HASCO®

Präzision für den Formenbau.

Operating instructions

H 1250/…

HASCO®

Präzision für den Formenbau.

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1. Introduction

The HASCO H 1250 control unit offers precision control and practically orientated operation.

2. Special Features

- 1 to 2 control zones
- Optimum control performance
- Programmable soft start
- Power display in amps and % output
- Clear alarm diagnosis
- Manual or automatic switch to manual mode
- Boost function
- Temperature reduction
- Thermocouple monitoring
- Heating circuit monitoring

CE The H 1250… control unit satisfies the key protection requirements as per the EU Directives.

3. Technical Data

	H 1250/1/16	**H 1250/2/16**
Dimensions (W x H x D)	210 x 160 x 100	210 x 160 x 100
Mains voltage standard	230VAC ±10% / 50 – 60 Hz	400V 3N ~ ±10% / 50 – 60 Hz
Unit protection, external	16A	16A / Phase
Power output	Semi-conductor end stage, 250V~, max. 16 A	Semi-conductor end stage, 250V~ max. 16 A
Thermocouple	Fe-CuNi Type J	Fe-CuNi Type J
Control range	30 – 500°C	30 – 500°C
Control accuracy	Less than 1°C under optimum conditions	Less than 1°C under optimum conditions
Ambient temperature	10 – 40°C	10 – 40°C
Power fuse	FF 16A / 500V	FF 16A / 500V
Protection type	IP 21 / EN 60529	IP 21 / EN 60529

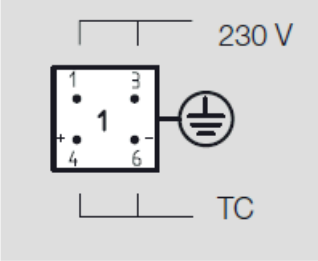
Switching off all the outputs or individual zones will not protect any of the outputs against hazardous voltages!
Before working on the connected heating elements, the associated connections must be unplugged, or the entire H 1250 control unit disconnected from the mains power!
Before the H 1250 is opened, it must be disconnected from the mains power!

4. Electrical connection

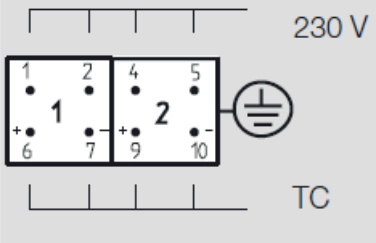
The H 1225/... power/signal cable is to be used for the power and thermocouple connections between the tool and the control unit.
If all the control zones in the H 1250 /. . . are used, it is essential to observe the following:
The maximum power consumption of 3600 W (single zone) or 7200 W (2 zone) must not be exceeded!

