GEFRAN

2300

Main features

- *Pressure transmitter, force, strain-gauge, potentiometer, transmitter inputs*
- *Fast response time (2msec)*
- *Automatic calibration checking for strain-gauge 6-wires*
- *32 segment linearisation*
- *Peak, valley, peak-to-peak memory*
- *Serial line: configurable optoisolated 4-wires.
  Protocol:
  GEFRAN CENCAL or MODBUS*

Main applications

- *Polymerisation and syntetic fibre production plants*
- *Food industry plants*
- *Extrusion lines and other machines for the plastics industry*
- *Weight indicators*

GENERAL

Microprocessor digital indicator/relay unit in 96x48mm (1/8 DIN) format.
Mounting using SMT, it provides an extremely complete operator interface and IP54 faceplate protection (IP65 with protective cover).
The faceplate has a membrane keypad with 6 keys and a 5-digit LED display for the process variable and other parameters.
The model 2300 is designed for the acquisition of signals that have a high speed of variation.
The input type is selected using a combination of jumpers and keyboard settings and can be a standard linear signal (also with custom linearisation), or the output from a pressure probe, load cell or potentiometer.
There are also two logic inputs that can be configured for different functions such as alarm memory reset, peak memory reset, calibration check, enable remote setpoint, hold.
The same functions can also be configured for the faceplate keys.
The instrument performs the functions of memorizing the maximum peak value, minimum peak level, peak to peak value.
An optoisolated analogue output is available for the retransmission of the input signal, remote setpoint or peak value.

The optional serial communications port can be Current Loop, RS232 or RS422/485, with CENCAL or MODBUS protocol (selectable).
It is possible to read from or write to any of the instruments parameters.
The programming procedure is simplified using a menu structure with different levels that enable the data to be found easily and rapidly.

TECHNICAL DATA

INPUTS

Accuracy 0,2% f.s. ±1 digit
Sampling time 2msec

Strain-gauge

350Ω (per pressione, forza, ecc.), strain-gauge sensor inputs with sensitivity of 1,5/2/2,5/3/3,3mV/V, and positive, symmetrical or negative polarisation.

Potentiometer

$\geq 350\Omega$, Ri > 10 MΩ

DC - Linear

0...50mV / -25...25mV / -50...0mV
0...60mV / -30...30mV / -60...0mV
0...100mV / -50...50mV / -100...0mV
0...1V / -500...500mV / -1V...0V
0...10V / -5...5V / -10V...0V
For all voltage inputs
Ri $\geq$ 1 MΩ
0...20mA / 4...20mA, Ri = 50Ω
Custom linearisation with 32 steps available.

Auxiliary inputs

Setpoint can be absolute or relative to the local setpoint.
0...10V, Ri $\geq$ 1MΩ
0...20mA, Ri = 50Ω
4...20mA, Ri = 50Ω

Digital Inputs
Optoisolated 1500V.
2 digital inputs with configurable function: reset latch, reset peak memory, calibration check, enable remote setpoint, Hold.
- NPN or PNP 24V/4mA

OUTPUTS

Relay
With rating 5A/250Vac at $\cos\varphi = 1$
(3,5A at $\cos\varphi = 0,4$).
Spark suppression on the NO contact.

Logic
Voltage output for SSRs
23Vdc, Rout = 470Ω (20mA, max. 12V).

Analogue retransmission
Isolated 1500V.
Retransmission of the input, the peak value, remote setpoints, or switch points configurable scale adjustable from the faceplate
0..10Vdc, -5...5Vdc, -10...10Vdc
Rload > 500Ω
0...20mA, 4...20mA Rmax = 500Ω
Accuracy 4000 punti.
Response time 8 msec.

SERIAL LINE
Optoisolated 4-wires.
The instrument ia available with interface Current Loop (1200 baud) or RS485 (1200/2400/4800/9600 baud).
Protocol:
GEFRAN CENCAL or MODBUS

TRANSMITTER
SUPPLY
Isolated 1500V
5, 10 or 15Vdc/200mA or 24Vdc/100mA

POWER SUPPLY
100...240Vac ±10%
11...27Vac/dc ±10%
50...60Hz; 12VA max
Protection by internal fuse not serviceable by the user.

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

ALARMS
3 (10) relay outputs are provided with configurable function
(Direct / Inverse / Relative / Relative symmetric)
- Hysteresis selectable in engineering units.
- Function: high or low alarms with selectable memory function (LATCH).
The relays may be energised or disenergised in the alarm condition.
The low alarm can be excluded at the power-on until the process variable has exceeded the alarm point.
The alarm relay will trip only when to process variable subsequently returns below the alarm point.
Response time:
for Out1 ... Out 2 = 2msec
for Out 3 ... Out 10 = 8msec

GEFRAN MD8 EXPANSION UNIT
replace output 3
- with a further 8 switch points.

