GEFRAN

GF_PROMER
Graphic setpoint programmer, 4 zones
3.5" and 5.7" screens, TFT, Colour, Touch screen

Main characteristics

- *Color graphic display, TFT, 3.5" and 5.7" touch screen*
- *Complete "On Screen" programming, requires no configuration software*
- *Up to 4 control loops with setpoint profile*
- *Up to 300 steps in 100 programs*
- *Bar graph for PV, SP and OUT with selectable channels and zoom*
- *Up to 32 configurable I/Os for custom control strategies*
- *Configuration of logics and combined or timed automation sequences*
- *Active alarms management*
- *Recipes and historical data with USB support*
- *Functions: Self-tuning / Auto-tuning, Softstart, sensor diagnostics, solid-state actuators diagnostics*
- *Remote access for machine setup and diagnostics via Ethernet TCP*
- *Modbus TCP connection for data exchange with HMI*

Main applications

- *Furnaces for heat treatment of metals*
- *Ceramic fornace*
- *Laboratory furnaces for material tests*
- *Furnaces for tempering, aging, sintering*
- *Climate cells*
- *Test benches*
- *Incubators*
- *Autoclaves*
- *Dryers*
- *Greenhouses*
- *Chemical and pharmaceutical industry*
- *Firing furnaces*
- *Pasteurizers, sterilizers, food aging plants*

CE

PROFILE

GF_PROMER performs, in a single device:
- *Programmer functions for setpoints variable over time*
- *Controller function (up to 4 loops)*
- *Customizable logic/math functions with 100 steps*
- *Graphic recorder with trends*
- *Data storage with export on USB*

GRAPHIC INTERFACE

The operator interface, based on LCD TFT color touch screen (3.5" and 5.7") offers maximum simplicity of use. A series of graphic pages structured with different details provide complete monitoring of GF_Promer operation. Icons facilitate access to the graphic pages, making navigation immediate and reliable.

No configuration software is needed to configure and use the programmer functions. The entire setup is provided from the graphics pages.

Integrated alarms management combined with an alarm notice on all pages provides an immediate check of work conditions of the controlled process.

Pages structured with Multi-language management simplify use of GF_Promer by operators of different nationalities.

PROGRAM CONFIGURATION

Up to 300 steps divided into 100 programs are provided for managing a controlled process.

Selection of their configuration and activation for execution on the machine is made easier by several interface pages. Repetition of programs and single steps, combined with copy/paste/add steps functions, simplifies and speeds configuration of a work program.

Programs can be stored in recipes and transferred to different machines via USB. Every program is identified by a configurable number and name, a time base (dd/hh, hh/mm, mm/ss), different stop and start strategies, and configurable group of PID parameters.

An intuitive graphic interface is provided for display of configured program profile in trend format.

Control functions for program states (Start/Stop/Reset/Skip) are provided as both graphic interface and as programmable I/O states.

A Realtime clock with weekly calendar is provided for timed activation of a program.

CONTROL LOGICS

Up to 100 configurable steps with logic/math functions are provided for integrating control strategies based on both combined and timed automation logics and sequences in GF_Promer.

The setup process (even on-board the machine) is made easier by complete configurability via the graphic interface without any external configuration software.

In combination with control strategies, you may match an (optional) series of I/O expansion modules for interface with an automatic machine/line control.

Control logics can be stored as a recipe and linked to various control programs.

DATA STORAGE

Trend pages with variable selection and sampling time configuration (min/sec) offer paperless recording functions.

Storage of sampled Trend data on file also provides integrated DataLogging functions.

DataLogging values can be exported to .CSV file and transferred to PC on a USB drive.

Synchronization of Start/Stop recording with program Start/End is provided for

Batch processes. This provides safe and automatic storage of all data of a single Batch process in execution.

REMOTE ACCESS

An Ethernet connection with Modbus TCP protocol provides an efficient tool to link GF_Looper to HMI acquisition or supervision systems.

A complete map of variables with all general information on GF_Looper operation and configuration is provided for data exchange with a Modbus TCP master.

For remote diagnostics or machine setup functions, there is a simple solution based on the graphic part of GF_Looper that can be used with a Windows PC with Ethernet connection to the field instrument.

CONTROLLER

Advanced control algorithms provide excellent management of process variables.

Various types of control are available: ON/OFF, P, PI, PID both only heat or cool and double-action heat+ cool.

In addition, the cool action can be set via indication of the cooling fluid used: air, oil, water. Calculation of the most appropriate process parameters is extremely rapid and efficient thanks to the use of sophisticated automatic tuning procedures. Advanced tuning lets you check the best PID parameters under all conditions.

ALARMS

Two alarm setpoints (minimum and maximum) for each zone.
For each alarm, you can select:
- the control variable to assign to it
- setpoint value
- hysteresis value
- 5 properties (with latch, disable at switch-on, normal/symmetrical, absolute / deviation, direct/inverse).
You can set LBA, HB, SBR alarms: alarm presence is displayed with an icon and described on the alarms page.