Pin diagram

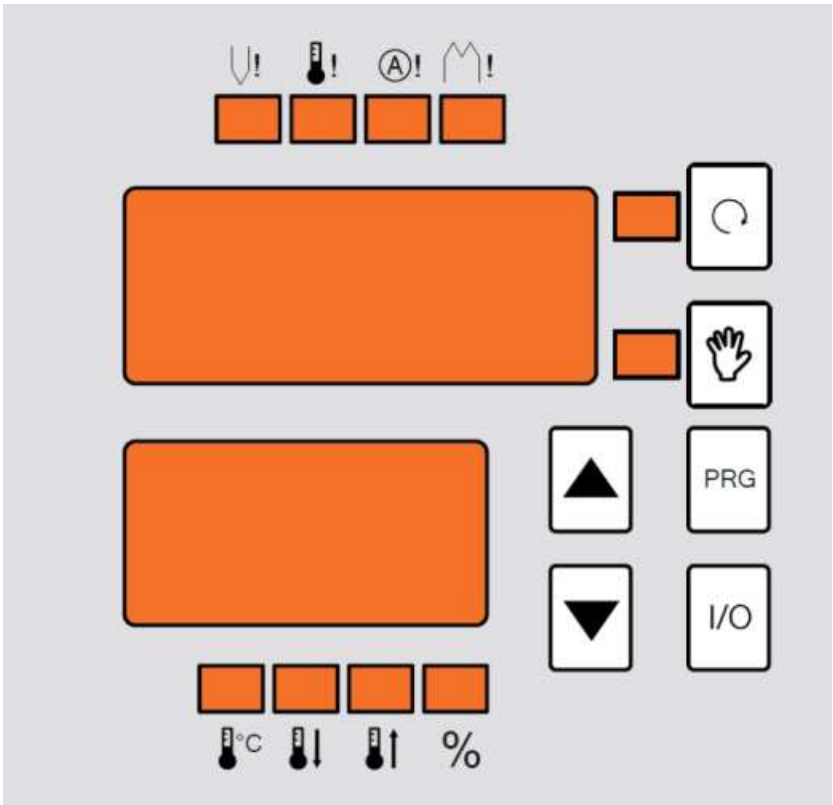
H 1250/1/16



H 1250/2/16



5. Button and display functions



6. Displays

Actual value display

Actual temperature in °C
Parameter - menu items

Set point display

Set point temperature in °C
Power output in amps and heating output in % - see switch over buttons for automatic control and PRG.
Parameter values
Operating mode
Manual mode
Reduced temperature
Boost function

6.1 Alarm displays

Thermocouple error

Lights continuously when a thermocouple is broken or reversed.
The actual value display shows **"- - -".**
If automatic actuator operation is activated, the current heating power of the controller appears in the set point display after a short time.

Temperature deviation

Lights during the heating phase until the setpoint temperature is reached,
and if the temperature falls below the set limit temperatures.

Excess current

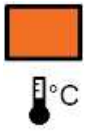
Lights up if the set maximum current is exceeded.

Heating circuit interrupted

Lights up in the event of a defective FF16A fuse on the module, or with a heating failure or cable fracture.

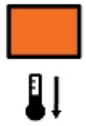
6.2 Function displays

Set point value



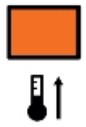
Temperature display °C

Second set point value temperature reduction



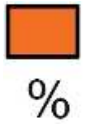
Display for "**lowering the set point temperature**", factory setting 150°C.
The temperature can be changed with the arrow buttons.
This function is activated via the **PRG** button.
This requires the control unit to have been deactivated via the **I/O** button.
Set point value display = **OFF**
If the control unit is switched off and on again with the main power switch,
Previous set point is reactivated.

Third set point value temperature increase



Display for "**raising set point temperature**", factory setting 250°C.
This can be changed with the arrow buttons.
This function is activated via the **PRG** button.
This requires the control unit to have been deactivated via the **I/O** button.
Set point value display = **OFF**
If the control unit is switched off and on again with the main power switch,
Previous set point is reactivated.

Heating output



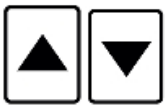
The  button can be used to display the current heating output in % in the set point value display.

7. Function buttons

On - off button

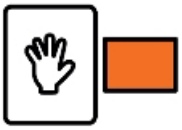
This activates and deactivates the control unit.

Up - down buttons



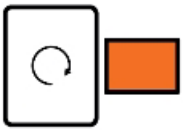
Select set point temperature.
Change parameter values.

Manual mode button



Activate manual mode.

Automatic mode / current value button



Activate automatic mode.
Current measurement.

8. Controller start-up

8.1 Switching on / soft start

After a careful check of the cables, connect the tool to the control unit.

Switch on the control unit at the main switch.

Use the arrow buttons to activate the se tpoint display and enter the desired setpoint value.

The controller module is switched on with the I/O switch and the soft start is activated for 5 minutes (factory setting) up to 120°C max. **SOF** appears in the se tpoint value display.
The "Temperature deviation" alarm display will light up.
After the soft start has been completed, the pre-set set point value will be displayed.
The control unit now heats up the tool uniformly.
The "Temperature deviation" alarm display will light up.

