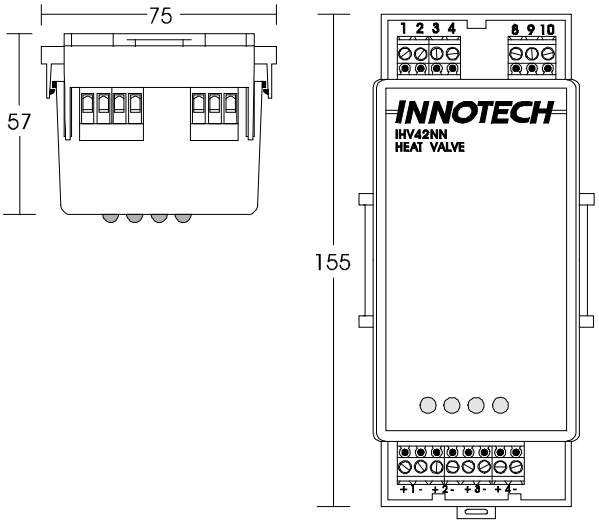
MODELS:
IHV4212: One Channel of Two Stages
IHV4224: Two Channels of Two Stages
IHV4214: One Channel of Four Stages

IHV42xx

Staging Heat Valve for Solid State Relays



Specifications

Power Supply

- Voltage: 24V ±10% @ 50/60Hz
- Power Consumption: 3VA max

Inputs

- IHV4212 - One 0-10VDC control signal
- IHV4214 - One 0-10VDC control signal
- IHV4224 - Two 0-10VDC control signal

Outputs

- **IHV4212** - two 3mA DC fixed current outputs - spans = 1 @ 0-5VDC and 1 @ 5-10VDC
- **IHV4224** - four 3mA DC fixed current outputs - spans = 2 @ 0-5VDC and 2 @ 5-10VDC
- **IHV4214** - four 3mA DC fixed current outputs - spans = 1 @ 0-2.5V DC, 1 @ 2.5-5.0VDC, 1 @ 5.0-7.5VDC and 1 @ 7.5-10VDC
- One 10VDC supply 10mA max

Terminal Identification

1	Channel 1 input (loop to 2 on IHV4214).
2	Channel 1 input (loop to 2 on IHV4224).
3	Channel 2 input (IHV4224 only).
4	Channel 2 input (loop to 3 on IHV4224).
8	10VDC positive supply (upon request).
9	Common and 0VAC supply.
10	24VAC supply.
+1-	Output #1.
+2-	Output #2.
+3-	Output #3 (IHV4214 and IHV4224 only).
+4-	Output #4 (IHV4214 and IHV4224 only).

Temperature Ratings

Storage	0 to 70°C non-condensing.
Operating	0 to 50°C non-condensing.

Enclosure

Manufactured from an ignition resistant grade of ABS which meets the requirements of AS2420.

Colour:	Grey.
Mounting:	DIN rail mounted.

Installation

1. Mount the unit in a dry and reasonably clean location free of excessive vibration.
2. Fit to DIN rail.
3. Wire in accordance with INNOTECH connection diagrams and local bylaws or refer to your local distributor.

Wiring

1. Earth one side of the 24VAC at the transformer.
2. Connect the EARTHED side of 24VAC to terminal 9.
3. DO NOT connect 24VAC to terminals 1 through 8.

Application

The INNOTECH range of IHV42xx heat valves are designed for use with zero voltage switching solid state relays to provide sequentially staged stepless control of heater banks from a 0 to 10VDC Control Signal input.

Features

- Staging sections of heater bank reduces the varying heat load to comply with supply authority requirements
- Stepless heater control
- Eliminates contactor noise
- No EMI (electro-magnetic interference) problems when used with zero crossing switching solid state relays
- The INNOTECH enclosure saves space and reduces installation time

Characteristics

The heat output of the heater bank is proportional to the DC input control voltage.
The controlled span per stage is 5.0VDC on the IHV4212 and IHV4224 and 2.5VDC on the IHV4214. As the input voltage exceeds the upper controlled value for a particular stage, that stage remains fully on and the next higher stage starts controlling.

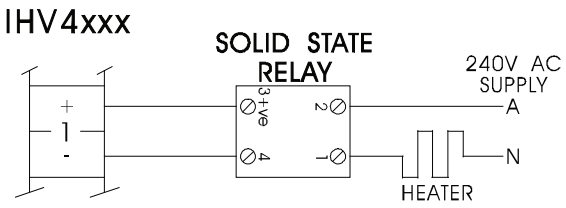
Din Rail Mounted Enclosure

The INNOTECH enclosure was designed to provide tight positive locking to varying thicknesses of DIN rail. When fitting to thick DIN rail, it may be necessary to remove the packing tabs on the back of the base.
Lugs on each side of the base ensure that correct spacing is maintained between units on the same DIN rail.

