Multi-Function Controller GTR300 plus

Type 96 mm x 96 mm (1/4 DIN)

NEW

...a "plus" for:

- **...programmable input signal**
- **...high accuracy 0.1 % of input value**
- **...sampling time 100 ms**
- **...heater current monitoring**
- **...free allocation of outputs and functions**
- **...setpoint and actual value indicated at the same time**
- **...manual and automatic function reversible**
- **...boost function**
- **...maintenance manager / error list**
- **...master / slave function**
- **...control circuit monitoring**
- **...integrated programming interface**

...General Description:

Our new multi-function controllers of the **GTR300 plus** series are characterised by their versatility. They are programmed and configured by four keys or a PC setup programme.
Due to its multi-functional hardware nearly all functions and control requirements can be implemented. It is possible to configure GTR300 plus as alarm device, continuous controller, two-step controller, three-step controller and motor-step controller for all industrial and laboratory applications (version dependent).
Its range of performance is completed by special functions for hot runner technology.

...Functions:

- P / PI / PD / PID behaviour
- Self-optimisation
- Parameter set switching
- Startup switching
- Switching to manual operation
- Modbus master / slave function
- Heater current measuring / monitoring
- Control circuit monitoring
- Outputs with free allocation
- Programmable output functions
- Measuring circuit monitoring
- Programming interface
- Self-optimisation during startup and at setpoint

...Controller Equipment:

- Universal input for resistance thermometer (*)
- Universal input for thermocouple (*)
- Universal input for standard signal current (*)
- Universal input for standard signal voltage (*)
- Output 1: relay (*)
- Output 2: relay (*)
- Output 3: relay (*)
- Output 3: 0/10 VDC, 0(4)/20 mA, logic (**)
- Output 4: logic 0/24 V (*)
- Output 5: logic 0/24 V (*)
- BluePort front interface
- Mains supply 90 -260 VAC (*)
- Mains supply 20-26 VAC/18 - 31 VDC

(*) - Basic standard version 01 or programmable
(**)- Basic standard version 02

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...Technical Data:

Universal input

Sampling time	: 100 ms
Digital input filter	: adjustable from 0.000 to 9999 sec.
Input resolution	: > 14 bit
Input resistance	: 0 - 10 V DC: approx. 110 kOhm
	: 0 - 20 mA DC: 49 Ohm

Measuring ranges
- Thermocouple

Type	: L; J; K; N; R; S
Characteristic curve	: temperature linear
Sensor break monitoring	: configurable controller outputs
Measuring range accuracy	: 0.1 % of measuring range +/- 1 digit
Input resistance	: >=1 MegaOhm
Current through sensor for sensor break monitoring	: <=1 µV

Measuring ranges
- Resistance thermometer

Type	: Pt100, Pt1000, KTY11-6
Characteristic curve	: temperature linear
Connections	: three-wire
Sensor monitoring	: sensor break and short circuit
Measuring range accuracy	: accuracy approx. 0.5 K of measuring range
Linearisation segments KTY	: 16
Output impedance	: max. 30 Ohm
Measuring current	: 0.2 mA

Measuring ranges
- Current and voltage

Type	: total measuring range: 0 - 10 V total measuring range: 0 - 20 mA
Scaling	: -1999 - 9999
Resolution	: 0.6 mV / 1.5 µA
Characteristic curve	: linear, adjustable up to 16 segments
Measuring accuracy	: 0.1 % of measuring range
Measuring circuit monitoring	: 12.5 % below initial value

Input INP2
- Additional input

Type	: heater current measurement
Signal	: 0 - 50 mA / AC via converter
Scaling	: -1999 to +9999
Type	: current measuring range
Signal	: 0 - 20 mA
Scaling	: -1999 to +9999
Input resistance	: approx. 120 Ohm
Measuring circuit monitoring	: 12.5 % below initial value

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...General Data:

Type of control

Proportional band	: 1 - 9999 dig.
Working point	: 0 - 100 % (-100 to +100 % with 3-step)
Reset time	: 0.1 s - 9999 s- OFF
Derivative time	: 0.1 s - 9999 s- OFF
Switching point distance	: -1999 - 9999 dig.
Minimum impulse length	: 0.1 - 9999 s
Differential	: 0 - 9999 dig.
Effective direction	: inverse and direct
Output ratio limit	: -100 to +100 % (depending on controller)

