GEFRAN

1200 - 1300

CONTROLLERS

Main applications

- *Extrusion lines*
- *Injection presses for plastics*
- *Heat punches*
- *Presses for rubber*
- *Packaging machines*
- *Packing machines*
- *Polymerization and synthetic fiber plants*
- *Food processing pants*
- *Die-casting plants*
- *Cooling plants*
- *Climatic cells and test benches*
- *Dryers for ceramics and construction parts*
- *Ovens*
- *Painting plants*

Main features

- *Universal input configurable from faceplate*
- *Accuracy better than 0.2% f.s. under nominal conditions*
- *Control output: relay, logic, Triac or continuous*
- *Hot/cold function with selection of cooling fluid*
- *3 alarms with completely configurable function*
- *Analog retransmission output*
- *Up to 2 isolated digital inputs with configurable function*
- *Isolated digital input with configurable function*
- *Auxiliary input for CT (TA) (50mAac)*
- *Heater break or probe short-circuit alarm*
- *Self-tuning, Auto-tuning, Soft-start, bumpless Man/Auto function*
- *Double set, set ramp, timed output function*
- *Optically isolated RS485 serial line. Protocol: GEFRAN MODBUS RTU*
- *Self-diagnosis*
- *Rapid configuration from PC with Winstrum packet*

PROFILE

Microprocessor controllers, 48x96 (1/8DIN) format for 1200 and 96x96 (1/4DIN) format for 1300, built with SMT technology. Complete operator interface, protected by Lexan membrane to guarantee an IP65 faceplate protection level. Composed of 4 keys, double 4-digit green LED display, 4 red signal LEDs for the 4 relay/logic outputs and 3 additional LEDs with programmable function to signal the instrument's various function states.

The main input for the variable to be controlled is universal, and allows connection of a wide variety of signals: thermocouples, resistance thermometers, thermistors, normalized linear inputs, all with possibility of custom linearization set from the faceplate.

Input type is selected entirely from the faceplate and requires no external adapter shunts/dividers.

A second auxiliary analog input from current transformer is available. You can select one of the two presettable setpoints, select Manual-Automatic mode, reset the alarm memory, or enable the hold function by means of the digital input.

The instrument provides up to 4 outputs: relay (5A, 250VAC/30VDC cosφ = 1) or logic (24V ± 10% (10Vmin a 20mA).

An analog output in voltage or in current is also available.

The functions of each output are freely configurable from the faceplate.

In addition to the control and alarm outputs, you can also have outputs that repeat the state of the digital or retransmission input by process variable, setpoint, deviation, alarm trip points and values acquired via serial line. An additional output (24VDC, 30mA max.) is available to power outside transmitters.

The serial communication option can be in Current Loop or RS485, with MODBUS RTU protocol and maximum speed of 19200 baud (485).

The instrument's entire programming procedure is made easier by grouping the parameters in function blocks (CFG for control parameters, Inp for inputs, Out for outputs, etc.).

The instrument can also select the parameters to be displayed based on its hardware configuration, which automatically hides irrelevant parameters.

The instrument is supplied with an "EASY" configuration calling for just a few parameters (only those pertaining to the model ordered and essential to the controller's operation).

In this way, you just have to set the setpoint and the alarm, then launch self-tuning with the specific button.

For even simpler configuration, you can use a PC programming kit consisting of a cable and a guided program for Windows environment (see Technical Data code WINSTRUM).

TECHNICAL DATA

INPUTS

Accuracy 0,2% f.s. ±1digit.
Acquisition of the input signal 120msec.

TC - Thermocouples

J	0...1000°C / 32...1832°F
K	0...1300°C / 32...2372°F
R	0...1750°C / 32...3182°F
S	0...1750°C / 32...3182°F
T	-200...400°C / -328...752°F
B	44...1800°C / 111...3272°F
E	-100...750°C / -148...1382°F
N	0...1300°C / 32...2372°F
custom	-1999...9999

Using the custom solution, tables are available for the following thermocouples:

L-GOST	0...600°C / 32...1112°F
U	-200...400°C / -328...752°F
G	0...2300°C / 32...4172°F
D	0...2300°C / 32...4172°F
C	0...2300°C / 32...4172°F
(NI-Ni18Mo)	0...1100°C / 32...2012°F

RTD 3-wires

PT100 -200...850°C / -328...1562°F
JPT100 -200...600°C / -328...1112°F

PTC
990Ω, 25°C -55...120°C / -67...248°F
NTC
1KΩ, 25°C -10...70°C / 14...158°F

DC - Linear
With scale settable in limits:
-1999...9999
0...60mV / 12...60mV
0...10V / 2...10V
0...5V / 1...5V
0...1V / 0,2...1V
0...20mA / 4...20mA
Imput impedance:
Ri > 1MΩ per 60mV,1V
Ri > 10KΩ per 5V, 10V
Ri = 50Ω per 20mA
Custom linearisation with 32 segment.

