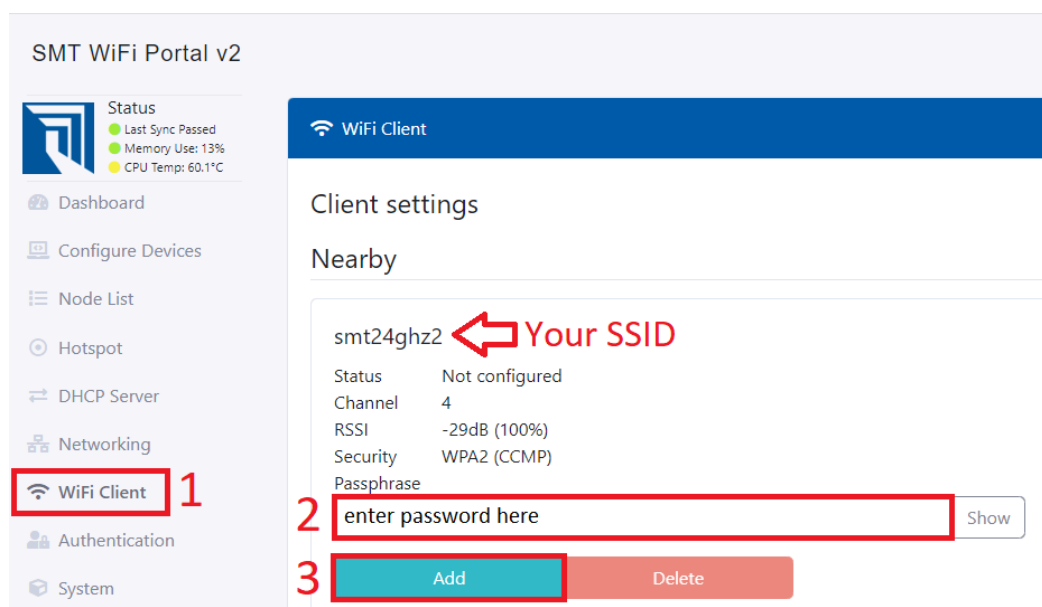
http://10.0.4.45

Your connection to this site is not private

Username

Password

Sign in **Cancel**



SMT WiFi Portal v2

Status

- Last Sync Passed
- Memory Used: 13%
- CPU Temp: 60.1°C

Dashboard

- Configure Devices
- Node List
- Hotspot
- DHCP Server
- Networking
- WiFi Client** **1**
- Authentication
- System

WiFi Client

Client settings

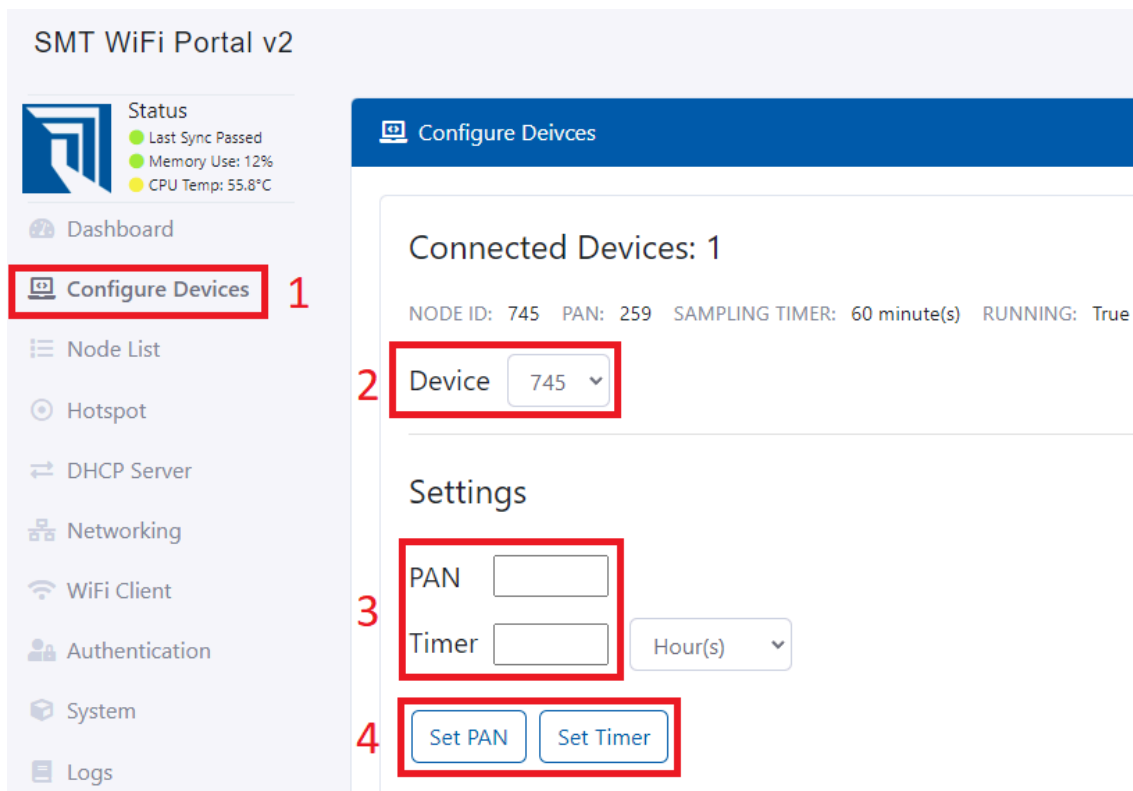
Nearby

smt24ghz2	← Your SSID
Status	Not configured
Channel	4
RSSI	-29dB (100%)
Security	WPA2 (CCMP)
Passphrase	<input type="password" value="enter password here"/> 2 Show
Add 3	Delete

PAN/Timer Setup

1. Navigate to the 'Configure Devices' page.
The number of physically connected devices to the TiG will be shown here.
2. To change the PAN or timer for a device, select the device from the drop-down menu. Then, enter the desired PAN or timer and click the corresponding button.

The page will refresh and the device information should be updated. If it is not updated, try refreshing the page again.



SMT WiFi Portal v2

Status
● Last Sync Passed
● Memory Use: 12%
● CPU Temp: 55.8°C

Dashboard

Configure Devices 1

Node List

Hotspot

DHCP Server

Networking

WiFi Client

Authentication

System

Logs

Configure Devices

Connected Devices: 1

NODE ID: 745 PAN: 259 SAMPLING TIMER: 60 minute(s) RUNNING: True

2 Device 745

Settings

3 PAN

Timer Hour(s)

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