

# EWIKON

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

# EWIKON

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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

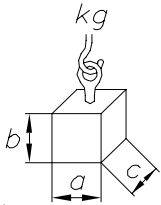
3 = Disconnection

Broken fuse

4 = Triac defect

6 = Thermocouple defect

## Dimensions, Weights, Connection values, Power



Zone	No.	a mm	b mm	c mm	kg	Power
1	66010.001...	365	180	435	14	625 VA
1	66010.002...	365	180	435	14	625 VA
4	66010.024...	315	613	570	55	2.50 kVA
6	67010.026...	315	1015	570	82	3.75 kVA
8	67010.028...	315	1015	570	100	5.00 kVA
12	67010.012...	620	870	570	152	7.50 kVA

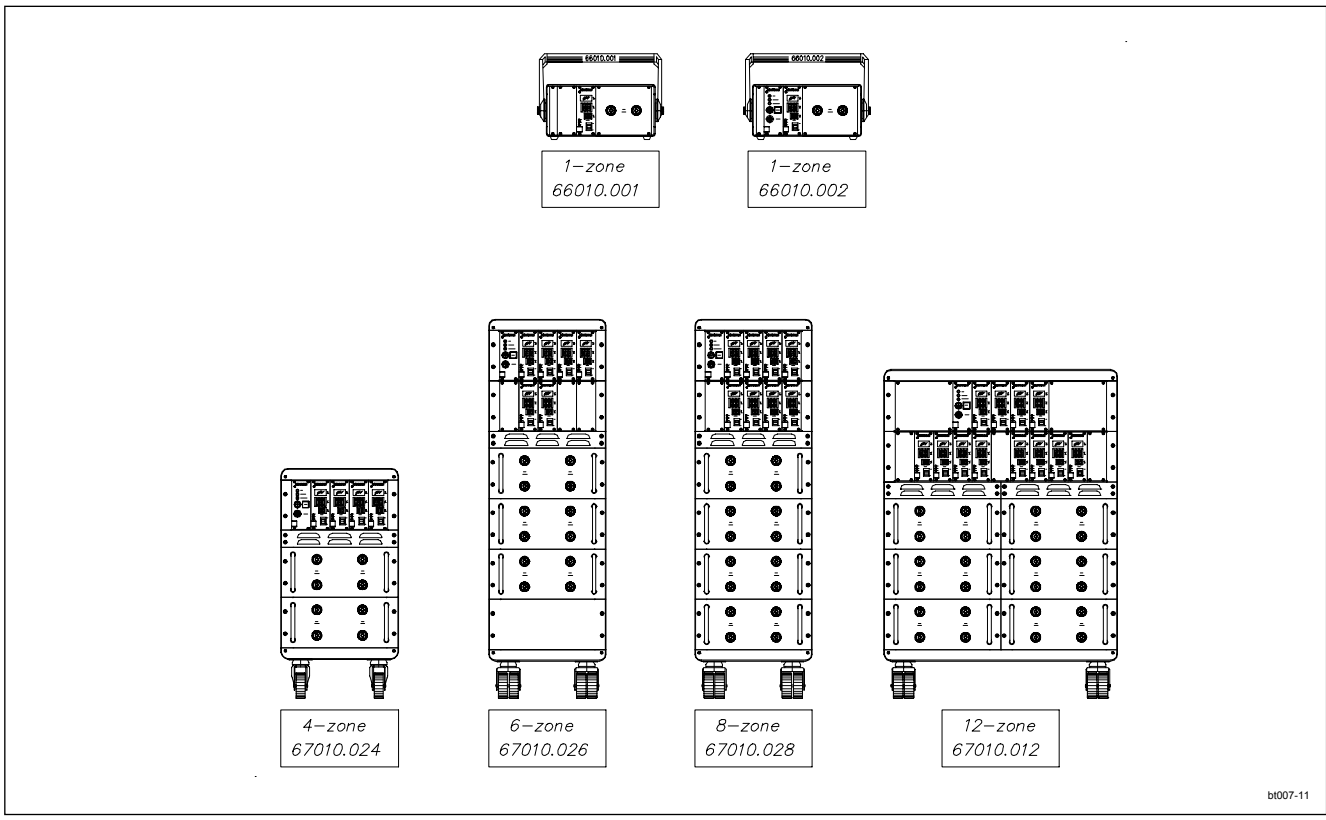
### Type: 66010.001... / 66010.002... / 67010.024...