Auxiliary input
(IN CT)
For current transformer
50mAac, 50/60Hz, Ri=10Ω

Digital input
(IN1/IN2)
PNP: Ri = 4,7KΩ (24V, 5mA) insulation 1500V
NPN: voltage-free contact.
Function configurable among man/auto selection, local/remote (setpoint from serial line, setpoint1/setpoint2);
Set/reset outputs, start/stop tuning functions, software off/on, reset alarm memory, hold.

OUTPUTS
4 configurable outputs:
• OUT1 relay (switching contact only with OUT2 relay)
• OUT2 available in relay, logic or triac
• OUT3 available in relay, logic, continuous or analog retransmission
• OUT4 relay or logic.

The outputs are freely assignable to control and alarm functions (in "OR" or "AND"). They can be slaved to a faceplate key or to the auxiliary digital input.

Relay
(order code R)
With rating: 5A/250Vac/30Vdc, cosφ=1

Logic
(order code D)
24Vdc, Rout=100Ω (10V/20mA)

Triac (order code T)
24...240Vac ± 10%, 50/60Hz, 1A max.
I^2t = 128A^2sec.
Leakage current 1.5mA max a 200Vac.

Continuous (order code C)
0...10V, 0/4...20mA, on 500Ω max
only for heat/cool control output.

Retransmission
(order code W)
0...10V, 0/4...20mA, on 500Ω resolution 12bit, useful for retransmission of the variable.

Serial line
Optoisolated 2/4 wires, RS422/485 (1200, 2400, 4800, 9600, 19200 baud) interface
Prot.: MODBUS RTU

POWER SUPPLY
Standard:
100...240Vac/dc ± 10% max 18VA
On request:
11...27Vac/dc ± 10% max 11VA
50/60Hz. Protection by internal fuse not serviceable by the user

POWER SUPPLYTRANSMITTER
24V ±10% not stabilized, 30mA
Short circuit protection

AMBIENT CONDITION

Working temperature range: 0...50°C
Storage temperature range: -20...70°C
Humidity: 20...85%Ur non condensing

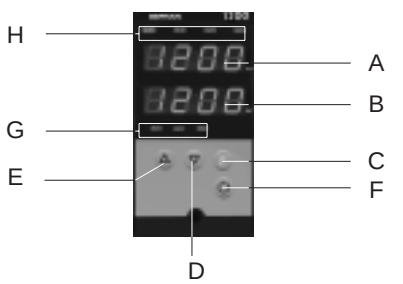
CONTROL
On/Off, P, PD, PID in both heating and cooling, with parameters settable from keyboard..
Cooling setpoint relative to heating setpoint.
• Manual reset -999...999 digits
• Reset power -100.0...100.0%
• Cycle time 0...200sec
• Soft-start 0.0...500.0 min
For each action:
• Proportional band 0.0...999.9% f.s.
• Integral time 0.0...99.99 min
• Derivative time 0.0...99.99 min
• Maximum power limit 0.0...100.0%

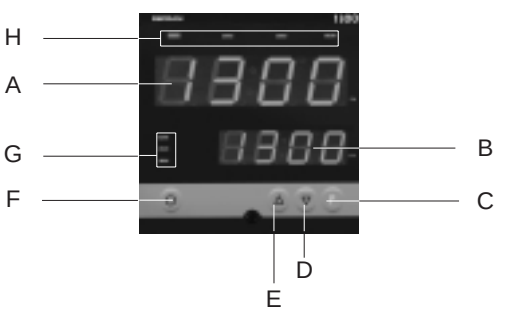
ALARMS
• 3 alarm limits settable in absolute, deviation, symmetrical deviation value compared to set-point with direct or reverse function.
• Alarm limit settable along entire selected scale.
• Alarm masking with exclusion at power-up, with memory, with trip delay.
• LBA alarm for adjustment control
• Trip hysteresis settable for each alarm
• Alarm assigned to ammeter input with different function modes.

