



### Main applications

- Plastic extruders
- Plastic injection presses
- Blowers
- Plastic and rubber processing machines
- Wrapping machines
- Packaging machines
- Thermal processes with electric heating

Can be used with GEFLEX software release 1.3x and previous releases

### Main features

- Triple Display
- 6 function keys
- 14 LEDs
- Power supply 24Vdc
- Built-in memory to load/download Geflex configuration up to 10 units

### PROFILE

Terminal for configuration and diagnosis of the whole Geflex series.

It is composed of a lexan membrane (ensuring an IP65 front protection).

Three 4-digit displays, two of which to display variables (PV process variable, SP set point), and a 2-digit display to identify Geflex queried node.

Six function keys to access the software menus and make settings.

Fourteen LEDs: six for the output status diagnosis, and eight for the status instrument.

It comes with a built-in memory able to save the complete configuration of each Geflex, up to ten units.

This feature makes it particularly suitable for plant maintenance, as Geflex units can be configured directly on site and data can then be stored on a PC.

Moreover, the opposite operation is also available: download data from a PC to the GFX\_OP terminal, operate on the plant and configure Geflex units.

Two versions are available:

*back-of-board mounting:* the terminal can be installed directly on Geflex heat sink or on a DIN rail;

*front-of-board mounting:* the terminal can be fixed directly on the control board of the plant.

In both cases the terminal does not need any external power supply, as this is provided directly by Geflexes.

A complete 24Vdc power supply and a connection cable kit is provided for use with a PC.

### TECHNICAL DATA

#### FACEPLATE

4+4+2 digit display,  
7 green segments, height 7 mm  
14 red LEDs,  
6 mechanical keys  
Faceplate protection with lexan.

#### Installation

To faceplate panel.  
Installed on DIN guide.

#### SERIAL LINE

- RS485 interface for connection to the GEFLEX modules.  
- RS232 interface for connection with PC for WINSTRUM software.  
(see Geflex accessories)

#### POWER SUPPLY

24V  $\pm$ 25%, max. 80mA.  
A 90...260Vac, 50...60Hz mains power supply is available as accessory.  
It is not necessary when the terminal is connected to an already powered GEFLEX module.

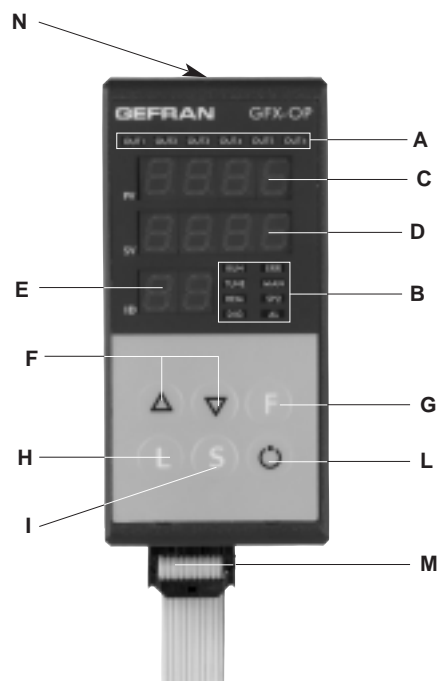
#### AMBIENT WORKING

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

#### WEIGHT

90g.

## 1 • DESCRIPTION FACEPLATE



- A** - Indication of active outputs - Display state Out1,...,Out6
- B** - Indication of status instrument  
 RUN, ERR repetition of state of LEDs on Geflex  
 TUNE on if selftuning or autotuning is active  
 MAN on and control in manual state  
 REM on if remote set point is enabled  
 SP2 on if setpoint 2 is selected  
 DIG on if digital input is active  
 AL on if at least one alarm is active
- C** - PV Display: indication variable / parameter code
- D** - SV Display: indication variable value
- E** - Display of queried node  
 Meaning of flashing decimal points on ID display:  
 Both decimal points flash = serial dialog running  
 Only "ones" point flashes = data transfer to Geflex after "Load" command  
 Only "tens" point flashes = first data read from Geflex at first selection  
 Both decimal points off = serial communication absent (due to lack of connection or incorrect ID address). In this case, the PV and SV values are replaced by four segments " - - - - "
- F** - "Lower" and "Raise" keys  
 Press to increment (decrement) any numerical parameter ••  
 Increment (decrement) speed is proportional to time key stays pressed ••  
 The operation is not cyclic: once the maximum (minimum) value of a field is reached, the value will not change even if the key remains pressed
- G** - "Function" key  
 Gives access to the various configuration phases  
 Confirms change of set parameters and browses next or previous parameter (if Auto/Man key is pressed)
- H** - "Load" button, reads a configuration (loads the configuration from GFX\_OP in Geflex)
- I** - "Store" button, saves the configuration
- L** - Configurable key
- M** - Geflex Serial Cable
- N** - Winstrum Serial Cable

## 2 • OPERATING NOTES

N.B.: the GFX\_OP terminal becomes the master when connected to Geflexes, and becomes the slave when connected to the Winstrum.