Manual operation

Reversible via key or controller input	: correcting range - 100 %

Setpoint function

Second setpoint / parameter set Switching via Di / key	: adjustable
Setpoint limiting	: adjustable
Setpoint ramp	: 1 - 9999 units / h or OFF

Self-optimisation

Step test at startup	: 10 % (SP.LO to SP.Hi)
Pulse test at startup	: 10 % (SP.LO to SP.Hi)
Setpoint optimisation	: difference between actual value and setpoint 10 %

Ambient conditions

Operating temperature	0 - 60 °C
Relative humidity	: 75 %, without condensation
Reference ambient temperature	: 20 +/- 2 °C
Storage temperature	: -40 - 70 °C
Auxiliary power	: 90 - 260 VAC; 20 - 26 VUC
Electric safety	: EN 61 010-1
Overvoltage category	: II
Pollution degree	: 2
Electromagnetic compatibility	: EN 61 326-1
Housing dimensions, front	: 48 mm x 96 mm
Housing dimensions, depth	: 118 mm
Front panel cut-out	: 92 mm x 92 mm
Protection type	: IP 65
Weight	: 280 g

Communications

Interface	: RS485 / 422
Protocol	: Modbus RTU
Controller address	: 1 - 247
Rate	: 2400, 4800, 9600,19200 bit / s

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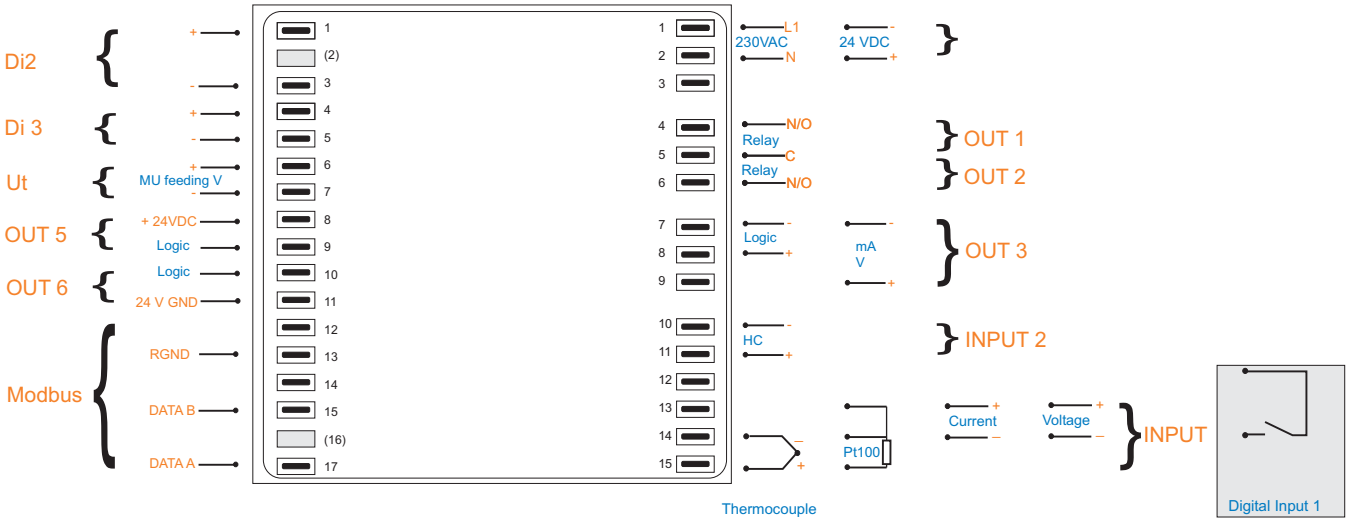
Front View:

- Setpoint display
- Actual value display
- “OK” - green LED
- SPx Second or external setpoint
- Active ramp
- Man Manual operation
- Run Programme run
- Ada Self-optimisation
- Err ERROR
- Switching manual / automatic operation
- Setpoint adjustment DOWN
- setpoint adjustment UP
- E ENTER key
- P Parameter key / function key

Terminal Assignment / Wiring Diagram:



Order Code:

GTR300 (standard)	-	**1**	**01**
Auxiliary power			
100 - 240 VAC		**1**	
24 - 48 VDC		**2**	
Output:			
Standard version 01			**01** (relay / relay/ logic / logic)
Standard version 02			**02** (relay / relay / analogue / logic / logic)

Accessories:

Heater current measurement, single-phase : GTRHZ-01
Heater current measurement, three-phase : GTRHZ-03

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