

TECHNICAL SPECIFICATION

Main characteristics:

Power supply	3x230 VAC +10% -20%
Consumption	45 VA max.
Dimensions (w, h, d)	491x168x392 mm
Protection	IP40
Operating conditions	0-45 °C / 0-70% RH without condens
Connectors	HD16 or HD24

Control:

Algoritm	PID
Output control	PWM
PWM resolution	10ms

Sensor inputs:

Range:	
-TC type J	-99°C to 750 °C
-TC type K	-99°C to 500 °C
Measurement error	±0,2 % ±1LSB (from 0 toTmax)
Ambient temperature error	± 1 °C max
Sensor resistance	50 Ohm max
Measurement interval	1 sec
Input digital filter	13 Hz
Measurement resolution	12 bitsVDC

Outputs:

Output switching element	zero-crossing triac
Output voltage	230 VAC nom
Type of output modules for current density	8x4(6)A,4x8(16)A,2x12(24)A,1x16A
Isolation between outputs and digital part	1000 VDC

Serial interface:

Physical level	RS232 or RS485
Protocol	RI485 or MODBUS
Speed	9600 or 38400 bps
Number of nodes	1..31

ORDER CODES

Device	Order code
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Base units:

HR8 base unit without outputs	HR8MF
HR16 base unit without outputs	HR16MF
HR24 base unit without outputs	HR24MF

Outputs:

8 outputs x 4A (6A)	HR-O8(H)
4 outputs x 8A (16A)	HR-O4(H)
2 outputs x 12A (24A)	HR-O2(H)
1 output x 16A (32A)	HR-O1(H)

Cables:

Cable for heaters 8/12/16 zones up to 1kW X meter	HR-8/12/16H1X
Cable for heaters 8/12/16 zones up to 2kW X meter	HR-8/12/16H2X
Cable for heaters 8/12/16 zones up to 3kW X meter	HR-8/12/16H3X
Extension cable 8/12/16 zones type J/K - X meters	HR-8/12/16TCJ/KX

Accessory:

Mobile stand HR	HR-CYC
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Contacts

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NEW

HOT RUNNER SYSTEM HR4 / HR8 / HR16 / HR24



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HR4 / HR8 / HR16 / HR24

HOT RUNNER SYSTEM

HR is a multi-channel microprocessor thermoregulator, designed for managing heaters of matrix nozzles and channels via hot runner system. It is particularly developed to obtain maximal flexibility and reliability of the system, as well as for easy and a convenient customer use. HR is also opened to connection to another control system. The device is lightweight, convenient and compact.

FLEXIBILITY

- 4 available models HR4, HR8, HR16 and HR24 with up to 4, 8, 16 and 24 zones respectively;
- Possibility of join work with several HR devices for accomplishing management of more zones;
- Management of the zones via PID regulation with adjustable parameters;
- Possibility to attach output modules with various power rates to each model;
- Option for automatic or manual management of the output for each zone;
- Possibility to attach manually the output of one zone to another zone;
- Individual setup of emergency limits for each zone;
- Output of the signals on the industrial HD connectors with or without cables as requested by the client.

RELIABILITY

- Possibility for initial "soft start" of the heating for drying up the heaters;
- Possibility for simultaneous increase in the temperatures of all

zones after starting the heating (pre-heat);

- Possibility for automatic attachment of the output of one zone to another in case of broken thermo sensor;
- Continuous diagnostics and alerts for errors in the memory: broken thermo-sensor, not heating or overheating of a zone, temperature over the limit, temperature outside specified or emergency limits, overheating of the output modules and device, etc;
- Storage of parameters in power-independent FLASH memory chip;
- Protection against change of the important parameters via password on "Set-up" level;
- Switching of power components with

OUTPUT MODULES

In each device can be placed up to three output modules. The types of modules are:

- 8 outputs for 4A
- 4 outputs for 8A
- 2 outputs for 12A
- 1 output for 16A
- 8 outputs for 6A with additional air cooling
- 4 outputs for 16A with additional air cooling
- 2 outputs for 24A with additional air cooling

The ability to place multiple types of modules allows to cover the requirements for different output powers.

LED "t° ok", indicating that all temperatures are in the preset limits

Current temperature

Quick buttons for displaying of:

Set point

% of output power

The difference between set point and current temperature

Quick fuses type FF for protection of outputs

on each channel- LEDs OUT for state of the outputs and ALR for accident

Bright 3-digit LED display on each channel for maximum convenience

Buttons for temporarily boost (BOOST) and reduction (STANDBY) of temperature on all channels

On 4x20 LCD display you can: set the parameters of all channels, retain 10 recipes and receive detail information about state of the device

ALARMS

- Accidents, which the device monitors are:
- sensor failure
 - heater failure
 - temperature of heater above the maximum
 - temperature of heater beyond specified "temperature OK"
 - temperature outside specified emergency limits
 - overheating of the output modules
 - overheating of the device
- In case of accident: lights the common alarm LED on the front panel, the LEDs ALR of the respective channels and the emergency exit on the rear panel switch-on.

- Bright 3-digit 7-segments indicator on each zone for monitoring from a distance of the parameters: set point, current temperature, output power percentage, difference between preset and current temperature, etc.;

- LEDs on each channel for indication the state of heater or error;
- Common LED indicates that the temperatures of all zones are in the specified limits;

- Operator-level simplified menus;
- Independent buttons for start, stop, increase or decrease the temperatures of all zones;
- Possibility for individual or simultaneous setup of parameters;
- Possibility for storing up to 10 settings of all parameters (recipes) for quick preset when changing the molds;
- Built-in settings of the PID regulator for two types of zones "warm plate" and "nozzle";
- Easy access to the output fuses on the front panel.

SCALABILITY

- Available external digital input, adjustable as "Start/Stop", "STANDBY" or "BOOST" to control HR via the output of another device;
- Available external relay output, adjustable as: "Start/ Stop", "Alarm" or "Temperatures OK" for signalization to another devices;
- Possibility to connect to a network or computer via RS485 interface (own protocol or MODBUS) or RS232 for joint control, monitoring observation and a backup of the temperatures.

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CONVINIENCE

- Digital and navigating keyboard and 4x20 LCD for adjustment of the parameters;