Valid for
item numbers:

66010.001 (1-zone)
66010.002 (1-zone)
67010.024 (4-zone)
67010.026 (6-zone)
67010.028 (8-zone)
67010.012 (12-zone)

HPS-C-E
Hotrunner Controllers

Operating manual
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General safety notes

Disconnect before working on the controller. Mains switch must be OFF and plug disconnected.

Connection, repair and maintenance by qualified staff only!

Before start up the controller must be checked according to EN 60204-1:1992 or general rules of engineering.

The power supply of the controllers should be connected with the heating of the machine. If the heating is switched off automatically, the hotrunner system is likewise switched off then.

The connected parts may be hotter. Please take all necessary precautions before starting the system.

The fan, air ducts and electronic components should be cleaned in intervals of 3 to 6 months (depending on pollution).

Cables, plugs and contact springs should be checked and - if necessary - cleaned or exchanged periodically

Field of application:
This EWIKON controller can operate our 5V hotrunner systems in dry industrial rooms.

General technical data

General technical data:
230/400V +6 / -10 %, 50 / 60 Hz

Protective system:
IP 33

Power output:
5V AC / 125A each zone

Thermocouple:
FeCuNi Type L

Decrease:
With a potential free ( NO ) relay contact in the machine.

Malfunction:
When there is a malfunction of the hotrunner system, the cycle can be interrupted by a potential free contact ( relay 250 V / 2 A ). An optical or acoustic alarm announces the malfunction.

Temperature control:
PID with soft start:
The optimum control characteristic is achieved with a phase proportioning control.

Operating range:
Amperage control: 10 - 125 A
Decreasing: 0 - 49 A
Thermocouple control: 90 - 399 °C
Decreasing: 0 - 99 °C

Environmental conditions:
0-50°C

Fault code
1 = Operating fault
2 = Excess current
3 = Disconnection
Broken fuse
4 = Triac defect
6 = Thermocouple defect
Analog control system 5 V

Dimensions, Weights, Connection values, Power

<table>
<thead>
<tr>
<th>Zone</th>
<th>No.</th>
<th>a mm</th>
<th>b mm</th>
<th>c mm</th>
<th>kg</th>
<th>Power</th>
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<td>435</td>
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<td>570</td>
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<td>570</td>
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Type: 66010.001... / 66010.002... / 67010.024...

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<th>Version</th>
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<th>Power supply</th>
<th>Mains plug</th>
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<td>-</td>
<td>230 Volt</td>
<td>Schuko 16A</td>
</tr>
<tr>
<td>E</td>
<td>-</td>
<td>240 Volt</td>
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</tr>
<tr>
<td>J</td>
<td>-</td>
<td>208 Volt</td>
<td>without</td>
</tr>
<tr>
<td>U</td>
<td>-</td>
<td>240 Volt</td>
<td>USA - Standard</td>
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<tr>
<td>B</td>
<td>-</td>
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Type: 67010.026... / 67010.028... / 67010.012...

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<th>Power supply</th>
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<td>230 Volt</td>
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<tr>
<td>E</td>
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<td>Δ Delta</td>
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<td>Δ Delta</td>
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<tr>
<td>B</td>
<td>Δ Delta</td>
<td>230 Volt</td>
<td>without</td>
</tr>
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</table>
Analog control system 5 V

Summary
Analog control system 5 V

Operation

Combined module 60040.009

01: Green control light: Operating indicator
02: Red control light: Module defective
03: Red control light: Defect in one ore more control modules
04: External signal source for decreasing current to all control modules. When active the red light in the push button is on.
05: Push button for decreasing
06: Output fault

SR-Module 60040.011

01: Digital indicator of actual temperature in amperes or °C
02: Set-value switch for setting of requirement current in A or temperature in °C
03: Set-value switch for adjustment of current decreasing value in ampere or temperature in °C
04: ON/OFF switch to separate the SR-modules from the power modules.
05: Green control light as operation indicator for mode “amperage control”. Input and output data in A (Ampere).
06: Green control light as operation indicator for mode “thermocouple control”. All input and output data in °C. When switching the module on, the display flashes until the set temperature is reached. Production can be started after this optimization phase only.
07: Red control light as fault indicator. Fault code appears in left portion of the display (No.1):
   1. Operating fault
   2. Excess current
   3. Disconnection
   4. Triac defect
   6. Thermocouple defective