Version	Mains wiring	Power supply	Mains plug
D	-	230 Volt	Schuko 16A
E	-	240 Volt	Schuko 16A
J	-	208 Volt	without
U	-	240 Volt	USA - Standard
B	-	230 Volt	without

### Type: 67010.026... / 67010.028... / 67010.012...

Version	Mains wiring	Power supply	Mains plug
D	Y Star	230 Volt	CEE16A
E	Y Star	240 Volt	CEE16A
J	Δ Delta	208 Volt	without
U	Δ Delta	240 Volt	USA - Standard 20A
B	Δ Delta	230 Volt	without

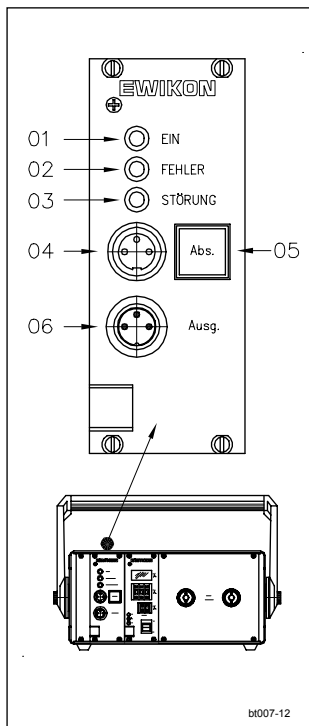
**Summary**



## Operation

### Combined module 60040.009

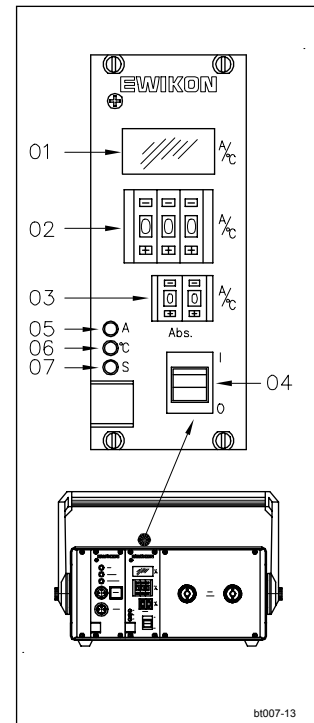
- 01: Green control light: Operating indicator
- 02: Red control light: Module defective
- 03: Red control light: Defect in one or more control modules
- 04: External signal source for decreasing current to all control modules. When active the red light in the push button is on.
- 05: Push button for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



