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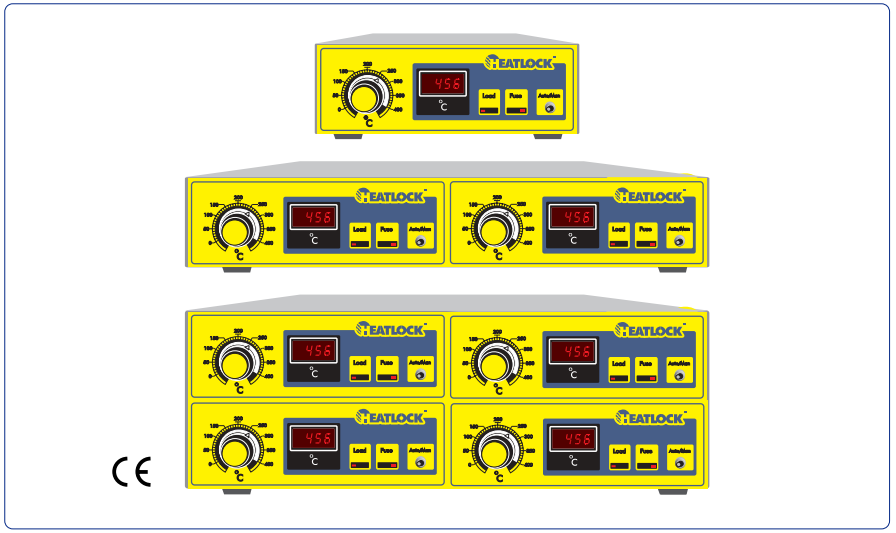

HLDC - Digital Controllers

Heatlock Digital Controllers comprise:

HLDC-1/06	one zone 6 amps, including loom & loom connector.
HLDC-2/10	two zones 10 amps, including loom & loom connector.
HLDC-4/10	four zones 10 amps, including loom & loom connector.

General

The HLDC is a precision microprocessor controller with many advanced features such as:

- load recognising self tuning.
- soft start heater protection and error messages.

The control program is more advanced than conventional PID systems and offers the speed of response and super accuracy required by todays demanding thermoplastic materials and cycle times.

In Use

For closed loop operation just select "Auto" with the switch and dial in the set temperature. When the dial is moved the 4 digit display shows the new set point selection and after a few seconds reverts back to the actual temperature reading.
For open loop operation (when there is a faulty or no thermocouiple) select "Man" with the switch and dial in the percentage power setting. The display will show the setting accurately.

Faults

In addition to the two LEDs for fuse (indicates the powert output fuse has blown) and load (flashes are directly related to % power output), the display will also indicate the following faults:
-ERR!=reversed t/c.
-TC!=open circuit thermocouple.
The fuse is located in the rear panel.

The control program

The super accurate and self tuning control program is shared with the most sophisticated systems designed by a World leader in hot runner control. On start up the power is increased gradually to dry out the heater. The program then runs a "load test" and self tunes so that probe, nozzle or manifold zones are controlled at the correct speed. The program then makes constant adjustments to achieve set points; just like a heat seaking missile chasing a moving target. The result is that setpoint is reached safely and quickly with negligible overshoot. Response to cyclic changes is exeptional and straight line control is achievable even on difficult applications.

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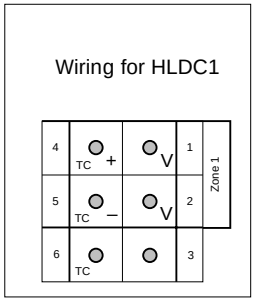
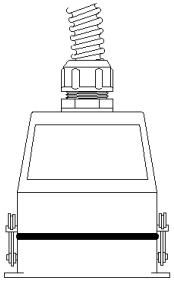
HRS Controller Fuses				
Model	Item no.	Output Fuse	Item no.	Supply Fuse
HLDC				
1 zone 6A	HLDCOP063FF	6.3A FF 20mm	HLDCIP063QF	6.3A Quick Blow 20 mm
2 zone 6A	HLDCOP063FF	6.3A FF 20mm	HLDCIP120QF	12A Quick Blow 1.25"
4 zone 6A	HLDCOP063FF	6.3A FF 20mm	HLDCIP160QF	16A Quick Blow 1.25"
2 zone 10A	HLDCOP100FF	10A FF 1.25"	HLDCIP120QF	12A Quick Blow 1.25"
4 zone 10A	HLDCOP100FF	10A FF 1.25"	HLDCIP160QF	16A Quick Blow 1.25"

Dimensions	Length	Diameter
20mm	20mm	5mm
1.25"	1.25"	0.25"