Recognition is at switch-on if it is connected to one of the two serial cables.

At power-up, the GFX\_OP terminal turns on and tries to connect with the Geflex at the displayed ID address.

In the absence of a connection to display PV and SV, the indication " - - - - " appears.

The parameters that can be displayed and/or set (Cod, BAu, PAr, Pro, but) reside in the terminal's EEPROM memory.

When the connection is active (both decimal points on the ID display flashing), the data is automatically updated with those contained in the connected Geflex.

Set the ID field with the "up" and "down" keys; if this corresponds to a Geflex in line, the connection will activate with display of the process variable and setpoint, together with updating of the state by means of the faceplate LEDs.

N.B.: the "LoAd" and "Stor" functions are active only in level 1 display when the process variable "PV" and active setpoint "SP" are displayed.

**Description of "LoAd" function (GFX\_OP -----> Geflex)**

It activates when the "L" key is pressed, and asks confirmation of the configuration number, one of the 10 possible numbers (codes 0-9) that you want to load in the Geflex; code 10 = exit.

The display will show the message "LoAd" with the proposed number corresponding to the least significant digit in the ID field: for example, if the ID is 15, the number of the proposed configuration is 5.

Press key "F" to proceed.

During updating of the data in Geflex, only the "ones" point will flash on the ID display.

In master mode (connected to Geflex), correspondence of the software version is checked when the message "LoAd" appears and a saved configuration is selected. If the version differs from that in the Geflex in dialog, the configuration number will flash; if it is the same, the number will not flash.

The configuration number also flashes if it has never been used to save data.

In slave mode (connected to Winstrum), the configuration number does not flash.

**Description of "Stor" function (Geflex -----> GFX\_OP)**

It activates when the "S" key is pressed, and asks confirmation of the configuration number, one of the 10 possible numbers (codes 0-9) that you want to save the configuration; code 10 = exit.

The display will show the message "Stor" with the proposed number corresponding to the least significant digit in the ID field: for example, if the ID is 23, the number of the proposed configuration is 3.

Press key "F" to proceed.

### 3 • AUTOMATIC SCROLLING" FUNCTION

#### 1. Description

If the function is on (parameter OP.t = 1), the operator terminal automatically runs "scrolling" of the connected Geflexes from a set first ID code "FST" to a set last code "LST".

When the "LST" code is reached, the scan restarts.

The initial reading of configuration parameters takes place with each new ID code, followed by continuous reading of state variables (PV, SSP, POWER, main function state).

A single Geflex is monitored for a settable time "CYC."

If a Geflex (ID) is not present, or does not communicate in Modbus, switching to the next one is almost immediate (after a brief wait needed to confirm non-communication state).