### SR-Module 60040.011

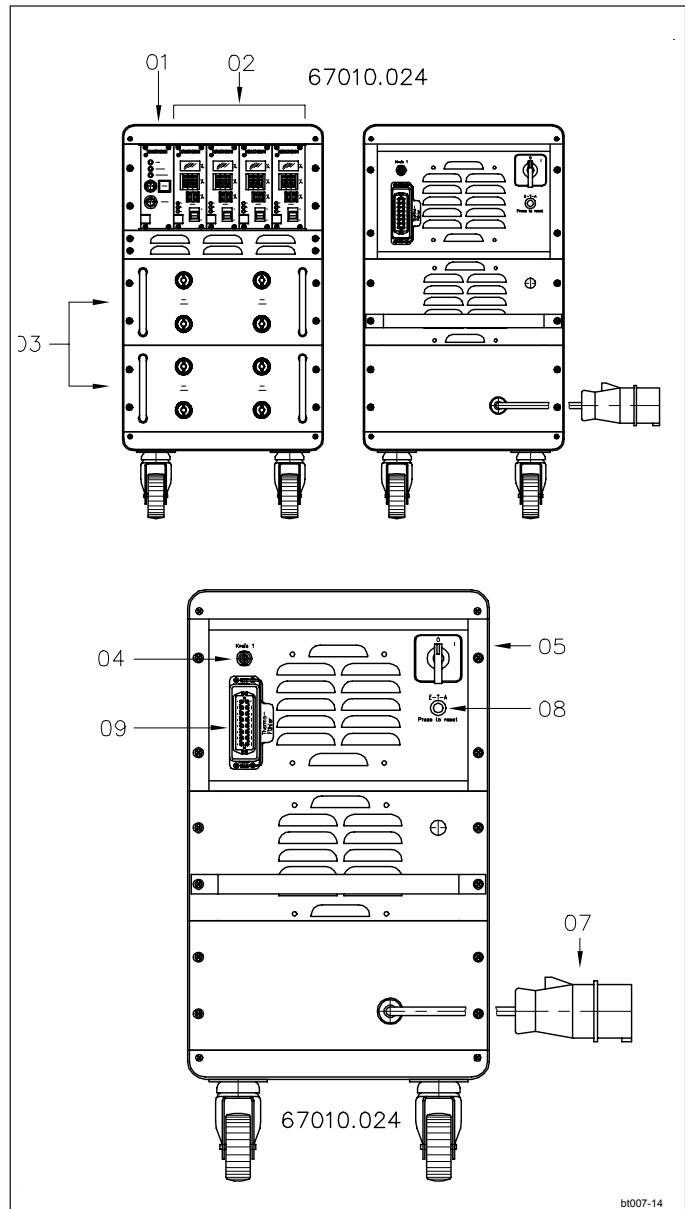
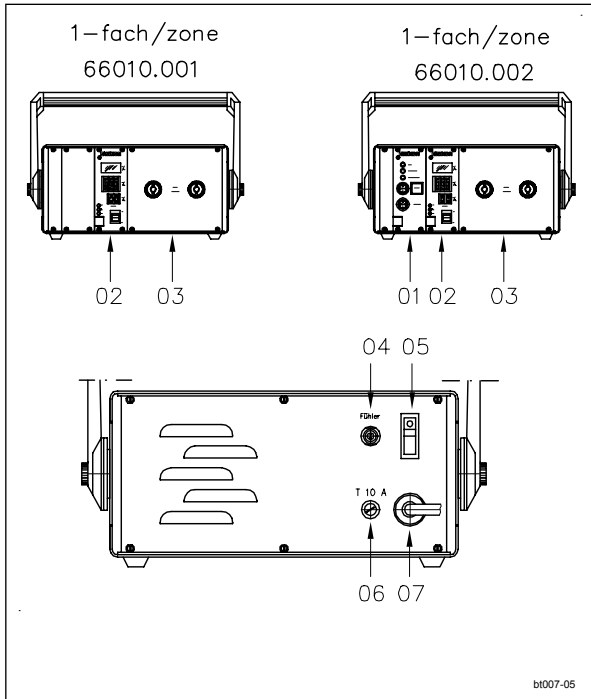
- 01: Digital indicator of actual temperature in amperes or °C
- 02: Set-value switch for setting of requirement current in A or temperature in °C.
- 03: Set-value switch for adjustment of current decreasing value in ampere or temperature in °C
- 04: ON/OFF switch to separate the SR-modules from the 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.