TECHNICAL DATA

OPERATOR INTERFACE
DISPLAY

Type:	TFT Colour
Nr.colors:	262K
Diagonal:	3,5" (35CT) - 5,7" (57CT)
view area display:	70,08 x 52,56 mm (35CT)
	117,2 x 88,4 mm (57CT)
Resolution:	320x240
Luminosity:	400 cd/mq (35CT)
	500 cd/mq (57CT)
Contrast:	400:1 (35CT)
	400:1 (57CT)
Backlighting:	
	8 white LEDs (35CT)
	18 white LEDs (57CT)
Angle of view O/V:	75°/55°-75°(35CT)
	75°/60°-75° (57CT)
Keyboard:	6 keys (35CT)
	no keys (57CT)
Operations:	> 3 million

TOUCH SCREEN

Type:	Resistive, 4 wires
Life:	>1,000,000 operations
Controller:	integrated

PROCESSOR

Type:	EP9307 Cirrus Logic

MEMORY

System:	128MB (SDRAM)
User:	512KB (SRAM)
Mass:	64MB (FLASH)

PERIPHERALS

Ethernet:	Ethernet 10/100 Mbps Base-T - RJ45 Connector with led
Serial:	RS485 optically isolated, baud rate 9,6…115 kBaud, RJ10 4p4c connector
USB Port:	USB 2.0 HOST (500mA) type A 4 pin connector
BUS for I/O:	Expansion for L-BUS4, 50 pin connector

POWER SUPPLY

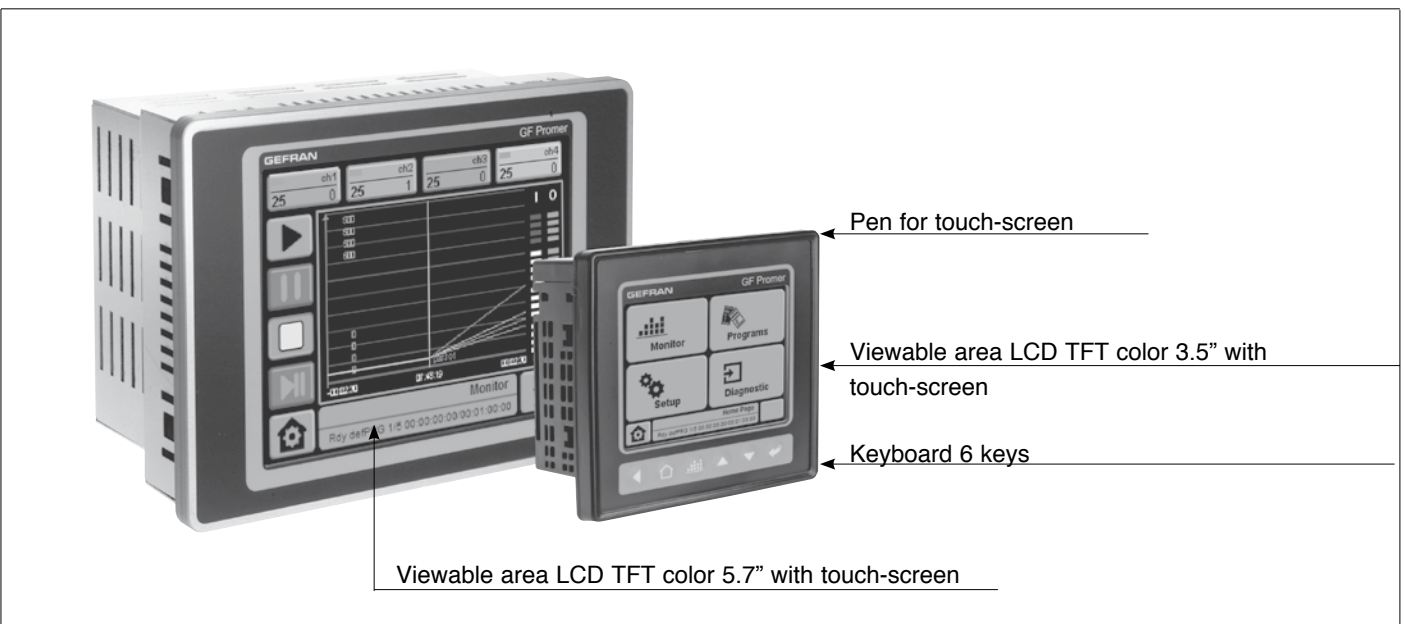|	
	24Vdc ± 25% (3 pin female screw-type connector)
Max consumption:	
	240mA 5W (35CT)
	480mA 8,5W (57CT)
Max. consumption with I/O:	
	360mA 7W (35CT)
	490mA 9W (57CT)
Protection:	from polarity inversion (both) overcurrents on input circuit (57CT)
Battery:	Lithium Manganese Dioxide 3V 65mA/h rechargeable (ML2032T6) life without power supply > 7500h Expected life 7 years Low-voltage signal

