

## miniature temperature controller 230V~



Microprocessor based digital temperature controller with 2-point control and alarm output

### **GIR 230 NTC** (24 x 48 mm)

- Two different fronts in scope of supply (easily interchangeable):
  - **with keys outside:** for applications where an easy access to the keys is necessary.
  - **without outside keys:** for applications, where the settings shouldn't be changed by end user.
- Min-/max-value memory

#### **Specification:**

**Measuring input:** NTC (2-wire), verpolungsfrei  
**Measuring range:** -40.0 ... +120.0°C  
**Accuracy device:** < 0.5 % f.s. ±1 digit (at nominal temperature = 25°C)  
**Accuracy probe:** ±0.2°C (at range 0 ... 70°C)  
**Measuring rate:** approx. 4 measurings / sec.  
**Relay output:** closing contacts, 230V~ switching  
 Switching power: 5A, 230VAC  
**Alarm output:** NPN, open collector,  
 Switching power: 30mA, max. 28V  
**Controller states:** 2-point, 2-point with alarm, min/max alarm  
**Switching points, hysteresis, alarm points:** freely selectable  
**Min-/max-value memory:** the max- and min value will be stored.  
**Display:** approx. 10 mm high, 4-digit red LED-display  
**Attendance:** via 3 buttons  
**Operating temperature:** -20 to +50 °C  
**Relative humidity:** 0 to 80 %RH (non condensing)  
**Storage temperature:** -30 to +70 °C  
**Power supply:** 230V, 50/60Hz,  
**Power consumption:** approx. 2 VA  
**Housing:** glass fibre reinforced Noryl, front panel PC  
 Dimensions: 24 x 48 mm (front frame).  
 Mounting depth: approx. 65 mm (incl. screw-type/plug-in terminal)  
**Panel mounting:** with VA-spring clamp.  
 Allowed panel thicknesses from 1 to approx. 10 mm.  
 Panel cut-out: 21.7+0.5 x 45+0.5 mm (H x W)  
**Connection terminal:** screw-type/plug-in terminal:  
 3-pin for power supply and relay output and  
 3-pin for measuring input and alarm output  
 For wire cross selections from 0.14<sup>2</sup> to 1.5<sup>2</sup>.  
**IP rating:** front side IP54 (IP65 with o-ring and front without buttons)  
**Noise immunity (EMC):** EN61326 (appendix A, class B)

#### **Suitable temperature probes:**

**GTF230P** temperature probe, -20 ... +70°C  
 sensor sleeve made of st. steel, Ø5 x 50 mm, approx. 1m PVC-cable  
**Option: longer probe cable (PVC)** upcharge each m:  
**GTF230S** temperature probe, -40 ... +120°C  
 sensor sleeve made of st. steel, Ø5 x 50 mm, approx. 1m silicone-cable  
**Option: longer probe cable (silicone)** upcharge each m:

#### **Accessories:**

**GGD2448SET** O-rings for device mountig IP65 (2 pieces)  
 for other accessories p.r.t. page 52, 53

## digital controller for temperature and process values



Autotuned, microprocessor based digital controller with 2-, 3-point or PID control and adjustable set point gradient (ramp function)

**TLK 38** (33 x 75 mm)

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**TLK 39** (33 x 75 mm)

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#### **Specification:**

**Measuring input:** Please specify type required on order!

- Pt100 (3-wire) and thermocouples: J, K and S
- PTC KTY 81-121, NTC 103AT-2 (2-Leiter) and thermocouples: J, K and S
- normalized signals: 0(4) ... 20 mA
- normalized signals: 0(1) ... 5 Volt and 0(2) ... 10 Volt

#### **Measuring ranges:**

Pt100: -200...850°C; PTC: -55...+150°C; NTC: -50...+110°C;  
 Typ J: -0...1000°C, Typ K: 0...1370°C, Typ S: 0...1760°C

**Resolution:** temperature: 0.1, 1°C bzw. 0.1, 1°F  
 normalized signals: scale freely adjustable, -1999...9999 digit

**Accuracy:** ± 0.5 % FS ±1 digit

**Measuring rate:** approx. 8 measurements / sec.

**Display:** 4-digit, 12 mm high LED-display (TLK38) resp. two lines, each 4-digit, 7 mm high LED-display (TLK39)

**Outputs:** 1 (standard) or 2 (option) switching outputs available output versions (standard = relay-output)

- relay output (close contact, switching power: 8A/3A, 250VAC)
- solid state relay (SSR drive): 8V DC / 8mA

**Controller state:** 2-point, 3-point (with optional second output) or PID control.

**Autotuning:** the autotuning function guarantees the most briefly programming of all requested values.

**Power supply for transmitter:** 12VDC / 20mA (only for power supply = 12VDC)

**Housing:** 75 x 33 x 64 mm, panel cutout: 71 x 29 mm, Mounting by means of clamping frame

**Protection class:** front IP65 (mounted in panel with gasket)

**Electric connection:** screw-type terminals

**Operating conditions:** 0 ... +55 °C, 30 ... 95 %RH. (non condensing)

**Storage temperature:** -10 ... +60 °C

**Power supply:** standard: 12 VAC ±10%, 50/60Hz a. 12 VDC ±10%  
 options: 24 VAC/DC ±10% or 90...240 VAC ±10%, 50/60Hz

**Power consumption:** approx. 4 VA

#### **Orderinformation: (Attention: measuring input has to be stated!)**

**TLK39 / ME: Pt100, 230VAC, Rel2:** TLK39 with meas. input Pt100, 230VAC power supply and 2 outputs (2 \* relay)

#### **Implementations, Options:**

**ME: Pt100** meas. input: Pt100 and thermocouple

**ME: Temp** meas. input: PTC, NTC, thermocouple

**ME: mA** meas. input: current (0-20mA, 4-20mA)

**ME: V** meas. input: voltage (0-5V, 0-10V, 1-5V, 2-10V)

**24V: Power supply: 24V AC/DC**

**230VAC: Power supply: 90...240V AC**

**HLR1: output 1 = SSR drive**

**HLR2: 2nd switching output with SSR drive**

**REL2: 2nd switching output as relay output**