Once the set point temperature on the unit has been reached, production can be run with the calculated parameters.
The "Temperature deviation" alarm display will go out.
If malfunctions occur during start-up, the reason for the error will be shown by the appropriate displays on the control unit (see Page 5).

The soft start can be bypassed by pressing the automatic control / PRG button combination.
The automatic mode button must be pressed first in this case.
After switching the unit off and on with the mains power switch, the soft start will be active again.
The soft start can be permanently deactivated via parameter 17 (page 8).

Note! The soft start provides protection for the electric components.

It is recommended to run a soft start!

8.2 Manual mode

Manual mode is called up by pressing the "**Manual mode**" button.

The desired heating output (%) is set with the aid of the arrow buttons.

9. Programming

The programming function is activated by pressing the **PRG** button (for about 3 sec.).

The first menu item **"P00"** appears in the actual value display.

The setpoint value display shows the value of the parameter.

This can be changed with the arrow buttons.

Pressing the **PRG** button twice again will call up the next parameter.

To exit program mode, the **PRG** button must be pressed for approx. 3 sec.
The control unit confirms that the changed parameters have been permanently saved by the decimal point in the top right-hand display blinking for a short time.
The temperature control will continue to operate normally in parameter mode.

9.1. Reset all parameters / factory settings

To return all the parameters to the factory setting, the "**PRG**" button must be briefly pressed at the same time as the operating voltage is switched on with the mains power switch. "**RES"** appears in the display**.**

10. Menu items

	Menu items	Ex works	Value range	Comment
P00	**Offset cold junction temperature**	0	-9.9 – 9.9	°C
P02	**Re-determine control parameters**	1	0 – 1	1= activated
P03	**Edit established dead time**	X	0 – 100	
P04	**Manual entry of dead time**		0 – 100	
P05	**Display residual time soft start**	X		sec.
P06	**Soft start duration**	300	120 – 999	sec.
P07	**Upper temperature alarm limit**	10	0 – 500	0 = deactivated
P08	**Lower temperature limit**	10	0 – 500	0 = deactivated
P09	**Temperature alarm mode**	1	0 = Off / 1 = ON	
P10	**Min. load current**	0.2 A	0 – 16 A	0 = deactivated
P11	**Max. heating output for soft start**	35%	0 – 100%	
P12	**Max. heating output after soft start**	100%	0 – 100%	
P13	**Max. heating output in manual mode**	100%	0 – 100%	
P14	**Conversion 50 / 60Hz**	50Hz	50 – 60Hz	
P15	**Language**	0	0 – 1	0 = German 1 = English
P16	**Display brightness**	0	0 – 1	
P17	**Soft start ON = 1 / OFF = 0**	1	0 -1	
P18	**No soft start as of actual temperature**	100°C	50 – 100°C	
P19	**Max. setpoint value**	500°C	30 – 500°C	
P20	**Automatic switch to manual mode**	0	0 -1	0 = deactivated

1. Safety information

Connecting cable H 1225/... and connection housing H 1227/. . . are to be used for the electrical connections (power and thermocouple connections) between the control unit and the tool.
This guarantees optimum control accuracy.
The control units are coordinated with HASCO's range of standard elements.
No guarantee of trouble-free functioning can be given if components from other companies are used.
Connection, repair and maintenance work may only be carried out by trained electrical technicians.
During work on the control units and on the cables, devices, machines and tools connected to them, all parts must be disconnected from the mains power.
The system must also be safeguarded against being unintentionally turned on again.
The H 1225/. . . power/signal cables must be regularly inspected for mechanical damage and replaced if necessary.
The units must be positioned so that they are free-standing, to ensure sufficient ventilation and cooling.
The control units must be protected against moisture and wet.
The units are to be used in a technically meaningful way.
Before changing the fuse, the unit must be disconnected from the mains power.
Only experienced users should operate this equipment.

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