WEIGHT
320g (1200)
400g (1300)

FACEPLATE DESCRIPTION

A - PV Display: process variable, hight 10mm (1200), 20mm (1300) green
B - SV Display: setpoint value, hight 10mm (1200), 13mm (1300) green
C - “Function” key
D - “Raise” key
E - “Lower” key
F - “Automatic/Manual” selection
G - Function indication, red leds
H - Indication of active outputs, red leds

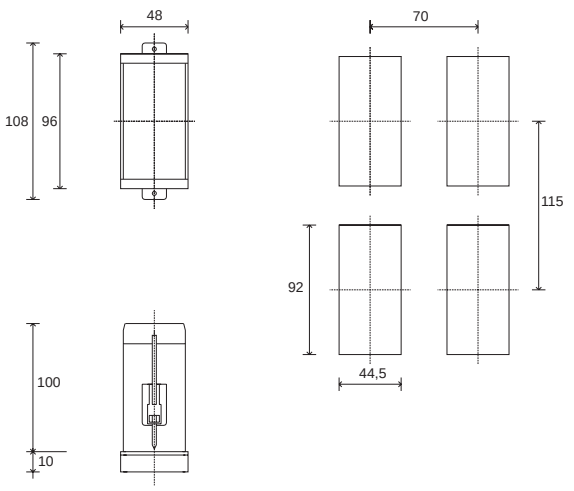




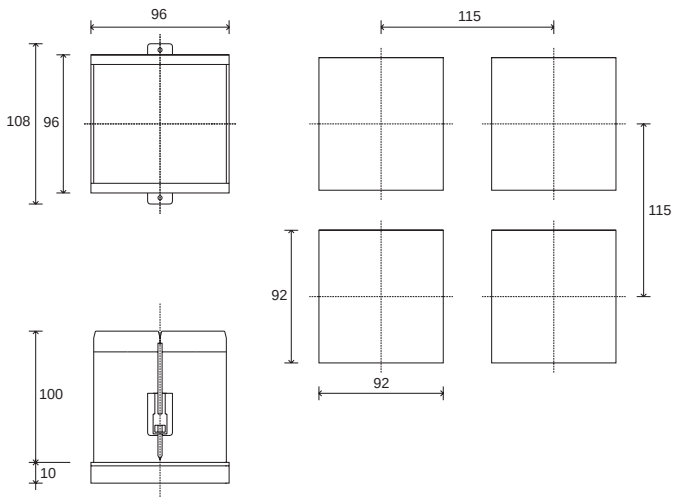
Faceplate protection IP65

DIMENSIONS AND CUT OUT

1200

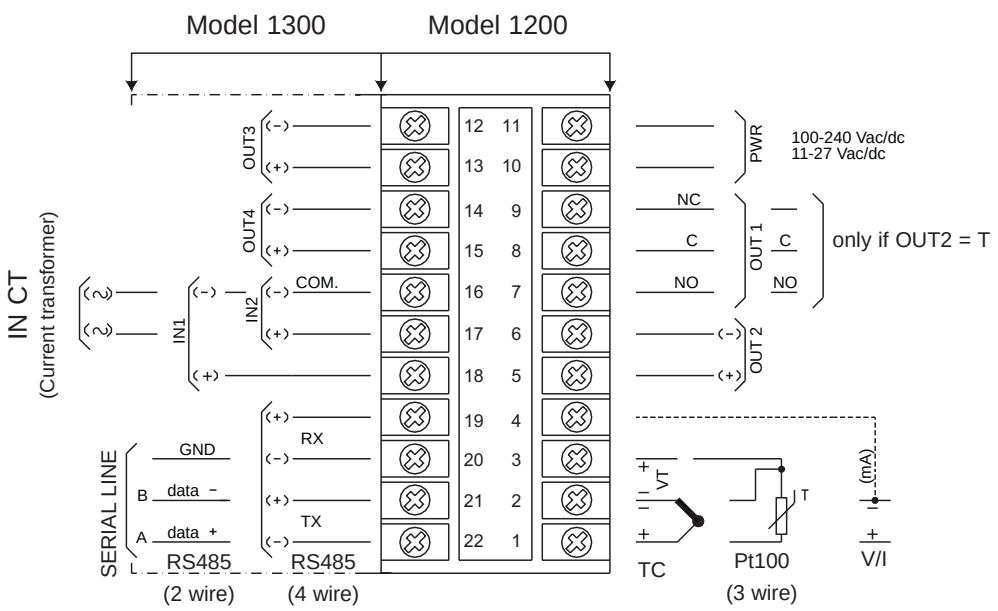


1300



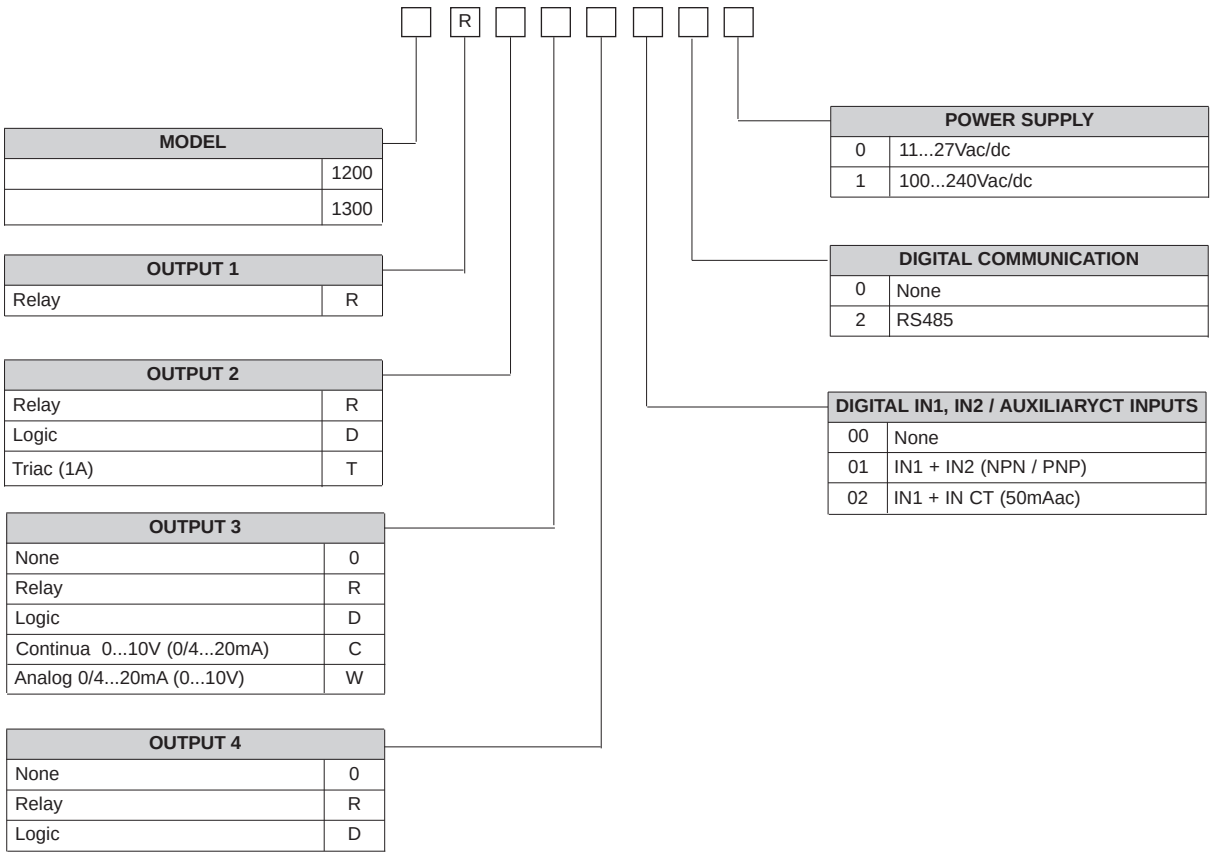
Dimensions: 48x96mm - 96x96mm (1/8DIN - 1/4DIN) depth 100mm

CONNECTION DIAGRAM



Apply user's manual warnings for a correct installation

ORDER CODE



Please, contact GEFRAN sales people for the codes availability.

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice.

c UL us	Conformité C/UL/US File no. E198546
CE	The instrument conforms to the European Directives 2004/108/CE and 2006/95/CE with reference to the generic standards: **EN 61000-6-2** (immunity in industrial environment) - **EN 61000-6-3** (emission in residential environment) - **EN 61010-1** (safety)