GEFRAN

GF-BOX

INDUSTRIAL PC MOUNTED IN PANEL

CE

Main applications

- *Process supervisor*
- *Gateway between field and control systems*
- *Data centralization*
- *Human-machine interface (HMI) (∗)*
- *Control of machines and systems*
- *Data display*
- *Programmable Automation Control*
 (∗) with remote display

Main features

- *Mounting on horizontal and vertical plates*
- *High performance*
- *Modularity*
- *Easy maintenance and access*
- *Reduced depth*
- *Scalable functions*
- *Connectivity*
- *No internal wires*

PROFILE

GF-BOX is a PC box with highly scalable control functions.

This version combines the typical functions of PC architecture with a number of specific control application functions (such as use of the VxWorks operating system with GAB programming environment) in a compact case. The Intel processor power can be used for high performance control and automation.

Because GF-BOX can be operated with Windows XP (both Professional and Embedded), it can be used for many industrial applications, such as machine control units, data centralization systems, and supervision.

GF-BOX is equipped with a VGA interface (resolution 1024x768 at 16 million colors) for connection to external monitors and displays.

This version uses Intel Mobile class processors; such as the Celeron™ 600 MHz, Celeron 1500 MHz or Pentium 1800 MHz, which efficiently manages heat dissipation in order to limit use of the PC cooling fan.

GF-BOX can be fitted with a DOM-type solid state mass storage or a 2.5" HD for better configuration, depending on the application and operating system used. Thanks to the complete series of available ports (Ethernet, USB, serials, parallel, PS/2, etc.), GF-BOX can be connected to the various peripherals commonly used by industry.

Optional custom interfaces and standard PCI and PC104 expansion slots provide maximum connectivity.

Available interfaces include CAN bus, RS422/485 serial expansions and additional Ethernet channels.

A number of functions, such as keyboard control, LEDs, and switch-on logic output with programmable timer, are useful for controlling machines and industrial lines. Careful construction and mechanical design make it easy to install and give correct access to expansions. Simple maintenance guarantees long life and reliability.

TECHNICAL DATA

PROCESSORS
- Intel Pentium Celeron™ 600 MHz (2Mb Cache L2)
- Intel Celeron Mobile™ 1500 MHz (2Mb Cache L2)
- Intel Pentium Mobile™ 1800 MHz (2Mb Cache L2)

CHIPSET
- Intel™ 852GM, 400 MHz FSB

VIDEO CONTROLLER
- Intel™ Extreme Graphics 2 Controller (up to 64MB DRAM Video)

DYNAMIC RAM
- DDR da 128MB, 256MB, 512MB, 1GB

STATIC RAM
- 256 Kb with lithium backup battery

MASS STORAGE
SSD
- DOM 64Mb, 128Mb, 1Gb, 2Gb, 4Gb

Magnetic
- Optional HDD 2.5" IDE
- Optional FDD to connect to specific port

I/O PORTS

- 1 RS 232 serial port +
  1 RS232/RS422/RS485
- 2 USB ports 2.0
- 1 RJ45 10/100Mbps Ethernet port
- 1 VGA port for external monitor
- PS/2 ports for keyboard and mouse
- Centronics parallel port
- Synchronous serial port for matrix
  control max. 128 keys and 64 LEDs
- 24 VDC logic output, open collector,
  max 100 mA optically isolated for
  switch-on with programmable timer;
  can be activated even with system off.
- Connector for external battery

EXPANSION

- 1 PCI slot (excluded versions with ope-
  rating system VxWorks)
- 1 PC104 16 Bit slot for 3 modules
- 4 Custom slots for optional interfaces

DIAGNOSTICS

Alarm and operating state LEDs

OPTIONAL INTERFACES

- GT-SER2 module:
  2 COM3, COM4 serial ports
  2xRS232/RS422/RS485, optically
  isolated

COM4 is not available if a touch screen is installed.

- GT-CAN1 module:
  1 optically isolated CAN L2 channel;
  Intel 82527CAN controller
- GT-CAN2 module:
  2 optically isolated CAN L2 channels;
  Intel 82527CAN controller
- GT-ETH1 module:
  1 Ethernet channel 10/100 Mbps
  Intel 82551ER Ethernet controller
- GT-ETH2 module;
  2 Ethernet channels
  Intel 82551ER Ethernet controller
  (see specific documents)

GT-CAN(x) modules cannot be used for versions with Windows XP or XPE.

