Touchscreen hotrunner controller NR8000mini

Fig.: NR8008 mini for 8 zones

Easy exchange of fuses from outside

evoControl®

- **Compact hotrunner controller for 4, 6 or 8 zones**
- **Comfortable, easy to understand touch-screen operation**
- **Precise temperature control with all hotrunner functions – now with evoControl ®**
- **Comes standard with complete mould diagnosis function**

Available options :

- **Mould cooling surveillance under development**

Application :

All needed functions for a precise temperature control and process monitoring of hotrunner injection moulds in one device : Temperature control and complete mould diagnosis functions come standard, optionally with integrated mould cooling surveillance (soon available). Existing devices can be upgraded at any time.
All units are usable regardless to the mould manufacturer.

Design :

Control computer, signal processing electronics and heating power supply all combined in one rugged metal casing. Touchscreen for comfortable and simple control and operation of all zones. Load-fuses are mounted on the side and thus provide an easy access in case of failure.

Function :

Temperature control

Adaptive, process computer based temperature control with evoControl ®, the new innovative control system based on artificial neural networks. Very precise temperature control for quick hot-tips as well as for slow manifold heaters. Many control parameters can be set-up specificly, this makes the controller an ideal unit for complex and difficult moulds.

Touchpanel operation

The bright, large touch-screen permits an easy, quick overview on all important functions and control parameters. On request, it shows all zones together, groups of zones or every zone in detail. In any situation, only relevant information is shown to avoid a cluttered screen overload.
Touchscreen operation is almost identical with the bigger systems up to 120 zones, so that operators can transition easily between them.

Specific hotrunner functions

Beside the very precise temperature control of every zone, numerous hotrunner program functions can be chosen, for all zones together

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or for every single zone as appropriate. The most important ones are :

Soft-start During soft-start, the controller unit works with reduced temperature and power setting (factory-defaults: 50% / 80°C / 5min). Cold heaters are gently pre-heated, moisture is expelled.

Guided heat-up :

All zones can be heated-up together - avoids hot-tips being at set-point temperature before the slower manifold zones and prevents stress inside the mould during start-up. Alternatively, phased (groupwise) heating-up can be set.

Stand-by operation :
Each heating-zone is equipped with a second temperature set-point. By pressing the “stand-by“- button or closing an external contact, all zones simultaneously are switched over to the second set-point, which may be used for stand-by operation.

Boost: Single-time override of the desired temperature-value melts „frozen“ nozzles.

Autogrouping / Autonaming: Several zones can freely be combined to a group, automatically by intensity or manually, also automatically numbe-red.

Separate master switches
After turning on the control system, the mould heating can be switched on and off separately on the front panel to program all operation parameter without any rush.

Process survey functions
Load current monitoring for every zone independently, 3 programmable alarms per zone, sensor and heater breakage are detected automatically and will be displayed on the screen. If sensor breakage happens, the controller can be switched over to constant power. Coupling of this zone to any other zone with working thermocouple is also possible.

Beside those alarms, many other process parameters can be set-up and surveyed as well. As a protection of mould and hotrunner against overheating, a overtemperature cut-off switch (50°C above the highest set-point) is build in.

External alarm output
The 3 alarms on every zone are combined by 2 floating contacts as common alarm output for the whole unit and wired to an external alarm connector on the back side. This permits a connection with external units such as an injection moulding machine or central production alarm system. The external stand-by input is wired on this connector as well.

Mould analysis function
The unit comes standard with a mould wiring analysis to check the correct assignment of heater and sensor cables to the same zone. Display of the measured heater values can be switched over from load current (A) to heating power (W) or heater resistance (Ω). Beside this, comfortable and detailed tracing of curves to follow the evolution of selected control-parameters with time.

Mould memory
Management of all configuration data of every zone in a comfortable mould memory system, this eases start-up after a die-change. Also external back-up and data transfer to other units are possible.

USB-Data export
Diagnosis result and mould memory data can easily be downloaded as a csv-file on a USB-stick and further worked out or printed with any usual spreadsheet-PC software.

