HVC-50x Communications Node Installation Guide

Freestyle TECHNOLOGY

Revision 130719
July 2013

www.freestyletechnology.com.au

This document is subject to change without notice.

Disclaimer

Documentation is provided “AS IS” and all express or implied conditions, representations, and warranties, including any implied warranty of merchantability, fitness for a particular purpose or non-infringement, are disclaimed, except to the extent that such disclaimers are held to be legally invalid.

Trademarks

All products, company, brand names are trademarks or registered trademarks of their respective companies. They are used for identification purpose only.

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Non-modification Statement:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body

CE Declaration of Conformity

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022/A1 Class B.

NCC Warning

第十二條:經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率，加大功率或變更原設計之特性及功能。

第十四條: 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Contents

Introduction 4
Components 4
Block Diagram 5
Connectors 5
Indicators 6
General Specification 6
Installation and Commissioning 7

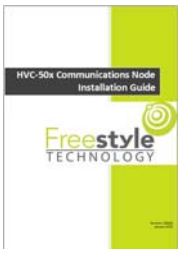
Introduction

The Freestyle HVC-50x Communication Node performs the role of a gateway between devices such as utility meters and the Freestyle M2M Switch. This enables operators to monitor, configure, and control their remote devices and integrate distributed intelligence in their operations utilising applications.

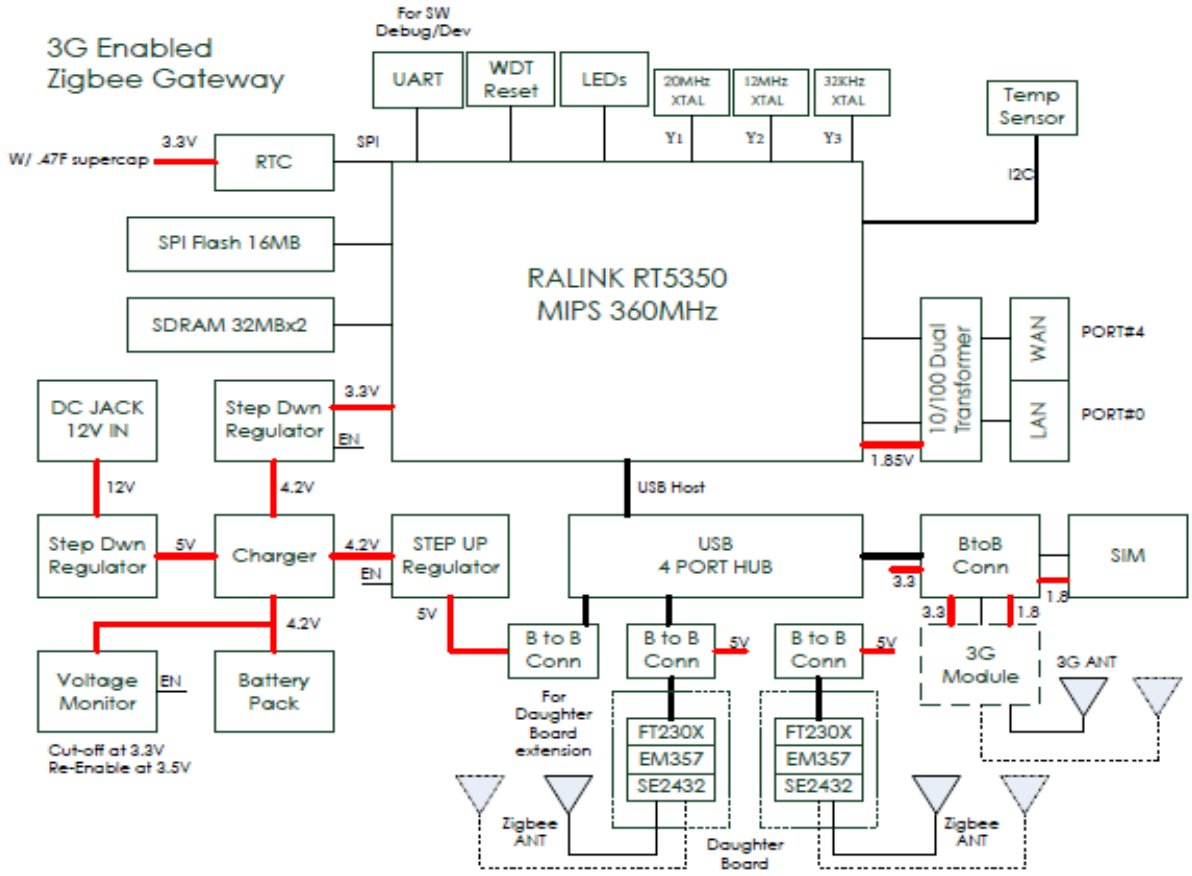
Wide area communications networks including third generation (3G) wireless and Ethernet provide access to the Communication Nodes which then communicates to multiple devices via ZigBee local area interfaces.

