



# Universal Measuring and Regulating Device

# GIA 20 EB

easy operability - high accuracy - economy-price



Option: Frontpanel with push buttons  
(frontpanel without buttons included in delivery)

- Universal inputs for normalized signals, frequency, Pt100, Pt1000 and thermocouples
- 2 integrated switching outputs
- Configurable as display or controller (5 switching functions)
- Quick regulating and controlling stage
- extensive self-monitoring and diagnostic system
- Serial interface (max. 240 devices can be combined)
- Limit functions, digital filter, min-/max value memory
- Alarm delay selectable

## Specification:

**Measuring inputs:** universal input for

- **Normalized signal:** 4-20mA, 0-20mA, 0-1V, 0-2V, 0-10V, 0-50mV
- **Resistance thermometer:** Pt100 (3-wire), Pt1000 (2-wire)
- **Thermocouples:** types J, K, N, S, T
- **Frequency:** TTL-signal, switching contact
- **Rotational speed:** TTL-signal, switching contact
- **Counter up / down:** TTL-signal, switching contact
- **Serial interface**

**Measuring rate:** approx. 100 meas. / sec. (for norm. signal)  
resp. approx. 4 meas. / sec. (for temperature and frequency)

### Measuring resp. display ranges, resolution:

#### Temperature:

- Pt100:** -200 ... +850°C or -50.0 ... +200.0°C
- Pt1000:** -200 ... +850°C
- type J:** -170 ... +950°C      **type K:** -270 ... +1350°C
- type N:** -270 ... +1300°C      **type S:** -50 ... +1750°C
- type T:** -270 ... +400°C

**Norm. signals:** -1999 ... 9999 digit, scale freely adjustable  
- **recommended range:** ≤ 2000 digit

**Frequency:** 0.000 Hz ... 10 kHz, display freely scaleable

**Rotational speed:** 0.000 U/min ... 9999 U/min,  
selectable prescaler: 1-1000

**Counter up/down:** *countvalue remains on power loss*  
0 ... 9999 (10 Mio. with prescaler),  
pulse frequency: ≤ 10kHz  
selectable prescaler: 1-1000

**Serial interface:** Displaying and controlling from values  
comming via the serial interface.

**Accuracy:** (at nominal temperature = 25°C)

- **Norm. signal:** < 0.2 % f.s. ±1digit (at 0-50mV: < 0.3% f.s. ±1digit)
- **Resistance thermometer:** < 0.5 % f.s. ±1digit
- **Thermocouples:** < 0.3 % f.s. ±1digit (at type S: < 0.5% f.s. ±1digit)
- Point of comparison:** ± 1 °C
- **Frequency, rotational speed, counter:** < 0.1 % f.s. ±1digit

**Outputs:** 2 switching outputs, not electrically isolated  
**Switching behavior:** Low-Side, High-Si  
de or Push-Pull (selectable)

**Connection data:** Low-Side: 28V/1A; High-Side: Ub/200mA

**Controller state:** 2-point, 3-point, 2-point with alarm,  
min/max alarm to 1 output, min/max alarm to 2 outputs

**Swirching point, hysteresis:** freely adjustable

**Response time:** ≤ 20 msec. at normalized signals  
≤ 0.3 sec. at temperature and frequency



**GUEMISA** (Electrónica Guerra y Miró Guemisa S.L.)  
Sta. Virgilia, 29 - local - 28033 Madrid (Spain)  
Tlfn.: (034) 91 764 21 00 Fax.: (034) 91 764 21 32  
Email: ventas@guemisa.com Web: www.guemisa.com

**Display:** approx. 10 mm high, 4-digit red LED-display  
**Min-/max-value memory:** the max- and min value will be stored.  
**Service:** with the help of 3 push-buttons (after disassembly of the frontpanel).

Option: FS3T, frontpanel with 3 push-buttons for comfortable configuration.  
Trouble-free replacement is possible (refer accessories)

**Interface:** serial interface, elect. isolated, **EASYbus** compatible  
**Miscellaneous:** permanent self-monitoring, digital filter function,  
measuring range boundary (limit)

**Voltage supply:** 9 to 28 V DC,

**Power consumption:** max. 30 mA (without interface and outputs)

**Nominal temperature:** 25 °C

**Operating temperature:** -20 to +50 °C

**Relative humidity:** 0 to 80 % r.F. (non condensing)

**Storage temperature:** -30 to +80 °C

**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: 2-pin for interface and  
9-pin for outhr connections. For wire cross sections from 0.14<sup>2</sup> to 1.5<sup>2</sup>.

**IP rating:** front side IP54, with optional r-rings IP65

**Noise immunity (EMC):** EN61326 (appendix A, class B)

## Accessories:

**GGD2448SET** O-rings for device mountig IP65 (2 pieces)

**FS3T (in preparation)** Frontpanel with 3 push-buttons  
For comfortable configuration, for adjustments at variable switching  
points, calling of min- and max-values etc.

**GNR10** Power supply and relay module for one GIA20EB (p.r.t. page 69)  
(Input: 230VAC, Power supply for device + transducer, 2 relay outputs)

**GR10** Relay module (p.r.t. page 69)  
(Input: 12VDC, 2 relay outputs - chance-over contacts)

**GNG220** Power supply device for top hat rail (p.r.t. page 69)

**GNG12-LE** Plug-in power supply: 12VDC/300mA (p.r.t. page 69)

**EBW1** interface converter GIA20EB => RS232 (p.r.t. page 61)

**EBS 9M** software for recording and archiving  
of the measuring values from the GIA20EB (p.r.t. page 37).

**Temperature probes** **p.r.t. page 87 - 96**

**for other accessories p.r.t. page 54, 68, 69**