WEIGHT
450g

FACEPLATE DESCRIPTION

A - Indication of process variable, red digits h. 14mm
B - Function key
C - Lower key
D - Raise key
E - Special functions keyi
F - CAL-RST key
G - Peak key
H - Alarm indications, red led
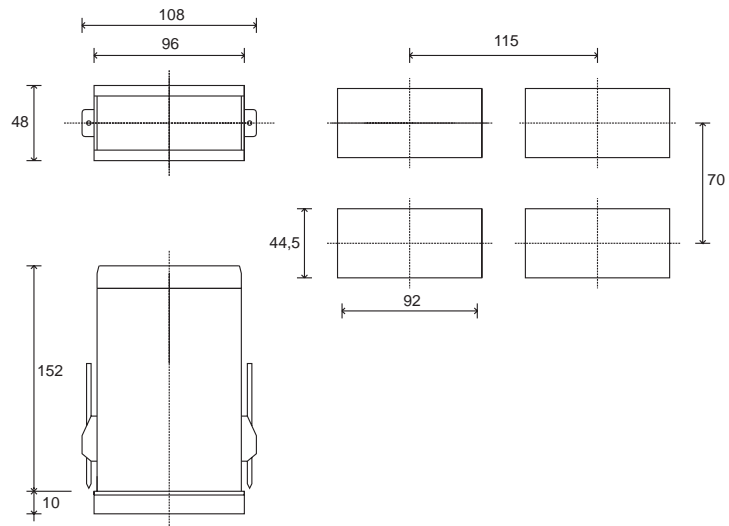**I** - Peak, Cal, Rem, Exp indication, red led
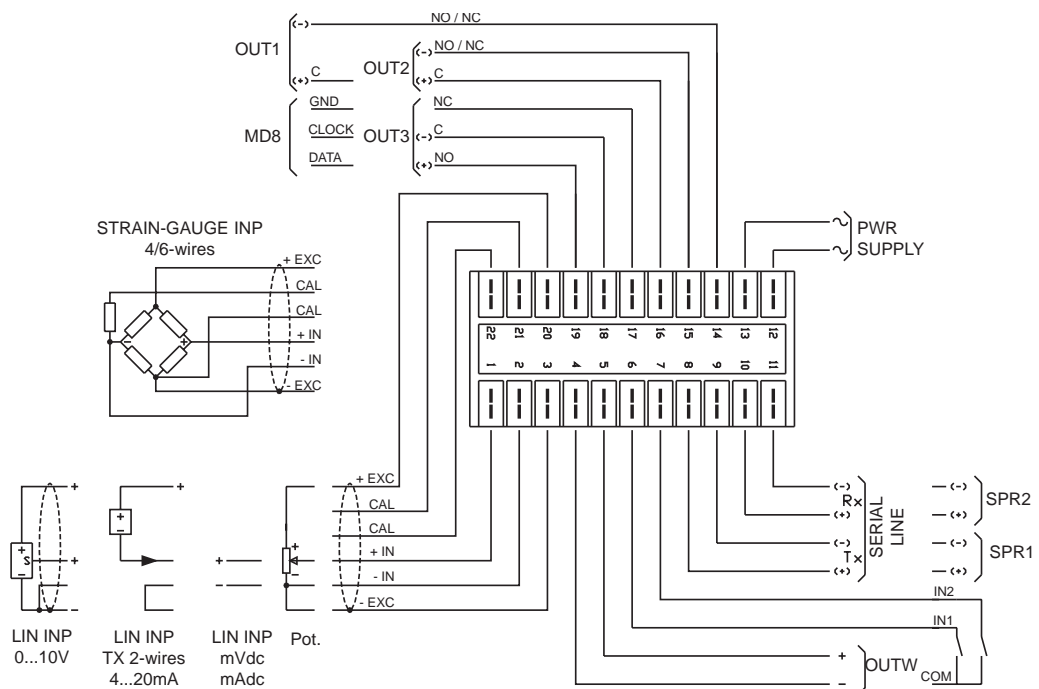**L** - Label for engineering units

IP54 faceplate protection (IP65 available)

108

96

48

115

70

44,5

92

152

10

Dimensions: 96x48mm (1/8 DIN), depth 152mm

OUT1 (–) NO / NC

OUT2 (–) NO / NC

OUT1 C (+) C

MD8 GND / CLOCK / DATA

OUT3 (–) NC / C

(+) NO

STRAIN-GAUGE INP
4/6-wires

+ EXC
CAL
CAL
+ IN
- IN
- EXC

22 21 20 19 18 17 16 15 14 13 12

1 2 3 4 5 6 7 8 9 10 11

PWR
SUPPLY

+ EXC
CAL
CAL
+ IN
- IN
- EXC

LIN INP
0...10V

LIN INP
TX 2-wires
4...20mA

LIN INP
mVdc
mAdc

Pot.

(–)
Rx
(+)

SPR2

(–)
Tx
(+)

SPR1

SERIAL LINE

(–)
(+)

(–)
(+)

IN2

IN1

+
OUTW COM
-

⚠ Apply users' manual warnings for a correct installation

ORDER CODE

2300 ☐ ☐ ☐ ☐

VERSION	
Alarm outputs + 2SPR	SI
Alarm outputs + 2SPR + W	SW
Alarm outputs + Serial CL	SX1
Alarm outputs + Serial 485	SX2
Complete Serial CL	CC1
Complete Serial 485	CC2

OUTPUTS	
3 relay outputs	3R
3 logic outputs	3D
2 relay outputs + Out MD8	2R
2 logic outputs + Out MD8	2D

POWER SUPPLY	
11...27Vac/dc	0
100...240Vac	1

CONFIGURATION	
None configuration: Standard	S
Custom configuration	C

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

CE	In conformity to ECC 89/336/CEE and 73/23/CEE with reference to standards: **- CEI-EN 61000-6-2** (immunity in industrial environment) - **EN 50081-1** (emission in residential environment) - **EN 61010-1** (safety)
C-TICK	**C - TICK**
CSA NRTL/C	Conformity **CSA NRTL/C** certificated n. LR111880-1 (model with power supply type 1)