

## Models:

IMT5011: 1 State HEAT and 1 Stage COOL  
IMT5022: 2 Stage HEAT and 2 Stage COOL

## IMT50xx

## Modular Thermostat

## Specifications

### Power Supply

Voltage: 24VAC\*  $\pm 10\%$  @ 50/60Hz  
(across terminals 24V~ & 0V  $\perp$ ) **OR**  
240VAC  $\pm 10\%$  @ 50/60Hz  
(across terminals 240V~ & N)

Power Consumption: 7VA Max

\* When powered by 24VAC, the operating voltage must meet the requirements of safety extra low voltage (SELV) to EN60730.

### Temperature Detector

SENXX Series of Remote Detector  
10k $\Omega$  thermistor

### Optional External Setpoint

IRA4001 External Setpoint  
5k $\Omega$  potentiometer

### Outputs

One SPDT voltage free contact per stage (2A max.)  
Two 0-10VDC control outputs (heat and cool)  
Two monitor outputs for current Temperature and Setpoint  
Proportional output for electric heating


## Terminal Identification

### Sensor

Sensor Sensor  
Sensor & Screen Sensor & Screen

### Optional External Setpoint Adjuster (IRA4001)

SPX1 Cold End of POT (Grey)  
SPX2 Hot End of POT (Brown)  
EXTSP Wiper of POT (Pink)

 Connecting the external adjuster automatically overrides the internal setpoint.  
No Configuration Required.

### Outputs


Cool Cooling 0-10V Output  
Heat Heating 0-10V Output  
Temp Out Current Temperature (temp = voltage x 10)  
SP Out Current Setpoint Temp. (temp = voltage x 10)

### Modulating Output

Heat Valve Heating Pulse Width modulated for proportional electric heating


### Supply for 24VAC Operation

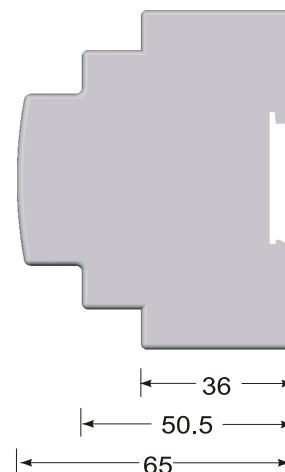
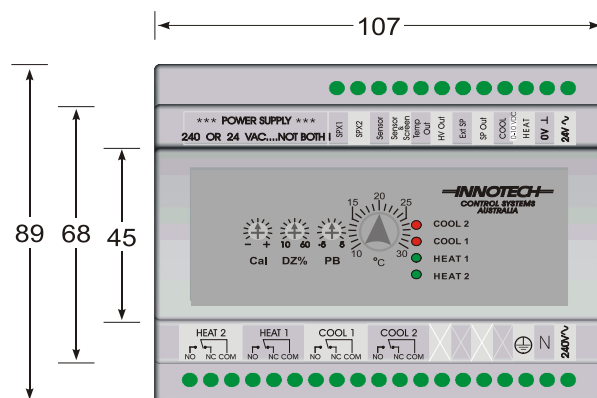
24V~ 24VAC  
0V  $\perp$  0V

 If using 24VAC supply, DO NOT connect any cabling to terminals 240V~, N and  $\perp$ .

### Supply for 240VAC Operation

240V~ Active 240VAC  
N Neutral 240VAC  
 $\perp$  Safety Earth

 If using 240VAC supply, DO NOT connect any cabling to terminals 24V~ and 0V  $\perp$ .



## Sensor Wiring

- DO NOT connect 24V or 240VAC to "Sensor" or "Sensor & Screen" terminals.
- Screened cable should be used between the sensor and the IMT. The screen is terminated to the "Sensor & Screen" terminal.
- The Temperature sensor is connected between the "Sensor" terminals.

## Temperature Ratings:

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

## Application

The Innotech Modular Thermostat is designed to control temperature in air conditioning systems.

It is an analogue controller that regulates temperature of an air conditioned space by switching between heating and cooling systems as required.

Tailoring of the control algorithm is made via screw adjustments that are accessible via the front panel. A knob on the centre of the front panel sets the desired temperature.

The unit is DIN rail mountable and has screw down terminals for all external connections.

## Features

- Separate 0-10V outputs for heating and cooling
- IMT5011 - 1 Heat and 1 Cool Relay
- IMT5022 - 2 Heat and 2 Cool Relays
- LED indication of relay status
- 24VAC / 240VAC operation
- Heat Valve Output
- Temperature Output
- Setpoint Output
- External Setpoint

## External Setpoint Wiring

1. DO NOT connect 24V or 240VAC to the "SPX1", "SPX2" or "EXTSP" terminals.
2. Screened cable should be used between the adjuster and the IMT. The screen is terminated into the "Sensor & Screen" terminal.

## Setpoint

The Setpoint is adjustable from 10°C to 30°C via the external scaled Setpoint pot.

An External Setpoint Adjuster (IRA4001) may be connected and will automatically override the scaled Setpoint pot. The IRA4001 has a range of 10°C to 30°C.

