

Touchscreen hotrunnercontroller NR8000-v3



NR8000-v3 „Mini“
for 4, 6 or 8 zones



NR8000-v3 for
12 or 16 zones



Fig.: NR8024 for 24 zones

evoControl[®]

- Multifunctional hotrunner process control and diagnosis device from 4 up to 32 zones
- Comfortable, easy to understand touch-screen operation
- Precise temperature control with all necessary hotrunner and diagnosis functions
- Remote control via WiFi
- Interface to injection moulding machine OPC-UA, TTY as an option
- **NEW:** Cloud connection with CLARA and NOAH

Available options :

- Mould cooling monitoring
- Integrated mould cavity pressure monitoring

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 valve gate control. Control and operation of your cooling unit also available. Cloud connection with automatic intermediate data buffering CLARA standard, ready for NOLDEN cloud portal NOAH for process data archive and retrieving. 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, 2 sizes for different numbers of zones.

Load-fuses are mounted on the side and thus provide an easy access in case of failure.

Touchscreen for comfortable and simple control and operation of all zones.

Function :

Temperature control

Adaptive, process computer based temperature control with automatic adaptation to the controlled system assures very precise temperature control for quick hot-tips as well as for slow manifold heaters. Many control parameters can be set-up specifically, 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

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information is shown to avoid a cluttered screen overload.

Touchscreen operation is almost identical with the bigger systems up to 144 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 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.

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 numbered.

Separate ON/OFF keys

After switching on the device, mould heating can be activated with a separate "Heating ON/OFF" switch. This allows to oversee first calmly all mould parameters before starting heating of the mould.

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 2 alarms on every zone are combined by a floating contact 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. 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 storage of parameter curves for ISO-conform quality data management

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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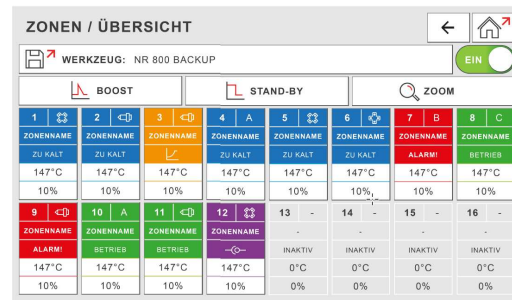
Interface to IMM

Standard with OPC-UA interface to injection moulding machines or other process controll servers, protocol according to EUROMAP 82.2 . Alternatively, the proven TTY-interface 20mA available as an option, eg. to Arburg IMM.

Examples touch-screen NOLDEN SmartTouchSystem STS

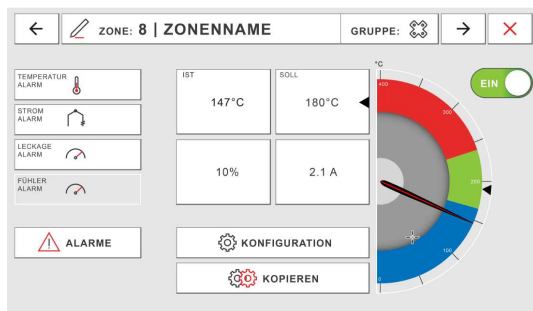


Choose main functions in the **"Homescreen"**



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

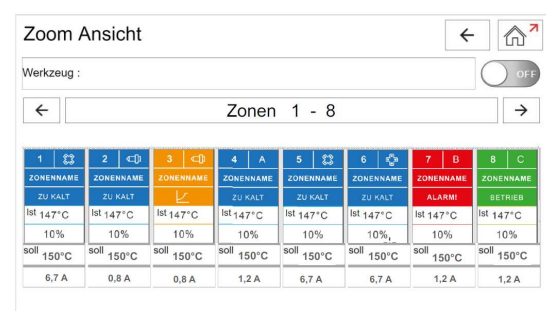
Know everything about one zone? **Zone detail view**



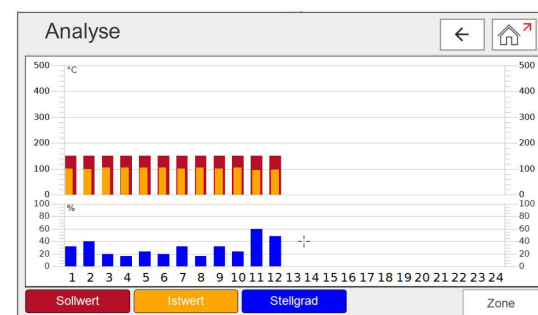
Hands-on data entry features, where needed....



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

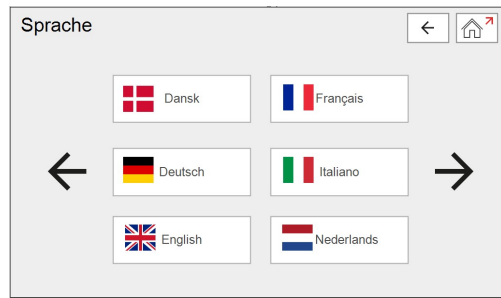


... and comfortable program- and diagnosis functions



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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
5AmT, 5x20mm, controller

Power control

0 - 100% proportional,
zero-voltage switching

Automatic soft-start

(factory default settings)
Power-setting 50% / temperature 80°C / time 5 min

Touch-screen

Sensitive (projected capacitive) 7" or 10" 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:

Designation	Art.-Nr.
NR 8004mini	83804-v3mini.200
NR 8006mini	83806-v3mini.200
NR 8008mini	83808-v3mini.200
NR 8012-v3	83812-v3.200
NR 8016-v3	83816-v3.200
NR 8024-v3	83824-v3.300
NR 8032-v3	83832-v3.300

7 pin connector:

2 floating relay contacts for alarms, max. 230V, 3A, floating input for external stand-by, works on all zones together, wired in parallel with internal „Stand-by“-key on the front panel.

Process-high-alarm

0...400 / 800°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 / 800°C
Other types on request

Sensor and heater connection

24-pin industrial heavy duty standard-connector 16A/400V, 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 / 6 / 8 zones)
410 x 370 x 190mm (WxDxH, 8 to 16 zones)
410 x 370 x 355mm (WxDxH, 24 and 32 zones)

Colour

Structured RAL7026 casing,
Silk gloss RAL9005 rear

Weight (depending on number of zones)

NR8008 mini : ca. 13 kg
NR8012 : ca. 15 kg
NR8024 : ca. 22 kg