MOUNTING

Hole dimensions

For correct installation, observe the dimensions of the templates shown in the illustration (Fig.1).

Installation note

The panel on which the Integrated Controller and Control Panel is mounted has to have the following characteristics:
• be sufficiently stiff and strong so that it does not bend during use;
• be between 1 and 6 mm thick, to allow the fastening of the device with the terminals supplied;

Protection against infiltrations of water

The Control Panel offers, first of all, a degree of protection of IP65.
It is therefore possible to install the device in particularly dusty environments or areas subject to water spray without problem:
• the compartment in which the device is housed also has to be dust and waterproof;
• the panel on which the device is installed must be perfectly smooth and flat on the front;
• the hole in the panel must scrupulously respect the dimensions indicated;
• the device has to be fastened tightly to the panel, to allow the gasket fitted at the back to ensure water tightness.

Vibration

The Control Panel can support vibrations up to 150 Hz:
• from 5 to 9 Hz: sinusoidal 3.5 mm constant;
• from 9 to 150 Hz: sinusoidal with acceleration equal to 1 G.
Should the device be mounted on a support that exceeds these limits it is necessary to envisage a system for the suspension and mitigation of the vibration.

Minimum spaces for ventilation

⚠ The temperature of the compartment that houses the Control Panel must not exceed, 55 °C.
Figure 2- Free spaces for ventilation shows the minimum free distances recommended in the installation of the device in a closed compartment.

Positioning

The Control Panel has to be positioned in order to guarantee the following conditions:
• the screen must not be directly lit by the sun or particularly bright light sources.
  If necessary, screen direct rays, using an antiglare shutter for example;
• there must be no sudden temperature changes;
• there must be a low explosion risk: it can be connected to elements that operate in environments with a hazardous atmosphere (flammable or explosive) only through appropriate and suitable types of interface, compliant to the safety standards in force;
• low presence of magnetic fields
The angle of the controller must be between 45° and 120°, as shown in figure (Fig. 3).

Fastening to the panel

Insert the Control Panel into the panel, connect the 4 terminals supplied to the device and tighten the screw until the device is fastened tightly to the panel. (Fig.4).
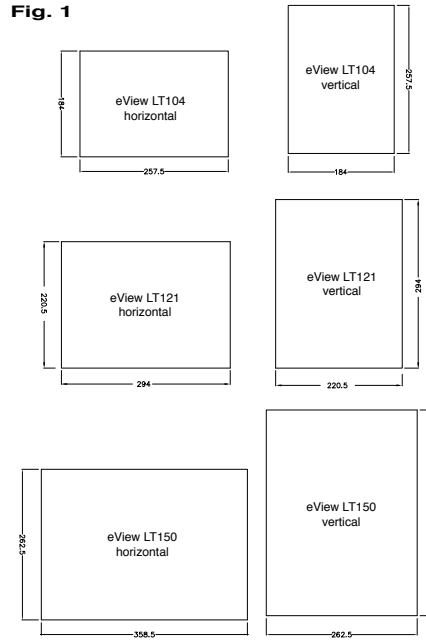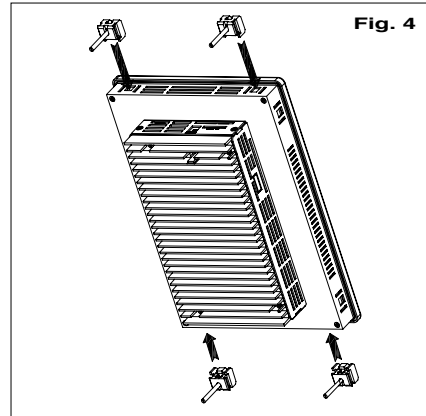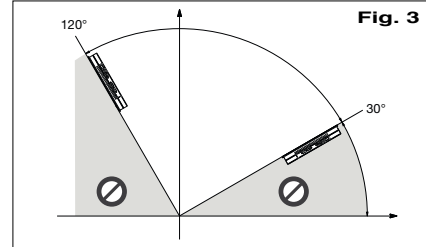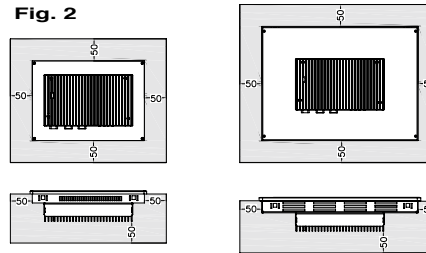