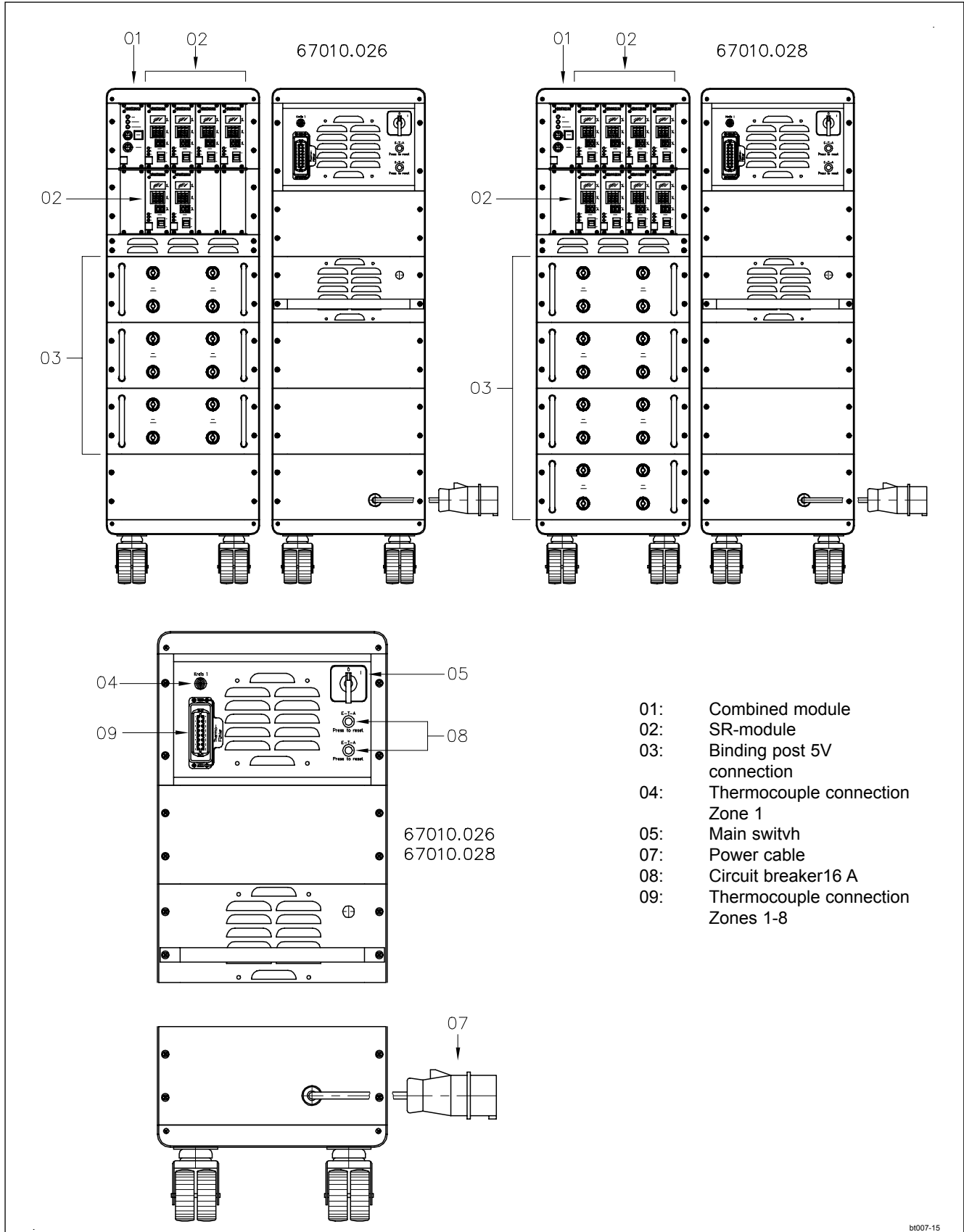
## Analog control system 5 V

### Components of the controllers

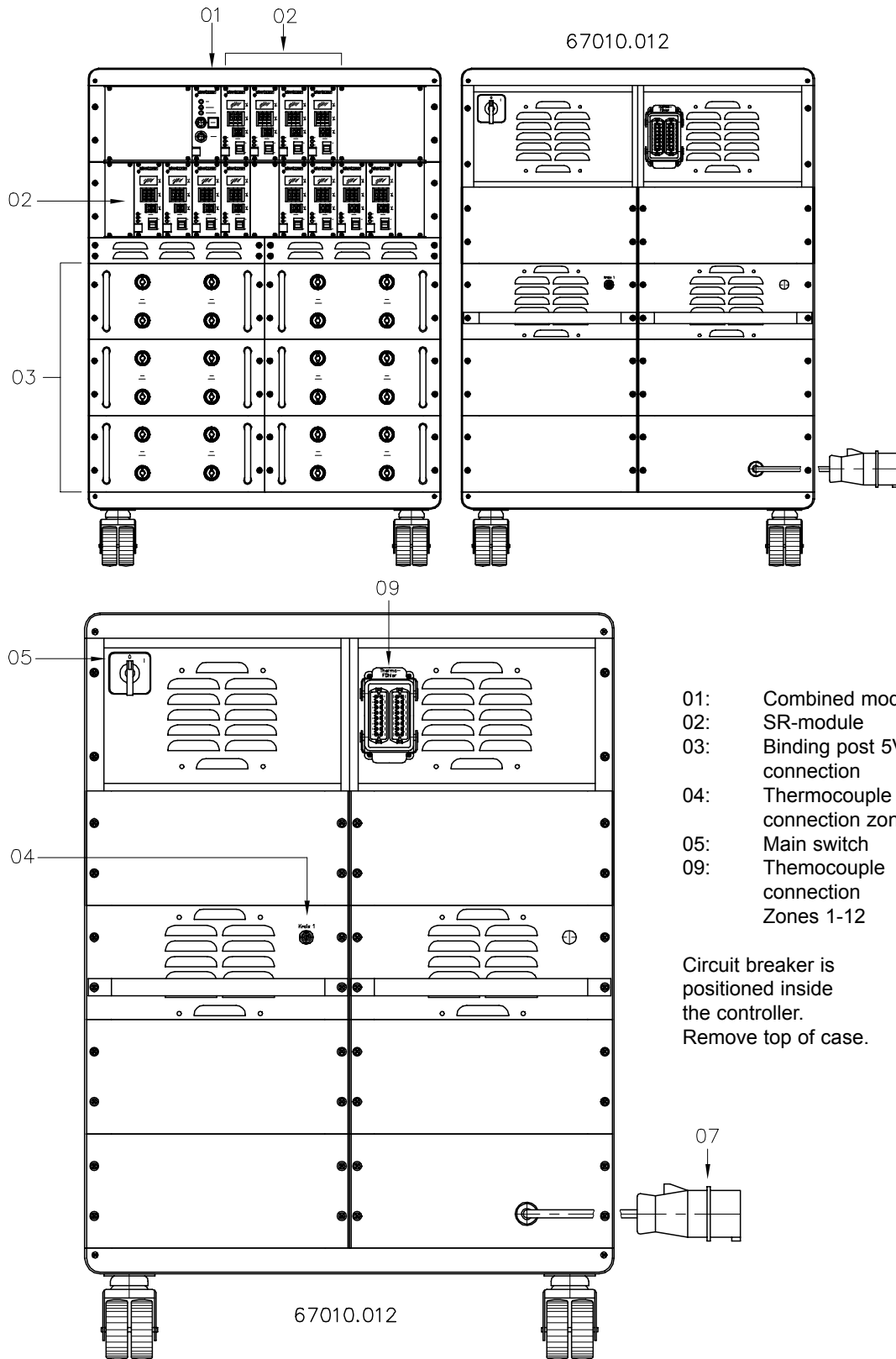


- 01: Combined module
- 02: SR-modules
- 03: Binding post 5V connection
- 04: Thermocouple connection zone 1
- 05: Main switch
- 06: Fuse T10A
- 07: Power cable
- 08: Circuit breaker
- 09: Thermocouple connection Zones 1-8

## Components of the controllers







## Analog control system 5 V

### Start up

#### Hotrunner 5 V

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

Connect power cable.

