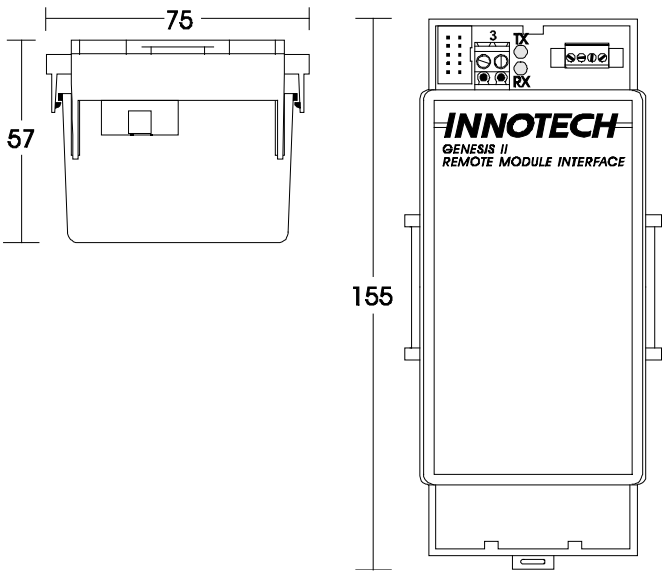
Models:
GENII RMI: Remote Module Interface

GENII RMI
Remote Module Interface

Overview
The Innotech GENII RMI Remote Module Interface provides an interface between the GENESIS range of Digital Controllers and Remote Expansion Modules (REMs). It is connected to the GENESIS Controller via the Local Expansion Module (LEM) port on the GENESIS Controller and uses an RS485 communications link to connect to the Remote Expansion Modules.

The GENII RMI is designed to be located adjacent to the GENESIS Controller.

Features
- Up to fifteen (15) individually addressable Remote Expansion Modules can be connected to a GENII RMI
- Incorporates robust isolated RS485 to allow reliable communications over long distances in electrically adverse signal conditions
- The Remote Expansion Modules can be located up to 500 metres away from the GENII RMI
- Requires only a single RS485 twisted pair screened comms cable link to the Remote Expansion Modules
- LED Indication of communications status



Applications
The Remote Module Interface (RMI) provides a bridge between the LEM I^2C serial communications on a GENESIS Controller and the RS485 communications to the range of INNOTECH Remote Expansion Modules.

Application Notes
A GENESIS Controller must have version 4 firmware installed to support Remote Expansion Modules. Version 4 Config Software must be used to configure a GENESIS Controller that has Remote Expansion Modules connected to it.

The GENESIS Controller can have only one GENII RMI Remote Module Interface connected to it.

Local Expansion Modules (LEMs) CANNOT be connected to a GENESIS Controller that has a GENII RMI Remote Module Interface connected to it.

Approvals
The GENII RMI conforms to:
- EN 55011 Class B Group 1 & AS/NZS 2064:1997 for RCM Labelling.
- FCC Title 47 CFR, Part 15 Class A for FCC Marking
- UL listed to UL916, File Number E242628

Specifications

Power Supply

- 5VDC from the GENESIS Controllers via the GENII LEM CABLE

Inputs / Outputs

- I^2C Serial link to the GENESIS Controllers via a 10 way dual pin strip.
- RS485 Serial link to Remote Expansion Modules via a 4 way terminal block.

IIC Connection

- Standard GENII LEM CABLE connection using 10 way ribbon cable. Cable length, 100mm standard.

Terminal Identification

RS485 Terminals

From left to right.

S1	Screen of incoming RS485 comms cable
+	Positive of REM comms
-	Negative of REM comms
S2	Screen of outgoing RS485 comms cable

Earthing Terminals

3	Connection for electrical earth protection on RS485 comms cable

Temperature Ratings

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

Enclosure

The GENII RMI Remote Module Interface is housed in a rectangular case made from flame retardant polycarbonate / ABS plastic listed under UL94.

Colour:	Grey
Mounting:	DIN Rail

Installation

1. Mount the GENII RMI near to the GENESIS Controller, the 10 way ribbon cable connecting them must not exceed 1 metre in length.
2. Mount the GENII RMI in a dry and clean location free of excessive vibration.
3. Wire in accordance with INNOTECH connection diagrams and local bylaws or refer to your local distributor.