CONNECTORS	
MASKINHA06	male
MASKINHO06	female
MASKKAFL06	housing
MASKKAKT06	hood
MASKINHA10	male
MASKINHO10	female
MASKKAFL10	housing
MASKKAKT10	hood
MASKINHA16	male
MASKINHO16	female
MASKKAFL16	housing
MASKKAKT16	hood



HLDC1



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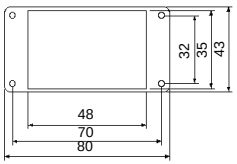
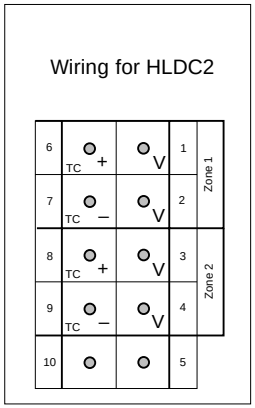
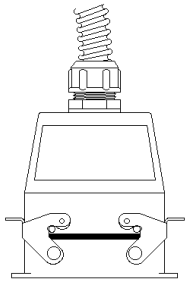




HLDC2



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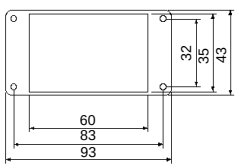
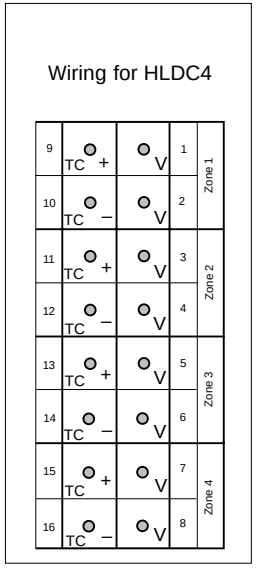
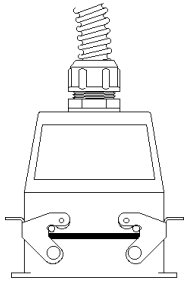
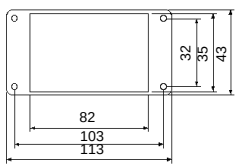




HLDC4



screwhole Ø4.4



DIGITAL CONTROLLERS

HLDC User Guide

General Description

The HLDC can have 1, 2, or 4 control zones.

The front of the HLDC has a control panel which consists of a display, control knob, mode switch, and 2 LED indicators for each zone.

Display-	This is a `star burst`4 character display. This will display one of the following: 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 (see Error list).
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 blown fuse.
Mode switch-	This is used to select the mode of the zone. To the left selects Auto (closed loop) control. To the right selects Manual (open loop) control.

Error Messages

When in Auto (closed loop) mode, instead of the actual temperature a flashing error message may be displayed.

T/C	The termocouple has been detected as open circuit.
ERR!	No temperature rise. Thermocouple reversed, thermocouple pinched, faulty heater or faulty wiring.

Specifications

The following are general specifications. The actual controller supplied may differ in specified options.

Supply Voltage:	208v - 240v single phase 50/60 Hz.
Supply Amps:	13 amps total. (7 amps on HLDC-1).
Voltage Output:	Burst fired, zero crossover.
Control Method:	Open or closed loop.
Triac rating:	15 amps at 240v AC.
Zone rating:	Maximum of 6 amps per zone (total not to exceed 13 amps).
Overload protection:	High speed semiconductor fuse links.
T/C input:	Iron Constantine FE/Con type `J`.
Control range:	0 - 400 Centigrade (Celcius).
Scale:	Centigrade (Celsius).
Display:	4 character `star burst`.
Case:	Metal case, size dependent on cofiguration.

Auto - Closed Loop Control

Select Auto on the Mode selection switch (switch in the left position).
Use the control knob to the required temperature. While the knob is being turned the display will show an arrow and the set temperature.

Man - Open Loop Control

Select Man on the Mode selection switch (switch in the right position).
Use the control knob to set the required percentage power

Notices:

These controllers are designed primarily for use within the plastic injection moulding industry and should not for any other purpose without fist consulting a senior engineer from Heatlock.

The controller should be used in dry environment only.

The controller must 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 supply requirements etc.

Warning!

Always re-fit High Rupture Current load fuses in the event of fuse rupture. Failure to do so will cause damage to the cotroller on subsequent fuse failures.

This guide is intended for use with the HLDC range of controllers. The actual model designation depends on the number of zones wired. E.g. A HLDC with 4 zones wired would have a model designation of HLDC-4.

Notice: This guide may be changed and/or updated without notification

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