Fig. 1

Fig. 2

Fig. 3

Fig. 4

TECHNICAL DATA

		eView LT104	eView LT121	eView LT150
POWER SUPPLY	Operating voltage	24 VDC ±25%		
	Current draw (at 24 VDC)	700 mA max	1000 mA max	1100 mA max
	Power dissipation	17 W max	24 W max	26.5 W max
	Protections	Polarity inversion Short circuit		
	Connection	3-pin polarized removable connector Screw terminals, max cable section 2.5 mm²		
CONNECTIONS	Ethernet port (ETH)	Number of channels: 2 max (1 optional) Connector: RJ45 Velocity: 10 / 100 / 1000 Mbit/s Signals: green connection LED, yellow data LED		
	KEY & LED port	Connector: RJ45; Standard: USB2.0		
	RS-232 port (optional)	Connettore: DB9 M; Velocità: 1.2kbit/s…115kbit/s		
	RS-485 port (optional)	Optically isolated Connector: DB9 M Speed: 9 kbit/s … 19 kbit/s Terminations and polarization: internal, selectable with jumper		
	CAN port (optional)	Optically isolated Connector: DB9 M Speed: 20, 50, 100, 125, 250, 500, 1000 kbit/s, default 500 kbit/s Termination: internal, selectable with jumper		
	USB port	Number of ports: 2 max; Connector: type A; Standard: USB 2.0 Protection: overload		
COMMUNICATION PROTOCOLS	Ethernet	FTP (File Transfer Protocol) Modbus TCP/IP Master/Slave Ethercat Master; GDNET Master		
	CAN	CANopen Master		
	Modbus	Modbus RTU Master/Slave		
DISPLAY	Size (diagonal)	10,4"	12,1"	15"
	Format	4:3		
	Pixel resolution	800 × 600		1024 × 768
	Screen area (L x H)	211,2 × 158,4 mm	246,0 x 187,5 mm	304,1 × 228,1 mm
	Colors	256 K / 18 bit		16 M / 24 bit
	Luminosity	400 cd/m²	450 cd/m²	500 cd/m²
	Contrast	500:1		1500:1
	Backlighting	White LEDs life 30.000 ore @ 25 °C	White LEDs life 50.000 ore @ 25 °C	
	Visual angle	Horizontal: 70° - 70° Vertical: 50° - 60°	Horizontal: 89° - 89° Vertical: 89° - 89°	Horizontal: 70° - 85° Vertical: 70° - 85°
CONFIGURATION ELEMENTS	Access to software procedures	16-position rotary switch		
	Touch screen calibration	Via software on product		
CONTROL ELEMENTS	Touch screen	4-wire resistive technology		
VIEWING ELEMENTS	Diagnostics	PW LED (yellow): power supply on RN LED (green): PLC program state LED E1 (red): HW Watchdog state LED E2 (red): PLC program error		
MICROPROCESSOR	Type and frequency	ATOM E640 1 GHz ATOM E660, 1.3 GHz		
MEMORY	System	512 MB, DRAM type DDR II		
	Mass	2 GB Flash memory		
	Mass extension	SD Card Slot *		
AMBIENT CONDITIONS	Operating temperature	0 ... +55 °C (as per IEC 68-2-14)		
	Storage temperature	-20 ... +70 °C (as per IEC 68-2-14)		
	Relative humidity	max 95% RH non condensing (as per IEC 68-2-3)		
	Vibrations	5 to 9 Hz: sine constant 3.5 mm 10 to 150 Hz: sine acceleration 1G		
ASSEMBLY		Built-in, in control boards or panels		
PROTECTION LEVEL		IP 65 on front panel (as per IEC 68-2-3)		
WEIGHT		1,650 kg	2,300 kg	2,850 kg
CE STANDARDS	EMC (electromagnetic compatibility)	Conforms to Directive 2014/30/EU EN61131-2: Programmable controllers Part 2: Equipment requirements and tests.		

* SD card not supplied. Available as accessory

GEFRAN

eView LT

eView LT104 / LT121 / LT150

Control panel

code **81697B - 09/2017 - ENG**

QUICK INSTALLATION GUIDE

Side 1   Warnings and safety
          Mounting
          Technical data

Side 2   Connections
          Dimensions

WARNING and SAFETY

☞ *While all the information contained in this manual has been carefully checked, Gefran S.p.A. accepts no responsibility for the possible presence of errors or for damage to persons and/or property caused by the improper use of the manual.*

Gefran S.p.A. also reserves the right to make changes to the contents and form of this manual and to the characteristics of the devices illustrated at any time and without prior warning.

The installation of the devices illustrated in the manual must be carried out by qualified technicians in compliance with the laws and standards in force and in agreement with the instructions contained in the manual.

If the eView LT is used in applications with the risk of damages to persons, machinery or materials, its use in conjunction with alarms is essential.

It is advisable to envisage the possibility of checking the intervention of the alarms during regular operation.

Before interacting with the Control Panel, the operator must receive full training in the procedures of operation, emergency, diagnosis and maintenance of the system.