WEIGHT

(Kg):	0,4 (35CT) - 0,8 (57CT) With 2 GilogikII modules
(Kg)	0,7 (35CT) - 1,1 (57CT)

DESCRIPTION OF FRONT PANEL

Pen for touch-screen

Viewable area LCD TFT color 3.5" with touch-screen

Keyboard 6 keys

Viewable area LCD TFT color 5.7" with touch-screen

Front: 100x100x64mm (35CT)
              169x120x76mm (57CT)
              Protection IP65

with Gilogik II

modules: 100x100x171mm (35CT)
              169x120x187 mm(57CT)
Template: 93x93mm (35CT)
              162x115mm (57CT)
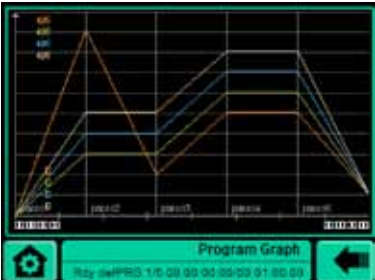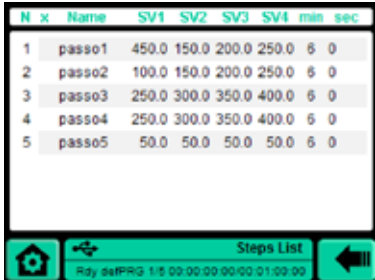max panel
thickness: 4mm (35CT)
              3mm (57CT)

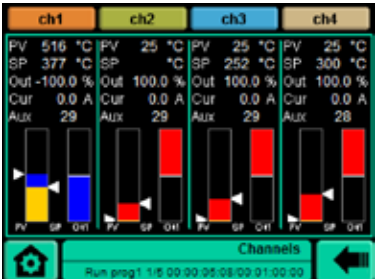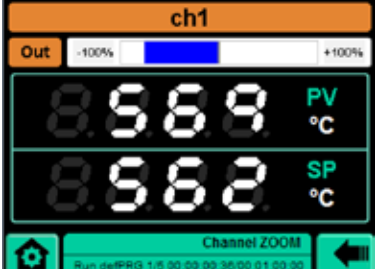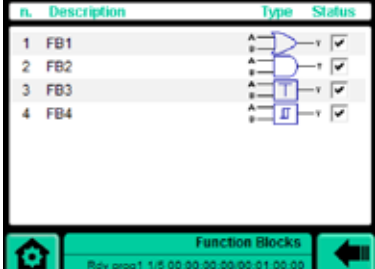Certifications: CE, UL

OPTIONAL UNITS / MODULES
- Unit for distributed control
・ GFX Controller single zone
・ GFX4/ GFX4-IR zone modular power
  controller
・ GFXTERMO4 Modular controller with 4
  control zones (see the individual data
  sheets for characteristics of modular
  controllers)
・ **R-EU16:** mixed module with 8 digital
inputs and 8 digital outputs.
The 24V PNP inputs have a programma-
ble software filter.
The module is organized in 8 inputs +
common GND and 2 groups of 4 outputs.
The PNP outputs are provided for induc-
tive loads and protected against short
circuit, overload and overheat.

*See the individual data sheets for cha-
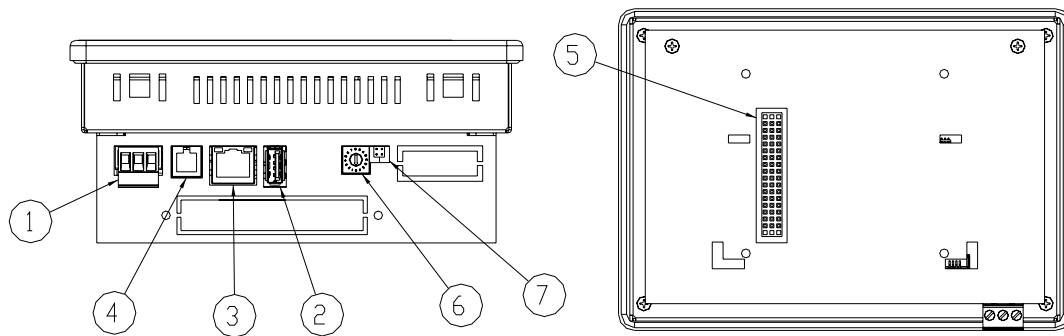racteristics of modules.*