## Proportional Band


The Proportional Band (PB) is adjustable from 0.5°C to 5°C via the external scaled PB knob. A setting of 1.0°C results in a PB of 1.0°C for both heat and cool.

## Dead Zone

The Dead Zone (DZ) is adjustable from 10 to 60% of the PB setting via the external scaled DZ% knob. The DZ setting represents a percentage of the PB. If the PB is set to 1°C and the DZ is set to 30%, the resultant Dead Zone is 0.3°C on either side of the Setpoint.

## Installation

1. The IMT should be mounted on DIN rail in cabinets approved for switchgear or industrial control equipment. It should be mounted in a dry and clean location, free of excess vibration. Maximum terminal cable entry is 1.5mm<sup>2</sup> wire.
2. There are no serviceable parts within the Innotech Modular Thermostat. Opening the case will void the manufacturer warranty.
3. Wire in accordance with INNOTECH connection diagrams and local bylaws or refer to your local distributor.

 This product should only be installed by qualified personnel.

## Enclosure

The DIN rail mountable Innotech Modular Thermostat 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).

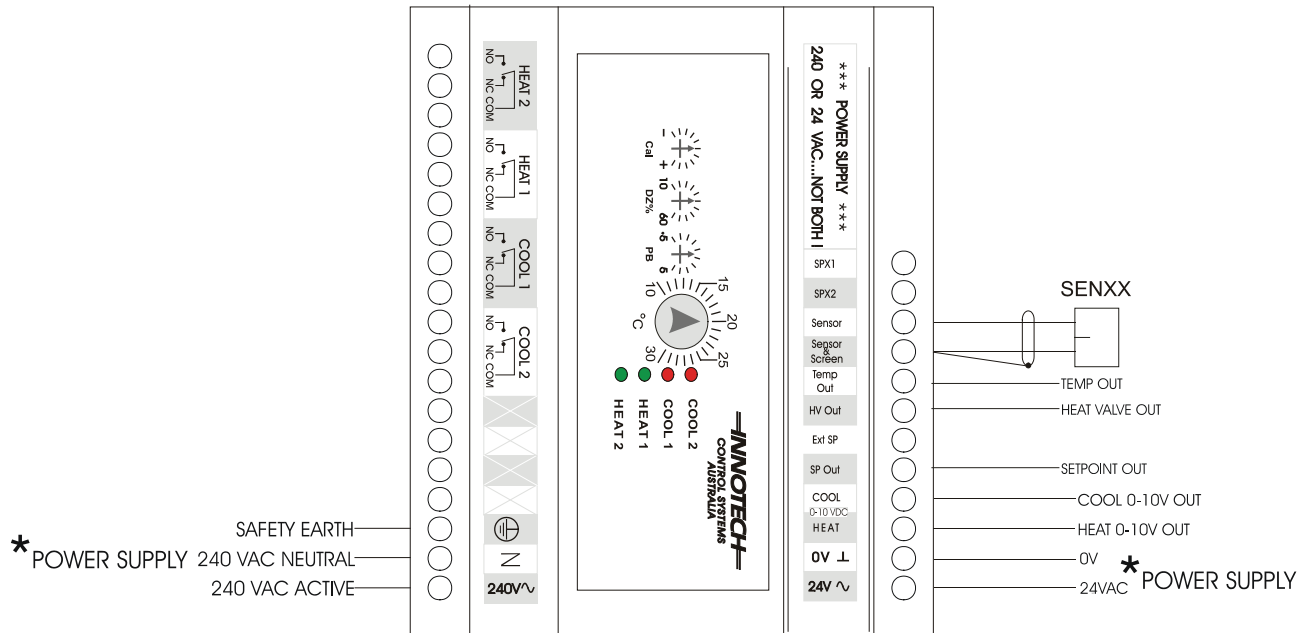
Colour: Grey

Mounting: DIN rail mounted

## Approvals

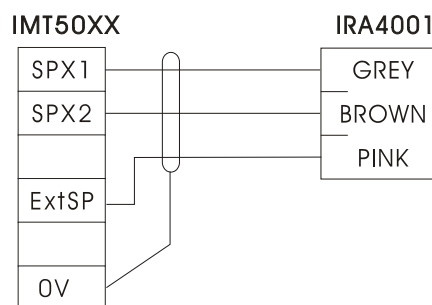
The Innotech Modular Thermostat conforms to:

- EN55014 (CISPR14) and EN55104 for RCM Labelling
- Designed and tested in accordance with IEC61010-1, Edition 3.0:2010 Safety Standard



**\*Use one power supply ONLY not both**

## FULL REMOTE SETPOINT



Screened Cable should be used to reduce EMI.

**\* NOTE: FIXED 10 to 30 °C Adjustment**

This page has been left intentionally blank.

---

**INNOTECH®**

Australian Owned, Designed & Manufactured  
by Mass Electronics Brisbane

**Phone:** +61 7 3421 9100 **Fax:** +61 7 3421 9101  
**Email:** [sales@innotech.com.au](mailto:sales@innotech.com.au) [www.innotech.com.au](http://www.innotech.com.au)

YOUR DISTRIBUTOR