More information on the device and on the procedures of installation, maintenance and use can be found in the installation manual and use eView LT, freely downloadable from the site www.gefran.com.

CE **NOTES ON ELECTROMAGNETIC COMPATIBILITY:**
CE: Conformity EMC (**electromagnetic compatibility**) in compliance with Directive 2014/30/EU.**LV**
EN61131-2: Programmable controllers
Part 2: Equipment requirements and test.

Graphic simbol

☞ Indicates contents of sections, general instructions, notes, and other points to which the reader's attention needs to be called.

⚠ Indicates a particularly delicate situation that could affect the safety or correct operation of the controller, or an instruction that MUST be followed to prevent hazards.

CONNECTIONS

Inputs, ports and signals

Fig. 5
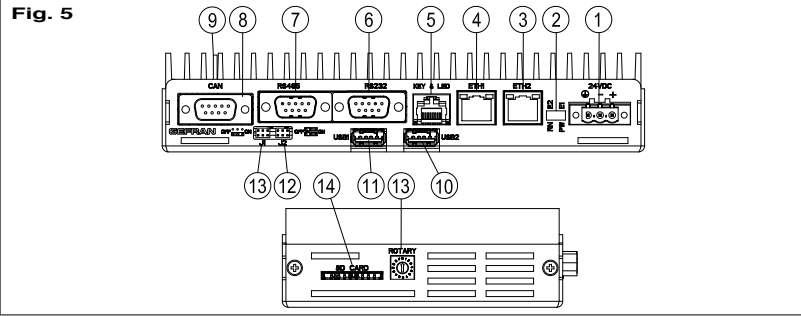
| No	Description	Connector / indicator	Notes
1	24 VDC ± 25% power supply input	Removable polarized terminal block	
2	LED	PW (yellow): power ON RN (green): PLC program status E1 (red): local I/O bus error E2 (red): HW Watchdog status	
3	Supplemental Ethernet port	RJ45	optional
4	Ethernet port	RJ45	
5	KEY & LED	RJ45	For GEFRAN Keypad
6	RS232	DB9 M (D-sub 9-pin male)	optional
7	RS485	DB9 M (D-sub 9-pin male)	optional
8	CAN	DB9 M (D-sub 9-pin male)	optional
9	Porta USB	Type A	
10	Porta USB	Type A	
11	J2	Jumper	Configuration of RS485 polarization and termination
12	J1	Jumper	Configuration of CAN termination
13	Rotary	16-position Rotary	
14	SD Card Slot	Standard SD Card	SD card not supplied. Available as accessory

Power

The Integrated Controller and Operator Panel must be connected to a 24 Vdc power supply unit.
The same 24 Vdc power supply can feed several devices.
Make sure that the current issued by the power supply is higher than the total maximum current absorbed by all the devices connected.
Considering that the device has no switch, it is necessary to install one before it, with a protective fuse.
The switch has to be positioned in the immediate vicinity of the device and be easy for the operator to reach (Fig. 6).

Fig. 6

230 VAC   24 VDC
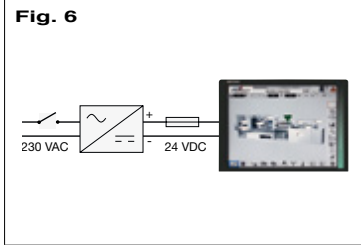
For the 24 Vdc power supply, use a separate line from that used for electromechanical power devices such as relays, contactors, solenoids, etc. If there are considerable changes in the mains voltage, use a voltage stabiliser.
Near to high frequency generators or arc welders, use adequate grid filters. Connect the power cables to the power connector.
Fit the ferrite core, supplied with the product, as close as possible to the device to limit the susceptibility of the device to electromagnetic disturbance (Fig. 7).
The 24 Vdc power cables must follow a separate route from the power cables of the system or the machine.
Make sure that the earth connection is efficient. A non-existent or inefficient earth connection can make the operation of the device unstable, due to excessive environmental.
In particular, check that:
· the voltage between ground and earth is < 1 V;
· the ohm resistance is < 6 Ω.

Fig. 7


3 2 1

FERRITE

GND

24 VDC
± 25%
1.1 A max

- +
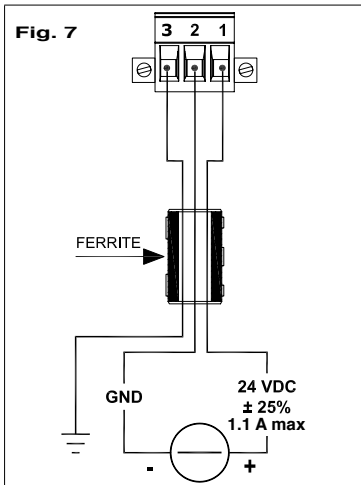
CAN

The CAN port is optional.
Connect the cable for the CAN field bus (CANopen protocol). The maximum length of the cable depends on the transmission speed. (See the manual for further information).
Considering that the CAN port is opto-isolated, it is not necessary to disconnect the power to the device before connecting it.