GRAPHICS PAGES

Setup

Programs List

Program Graph

Steps List

Channels

Monitor

Channels Zoom

Function Blocks

The user resource connections indicated in Table 4 are made at the bottom with standard connectors and Gefran custom connectors.
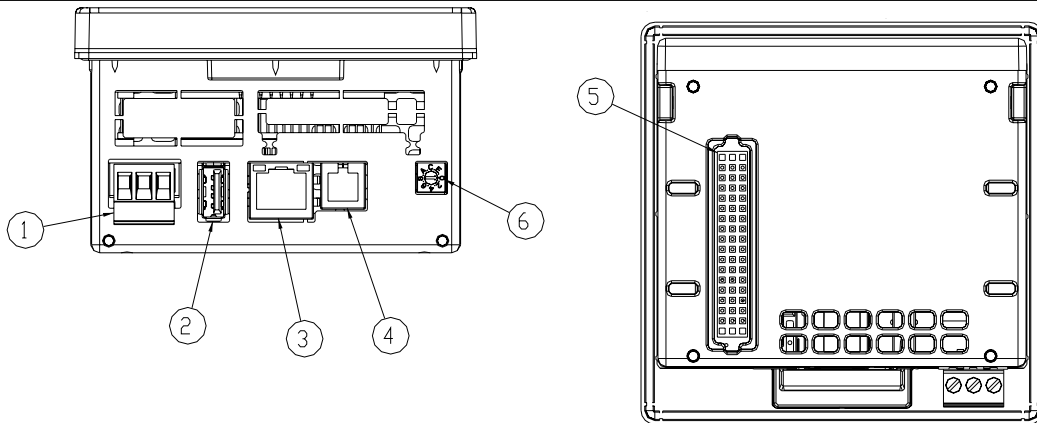
GF_PROMER 35

GF_PROMER 57

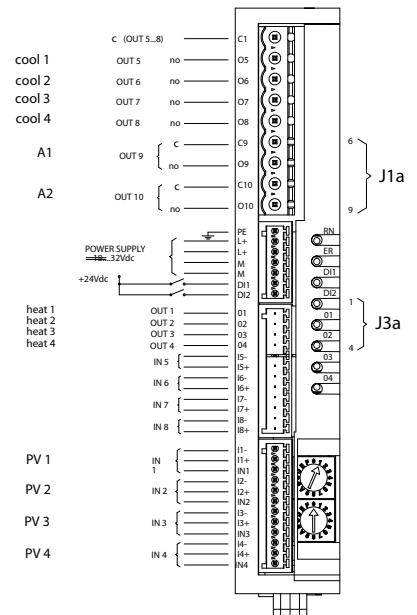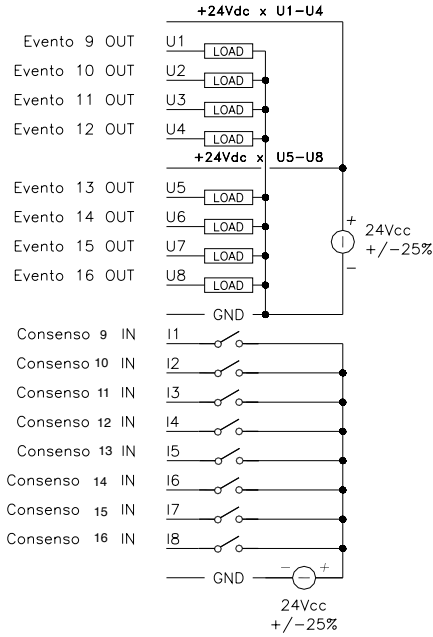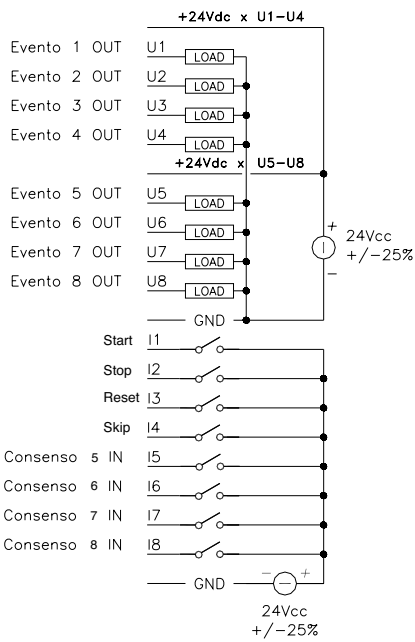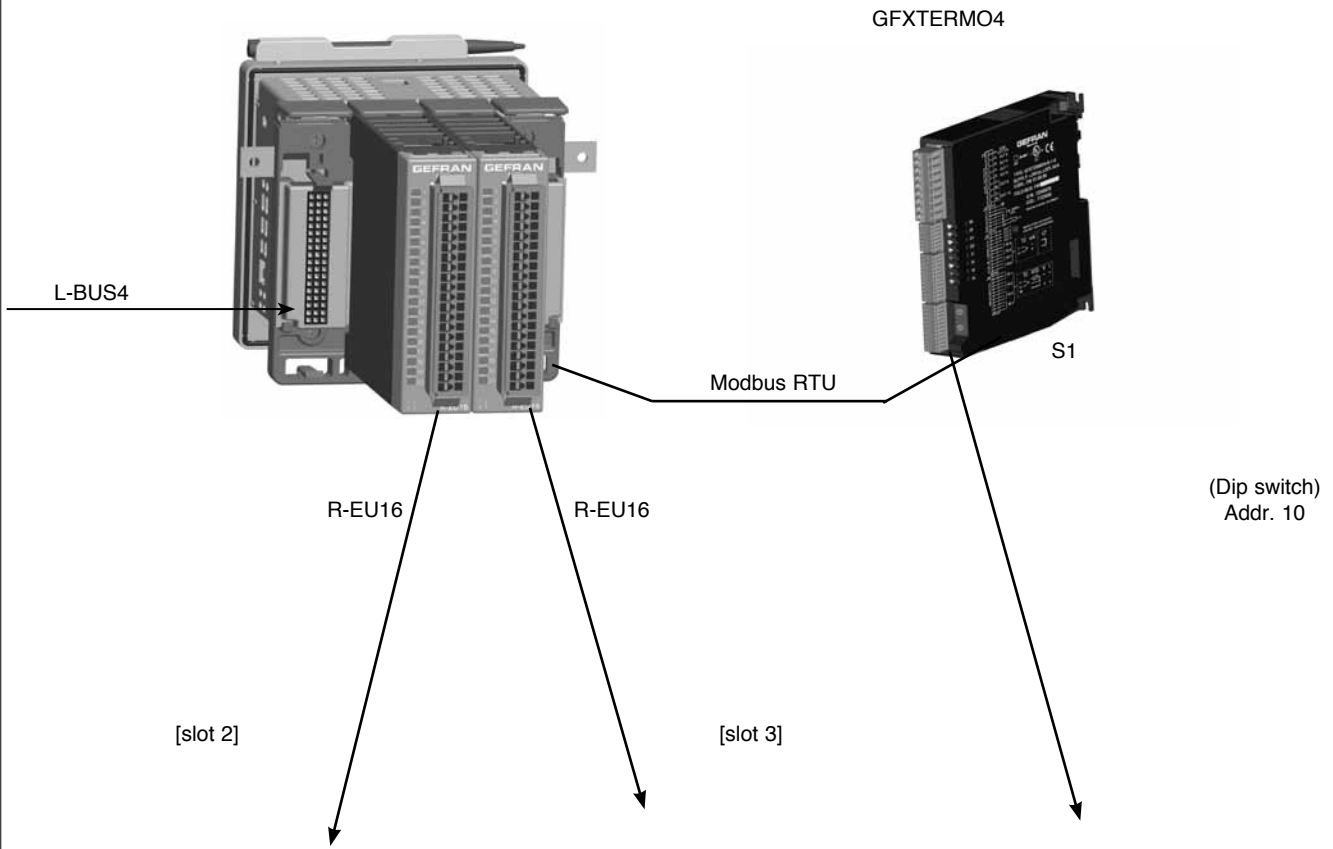| Name	Description
1	Supply
2	USB
3	Ethernet 10/100
4	Seriale RS485 Serial commun.
5	BUS-G
6	Rotary-switch
7	Enable batery

