

GENII WMI

GENII WMI Wireless Module Interface

Overview

The Innotech *GENII Wireless Module Interface* is a remote expansion device for the GENESIS range of Digital Controllers.

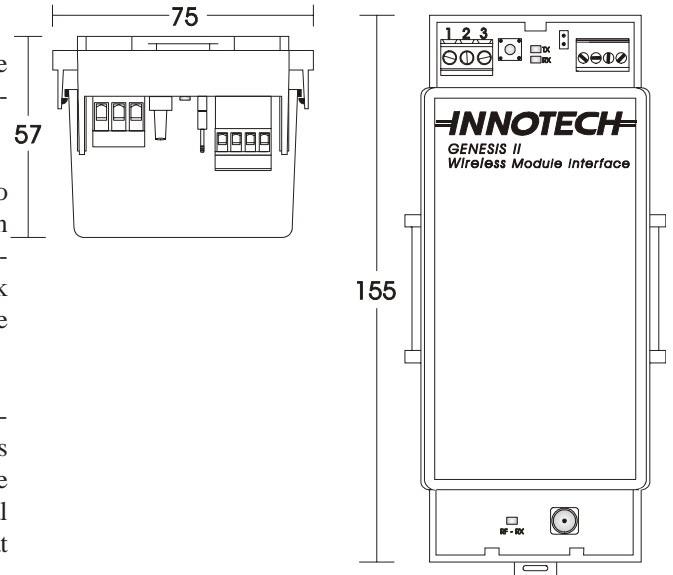
The *GENII WMI* is designed to be remotely located up to 500m from the GENESIS Digital Controller and provides an interface to the *SENRx* series of wireless temperature sensors. It is connected to the GENESIS RS485 REM network and uses a wireless communications link to connect to the *SENRx* modules.

There are no inputs or outputs on a *GENII WMI*. It is designed to receive the input data from any *SENRx* modules located up to 20m away (depending on obstructions). The *GENII WMI* communicates this data to the GENESIS Digital Controller via the GENII RMI Remote Module Interface that connects to the Local Expansion Module port of the GENESIS. Local Expansion Modules cannot be connected to a GENESIS Digital Controller that has a GENII RMI connected to it.

The *GENII WMI* provides the GENESIS Digital Controller with an RS485 link running at 38.4kbaud that communicates with all REM Modules.

Features

- A single *GENII WMI* can receive input data from up to 15 *SENRx* modules.
- RS485 interconnection between REM Modules.
- Wiring diagrams for modules generated by GEN2Config software.
- LED indication of RS485 Comms activity to assist in network setup and debugging.
- LED indication of RF Comms activity to assist in selecting suitable mounting locations.
- Jumper selectable RF Frequency (2400-2524MHz).
- RF Comms at 250kbaud.
- Does not require a REM Network Address.
- Does not use any resources on the GENESIS Digital Controller.



Application Notes

A GENESIS Controller must have version 4 (or higher) firmware installed to support REM Modules. Version 5.10 (or higher) software must be used to configure a GENESIS Digital Controller that has GENII WMI modules connected.

One GENESIS Digital Controller can have up to 15 GENII REM Modules attached to it. However, each REM Module has a “Resource Count” value that represents its requirement for GENESIS Digital Controller resources. A GENESIS Digital Controller supports a total resource count of 36. The following shows the Resource Count for each of the currently available REM Modules:

Remote Module	Description	Resource Count
<i>GENII WMI</i>	<i>Wireless Module Interface</i>	0
SEN1	Wireless Temperature Sensor	2
SEN2	Wireless Temperature Sensor	3
SEN5	Wireless Temperature Sensor	2
SEN6	Wireless Temperature Sensor	3
GENII MP050 REM	Multipoint Module	3
GENII MP140 REM	Multipoint Module	4
GENII MP230 REM	Multipoint Module	5
GENII MP320 REM	Multipoint Module	6
GENII AI REM	Analogue Input Module	6
GENII AO REM	Analogue Output Module	5
GENII DO REM	Digital Output Module	1
GENII DI REM	Dry Contact Digital Input Module	1
GENII IDI REM	Opto-Isolated Digital Input Module	1
GENII PI REM	Pulse Input Module	5
GENII CS REM	Control Station Module	4
GENII CSAH REM	Control Station After-Hours Module	4
GENII CSFAH REM	Control Station with 3 Speed Fan	4
GENII MZS REM	Multi Zone Station Module	5
GENII MZSAH REM	Multi Zone After-Hours Station Module	5