Solid State Relay Drive
The output of the IHV is capable of driving up to 6 solid state relays which have a 3 to 32VDC input. The control inputs of the solid state relays are connected in series as shown in the connection diagrams on page 3. The maximum voltage applied to the solid state relay input is 30VDC.

Optional DC Supply
A regulated 10VDC supply is available to power an auxiliary control unit. For a simple manual heat control system, a potentiometer of 10k ohms can be connected across the 10VDC supply and the wiper of the potentiometer connected to the control input of one channel.

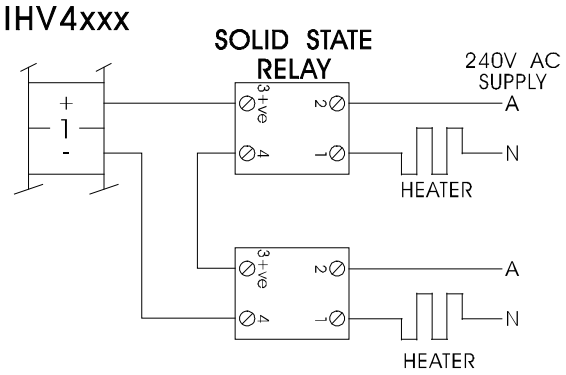
CONNECTION TO DRIVE A SINGLE SOLID STATE RELAY



Terminal Connections

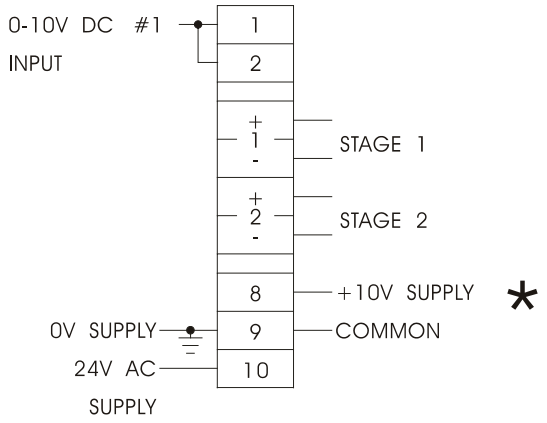
Model	Terminal Identification					
	Input VDC		Range of Operation VDC			
	1	2	+1-	+2-	+3-	+4-
4212	0-10V		0-5V	5-10V		
4224	0-10V	0-10V	0-5V	5-10V	0-5V	5-10V
4214	0-10V		0-2.5V	2.5-5V	5-7.5V	7.5-10V

CONNECTION TO DRIVE MULTIPLE SOLID STATE RELAYS

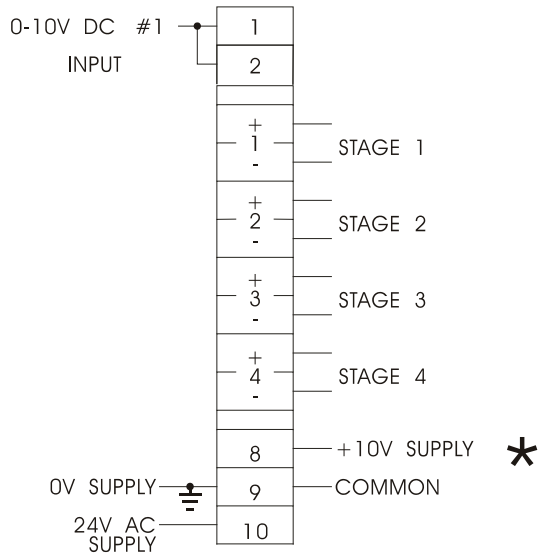


A MAXIMUM OF SIX (6) SOLID STATE RELAYS CAN BE CONNECTED IN SERIES

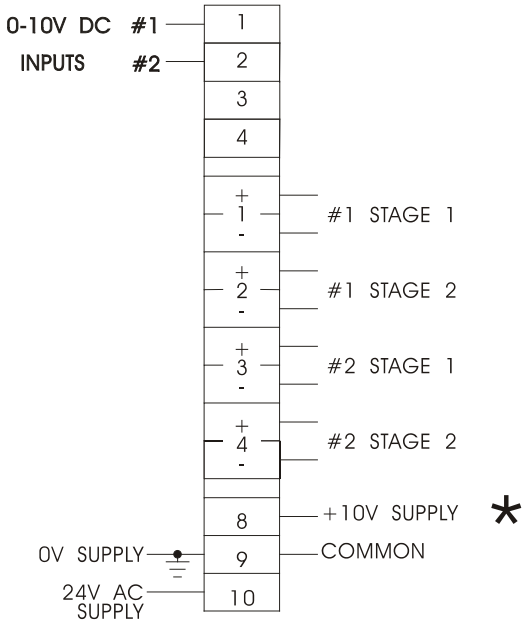
STANDARD CONNECTION
IHV4212



STANDARD CONNECTION
IHV4214



STANDARD CONNECTION
IHV4224



* Optional +10V 10mA Supply

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