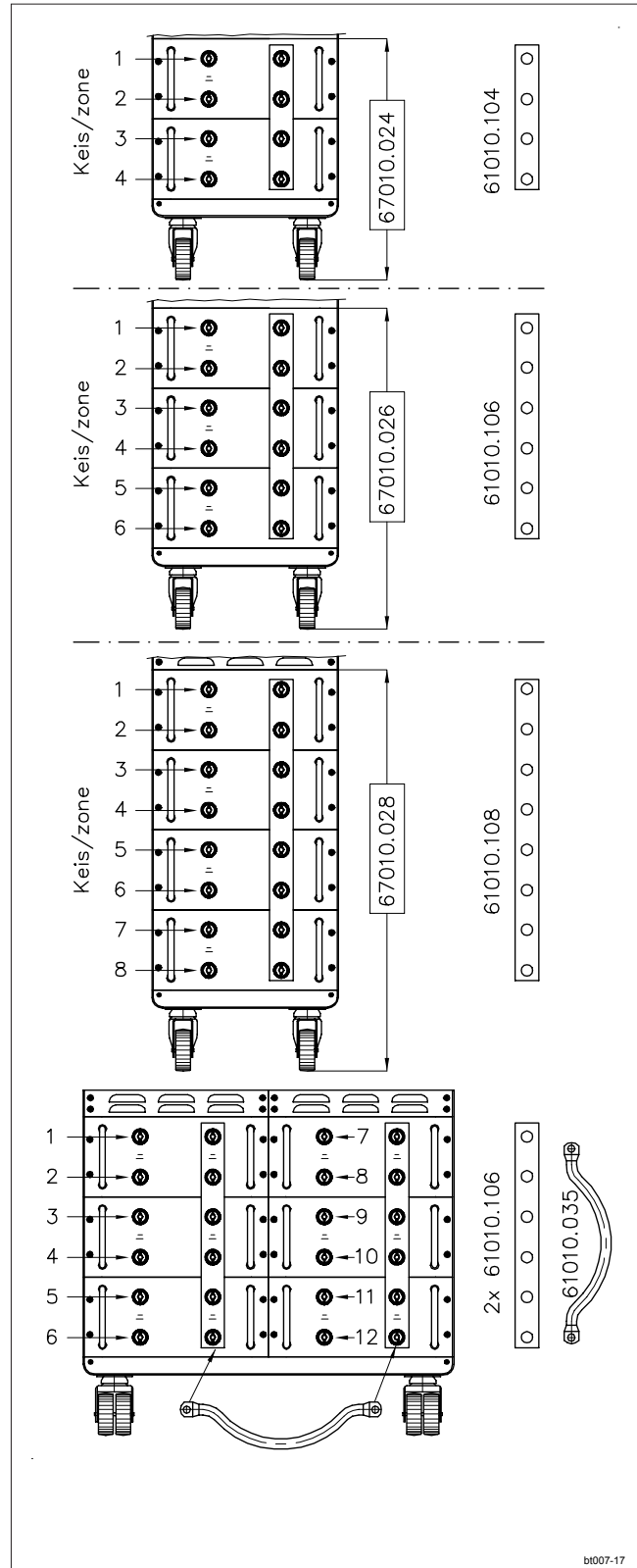
Check that all connections are fastened tight. Otherwise the components can be damaged due to the high output current.

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



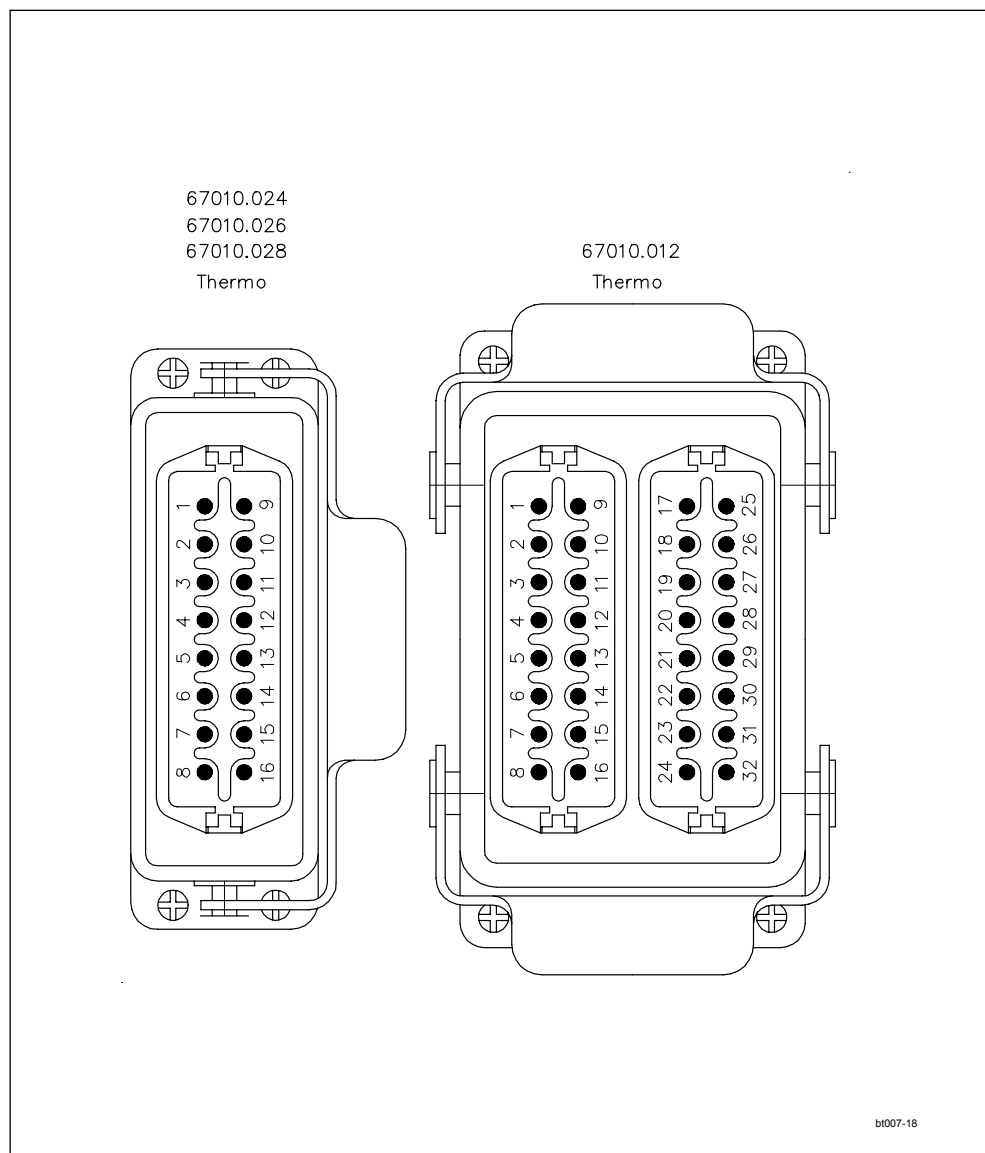
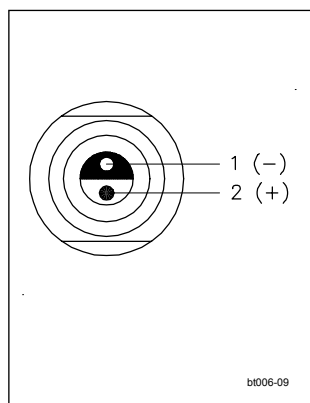
## Connection