KEYBOARD AND CURSORS

- Optional DIGITAST keyboard with
  optional mousepad

POWER SUPPLY

- 18..30 VDC 2.5A max. with polarity
  protection
- Galvanic insulation
- Short circuit protection with resettable
  PTC
- ON/OFF switch

OPERATING SYSTEMS

- VxWorks™
- Microsoft Windows XP Pro MUI Pack™
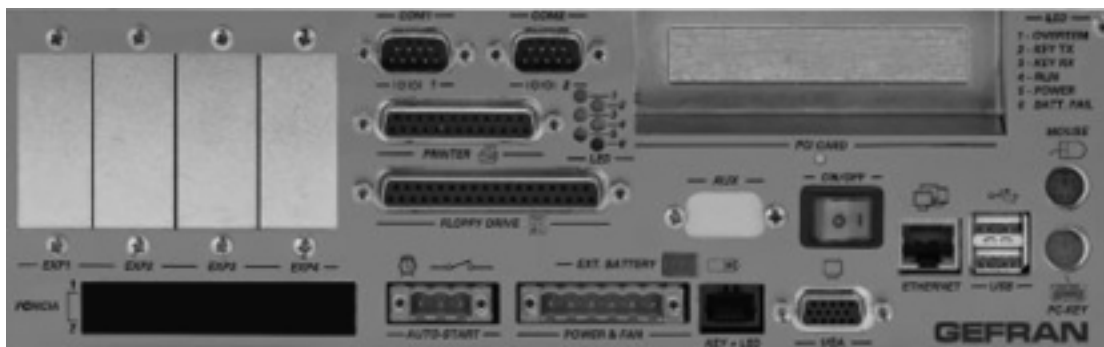- Microsoft Windows XP Embedded™

AMBIENT OPERATING CONDITIONS

- IP 20 protection
- Operating temperature 0°C..+50°C
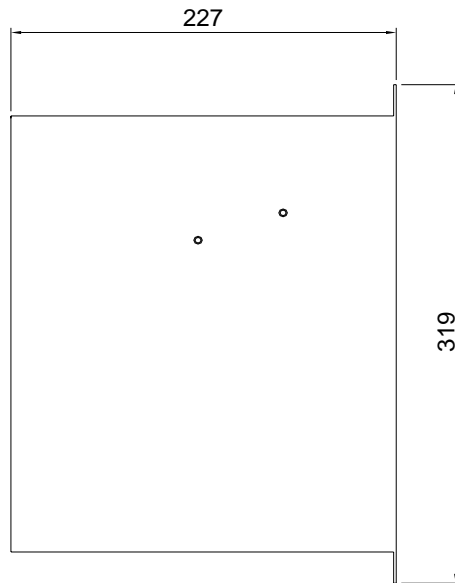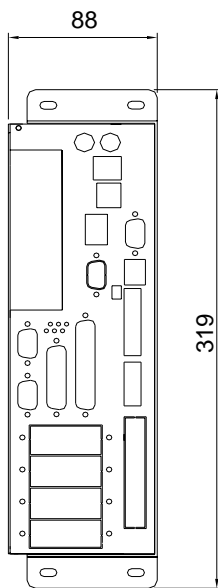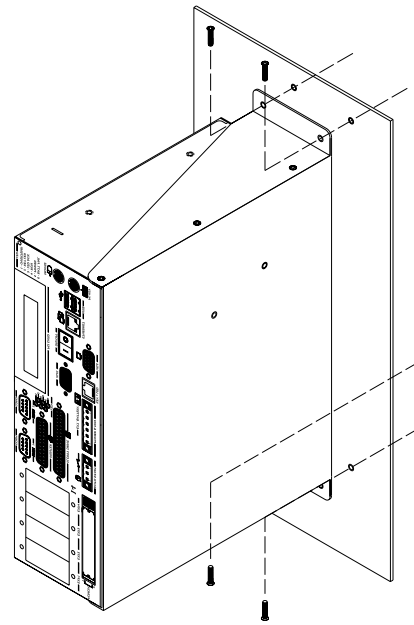- Storage temperature -20°C..+70°C
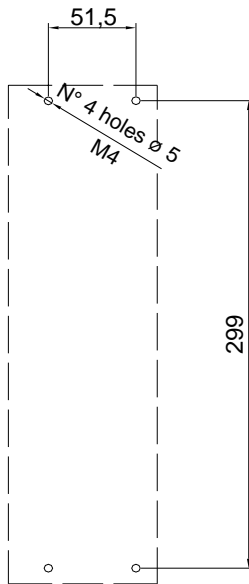- Humidity: 90% max., non-condensing

DIMENSIONS AND WEIGHTS

- without bracket:
  275x205x90 mm - 4 Kg max
- with bracket:
  275x205x90 mm – 4.5 Kg max