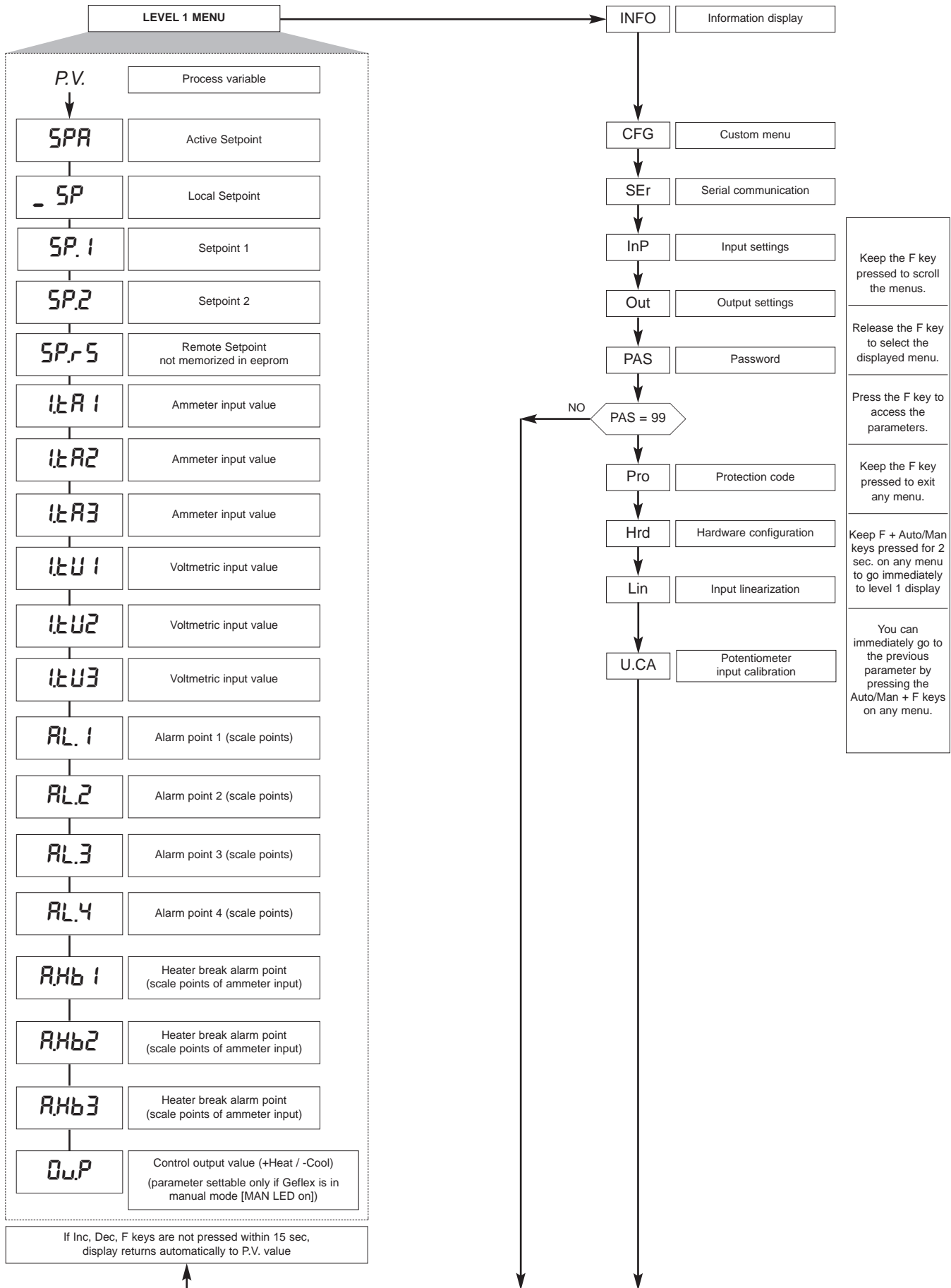
During scrolling, you can manually switch to another ID code at any time with the Raise and Lower keys.

Scrolling resumes after time CYC from the newly set code.

Press any key to suspend scrolling. In this way, you can display or change the configuration of a single Geflex, run LOAD and SAVE procedures, or activate enabled functions with the configurable key.

After time CYC has lapsed without any key having been activated, the cycle resumes from the current ID code.

