

# Installation Guide

## HVAC-1 DINrail mount HVAC Controller



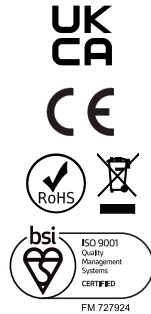
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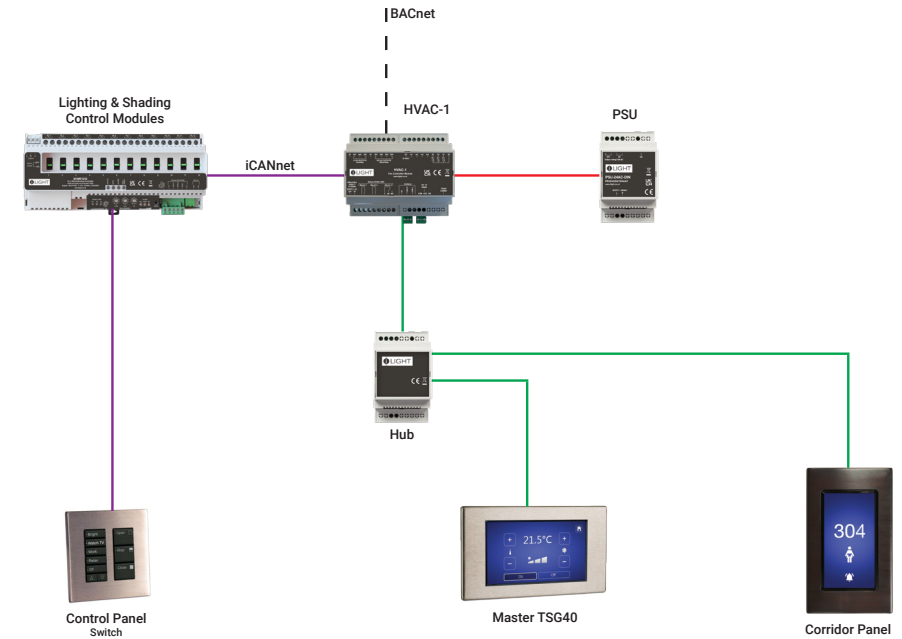
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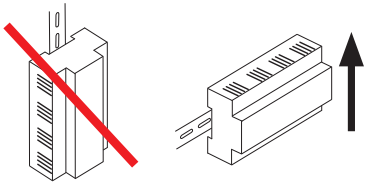
Doc No: 9850-000777-01



## System Connectivity



## Mounting & Installation

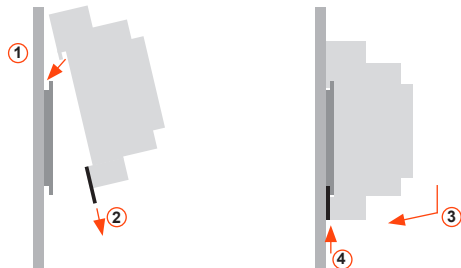


**HVAC-1 must be mounted in a suitable enclosure to provide regulatory protection from electric shock hazard as well as protecting the iCANnet data network from tampering that could lead to reduced network security.**

**Ensure selected enclosure provides adequate cooling ventilation.**

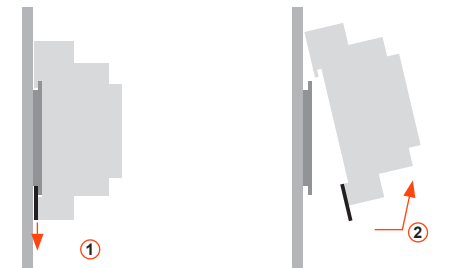
### Fixing to DIN rail

1. Fix top clips over DIN rail.
2. Pull down bottom clip using screwdriver.
3. Close module towards DIN rail.
4. Push up bottom clip to fix securely to DIN rail.



### Removing from DIN rail

1. Pull down bottom clip with screwdriver.
2. Lift module away from DIN rail.



## Technical Data

### Electrical Data

Supply: 24VAC/DC (Where AC outputs are used, supply power must also be AC)  
Power Consumption: 5 VA (no TSG40) plus outputs.  
8 VA with TSG40 touchscreen display  
Triac outputs: 350mA max  
0-10V outputs: 5mA max  
Temperature Sensors: 10K3A1  
Analogue Inputs: 0-10V (input impedance 10K)  
Digital Inputs: Use Volt Free Contact/Switch  
Relay outputs: Volt Free, suitable for up to 240V 5A load

### Communications:

iCANnet for lighting and shading integration.  
Native BACnet MS/TP for integrating with BMS.  
Indication: Tx/Rx comm's

### Mechanical Data

Weight: 0.35 kg  
Operating temperature: +2°C to +50°C  
Humidity: +5 to 85% non-condensing  
Environmental protection: IP20

Installation: Installation must be carried out by a suitably qualified electrician and installed in a suitable DINrail enclosure rated for the intended environment.

# HVAC-1

## DINrail mount HVAC Controller

### Analogue Outputs:

The 0-10V outputs AO1 to AO3 control strategies are configured at the controller setup and provide PI control. The 0-10V outputs can be assigned for heat, cool, or fan control and all the analogue control outputs have a minimum and maximum control range settings.

### Triac Outputs:

The 4 x 24V AC Triac outputs are also available for control and can provide ON/OFF, TPC or PWM control of Heating and/or Cooling outputs.

Each Triac output is rated at 350mA – an interposing relay is required if the output exceeds this.

Relay Outputs: (Relays R1, R2 and R3)

Each Digital output has a volt free relay contact rated up to 240V AC 5A inductive.

The 3 x Digital outputs provides on/off control and can be used for starting associated plant such as heat enable, cool enable, fan control enable and pump enable.

### Universal Inputs (IN1 to IN4)

4 x Universal inputs are configurable as Analogue 0-10v or Digital Volt Free Contacts.

(Note: the digital inputs cannot be used for energy pulse meter counting)

### Thermistor Inputs (S1 to S3)

There are 3 temperature sensor inputs (normally configured for NTC Thermistor 10K3AI) which can be used for temperature monitoring control (with averaging), low / high limit control functions.

The inputs can alternatively be configured to provide a temperature reset function (Remote set point adjustment) from a 1k to 11K potentiometer.

### Communications

Native BACnet MS/TP open protocol communication is provided as standard.

### Power Supply terminals

The HVAC-1 Controller is powered by 24V AC 50/60Hz or 24V DC (24V DC cannot be used if Triac outputs are required).

The operational power supply is based on a common 0V ground. Ensure that all associated devices are using the same polarity with reference to 0V ground.

For more information on HVAC-1 please visit:  
<https://ilight.co.uk/network-interfaces/hvac-1>

### iCAN Network Connections

Function	iCANnet Cable Colours
0V	Black
CAN L	Blue
CAN H	White

Maximum segment distance: 500m (1640 ft)  
 Devices per segment: 100 (without bridge or repeater)  
 Consult iLight for information on alternative cable types.

**IMPORTANT NOTE:** Connecting a mains potential cable to the iCAN Network terminals is likely to damage the unit and other devices connected, and invalidate warranty.

### Typical Connection Diagram