Description of connectors
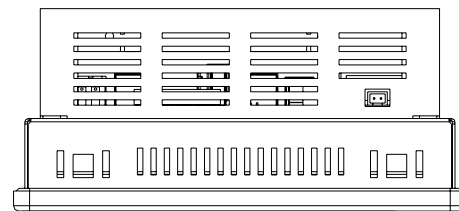
Connection with optional units / modules

For all information on connecting:

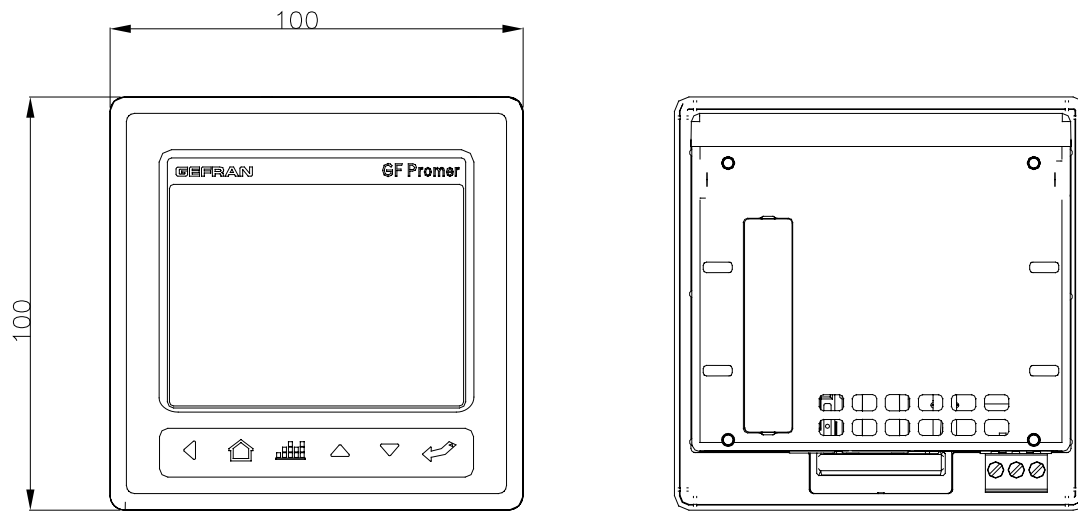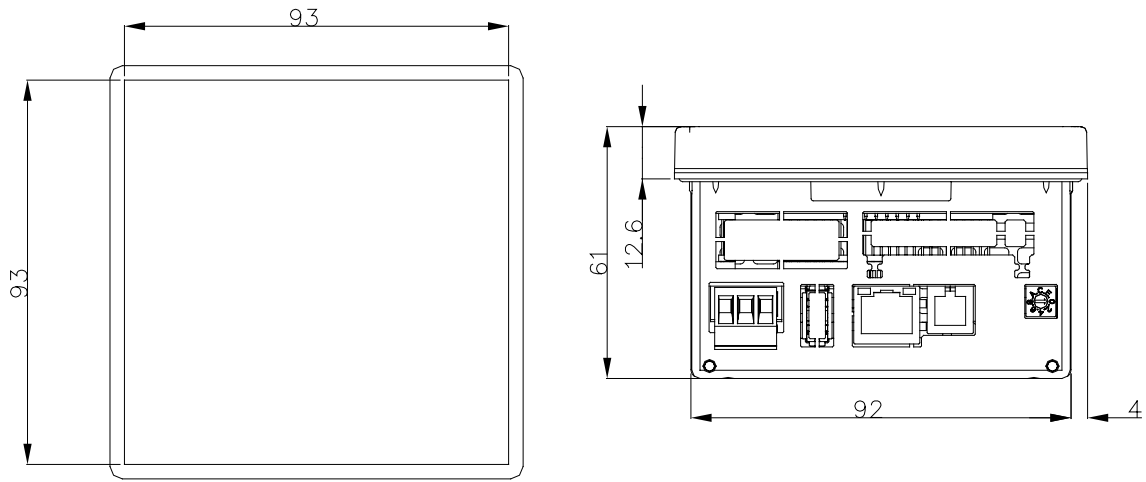- Backplane L-BUS4
- GFX
- GFX4 / GFX4-IR
- GFXTERMO4
- R-EU16

see the data sheets and manuals.
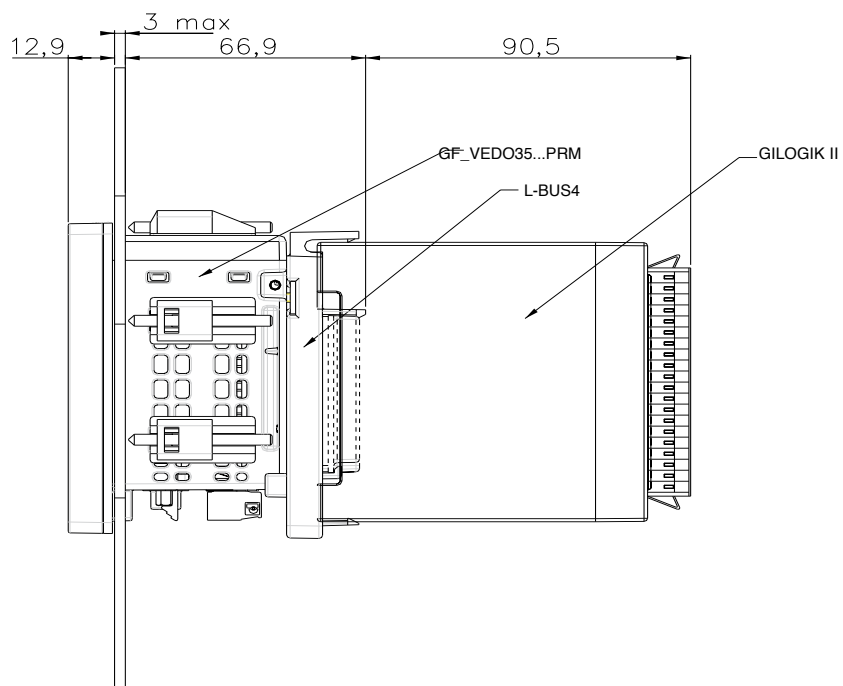
Connection with GFXTERMO4 unit

GFXTERMO4

L-BUS4

Modbus RTU

S1

R-EU16   R-EU16

(Dip switch)
Addr. 10

[slot 2]   [slot 3]

+24Vdc x U1–U4

Evento 1 OUT	U1	LOAD
Evento 2 OUT	U2	LOAD
Evento 3 OUT	U3	LOAD
Evento 4 OUT	U4	LOAD

+24Vdc x U5–U8

Evento 5 OUT	U5	LOAD
Evento 6 OUT	U6	LOAD
Evento 7 OUT	U7	LOAD
Evento 8 OUT	U8	LOAD

24Vcc +/−25%

GND

Start	I1
Stop	I2
Reset	I3
Skip	I4
Consenso 5 IN	I5
Consenso 6 IN	I6
Consenso 7 IN	I7
Consenso 8 IN	I8