⚠ **Warning:** The CAN port has a line termination.
If the CPU module is the last or the first device on the CAN line, you have to insert the termination (120 Ω resistance, ¼ W, 5%) by setting jumper J1 as shown in figure 8.
Remember that the CAN bus must be terminated at both ends.

The CAN line termination is settable with jumper J1 as shown figure 9.

Fig. 8

INTERNAL TERMINATION

120 Ω   J1   120 Ω

1 2 3
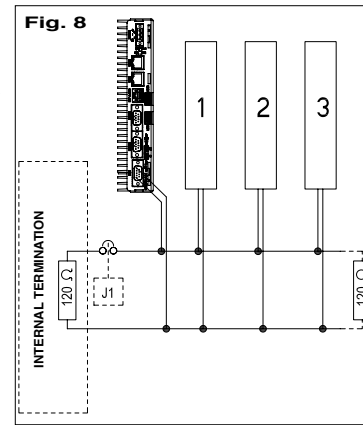
RS485

The RS485 port is optional.
Considering that the RS485 is opto-isolated, it is not necessary to disconnect the power to the Integrated Controller and Control Panel and to the device to be connected before connecting them.
The maximum length of the cable depends on the transmission speed. (See the manual for further information).

⚠ The RS485 port is equipped with internal termination and polarization, as shown in the figure 10.
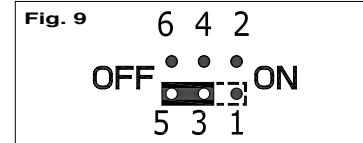
The RS485 line polarizations and termination are settable with jumper J2 as shown figure 11.

Fig. 9


6 4 2
OFF ● ● ● ON
5 3 1
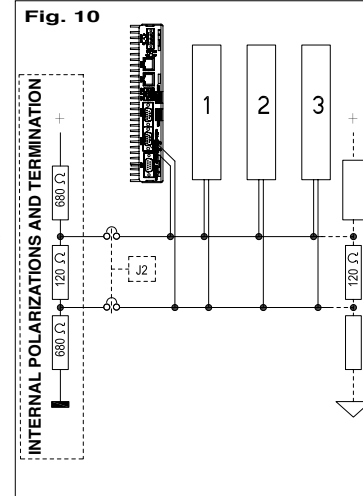
Ethernet

The Ethernet port lets you connect the Contro Panel to a computer or a corporate LAN or, if the product has the option, to an Ethercat network. The connection cable to use (either straight or crossover) depends on the type of device that has to be connected.
For the connection, use a CAT6 UTP cable or superior, You can also use a CAT5e cable (only for ETHERCAT). The maximum length of the Ethernet cable is 100 metres. Do not run the Ethernet cable alongside the machine power cables, to avoid interference with data transmission.

USB

The USB port is optional and is used to connect external devices compliant to the USB standard.
The connector is Type A and the port supports version USB 2.0, with speed up to 480 Mbit/s.
The port is able to issue a current of 500 mA at 5 Vdc to power USB devices.
The maximum length allowed for the USB cable is 5 metres. It is possible to directly access the USB port of the controller from the panel using the transfer cable (accessory to order separately). To fit the socket of this cable, the panel thickness, in the position chosen, should not exceed 2 mm.

Fig. 10

INTERNAL POLARIZATIONS AND TERMINATION

680 Ω   120 Ω   J2   120 Ω
680 Ω

1 2 3
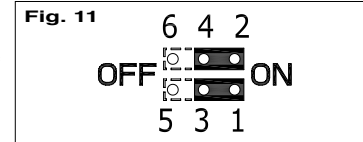
SD Card

The SD Card mass memory lets you store data and applications.
SD Card function is defined by position of the rotary selector (use positions 0 to 9 only; unless otherwise instructed, do not use positions A to F).

RS232

The RS232 port is optional. Considering that the RS232 port is not insulated, it is necessary to disconnect the power to the Control Panel and to the device to be connected before connecting them.
The connection cable must be screened and not exceed a length of 3 metres.

Entry into service

For the entry in service of the device (configuration and loading the application program) Please refer to the installation manual and use GF_Project Vx, freely downloadable from the site www.gefran.it.

Fig. 11

6 4 2
OFF ● ● ● ON
5 3 1

DIMENSIONS

eView LT104: horizontal installation   **Fig. 12**

eView LT104: vertical installation

Dimensions in mm

eView LT121: horizontal installation   **Fig. 13**

eView LT121: vertical installation

Dimensions in mm

eView LT150: horizontal installation   **Fig. 14**

eView LT150: vertical installation

Dimensions in mm