Components

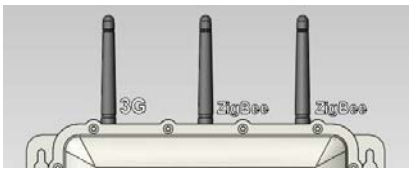
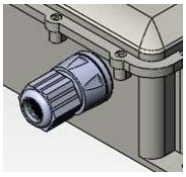
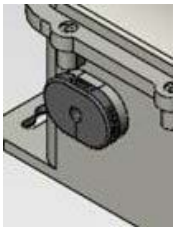
The HVC-50x Communication Node package consists of the following:

	Power Supply IP67 Rated 12VDC 1.34A Output Dimensions: 148x40x32mm
	Communications Node
	Manual

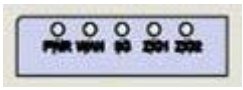
Block Diagram



Connectors

	Antenna Placement
	WAN Connector IP67 Rated RJ45 Ethernet
	Power Supply Input IP67 Rated

Indicators

	Power – indicates power applied WAN – wide area network active 3G – wireless wide area network active ZigBee 1 – local area network 1 active ZigBee 2 – local area network 2 active

General Specification

Memory
- Flash 16MB
- DRAM 64MB

CPU
- RALINK RT5350

On Board Temperature Sensor
IPv6 Capability
Optional – Integrated Battery
Embedded Linux
Environmental
- IP67 Rated Enclosure
- IP67 Rated Power Supply
- Operating Temperature Range -5 to +55 Degrees Celsius at up to 70% Humidity

Wide Area Networks
- 10/100 Ethernet Connection IP67 RJ45
- 3G HSPA+ Module

Local Area Networks
- Qty 1 (HVC-501) Ember EM357 ZigBee Interface
- Qty 2 (HVC-502) Ember EM357 ZigBee Interface
- Output Power +20dBm Max
- Frequency Band 2.405 to 2.480GHz, 16 channels 5MHz wide

Input Power +12VDC

Installation and Commissioning

Installation of the HVC-50x Communication Nodes consists of mounting the power supply and HVC-50x enclosure within range of both the local and wide area networks. The mounting of the HVC-50x is by the flanges on the base of the enclosure using fixings suitable for the installation location.

Care should be taken to ensure the antennas are well clear of metallic objects that can shield the Communications Node from either the devices ZigBee local area network or the 3G Wireless wide area network.

The HVC-50x should only be installed by suitably qualified personnel.

Commissioning consists of applying power to the HVC-50x Communications Node and ensuring the Power, WAN and ZigBee indicators are active as applicable for the specific application.

Revision 130719
July 2013

Freestyle Technology Pty Ltd | ACN: 117 520 528
1/B 18-24 Ricketts Road, Mount Waverley VIC 3149 | T: 03 8540 0944 | F: 03 8540 0988 | www.freestyletechnology.com.au