Wiring

1. DO NOT connect ANY voltage to any terminals.
2. Power down the GENESIS Controller before attempting to connect or disconnect the Remote Module Interface. Failure to do so may result in damage to both the GENESIS Controller and the GENII RMI.
3. Connect the GENII LEM CABLE to the GENII RMI and GENESIS Controller with the IDC connectors fitted to the ribbon cable. They are keyed so that they cannot be connected incorrectly.
4. Connect the RS485 comms to the GENII RMI to the comms terminals using the “Combicon” plug. Ensure that the polarity of the signal conductors is correct and follow the recommended connections for the screen as set out in the Connection Diagram supplied with the GENII RMI.
5. Connect an electrical earth cable to the terminals labelled “3”. This cable should be connected to the EARTH bus bar of the switchboard cabinet or to the electrical EARTH cable that earths the frame of the equipment the module is in. This “EARTH” connection provides protection for the comms circuit and comms cable screens only on the GENII RMI. It does not connect to the internal circuitry of the GENII RMI.

Comms Installation

1. If this device has only one RS485 comms cable connected to it, the cable screen must be connected to ‘Shield 1’. If there are two RS485 comms cables fitted, each screen must be connected to a separate ‘Shield’ terminal.
2. The two modules located at each end of the RS485 comms cable will have one RS485 comms cable connected and must have the Termination Jumper fitted. All other modules will have two RS485 comms cable connected and MUST NOT have the Termination Jumper fitted.
3. For a detailed description of the installation and connection of RS485 comms cabling, refer to the Genesis II Installation Manual.

Determining the Maximum Number of REMs

Addressing Scheme

A maximum of 15 Remote Modules can be addressed by the GENII RMI. The address is set by the position of the shunt links in the Remote Modules. The Display Remote Modules and the Multi-I/O Remote Modules must be located at addresses 1 to 8 because they have three shunt links. The other types of Remote Modules can be located at addresses 1 to 15 because they have four jumpers.

Each Remote Module must have its own unique address. A comms error will occur if two Remote Modules have the same address.

Resource Count

Each Remote Module has a Resource Count value that represents its requirement for GENESIS Controller resources. A GENESIS Controller can only support a maximum Resource Count of 36. The sum of the resource counts for the Remote Modules connected to a Remote Module Interface may reduce the permissible number of Remote modules to less than 15. The following table shows the Resource Count for each of the Remote Modules.

GENII RMI

Remote Expansion Modules

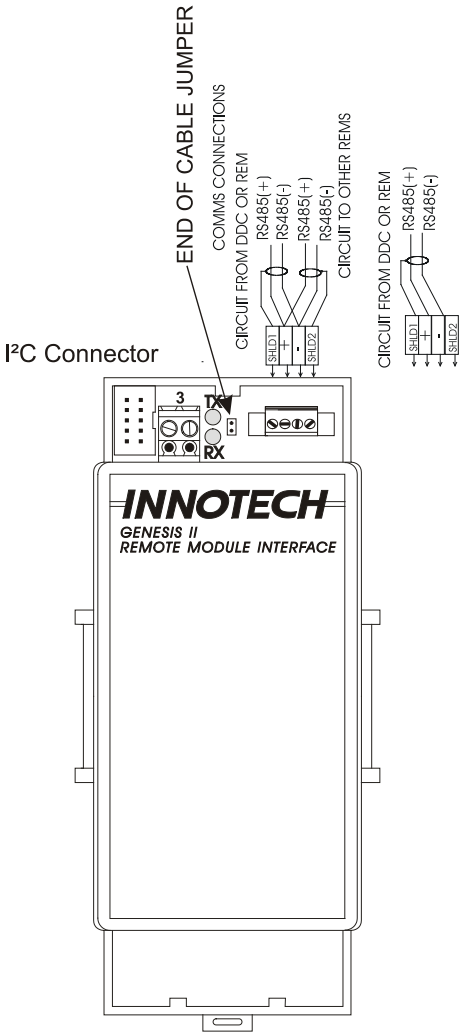
Remote Module	Description	Resource Count
GENII AI REM	Analogue Input Module	6
GENII AO REM	Analogue Output Module	5
GENII DI REM	Dry Contact Digital Input Module	1
GENII DO REM	Digital Output Module	1
GENII IDI REM	Opto Isolated Digital Input Module	1
GENII PI REM	Pulse Input Module	5
GENII CS REM	Control Station Module	4
GENII CSAH REM	Control Station After Hours Module	4
GENII CSFCAH REM	Control Station with 3 Speed Fan	4
GENII MZS REM	Multizone Station Module	5
GENII MZSAH REM	Multizone After Hours Station Module	5

FCC Class A Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Note – This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Modifications to this device, may void the authority granted to the user by the FCC to operate this equipment.



INNOTECH®

Australian Owned, Designed & Manufactured
by Mass Electronics Brisbane

Phone: +61 7 3421 9100 **Fax:** +61 7 3421 9101
Email: sales@innotech.com.au www.innotech.com.au

YOUR DISTRIBUTOR