



Fig.: NR8016-v3 SGM for 16 zones + additional module for options

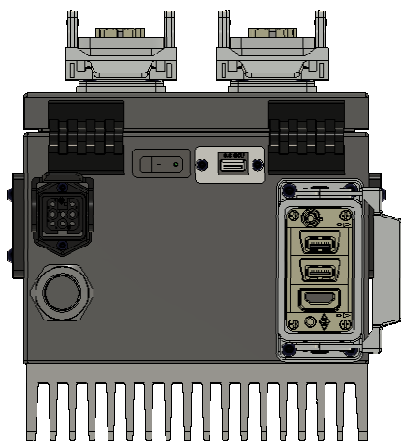


Fig.: Lower side with interfaces

evoControl®

- Compact hotrunner controller for external fixing on injection moulding machines
- Modular system in steps from 8 up to 32 zones
- Operation via separate touch-screen 10" or 15"
- Alternatively via machine interface or WiFi
- Precise temperature control with all hotrunner functions – now with evoControl®
- NEW: Cloud connection with CLARA and NOAH



Fig. : Snap-on touchscreen 10"

Application :

All needed functions for a precise temperature control and process monitoring of hotrunner injection moulds in one very compact bolt-on casing, typically installed on the rear side of the injection moulding machine.

Several options for the operation are offered, e.g. with a separate touchscreen with long cable to be installed on the front side of the IMM, 3 screen sizes to choose from.

Alternatively, several interfaces to the IMM are possible, also remote control via WiFi from any smartphone or tablet. On top of temperature control and various process monitoring functions, mould diagnosis comes standard. Modular system, total number of zones can be increased in steps of 8 zones, also at a later moment. Cloud connection with automatic intermediate data buffering CLARA standard,

Bolt-on hotrunner controller NR8000-v3 SGM

ready for NOLDEN cloud portal NOAH for process data archive and retrieving.

All units are usable regardless of the mould manufacturer or of the type of injection moulding machine.

Design :

Control computer, signal processing electronics and heating power supply all combined in one rugged, very compact metal casing. Mould connection cables can be plugged-in directly on the cover of the casing, interfaces and mains connection are on the lower side. Load fuses are located directly underneath the cover, so exchanging them is very easy if needed.

Touchscreen for comfortable and simple control and operation of all zones, comes in 3 sizes 7", 10" or 15". Stable, tiltable plastic casing for the screen to ensure optimal visibility, long cable permits mounting of the screen on any suitable place on the front side of the IMM.

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 specifically, this makes the controller an ideal unit for complex and difficult moulds.

Touchpanel operation

Simple, intuitive touchscreen operation as already known from the stand-alone NOLDEN units. The bright, large screen permits an easy, quick overview on all important functions and control parameters. In any situation, only relevant information is shown to avoid a cluttered screen overload.

Interface or WiFi

Alternatively, or in addition to the separate touchscreen, the unit can be operated via classical (e.g. TTY) or new (e.g. OPC-UA) interfaces to the injection moulding machine (IMM). The nature and number of available functions is then determined by the operation system of the IMM as well as by the type of interface.

Independent from all other operation modes, remote control via build-in WiFi from your

smartphone or tablet computer is always possible.

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. 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 numbered.

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.

Bolt-on hotrunner controller NR8000-v3 SGM

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. Auto-update function.

Examples build-in touch-screen NOLDEN SmartTouchSystem STS



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

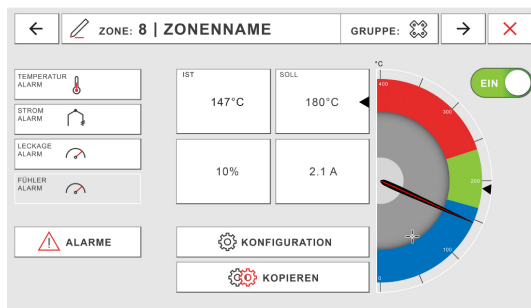


ZONEN / ÜBERSICHT															
WERKZEUG: NR 800 BACKUP															
EIN															
BOOST STAND-BY ZOOM															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME
ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT
147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C
10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
ALARM!	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB	BETRIEB
147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C	147°C
10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%

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



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

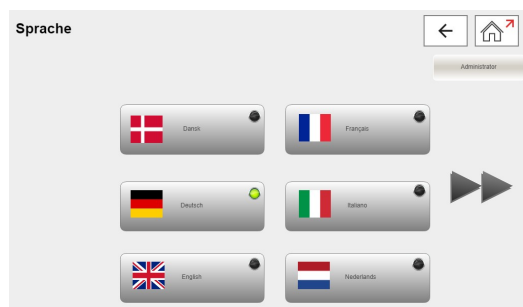


More details? **Group of zones** for a selected area

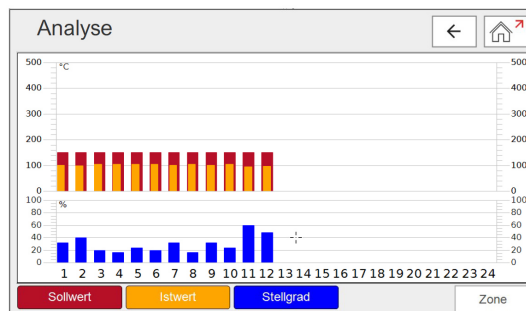


Zoom Ansicht															
Werkzeug :															
Zonen 1 - 8															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME	ZONENNAME
ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT	ZU KALT
Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C	Ist 147°C
10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C	soil 150°C
6,7 A	0,8 A	0,8 A	1,2 A	6,7 A	6,7 A	1,2 A	1,2 A	6,7 A	6,7 A	1,2 A	1,2 A	6,7 A	6,7 A	1,2 A	1,2 A

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



... and comfortable program- and diagnosis functions



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

Touch-screen

Sensitive (projected capacitive) touchscreen with pollution-resistant glass-surface, 7", 10" or 15", plastic screen casing with metal frame, tiltable

Optional machine interfaces

0...20mA TTY, ARBURG-protocol
OPC-UA, ARBURG-protocol comes soon.
Other types and protocols on request

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,

Sensor input

Fe-CuNi type (J) 0...400 / 800°C
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

253 x 177 x 110mm (HxWxD, 8 zones)

Colour

Controller casing: structured RAL7026
Display casing: Anthracite plastic

Weight

NR8008 SGM: ca.10 kg

Designation	Art.-Nr.
NR8008 SGM	83808SGM.Master.300
NR8008 SGM extension	83808SGM.Slave.300
Option Touchpanel 10"	838xx.x2x10

Higher number of zones in steps of 8 by adding further modules