Models:

GENII MP405 REM
GENII MP414 REM
GENII MP423 REM
GENII MP432 REM

GENII MP4xx REM
Multipoint Remote Expansion Module

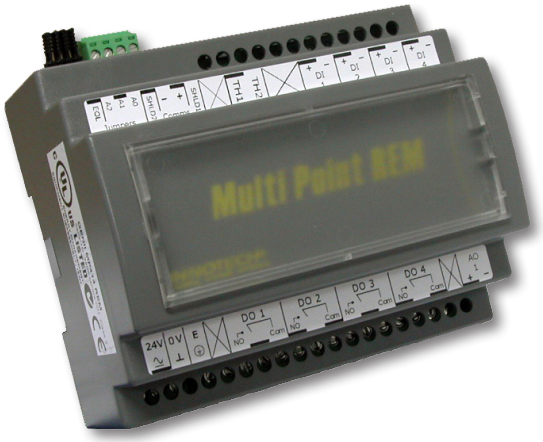
Overview

The Innotech GENII MP REM Multipoint Module is a remote expansion device for the GENESIS range of Digital Controllers.

The GENII MP REM is designed to be remotely located from the GENESIS Digital Controller and provides 16A relay outputs and 0-10V analogue outputs for distributed control, digital inputs for status detection and a thermistor input for temperature measurement.

The GENII MP REM communicates with the Genesis Controller via the REM Comms port. The remote link uses RS-485 at a baud rate of 38400. For pre-version 5 controllers, a Gen II RMI Remote Module Interface is required.

Please refer to DS15.01 for further information.



Features

- Remote sensing and control of I/O points up to 500 metres from the GENESIS Controller via a single RS485 network.
- The I/O comprises of a single 10kW thermistor temperature input, four switched contact digital inputs and five outputs consisting of either:
  a. 5 x Relay Outputs (MP405)
  b. 4 x Relay Outputs & 1 x Analog Output (MP414)
  c. 3 x Relay Outputs & 2 x Analog Outputs (MP423)
  d. 2 x Relay Outputs & 3 x Analog Outputs (MP432)
- RS485 interconnection between REM Modules.
- Power Supply 24VAC/DC
- JUMPER selectable Address Number (1-8).
- Wiring Diagrams for modules generated by GEN2Config Software.
- LED indication of Comms activity to assist in network setup and debugging.

Enclosure

The GENII MP REM products are housed in a rectangular case suitable for DIN Rail mounting. The housing is moulded from flame retardant plastics recognised by UL as UL 94-V0

Colour:	Grey
Dimensions:	107(w) x 89(h) x 69(d)

Approvals

The Innotech GENII MP REM conforms to:

- EN 61326:2013 for CE Marking and RCM Labelling
- UL listed to UL916, File Number E242628

Applications

Innotech MP REMs are designed specifically for mounting remotely and distributing the points to the controlled device via an RS485 network. Although the MP REM is flexible enough to accommodate control of any equipment, it is primarily designed to suit the air conditioning and building automation industry.

The compact size of the MP REM also gives it the advantage of being able to fit in small enclosures with out taking up valuable space. The control strategy for the remote expansion module resides in the primary device. Regardless of weather the control strategy is for simple single zone air conditioning or complex lead lag interaction, the graphical block programming allows for easy programming.

Typical applications for Air Conditioning and Heating Systems include:

- Air Handler Unit (AHU's) Control
- Fan Coil Unit (FCU's) Control
- Variable Air Volume (VAV's) Box control
- Lighting Control
- Time Clock Controller
- Monitoring Device
- Cold room control

A GENESIS Digital Controller can have up to 8 GENII MP REM Modules connected to it via the REM comms bus.

For detailed connection information refer to the Innotech Network Cabling Manual DS 99.04.

Specifications

Power Supply

- 24VAC ±10% @ 50/60Hz
- 24VDC ±15%
- Power Consumption: 4VA max

The operating voltage must meet the requirements of Safety Extra Low Voltage (SELV) to EN60730. The transformer used must be a Class 2 safety transformer that has the energy and voltage limiting characteristics as described in the National Electrical Code, ANSI/NFPA70. It must also be sized and fused in compliance with local safety regulations.

Inputs

- 10kW thermistor temperature sensor
- 4 x Isolated switched contact digital inputs

Outputs

MP405:

- 5 x 16A, 24V relays, Normally Open contacts

MP414:

- 4 x 16A, 24V relays, Normally Open contacts
- 1 x Analogue Output, 0-10VDC ± 0.05V into >2kW load

MP423:

- 3 x 16A, 24V relays, Normally Open contacts
- 2 x Analogue Outputs, 0-10VDC ± 0.05V into >2kW load

MP432:

- 2 x 16A, 24V relays, Normally Open contacts
- 3 x Analogue Outputs, 0-10VDC ± 0.05V into >2kW load

Terminal Identification

1	24VAC/DC Supply
2	0VAC/DC Supply
3	Earth

COMMS Connection

SHLD 1	Shield 1 from incoming Comms Cable.
+	RS 485 (+) signal.
-	RS 485 (-) signal.
SHLD 2	Shield 2 from outgoing Comms Cable.

