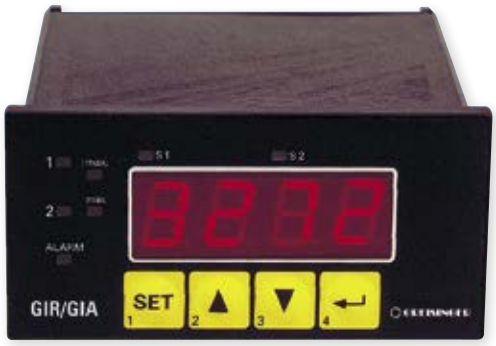
UNIVERSAL DISPLAYING AND REGULATING DEVICE

MIN MAX

FRONT 96 x 48

CUT-OUT 90.5 x 43

E.A.S.Y.BUS® MODUL



HIGHLIGHTS:

- 2 relay switching outputs
- 1 analog output (0(4) ... 20 mA or 0 ... 10 V) (optional)
- 5 programmable switching modes
- electrical isolated power supply for a transmitter (24 V / 22 mA)
- serial interface, bus operation

ADDITIONAL FUNCTIONS GIR 2002 PID:

- P, I, PI, PD or PID control mode
- 3-point motorized valve control
- continuous regulating output (optional)

GIR 2002

Art. no. 600948 (standard model)

Universal displaying and regulating device with on/off-control mode

GIR 2002 PID

Art. no. 600951 (standard model)

Universal displaying and regulating device with PID-control mode

General:

The universal controller GIR 2002 is the ideal device for simple control systems (on/off switching, relay outputs, ...), because of its compact construction and its high ease of use.
The GIR 2002 PID (basic version) supplies one control output for a 2-point-control the types of control P, I, PI, PD or PID and a second control output for on/off switching. The device can also be configured as a 3-point motorized valve controller or as controller with continuous output (optionally).
Due to the universal input and the various switching functions the controller can be optimally adapted to the requirements of the system. The structured menu navigation allows a straightforward handling and a fast adjustment of the parameters.
A LED switching position display gives information to the user about the current status of the switching outputs. The automatic self-test and diagnostic system ensures maximum operational safety and reports systems errors by conclusive error codes. The parameters are automatically saved, so that all data will be maintained even in case of a power blackout.
Among others most of the Greisinger transmitters, rpm sensors and flow rate sensors can be connected directly to the integrated transmitter power supply (24 VDC/22 mA) of the controller.
If the device is used as a thermocouple or resistance thermometer, the measuring value can be alternatively displayed in °C or °F. By means of an offset correction the measured value can be scaled i.e. to the resistivity of the wires. The current and voltage inputs can be arbitrarily scaled in the range of -1999 ... +9999.
The GIR 2002 has a serial, bus-compatible interface by default, by which a comfortable adjustment of the parameters as well as recording of measured values is possible. With the optionally available Windows library EASYBUS.dll up to 240 devices can be integrated into own programs (i.e. LabView).

Application:

- process regulating
- temperature controller
- pressure monitoring
- rotation speed display
- flow counter, etc.

Specifications:

Measuring input:	Measuring / display ranges:	Accuracy (at nominal temperature):
Thermocouples (4 measurings / s)		
FeCu-Ni: (Type J, IEC 584)	-70.0 ... +300.0 °C or -170 ... +950 °C	<0.3 % FS ±1 digit *
NiCr-Ni: (Type K, IEC 584)	-70.0 ... +250.0 °C or -270 ... +1372 °C	<0.3 % FS ±1 digit *
NiCrSi-NiSi: (Type N, IEC 584)	-100.0 ... +300.0 °C or -270 ... +1350 °C	<0.3 % FS ±1 digit *
Pt10Rh-Pt: (Type S, IEC 584)	-50 ... +1750 °C	<0.5 % FS ±1 digit *
Cu-CuNi: (Type T, IEC 584)	-70.0 ... +200.0 °C or -270 ... +400 °C	<0.3 % FS ±1 digit *
	** = Point of comparison: ±1 °C*	
Resistance thermometer (4 measurings / s)		
Pt 100: (3-wire, DIN EN 60751)	-50.0 ... +200.0 °C or -200 ... +850 °C	<0.3 % FS ±1 digit
Pt1000: (2-wire, DIN EN 60751)	-200 ... +850 °C	<0.3 % FS ±1 digit
Action signals / normalized signal (100 measurings / s)		
0 ... 1 V, 0 ... 2 V, 0 ... 10 V:	-1999 ... +9999 digit, scale freely adjustable	<0.2 % FS ±1 digit
0 ... 20 mA, 4 ... 20 mA:	-1999 ... +9999 digit, scale freely adjustable	<0.2 % FS ±1 digit
0 ... 50 mV:	-1999 ... +9999 digit, scale freely adjustable	<0.3 % FS ±1 digit
Frequency		
TTL-Signal:	0.000 Hz ... 10 kHz, scale freely adjustable	<0.1 % FS ±1 digit
Switching contact NPN:	0.000 Hz ... 3 kHz, scale freely adjustable	<0.1 % FS ±1 digit
Switching contact PNP:	0.000 Hz ... 1 kHz, scale freely adjustable	<0.1 % FS ±1 digit
Rotational speed:	0.000 ... 9999 U/min.	selectable prescaler: 1 ... 1000, pulse frequency: max. 600.000 Imp./min. at TTL
Flow:	0 ... 9999 l/s, 0 ... 9999 l/min or 0 ... 9999 l/h	
Counter up / down		
TTL-signal, switching contact (NPN, PNP):	0 ... 9999 or 0 ... 999 000 (with prescaler) selectable prescaler: 1 ... 1000, pulse frequency: max. 10.000 Imp./s at TTL	<0.1 % FS ±1 digit
Serial interface:	displaying and controlling from values coming via the serial interface	
Outputs: Please note: Not all options are available for both device types and not all options can be combined with each other. Please see therefore the matrix on next page.		
Output 1 R1: (standard version)	voltage free relay output (standard) normally-open contact, switching power: 5 A (ohmic load), 250 V AC	
Optional:	H1: control output for semiconductor relay (6 V DC / 15 mA) AA1: freely scalable analog output 0(4)-20 mA AV1: 0 ... 10V SA1: continuous output 0(4) ... 20 mA SV1: 0 ... 10 V	
Output 2 R2: (standard version)	voltage free relay output (standard) change-over contact, switching power: 10 A (ohmic load), 250 V AC	
Optional:	H2: control output for semiconductor relay (6 V DC / 15 mA)	
Output 3: (not available at standard device type)		
Optional:	R3: voltage free relay output (chance-over contact) switching power: 1 A / 40 V AC or 30 V DC H3: control output for semiconductor relay (14 VDC / 15 mA) N3: electrical isolated NPN-switching contact (max. 1 A / 30 V DC) AA3: freely scalable analog output 0(4) ... 20 mA AV3: 0 ... 10V SA3: continuous output 0(4) ... 20 mA SV3: continuous output 0 ... 10 V	
Controller states:	5 or 6, selectable (e.g. 2-point regulator, 3-point regulator, ...)	
Switching point, hysteresis:	freely adjustable	
Response time:	≤25 ms at normalized signals ≤0.5 s at temperature and frequency	
Display:	approx. 13 mm high, 4-digit red LED-display	
Interface:	serial interface, electrical isolated, EASYBus compatible	
Power supply for sensor:	24 V DC ±2 %, 22 mA at 230 V AC power supply 18 V DC ±2 %, 22 mA at 12 V DC or 24 V DC power supply	