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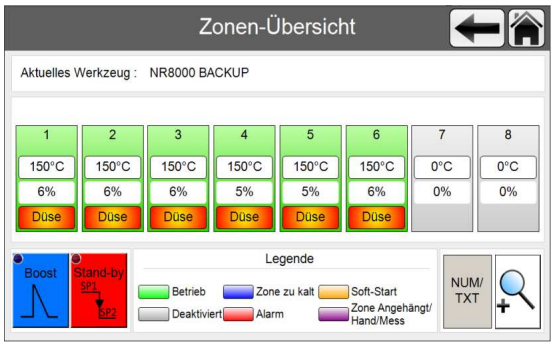
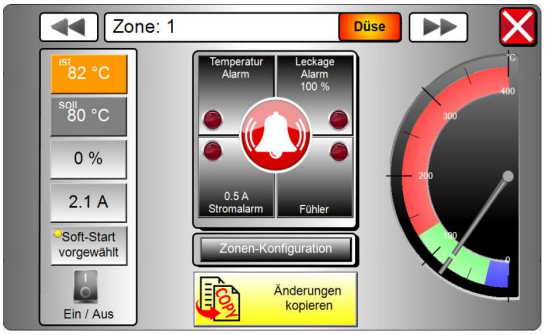
Examples touch-screen NOLDEN SmartT**ouch**S**ystem STS**

Choose main functions in the ***"Homescreen"***

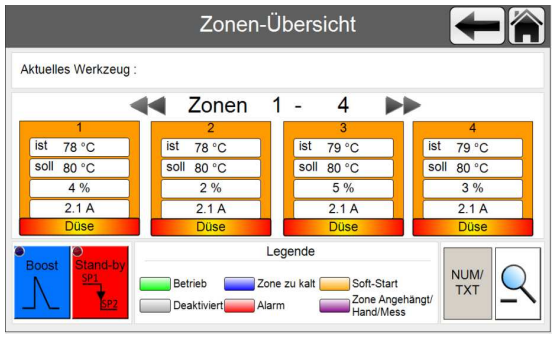


Most important screen for operation : ***Overview all zones***

Know everything about one zone? ***Zone detail view***



More details? ***Group of zones*** for a selected area



Hands-on data entry features, where needed....

... and comfortable program- and diagnosis functions

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Touchscreen hotrunner controller NR8000mini

Easy language set-up to adapt to every user...

and clear warnings against errors !

Specification :

Mains voltage
230/400V +/-10%, 3~, 48...63Hz

Nominal rating / nominal current
17,25kW / 3 x 25A total (depending on the total number of zones)

Heating load per zone
Max. 3,6kW/16A

Fuses
16AFF, 6,3x32mm, heaters
1,6AmT, 5x20mm, controller

Power control
0 - 100% proportional,
zero-voltage switching

Automatic soft-start
(factory default settings)
Powersetting 50% / temperature 80°C / time 5 min

Touch-screen
Sensitive (projected capacitive) 7” touchscreen with pollution-resistant glass-surface, displays actual values and set-points, load-current, alarms, mould memory and configuration parameters.

External stand-by / Alarm exit
7 pin connector:

2 floating relay contacts for all alarms, max. 230V, 3A, floating input for external stand-by, works on all zones together,

Process-high-alarm
0...400°C programmable, default value +50°C

Low current-alarm
0,0 ... 19,9A programmable,
default value 0,5A minimum current

Sensor input
Fe-CuNi type (J) 0...400°C
Switching to 0…800°C as an option
Other types on request

Sensor and heater connection
16- or 24-pin industrial heavy duty standard-connector 16A/500V, pin assignment following NR-norm, other pin assignments available

Precision
0,25% FS

Insulation voltage
2,5kV mains / controller

Dimensions
325 x 340 x 180mm (WxDxH, 4 up to 8 zones)

Colour
Structured RAL3000 casing, + rear
Silk gloss RAL9005 display front

Weight (depending on number of zones)
NR8008 mini : ca. 13 kg

Designation	Art.-Nr.
NR 8004mini	83804mini.200
NR 8006mini	83806mini.200
NR 8008mini	83808mini.200

For more zones up to 32, our series NR8000 is available

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