## 4 • PROGRAMMING and CONFIGURATION MENU

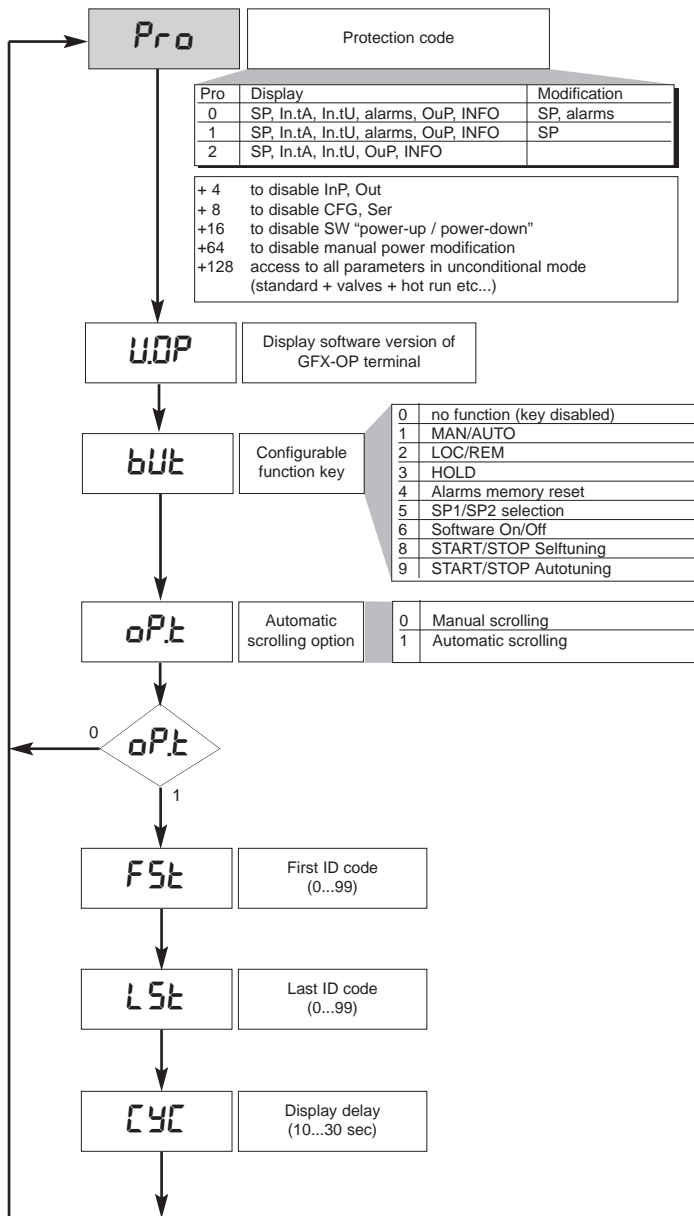


**N.B.:** Once a particular configuration is entered, all unnecessary parameters are no longer displayed

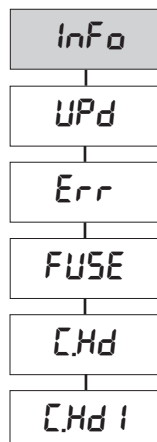
The displayed parameters depend on the firmware release of the selected Geflex.

For the list and meaning of parameters shown in different menus, please refer to the Geflex user manual.

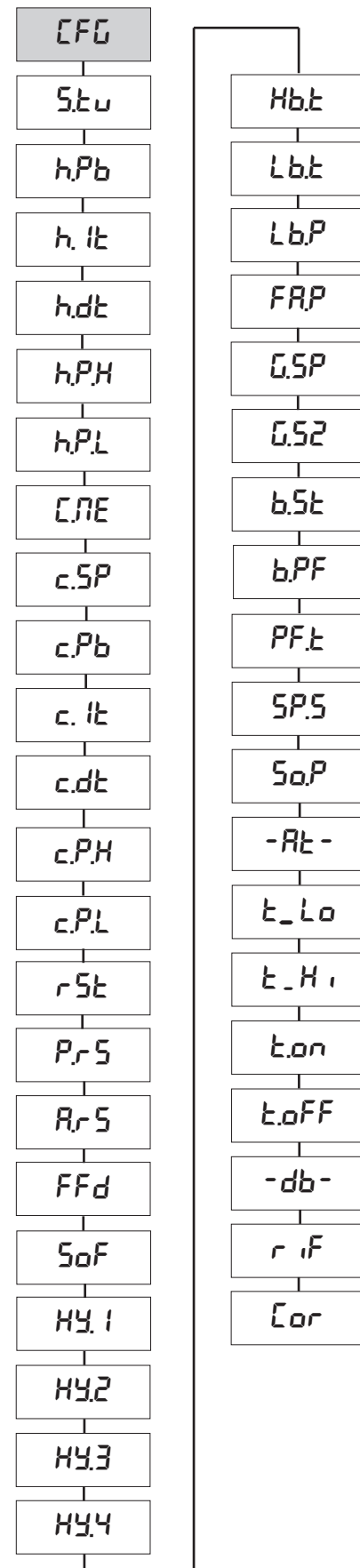
## 4.1 • Protection code (Pro)



