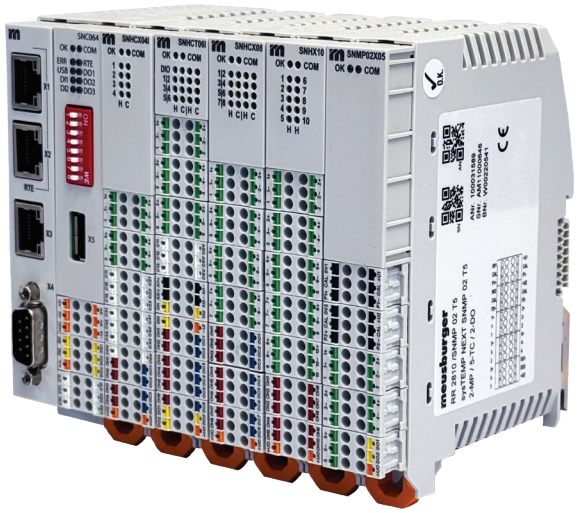
sysTEMP NEXT

MULTI-CHANNEL TEMPERATURE CONTROL SYSTEM

- The powerful and universal temperature controller is designed for use in hot runner applications, plastic processing machines, packaging machines, ovens, food processing, dryers, etc.
- The combination of modules enables customized multi-zone temperature control systems
- Thanks to the modular system design, control systems can be scaled up to 64 control zones.
- Systems can be easily expanded
- Extremely compact dimensions
- With automatic control parameter adjustment, the system covers a wide range of applications from extremely fast to extremely slow control zones.
- Simple, safe and fast commissioning without project planning of the inputs and outputs.
- Access to the entire range of functions without the need for programming.
- All functions can be easily configured via parameters.
- The clear web interface offers the option of making settings quickly.
- Data backup and module updates are possible via the USB port.
- Extremely service-friendly - all modules can be replaced quickly and easily without special tools



- Numerous data interfaces enable uncomplicated communication with control systems.
- Retrofits of existing sysTEMP control systems (ETR 132, ETR 112) are guaranteed thanks to the extensive compatibility.

MODULES

Item number	Product	Remark
RR 2800 /PNIO /CAN	SNC 064 /PNIO /CAN	Controller module with Profinet IO, Ethernet, CAN bus, 2 digital inputs, 3 digital outputs and an analog input for current signals (0 - 1/5 A) for heating current measurement
RR 2800 /EC /CAN	SNC 064 /EtherCAT /CAN	Controller module with EtherCAT, Ethernet, CAN bus, 2 digital inputs, 3 digital outputs and an analog input for current signals (0 - 1/5 A) for heating current measurement
RR 2800 /PNIO /422	SNC 064 /PNIO /422	Controller module with Profinet IO, Ethernet, RS422, 2 digital inputs, 3 digital outputs and an analog input for current signals (0 - 1/5 A) for heating current measurement
RR 2800 /EC /422	SNC 064 /EtherCAT /422	Controller module with EtherCAT, Ethernet, RS422, 2 digital inputs, 3 digital outputs and an analog input for current signals (0 - 1/5 A) for heating current measurement
RR 2800 /DP	SNC 064 /DP	Controller module with Profibus DP, Ethernet, 2 digital inputs, 3 digital outputs and an analog input for current signals (0 - 1/5 A) for heating current measurement
RR 2810 /SNHCT 04 I	SNHCT 04 I	IO module for 4 control zones (3-point) with thermocouples and 4 inputs for heating current measurement for current transformers with shunt
RR 2810 /SNHCP 04 I	SNHCP 04 I	IO module for 4 control zones (3-point) with RTDs and 4 inputs for heating current measurement for current transformers with shunt
RR 2810 /SNHCT 08	SNHCT 08	IO module for 8 control zones (3-point) with thermocouples
RR 2810 /SNHCP 08	SNHCP 08	IO module for 8 control zones (3-point) with RTDs
RR 2810 /SNHT 10	SNHT 10	IO module for 10 control zones (2-point) with thermocouples
RR 2810 /SNHP 10	SNHP 10	IO module for 10 control zones (2-point) with RTDs
RR 2810 /SNHCT 06 AI02 I	SNHCT 06 AI02 I	IO module for 6 control zones (3-point) with thermocouples, with 3 digital inputs, 3 digital outputs, 2 analog inputs (0/4 - 20 mA) and an input for heating current measurement for current transformers with shunt
RR 2810 /SNDAIO 04 I	SNDAIO 04 I	IO module with 4 digital inputs, 4 digital outputs, 4 analog inputs for current signals (0/4 - 20 mA) and 4 analog outputs (current or voltage selectable)
RR 2810 /SNDAIO 04 U	SNDAIO 04 U	IO module with 4 digital inputs, 4 digital outputs, 4 analog voltage inputs (0/2 - 10 V) and 4 analog outputs (current or voltage selectable)
RR 2810 /SNMP 02 T5	SNMP 02 T5	IO module with 2 strain gauge measurement inputs, 2 digital outputs and 5 measurement inputs for thermocouples

