

Product Information

Controller

Displaying and Regulating Device GIR 230 ...



- Choose between 5 input types
- 2 relay outputs and 1 NPN switching output
- Self-monitoring and diagnostic system

Characteristics

The GIR 230 ... is a microprocessor-controlled displaying, monitoring and regulating device for universal use.

The device is available with several input types (each device has one of them): standard signals (0..20 mA, 4..20 mA, 0..10 mA), resistance thermometer (Pt100 and Pt1000), thermocouples (type J, K, N, S and T) and NTC. The GIR 230 ... provides switching outputs. The output functions can be configured as 2-point controller, min/max alarm, 3-point controller, 2-point controller with min/max alarm, etc. The relay state is indicated by 2 additional LEDs below the 7-segment display. The GIR 230 ... identifies impermissible operating states like display or system errors and displays a corresponding error code.

Technical data

Measuring inputs

Design type	Input signal	Measuring range	Note
NS	0..10 V	0..10 V	
	420 mA	4..20 mA	
	0..20 mA	0..20 mA	
Pt	Pt100	-50.0..+200.0 °C	3-wire connection
	Pt100	-200..+850 °C	
	Pt1000	-200..+850 °C	2-wire connection
TC	NiCr-Ni type K	-270.0..+1350 °C	
	Pt10Rh-Pt type S	-50..+1750 °C	
	NiCrSi-NiSi type N	-270..+1300 °C	

FR	fre-quency	Fe-CuNi type J	-170..+950 °C	
		Cu-CuNi type T	-270..+400 °C	
		standard signal	0..50 mV	
	rotation speed	TTL signal	0..10 kHz	Ri = ~ 50 kOhm
		Switching contact NPN	0..1 kHz	internal pull-up-resistor is switched on
		Switching contact PNP	0..1 kHz	internal pull-down-resistor is switched on
	counter	TTL signal switching contact NPN, PNP	0..9999 U/min	switchable pre-distributor (1..1000), pulse frequency: max. 600000 pulses/min.
				switchable pre-distributor (1..1000), pulse frequency: max. 10000 pulses/min.
	NTC	NTC 10K	-40.0..+120.0 °C	10k, 2-wire

Switching outputs

Design type	Outputs	Switching functions
NS	2x relay outputs	2-point
Pt	230V switching, (normally-open)	3-point
TC		2-point with alarm
FR	1x NPN output, ground switching (open collector)	3-point with alarm
NTC	1x relay outputs	min/max alarm
	230V switching, (normally-open)	
	1x NPN output, ground switching (open collector)	2-point
		2-point with alarm
		min/max alarm

Accuracy

NS	: < 0.2 % FS ±1digit
Pt	: < 0.5 % FS ±1digit
TC	: < 0.3 % FS ±1digit (0..50 mV)
	: < 0.3 % FS ±1digit (thermocouples)
	: < 0.5 % FS ±1digit (type S)
FR	: < 0.2 % FS ±1digit
NTC	: < 0.5 % FS ±1digit

Measuring rate

NS	: 100 measurements / second
Pt	: 4 measurements / second
TC	: 4 measurements / second
FR	: 4 measurements / second
NTC	: 4 measurements / second

continued on next page

Product Information

Power supply : 230 V, 50/60 Hz
Power consumption : 2 VA
Working temperature : -20...+50 °C

Display

Display : red LED display
Height : 10 mm
Display range : -1999...+9999 digit
initial / final value and decimal point
freely adjustable

Operation : via 3 buttons

Electric connection : via screw / clamp terminals:
2-pole for interface and 9-pole for
remaining connections
wire cross section from 0.14...1.5 mm²

Protection class : front IP54

Dimensions

Housing : glass fibre reinforced Noryl
front panel: polycarbonate
buttons: ABS

Size : 24 x 48 mm (H x W)

Mounting depth : approx. 65 mm
(incl. screw / clamp terminals)