Applications

The *GENII WMI* provides a link between the RS485 REM Network connected to a GENESIS Digital Controller and *SENRx* series wireless temperature sensors.

Approvals

The Innotech *GENII WMI* Wireless Module Interface conforms to the requirements of the Australian/New Zealand standard AS/NZS CISPR 22:2002 Class A for the purposes of C-Tick certification.

Specifications

Power Supply

- 1 x Voltage: 24 Volts AC \pm 10% @ 50/60 Hz.
- Power Consumption: 4VA max.

Terminal Identification

- 1 = 24V AC Supply.
- 2 = 0V AC Supply.
- 3 = Earth.

NOTE: TERMINAL 3 is for the protection of the Comms circuitry and must be connected to a good electrical bonded Earth. This may be the Earth bus bar of the switchboard or the point that connects the chassis of the equipment the Module is in, to electrical Earth. This point should not be tied to terminal 2.

COMMS Connection

- SHLD1 = Shield from incoming Comms Cable.
- + = RS 485 (+) signal.
- = RS 485 (-) signal.
- SHLD2 = Shield from outgoing Comms Cable.

RF Communications

GENII WMI modules operate within the 2.4-2.5GHz world-wide unlicensed Industrial-Scientific-Medical (ISM) frequency band.

Enclosure

The *GENII WMI* Wireless Module Interface is housed in a rectangular case made from flame resistant Astrene M650 IR plastic in accordance with IEC695-2-1 (HD444-2-1) as of EN6335-1, A2 and IEC707 (AS/NZS2420).

Colour: Grey

Mounting: DIN Rail

Temperature Ratings

- Storage 0 to 50°C non-condensing.
- Operating 0 to 40°C non-condensing.

Installation

- The Cable run between the *GENII WMI* and the *GENII RMI* should not exceed 500 metres. The Comms wiring requires cable especially suited for RS485. Other shielded cable is not suitable and may cause spasmodic Comms failures.
- The *GENII WMI* should be mounted within a 20m radius (depending on obstructions) of all *SENRx* modules from which it will be receiving data. The location should be dry, clean and free of excess vibration.
- **Do NOT install the *GENII WMI* inside a fully enclosed metal switchboard.**
- Strictly follow the guidelines when installing the Comms wiring as outlined in the Genesis System Network Installation Instructions.
- There are four jumpers located in a row on the *GENII WMI*, labelled F0, F1, F2 & F3. These select the frequency channel to use within the 2.4-2.5GHz range. Typically, these jumpers need only be changed if multiple Wireless Module Interfaces are used or in areas with poor reception or strong interference. The frequency jumpers on the *GENII WMI* must exactly match the frequency jumpers on any *SENRx* modules to be communicated with.
- The "RF-RX" LED next to the antenna will turn on whenever an RF data packet is received. This can be used to detect if a *SENRx* module is within range.
- Further information on selecting suitable mounting locations is available in the *User Instructions for SENRx & GENII WMI*.