If during production a thermocouple fails, the module shows “fault”. By switching the module off, setting a current value, and switching the module on again, production can continue. The hotrunner system continues operation in “amperage control” mode.
Components of the controllers

01: Combined module
02: SR-modules
03: Binding post 5V connection
04: Thermocouple connection zone 1
05: Main switch
06: Fuse T10A
07: Power cable
08: Circuit breaker
09: Thermocouple connection Zones 1-8
Components of the controllers

01: Combined module
02: SR-module
03: Binding post 5V connection
04: Thermocouple connection
05: Main switch
07: Power cable
08: Circuit breaker 16 A
09: Thermocouple connection Zones 1-8
Analog control system 5 V

01: Combined module
02: SR-module
03: Binding post 5V connection
04: Thermocouple connection zone 1
05: Main switch
09: Thermocouple connection Zones 1-12

Circuit breaker is positioned inside the controller. Remove top of case.
Start up

Hotrunner 5 V

Connect the thermo collective cable or the thermo cable for zone 1.

Connect power cable.

Check that all connections are fastened tight. Otherwise the components can be damaged due to the high output current.

Heat up each zone separately for a short while to check if the power- and thermocouple zones are assigned properly.

For operation of modules see page 6.

Terminal pin-out

Power case
Connection

Thermo connection
Plug with pin insert

<table>
<thead>
<tr>
<th>Zone</th>
<th>+ red</th>
<th>- blue</th>
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</thead>
<tbody>
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<td>9</td>
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<tr>
<td>12</td>
<td>20</td>
<td>28</td>
</tr>
</tbody>
</table>

Pin assignment of the socket-error signal
1 (-) blue (Konstantan)
2 (+) red (Iron)
Analog control system 5 V

**Pin assignment of decreasing socket**

A: Decreasing socket  
B: Machine or  
C: Limit switch

1 + 2: Potential free (NO) relay contact of the machine or limit switch with NO contact.

3: Vacant

In case of malfunction of the machine the decreasing of all zones can be activated. Decreasing is active as long as the contact remains closed.

Attention!  
Do not connect other voltage.

Connecting cable external decreasing, length 3m, with plug (No. 10694)

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**Pin assignment of the socket-error signal**

A: Socket-error signal  
Potential free (NO + NC) contact of the single zone controller. Max. power 2A/250V

1 + 2: Closed in case of fault, hotrunner “OFF” or power supply failure.

2 + 3: Closed under all other operating conditions

In case of a malfunction of the hotrunner system and in case of disconnection from mains a signal can be given to the injection moulding machine (e.g. machine STOP or an optical or acoustical signal).

Connecting cable fault registration, lengths 3m, with socket (No. 10693)
Fault description

In case the module recognizes a fault, the zone or the controller is switched off.

The fault code is displayed in the left segment of the actual value display.

Fault codes:
Display in the SR-module (left display segment)

1 Operating fault
   Check setting values

2 Excess current
   Check connections and cables

3 Open circuit or fuse
   Check cable and electrical connection, check fuse

4 Triac defect
   Exchange module

6 Thermocouple defective
   Check thermocouple and connections
We hereby confirm that the products described below conform to the essential protection requirements of the following European Directives

2006/95/EC „Low Voltage Directive“

and

2004/108/EC „EMC directive“

with respect to their design type. This requires that the products are used for their intended purpose and that the assembly and operating instructions are observed.

Alterations made to the product will void the declaration of conformity.

Producer: EWIKON Heißkanalsysteme GmbH
Siegener Straße 35
35066 Frankenberg / Germany
phone: +49 (0) 6451 / 501-0

Product: HPS-C-E hotrunner controllers for the operation of 5 V hotrunner systems - analogue control system

Type:
- 66010.001 ; 1-zone controller without combined module
- 66010.002 ; 1-zone controller with combined module
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- 67010.026 ; 6-zone controller
- 67010.028 ; 8-zone controller
- 67010.012 ; 12-zone controller

Applied standards:
- DIN EN 61010-1: 2011-07 “Safety requirements for electrical equipment for measurement, control, and laboratory use - part 1”
- DIN EN 61000-6-2: 2006-03 “Immunity for industrial environments”
- DIN EN 61000-6-4: 2007-09 “Emission for industrial environments”

Note: It is necessary to use genuine connecting cables outside the device to meet the requirements according to DIN EN 61000-6-2 and DIN EN 61000-6-4.

Frankenberg, 02 April 2012

Dr. Peter Braun
Managing Director