GND

24Vcc +/−25%

+24Vdc x U1–U4

Evento 9 OUT	U1	LOAD
Evento 10 OUT	U2	LOAD
Evento 11 OUT	U3	LOAD
Evento 12 OUT	U4	LOAD

+24Vdc x U5–U8

Evento 13 OUT	U5	LOAD
Evento 14 OUT	U6	LOAD
Evento 15 OUT	U7	LOAD
Evento 16 OUT	U8	LOAD

24Vcc +/−25%

GND

Consenso 9 IN	I1
Consenso 10 IN	I2
Consenso 11 IN	I3
Consenso 12 IN	I4
Consenso 13 IN	I5
Consenso 14 IN	I6
Consenso 15 IN	I7
Consenso 16 IN	I8

GND

24Vcc +/−25%

		c (OUT 5...8)	C1
cool 1	OUT 5	no	O5
cool 2	OUT 6	no	O6
cool 3	OUT 7	no	O7
cool 4	OUT 8	no	O8
A1	OUT 9	c	C9
		no	O9
A2	OUT 10	c	C10
		no	O10

J1a

POWER SUPPLY
18...32Vdc

PE
L+
M
M
DI1
DI2

+24Vdc

RN
ER
DI1
DI2

heat 1	OUT 1	O1
heat 2	OUT 2	O2
heat 3	OUT 3	O3
heat 4	OUT 4	O4
	IN 5	I5−, I5+
	IN 6	I6−, I6+
	IN 7	I7−, I7+
	IN 8	I8−, I8+