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RANGE OF FUNCTIONS

» Self-optimization via identification enables the user to adapt the controller to the control path without any knowledge of control engineering.

» Two switchable control parameter sets are available for adaptation to extremely changing process conditions.

» The type of manipulated variable output can be defined for heating and cooling in zones (pulse groups, pulse/pause, impulse cooling).

» The heating currents can be recorded via
a current transformer with standard signal at the SNC 064 controller module
current transformer with shunt at the IO modules

» The measuring method for the heating currents can be parameterized depending on the IO modules and current transformers used.
- Measurement of one zone with a current transformer
- Measurement of several zones with a current transformer

» The temperature ramp enables a defined approach of the actual value from the initial value to the specified setpoint.

» With the automatic ramp, zones with different ramp rates heat up together to the specified setpoints.

» Comprehensive monitoring functions indicate the cause in detail in the event of a fault.
- Short-circuited sensor, sensor
- break and sensor polarity reversal
- Exceeding the measuring range
- Exceeding the temperature lim
- Heating current out of tolerance range
- Defective thyristor

» The function of all inputs and outputs can be selected.

» Access to all setting parameters and process data is possible via the available data interface.
- Profinet IO or EtherCAT
- CAN or RS 422
- Profibus DP

» Project management: All settings and updates can be carried out via the free flexoTEMP MANAGER

» Edit zone and system parameters

» Clear display of all process data and status information

» Recording temperature curves

» System analysis of all assemblies

» The web interface enables configuration and status display via the browser.

» The monitoring of pressure signals (e.g. for melt pressure monitoring) is done via pressure sensors directly at the DMS measuring inputs of the corresponding IO assembly. The associated alarm outputs are also located on the assembly.

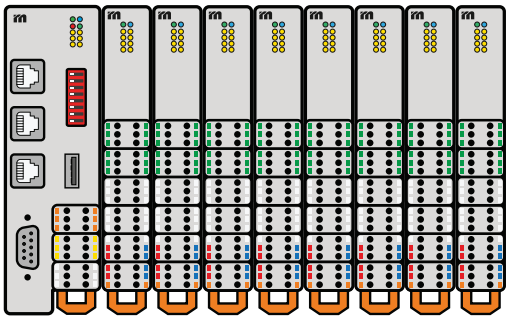
ACCESSORIES

Item number	Product	Remark
RRZ 3450/200/5	ESW 200/5	Current transformer (1-phase, conversion ratio 200 A / 5 A) for connection to SNC 064
RRZ 3430/42/P	SSW 120 P	Current transformer (3-phase) with shunt, measuring range per phase up to 75 A, output 42 mV/A
RRZ 3430/21/P	SSW 120 P	Current transformer (3-phase) with shunt, measuring range per phase up to 75 A, output 21 mV/A
RRZ 3430/14/P	SSW 120 P	Current transformer (3-phase) with shunt, measuring range per phase up to 75 A, output 14 mV/A
RRZ 3400/40A/42mV	ESW 40	Current transformer (1-phase) with shunt, measuring range up to 40 A, output 42 mV/A
RRZ 3405/75A/42mV	ESW 75	Current transformer (1-phase) with shunt, measuring range up to 75 A, output 42 mV/A
RRZ 3410/200A/21mV	ESW 200	Current transformer (1-phase) with shunt, measuring range up to 200 A, output 21 mV/A
RRZ 3415/200A/14mV	ESW 200	Current transformer (1-phase) with shunt, measuring range up to 200 A, output 14 mV/A
RRZ 3800/24VDC/ 7	Touchscreen Control unit T7	with 7“ touchscreen
RRZ 1000/DSUB/9P/TS35	CANopen-Fieldbus connector	Radial cable outlet
RRZ 2500/SSR/480VAC/75A	Solid State Relais	Solid State Relais 480 VAC / 75 A

SWITCH FROM SYSTEMP TO SYSTEMP NEXT

The modular design and functional compatibility enable a smooth transition from the sysTEMP series to sysTEMP NEXT. The additional features also make temperature control more efficient and cost-effective in the course of modernization. This is demonstrated by four application examples for updating a sysTEMP control system.