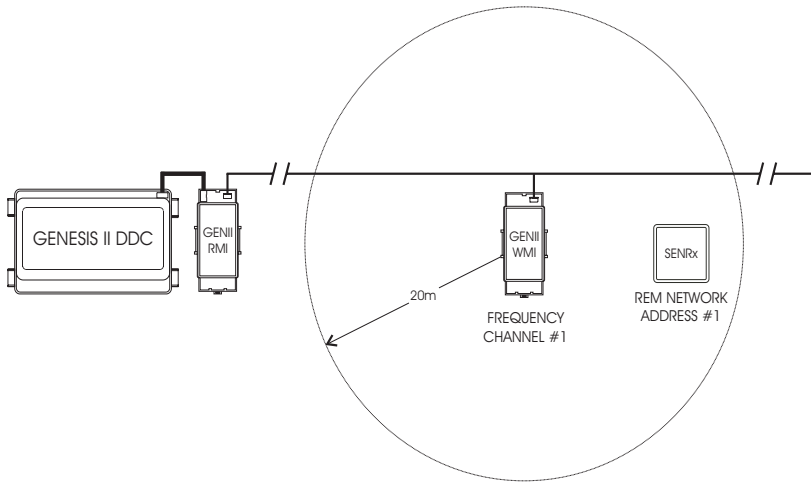
*Note:

If any jumpers on a module need to be changed, the unit must be powered down before the jumpers are altered. Anti-static precautions should be taken when changing addresses or adding or removing cabling from the terminals.

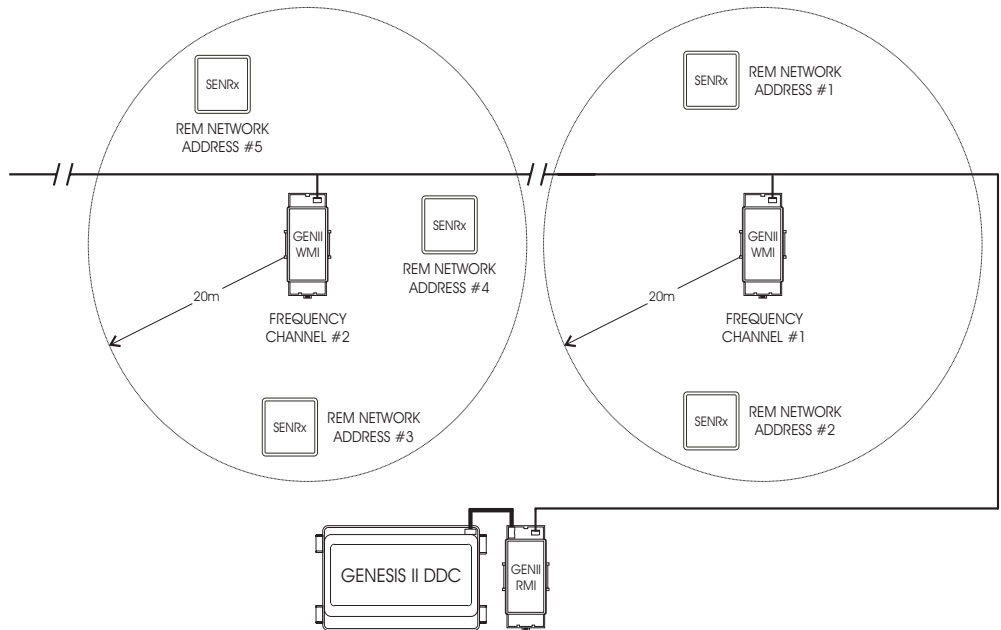
Wiring

- **DO NOT** connect 240V AC to any terminals.
- The cable used for RS485 Comms must be shielded single twisted pair, 120 ohms character impedance, 36 to 45pF per metre capacitance between conductors.
- The Comms cable must be organised as a bus topology. That is, starting at one end; devices are connected to it until the other end of the cable is reached. No "stubs" are allowed. To connect a device to the cable, a cut is made in the cable at the point where the device is to be situated along it. Then, the two new ends of the cable are wired into the device. The shields from the two new ends are then terminated into the terminals marked SHLD1 and SHLD2 respectively. Refer to the Genesis System Network Installation Instructions for more information.