J3a

PV 1	IN 1	I1−, I1+, IN1
PV 2	IN 2	I2−, I2+, IN2
PV 3	IN 3	I3−, I3+, IN3
PV 4	IN 4	I4−, I4+, IN4

A1 = OR alarm 1 or 3 of zones 1-4
A2 = OR alarm of zones 1-4

93

93

12.6

61

92

4

100

100

Physical dimensions and for drilling template - 35CT -

3 max

12,9

66,9

90,5

GF_VEDO35...PRM

GILOGIK II

L-BUS4

Overall dimensions   - 35CT -

OVERALL DIMENSIONS AND TEMPLATE

162

115

7.5

75.5

160.5

4.25

169

120

Physical dimensions and for drilling template   - 57CT -

179

3 max

88,5

7,5

65

GILOGIK II

L-BUS4

GF_VEDO57...PRM
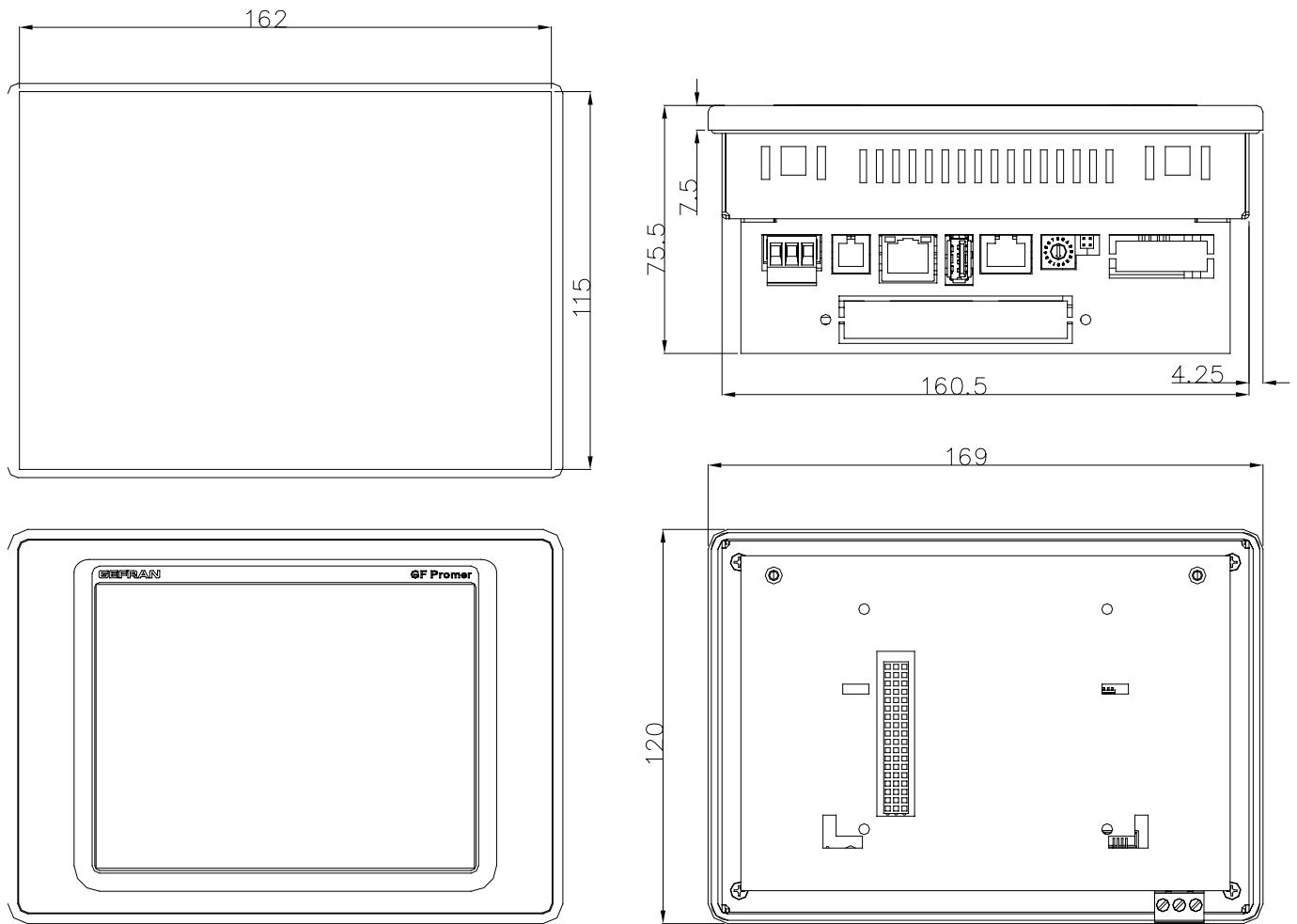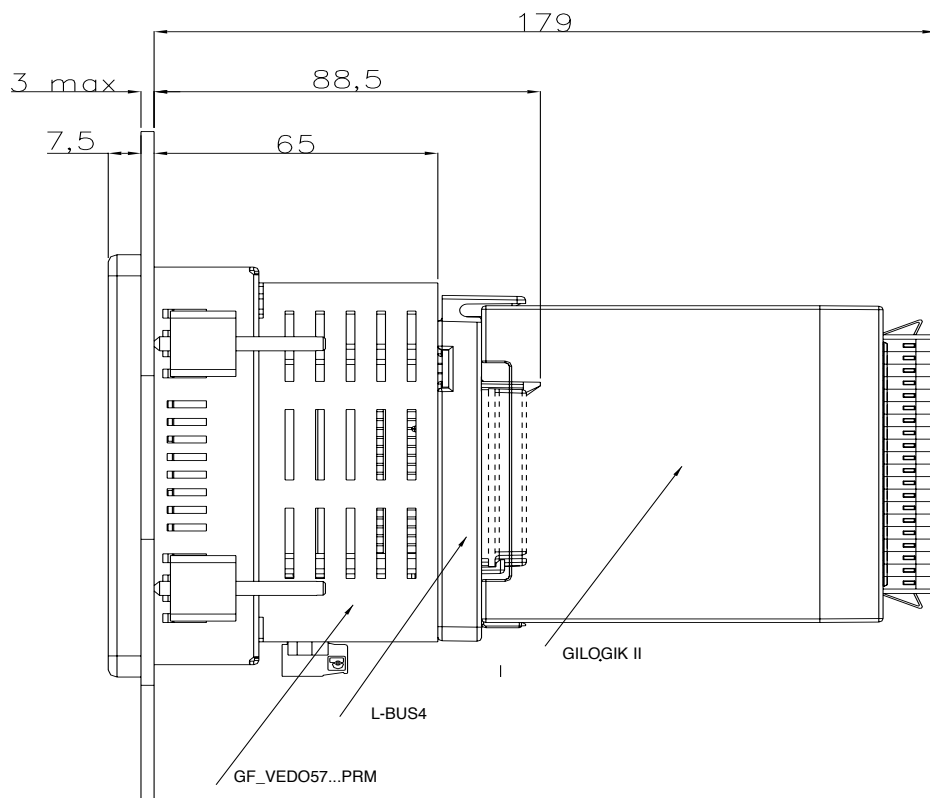
Overall dimensions - 57CT -

ORDERING CODE

| | GF_PROMER | | LX0 | 0 | | 0 | 0 | U | |

DISPLAY	
3,5"color + touch screen	35CT
5,7"color + touch screen	57CT

CONTROL TYPE	
Distributed (unit connected via RS485 serial)	
With GFX/GFX4 - GFX4-IR / GFXTERMO4	0

ENABLE INPUTS / AUXILIARY EVENT OUTPUTS (GilogiKII module(s) included in supply, with L-BUS4 backplane, SLOT 2 and 3)	
none	0
8DI+8DO (1 module R-EU16 in slot 2)	1
16DI+16DO (2 modules R-EU16 in slot 2-3)	2

Fieldbus	
None	0

Additional SW options	
Nessuna	0

USB port	
USB	U

LEXAN	
Gefran	G
Neutre	N

Please contact GEFRAN for information regarding availability of codes

GEFRAN spa reserves the right to make aesthetic and/or functional changes at any time and without notice.

UL	Conformity C/UL/US File no. 198546
CE	The instrument conforms to the European Directives 2004/108/CE and 2006/95/CE with reference to the generic standards: **EN 61131-2** (product) - **EN 61010-1** (safety)

GEFRAN