

Information

These controllers are designed primarily for use within the plastic injection moulding industry. They should not be used for any other purpose without first consulting a senior engineer from DMS Ltd.

The controller should only be used in a dry environment.

The controller should **NOT** be used in an explosive atmosphere.

When in use, this device does not emit noise in excess of 10dB(A).

Refer to the serial plate attached to the controller for confirmation of the supply requirements, etc.

Warning

Always replace ruptured fuses with HRC (High Rupture Current) load fuses. Failure to do so will cause damage to the controller on subsequent fuse failures.

FUSE Type - Ultra Rapid 20mm (FF)

This guide is intended for use with all the HRS-HL range of Controllers. The actual model designation depends on the number of zones wired. E.g. an HRS-HL with 4 zones wired would have a model designation of HRS-4HL.

General Description

The HRS-HL can have 1,2 or 4 control zones. The front of the HRS-HL has a control panel which consists of a display, control knob, mode switch and two LED Indicators for each zone.

Display:	This is a 'star burst' 4 character display which shows one of the following: <ol style="list-style-type: none">1. Actual temperature of the zone (in Auto mode)2. Set temperature (when in Auto mode and the control knob is moved)3. Percentage power (in Manual mode)4. An error message
Control knob	This is used to set the required temperature in Auto mode or percentage power in Manual mode.
Load LED	This LED is lit when power is supplied to the zone.
Fuse LED	This LED is lit if the controller detects a ruptured output fuse.
Mode Switch	This is used to select the mode of working. To the left it selects Auto (closed loop) control, to the right it selects Manual (open loop) control.

Error Messages

When in Auto mode, an error message may be displayed instead of showing the actual temperature.

T/C	The thermocouple has been detected as open circuit
ERR!	No temperature rise. Check for: thermocouple reversed, T/C wiring pinched or faulty, heater and/or wiring fault.

Specification

The following are general specifications for the HRS-HL Range, variations may occur with specified options.

Supply voltage:	208-240v single phase 50/60 Hz
Supply Amps:	13 Amps total (7A on HRS-1HL)
Control Method	Closed or Open loop working.
Triac Rating:	15 amps max at 240 v AC.
Zone rating:	Maximum of 6 amps per zone (total not to exceed 13 amps).
Overload Protection	High Speed semiconductor fuses.
T/C input:	Iron/Constantine (Fe/Con) type J
Control Range:	0 - 400° Centigrade (Celsius)
Display:	4 character 'star burst'
Case:	Metal Case - size dependant on model.

Auto - (Closed Loop) Control

Select 'Auto' on the Mode Selector switch (switch to the left position).

Use the control knob to set the required temperature. While the knob is being turned, the display will show an arrow and the set temperature. After turning, the display shows actual temperature.

Manual - (Open Loop) Control

Select 'Man' on the Mode selection switch (switch to the right position)

Use the control knob to set the required power.

Wiring Details

As well as connections listed below, an earth connection is included at the tool connector.

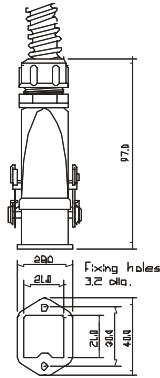
All connections are rated at 10 amps, at 240 v AC.

Normal operating temperature range is -40°C to +125 °C

HRS-1HL

Connections

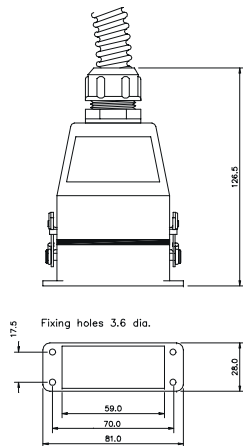
Pin	Zone	Circuit
1	1	T/C+
2	1	T/C-
3	1	Supply
4	1	Return



HRS-HL

Connections

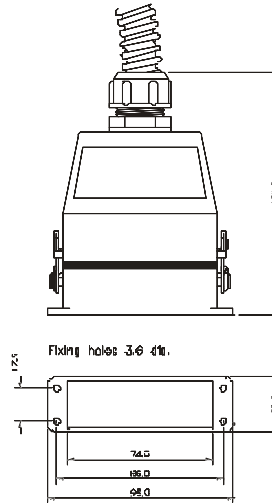
Pin	Zone	Circuit
1	1	T/C+
2	1	T/C-
3	1	Supply
4	1	Return
5		none
6	2	T/C+
7	2	T/C-
8	2	Supply
9	2	Return
10		none



HRS-4HL

Connections

Pin	Zone	Circuit
1	1	T/C+
2	1	T/C-
3	1	Supply
4	1	Return
5	2	T/C+
6	2	T/C-
7	2	Supply
8	2	Return
9	3	T/C+
10	3	T/C-
11	3	Supply
12	3	Return
13	4	T/C+
14	4	T/C-
15	4	Supply
16	4	Return



Equipment failure through mis-wiring

Before you energise the system, pay special attention to how the supply to your controller is wired and how it is connected to the mold.

Errors occur through lack of attention to detail such as:

- incorrect wiring of mains supply phases into the controller
- crossing heater supply feeds with thermocouple detection (although this error can be eliminated by the adoption of PMS Standard connections)

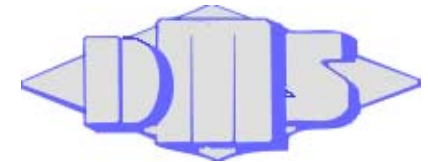
In such cases wiring errors have caused equipment failure.

PMS cannot be responsible for damage caused to the controller by customer wiring and/or connection errors.



HRS-HL User Guide

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