ETR 132 with single current measurement (32 Zonen)



sysTEMP NEXT consisting of

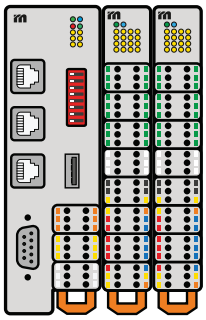
» 1 x SNC 064

» 8 x SNHCT 04 I

One measuring input (3-phase) is available per zone for connecting the current transformers.

The space requirement is reduced by 63 % compared to sysTEMP.

ETR 112 for melt pressure sensors with 4 - 20 mA measuring signal



sysTEMP NEXT consisting of

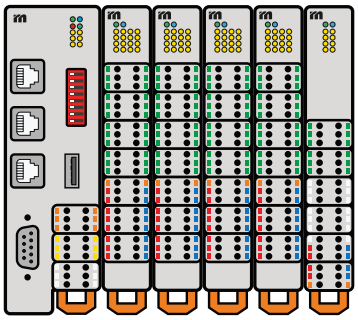
» 1 x SNC 064

» 2 x SNHCT 06 AI02 I

The existing current transformers can still be used.

The space requirement compared to sysTEMP is reduced by 40 %.

ETR 132 with total current measurement (32 zones), variant 1



sysTEMP NEXT consisting of

» 1 x SNC 064

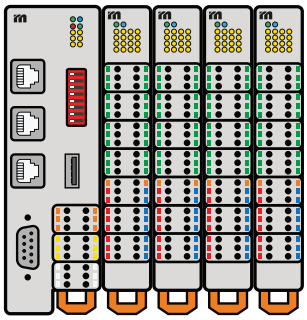
» 4 x SNHCT 08

» 1 x SNHCT 04 I

The heating current measurement is to be carried out with the existing current transformers via the SNHCT 04 I. This gives the control system four additional control zones.

The space requirement is reduced by 73 % compared to sysTEMP.

ETR 132 with total current measurement (32 zones) , variant 2



sysTEMP NEXT consisting of

» 1 x SNC 064

» 4 x SNHCT 08

The heating current should be measured at the controller module, so the current transformers must be replaced.

The space requirement compared to sysTEMP is reduced by 77 %.

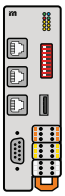
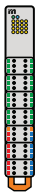
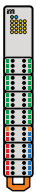
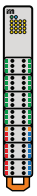
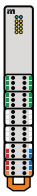
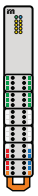
AUTOMATIC PROJECT PLANNING ENABLES AN EXTREMELY SHORT COMMISSIONING PHASE

Thanks to automatic project planning, the time from installation to the first switch-on is very short. Each of the sysTEMP NEXT modules has a defined number of inputs and outputs.

Module	Number of [C]ontrol-/ [M]easurement zones	Number of digital Inputs	Number of digital outputs	Number of analog inputs	Number of analog outputs	Number of pressure measurement zones
SNC 064		2	3			
SNHCT 06 AI02 I	6 [C]	3	3	2		
SNHCT 04 I / SNHCP 04 I	4 [C]					
SNHCT 08 / SNHCP 08	8 [C]					
SNHT 10 / SNHP 10	10 [C]					
SNDAIO 04 I / SNDAIO 04 U	4 [M]	4	4		4	
SNMP 02 T5	5 [M]					2

In a control system, the inputs and outputs are automatically assigned consecutively to the individual control zones, digital inputs, digital outputs, analog outputs and measuring zones based on the module slots. No additional project planning is required.

Example If a control system consists of one SNC 064, three SNHTC 08, one SNHCT 04 I and one SNDAIO 04, the following configuration results for the inputs and outputs.

	SNC 064	SNHCT 08 #1	SNHCT 08 #2	SNHCT 08 #3	SNHCT 04 I	SNDAIO 04
						
[C]ontrol zones-/[M]easurement zones		1 to 8 [C]	9 to 16 [C]	17 to 24 [C]	25 to 28 [C]	29 to 32 [M]
Digital inputs	1 to 2					3 to 6
Digital outputs	1 to 3					4 to 7
Analog inputs						
Analog outputs						1 to 4
Pressure measurement zones						

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