### Thermo connection Plug with pin insert

Zone	+ red	- blue
1	1 +	9
2	2 +	10
3	3 +	11
4	4 +	12
5	5 +	13
6	6 +	14
7	7 +	15
8	8 +	16
9	17 +	25
10	18 +	26
11	19 +	27
12	20 +	28

### Pin assignment of the socket-error signal

- 1 (-) blue (Konstantan)
- 2 (+) red (Iron)



## Pin assignment of decreasing socket

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

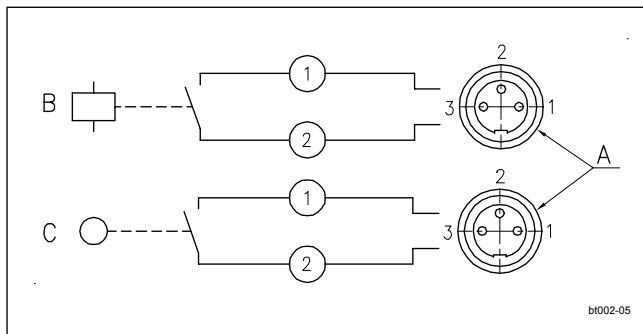
1 + 2 : Potential free (NO) relay contact of the machine or limit switch with NO contact.

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)



## Pin assignment of the socket-error signal

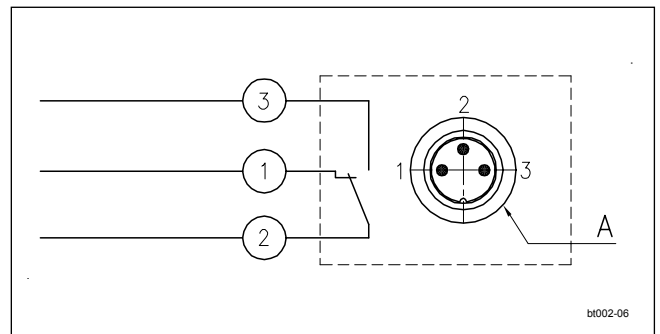
- A: Socket-error signal
- Potential free (NO + NC) contact of the single zone controller. Max. power 2A/250V

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, length 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  
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**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  
**67010.024** ; 4-zone controller  
**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 March 2021



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