Temperature Ratings

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

GenII MP4xx Remote Expansion Modules

Model Specification

Model Number	Voltage	Digital Outputs	Analogue Outputs	Digital Inputs	Analogue Inputs
GENII MP405 REM	24VAC/DC	5	0	4	1
GENII MP414 REM	24VAC/DC	4	1	4	1
GENII MP423 REM	24VAC/DC	3	2	4	1
GENII MP432 REM	24VAC/DC	2	3	4	1

I/O Terminal Connections

DI#n+	Digital Input positive
DI#n-	Digital Input negative
TH1	Temperature Sensor input
TH2	Temperature Sensor input
AO#n+	Analogue Output positive
AO#n-	Analogue Output negative
NO	Normally Open relay contact
Com	Common relay contact

Installation

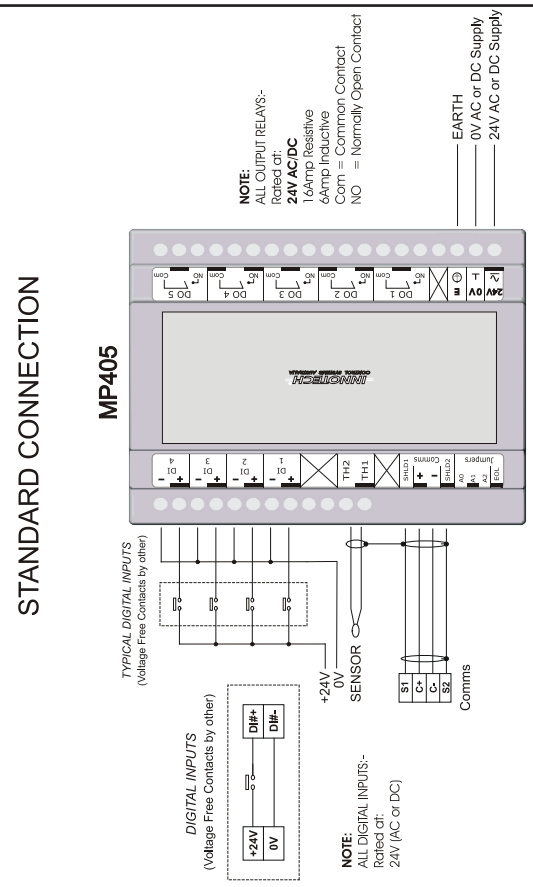
- The Cable run between the GENII MP REM and the GENII V5 Controller overall, should not exceed 500 metres. The Comms wiring requires cable especially suited for RS485. Other shielded cable is not suitable and may cause spasmodic Comms failures.
- The GENII MP REM Modules should be mounted in cabinets/ housings approved for switchgear or industrial control equipment.
- Strictly follow the guidelines when installing the Comms wiring as outlined in the Genesis Network Installation Guide.
- Mount the GENII MP REM in a dry and clean location free of excess vibration.
- There are four jumpers located in a row on the GENII MP REM Module. The three labelled A0, A1 and A2 are used to set the network address of the GENII MP REM Module. Directions for setting the address are shown in the wiring diagram generated by the GEN2 Config software.
- The final jumper (labelled EOL [End Of Line]) is the comms termination jumper and should only be used as described in the Innotech Network Manual DS 99.04.

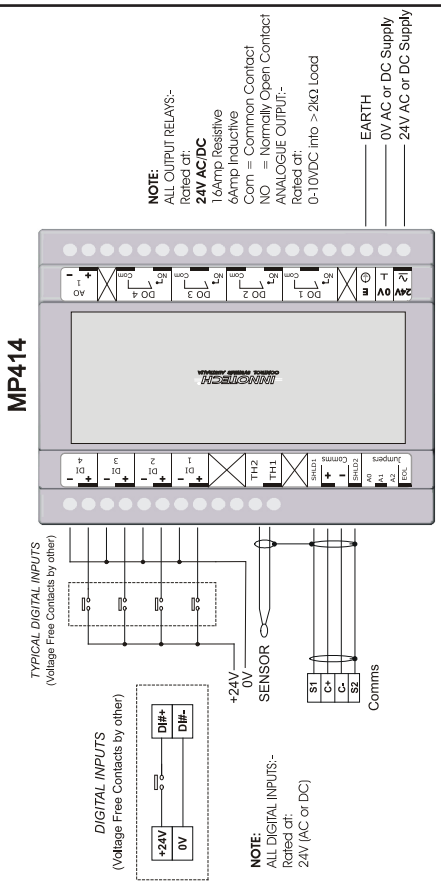
If any jumpers on a module need to be changed, the unit must be powered down before the jumpers are altered. Antistatic precautions should be taken when changing addresses or adding or removing cabling from the terminals.