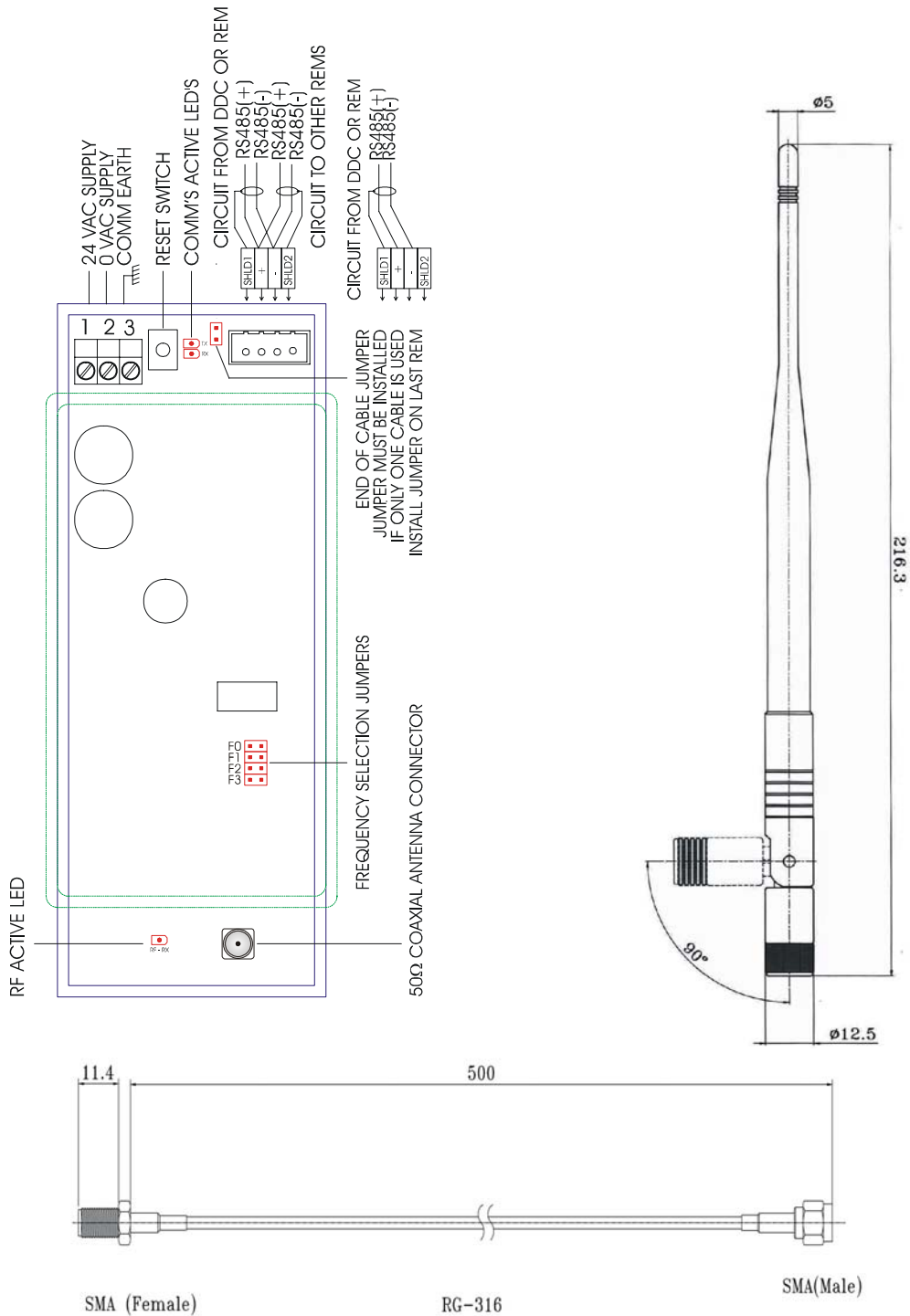
SIMPLE SENSOR NETWORKING



NETWORK WITH MULTIPLE WIRELESS SENSORS & INTERFACE MODULES



STANDARD CONNECTION



CABLE AND ANTENNA INCLUDED WITH GENII WMI

INNOTECH®

Innovative technology

Australian Owned, Designed & Manufactured
by Mass Electronics Brisbane

Phone: + 61 7 3841 1388 Fax: + 61 7 3841 1644
Email: sales@innotech.com.au www.innotech.com.au

YOUR DISTRIBUTOR