FRONT PANEL

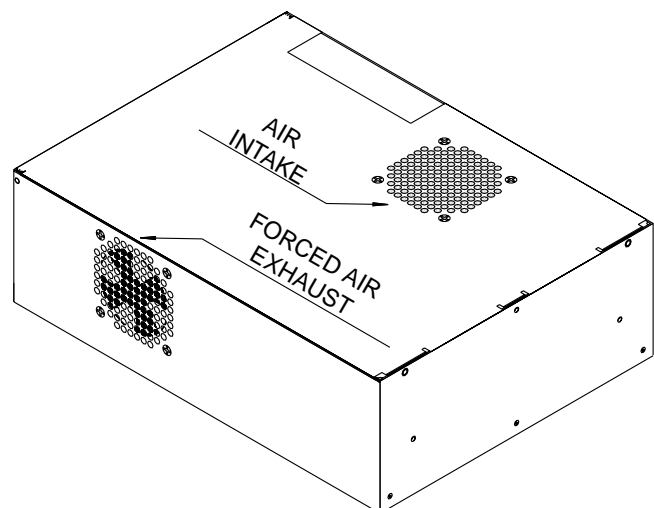## CONNECTIONS and OPTIONS

GT-ETHn GT-SER GT-CANn

LPT1

FDD

PS2 Keyboard

Diagnostics LED

COM1 - COM2

Slot PCI

PS2 Mouse port

COM1

COM2

LED
1 - OVERTEMP.
2 - KEY LED
3 - LED AUX
4 - RUN
5 - POWER
6 - BATT. FAIL

1
2
3
4
5
6

PRINTER

LED

PCI CARD

MOUSE

FLOPPY DRIVE

AUX

ON/OFF

EXP1   EXP2   EXP3   EXP4

EXT. BATTERY

ETHERNET   USB

PC-KEY

AUTO-START

POWER & FAN

KEY + LED

VGA

AUTOSTART output

OUT   +24VDC

24VDC power supply

24V 500mA MAX

GND   +24V

+24Vcc ± 20%
2.5A max

CRT

Keypad
command

Ethernet Port

USB Ports

INTERNAL VIEW AND CONFIGURATION OPTIONS

PC104 SLOT

DOM SOLID STATE DISK

PCI SLOT

Gefran EXPANSION SLOTS

Installation warnings

DO NOT install the product in devices or boxes without adequate air circulation or heat exchange sufficient to maintain the temperature below 50°C.

When installing the product, be careful to position it so as to prevent accidental knocking.

ORDER CODE

	CONN	OS	µP	RAM	DOM	EXP1	EXP2	EXP3	EXP4	
GFBOX	-	-	-	-	-	-	-	-	-	000

DISTANCE OF DISPLAY

Local (max 3 m)	LOC

OPERATING SYSTEM

Rom-dos	00
VxWorks	VW
Windows XP Pro MUI Pack ™(1)	XP
Windows XP Embedded™ (2)	XE

PROCESSOR

Intel Pentium Celeron™ 600 MHz	PCE
Intel Pentium Celeron Mobile™ 1500 MHz	PCS
Intel Pentium Mobile™ 1800 MHz	PCT

DRAM

DDR128 MB	R128
DDR 256 MB	R256
DDR 512 MB	R512
DDR 1 GB	R1G0

DOM & HD

DOM 64 Mb	D064
DOM 128 Mb	D128
DOM 1 Gb	D1G0
DOM 2 Gb	D2G0
DOM 4 Gb	D4G0
Hard Disk (3)	HD20

CUSTOM SLOT 4 EXPANSION

00	none
C1	GT-CAN 1: 1 channel CAN (4)
C2	GT-CAN 2: 2 channels CAN (4)

CUSTOM SLOT 3 EXPANSION

00	none
C1	GT-CAN 1: 1 channel CAN (4)
C2	GT-CAN 2: 2 channels CAN (4)

CUSTOM SLOT 2 EXPANSION

00	none
SR	GT-SER 2: 2 serial channels (5)

CUSTOM SLOT 1 EXPANSION

00	none
E1	GT-ETH 1: 1 Ethernet channel
E2	GT-ETH 2: 2 Ethernet channels

(1) Requires options R256 and HD20
(2) Requires options R256 and D1G0
(3) Minimum hard disk capacity depends on availability
(4) Not available with XP and XE option
(5) Only for 1 channel with touch screen

Kindly contact GEFRAN for information on availables codes.

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

(UL) c us	Conformity UL508 File no. E198546
CE	In conformity to ECC 2004/108/CE (EMC) and 2006/95/CE (LVD) with reference to: **EN 61131-2** (product) **EN 61010-1** (safety).