Wiring

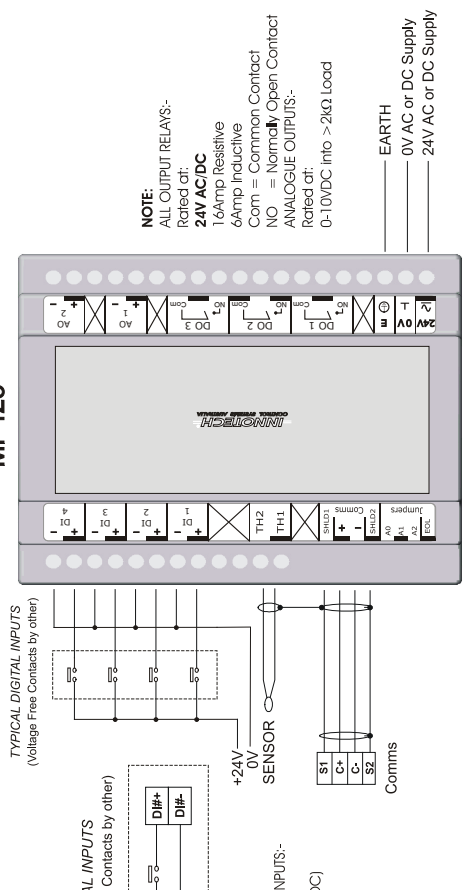
- The cable used for RS485 Comms must be shielded single twisted pair, 120W characteristic impedence, 36 to 45pF per metre capacitance between conductors.
- The Comms cable must be organised as a bus topology. That is, starting at one end, devices are connected to it until the other end of the cable 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. 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 SHLD 1 and SHLD 2.
- Refer to the Innotech Network Installation Manual DS 99.04 for more information.

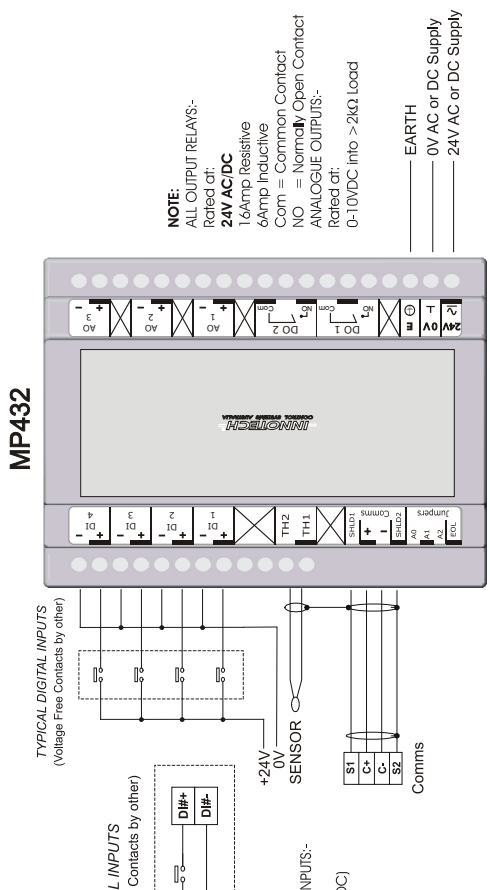
STANDARD CONNECTION



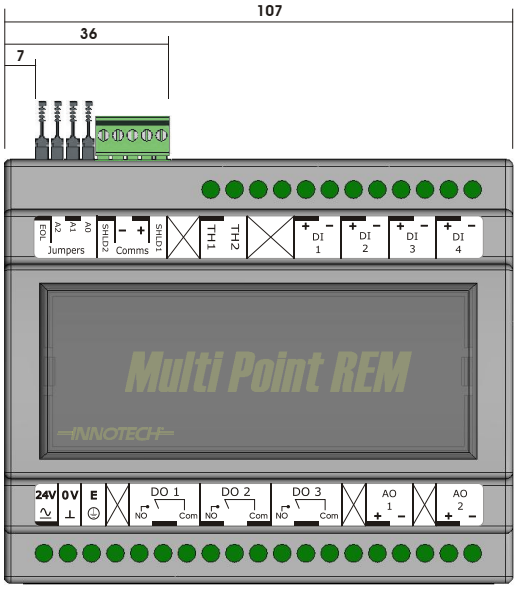


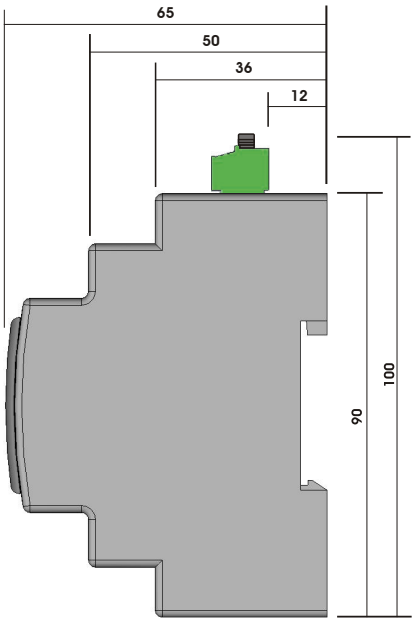
STANDARD CONNECTION





Dimensional Drawing





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