## 4.2 • Information registers (InFo)



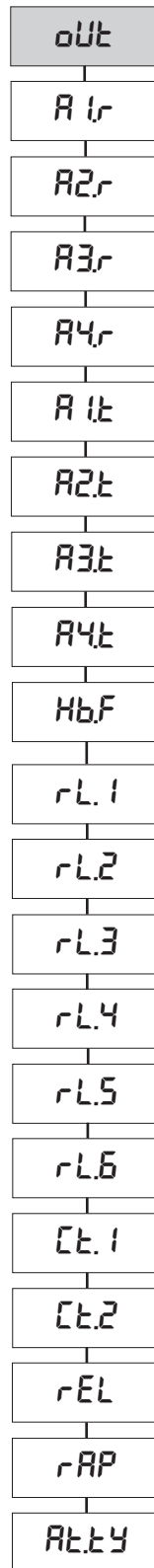
## 4.3 • Controller configuration parameters (CFG)



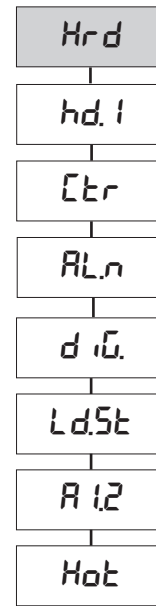
**4.4 • Serial interface configuration parameters (Ser)**



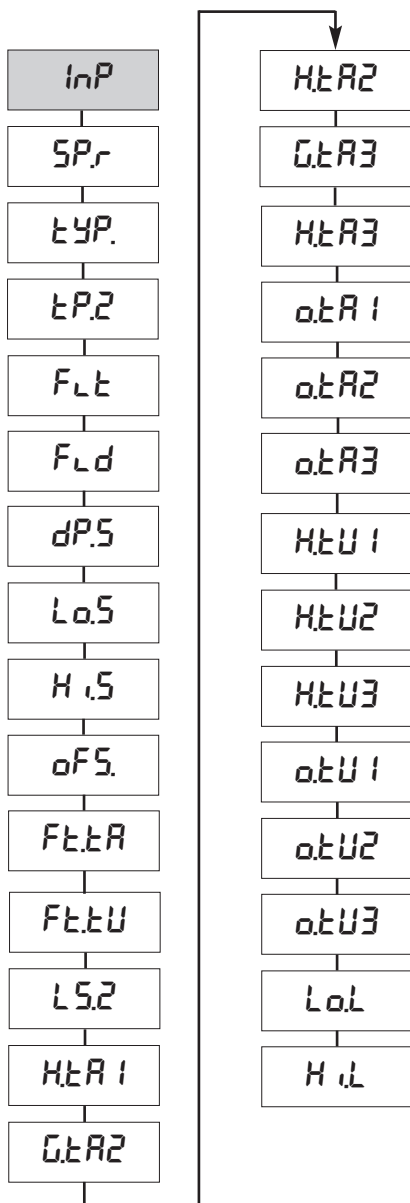
**4.6 • Output configuration parameters (Out)**



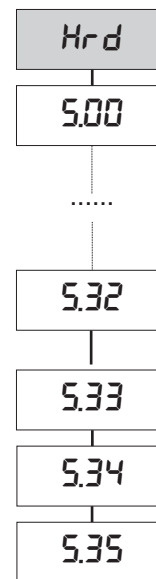
**4.7 • Hardware configuration parameters (Hrd)**



**4.5 • Input configuration parameters (InP)**



**4.8 • Custom linearization for PV main input (Lin)**

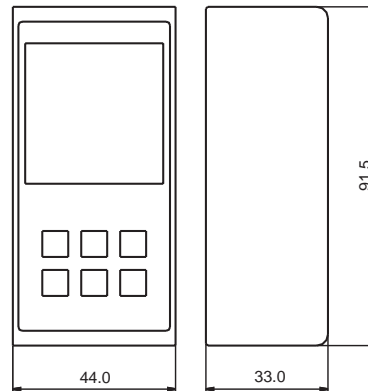
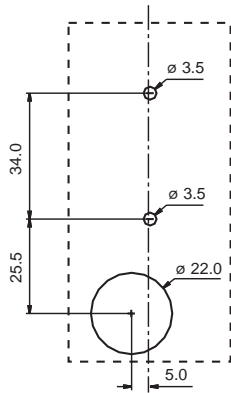


## 4.9 • Potentiometer input calibration procedure

Applicable only on Multifunction or Valve models with "P0" option.