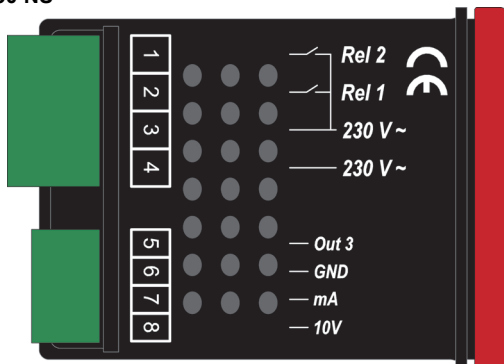
Panel mounting : by VA fixing clamps

Allowed panel thickness: from 1...10 mm

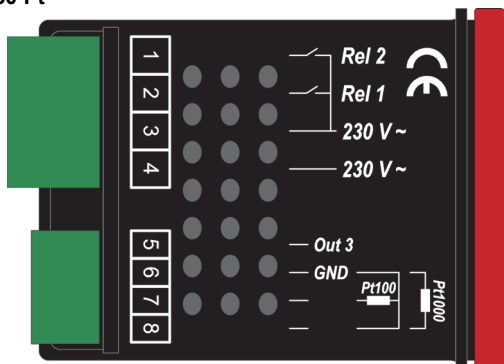
Panel cutout : 21.7 x 45.0 mm [±0.5 mm] (H x W)

Connection diagram

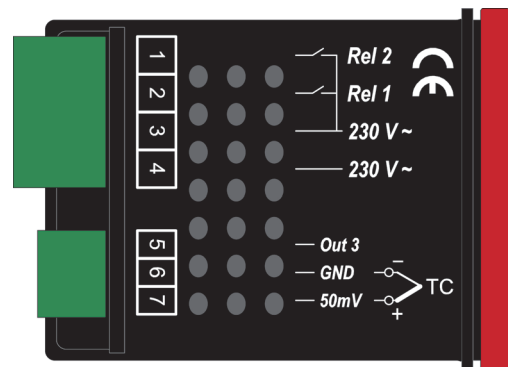
GIR 230 NS



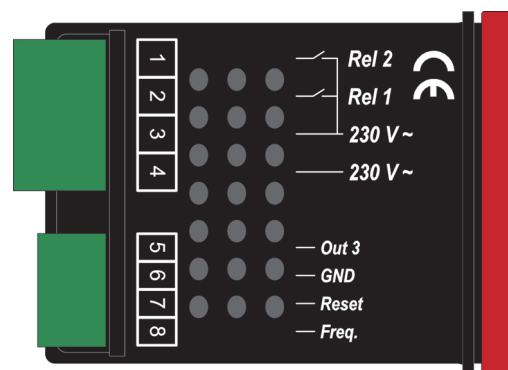
GIR 230 Pt



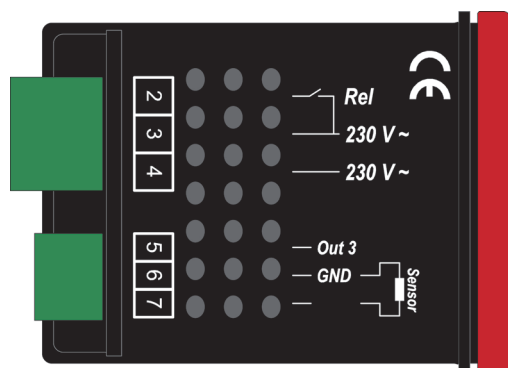
GIR 230 TC



GIR 230 FR



GIR 230 NTC



Design types

NS	Standard signal input controller with measuring input for standard signals (4...20 mA, 0...20 mA, 0...10 V)
Pt	Resistance input controller with measuring input for Pt100 and Pt1000
TC	Thermocouple input (J, K, N, S and T) controller with measuring input for thermocouples and 0...50 V
FR	Frequency input controller with measuring input for frequency
NTC	Controller with measuring input for NTC (only 1 relay output)

continued on next page

Product Information

Ordering code

1.
GIR230 ☐

1. Design type	
NS	standard signal
Pt	resistance signal
TC	thermocouple signal
FR	frequency signal
NT	NTC

Special design types (upon request)

SA1	Supply voltage: 12..24 V DC 2 relay outputs, +Uv switching 1 NPN output, ground switching
SA2	Supply voltage: 12..24 V AC 2 relay outputs, supply voltage switching 1 NPN output, ground switching
SA3	Supply voltage: 12..24 V DC with electric isolation 2 relay outputs, +Uv switching 1 NPN output, ground switching