1. Go to the U.CA menu
2. Press F: the message C.LO will appear on the display (minimum calibration)
3. Press the UP or DOWN keys assigned to the OPEN and CLOSE outputs to reach minimum valve position
4. Press F: the message C.HI will appear on the display (maximum calibration)
5. Press the UP or DOWN keys assigned to the OPEN and CLOSE outputs to reach maximum valve position
6. Press F to return to the main menu (level 1)

## DIMENSIONS and CUT-OUT

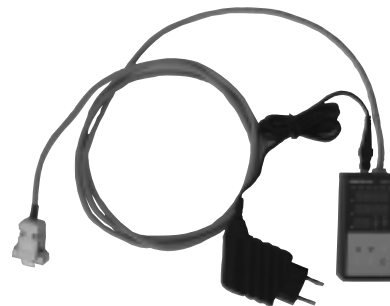


## CONNECTIONS

Installation on heatsink



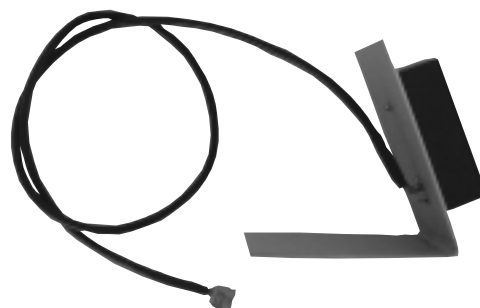
Connected with PC



Installation on DIN guide



Faceplate GFX\_OP version



## ORDER CODE

Programming terminal for Geflex (installation on DIN guide or on heatsink), complete with connection cable to Geflex (L=0,2m)  
Note: see cable section for other cable lengths

**GFX-OP-D**

Programming terminal for Geflex (installation on faceplate)  
Note: see cable section for connection cable

**GFX-OP-P**

Kit consists of:  
power supply, connection cable PC <-> GFX-OP-D (L=1,5 m),  
power adapter for the Geflex

**GFX-OP-K**

### ACCESSORIES

Connection cable for GFX-OP <-> Geflex or for Geflex Slave <-> Geflex Slave complete with connectors, length 1m

**CV-1**

Connection cable for GFX-OP <-> Geflex or for Geflex Slave <-> Geflex Slave complete with connectors, length 2,5m

**CV-2**

Connection cable for GFX-OP <-> Geflex or for Geflex Slave <-> Geflex Slave complete with connectors, length 5m

**CV-5**

Stabilized power supply (24 Vdc, 12W) complete with power adapter for Geflex

**PWS24**

3-terminal connector (J2) for Geflex Slave to an output

**CSIG-3**

7-terminal connector (J1) for Geflex Master/Slave inputs/power supply

**CSIG-7**

8-terminal connector (J2) for 3-output Geflex Master/Slave

**CSIG-8**

## • WARNINGS



WARNING: this symbol indicates danger.

### Read the following warnings before installing, connecting or using the device:

- follow instructions precisely when connecting the device.
  - the instrument must be used exclusively with the Geflex product as specified on the connection diagram.
  - the device has no ON/OFF switch: it switches on immediately when power is turned on.
  - if the device is used in applications where there is risk of injury to persons and/or damage to machines or materials, it MUST be used with auxiliary alarm units. You should be able to check the correct operation of such units during normal operation of the device.
  - before using the device, the user must check that all device parameters are correctly set in order to avoid injury to persons and/or damage to property.
  - the device must NOT be used in inflammable or explosive environments. It may be connected to units operating in such environments only by means of suitable interfaces in conformity to local safety regulations.
  - the device contains components that are sensitive to static electrical discharges. Therefore, take appropriate precautions when handling electronic circuit boards in order to prevent permanent damage to these components.
- Read the warnings in the instruction manual regarding installation conditions for the Geflex device.

**GEFRAN spa will not be held liable for any injury to persons and/or damage to property deriving from tampering, from any incorrect or erroneous use, or from any use not conforming to the device specifications.**

**CE MARKING:** EMC conformity (electromagnetic compatibility) with EEC Directive 89/336/CEE with reference to the generic Standard CEI- EN61000-6-2 (immunity in industrial environments) and EN50081-1 (emission in residential environments).  
BT (low voltage) conformity respecting the Directive 73/23/CEE modified by the Directive 93/68.

**MAINTENANCE:** Repairs must be done only by trained and specialized personnel.

Cut power to the device before accessing internal parts. Do not clean the case with hydrocarbon-based solvents (Petrol, Trichlorethylene, etc.). Use of these solvents can reduce the mechanical reliability of the device. Use a cloth dampened in ethyl alcohol or water to clean the external plastic case.

**SERVICE:** GEFRAN has a service department. The warranty excludes defects caused by any use not conforming to these instructions.