GEFRAN

GILOGIK II / GT-C / GT-O / GF-BOX

The Gefran PLC & remote I/O automation system

Main applications

- *Machine automation*
- *Process automation*
- *Distributed I/O for automation of large installations*
- *Data acquisition*
- *Production control*
- *Building automation*

Main features

- *Gateway for GDNET network*
- *Gateway for main field Busses*
- *Entirely configurable via software*
- *Completely remote from the field*
- *Modular*
- *Simple for cabling*
- *Sturdy*

PROFILE

GILOGIK II *is a high performance distributed I/0 system.*
It is arranged into modules that plug into a dedicated back-plane.
The heart of the system is made up of modular gateways or nodes, which are designed to on the one hand control the installed I/O modules through the back-plane, while on the other hand to communicate with the command and control centre.
The modern architecture, based on a 200Mhz ARM processor and parallel back-plane, give excellent performance to the system equipped with GDnet, the specific TCP/IP Ethernet network developed by Gefran: I/O system data is refreshed in 100 us, is synchronised and specific with virtually 0 (zero) jitter.
The creation of dedicated Ethernet Switches allows consistent uniform performance, even with multiple nodes, up to a maximum of 16 nodes with 256 I/O per node.
The features and performance of the gateways dedicated to the most common field busses such as CAN, CANopen, DeviceNet and Profibus, are themselves top notch.
The back-planes are available in 4, 8, 12 and 18 slot versions, permitting the user to streamline his system in terms of both efficiency and cost.
The organisation of the back-planes is of geographical type, where each module may be inserted into any slot, not necessarily adjoining the last one.
The system can therefore be set up leaving open slots for potential later expansion, or simply for better organisation of the system without affecting its operation.
The unit may be easily installed on either a standard 35mm omega bar or directly onto a base plate.
The modules are connected to the back-plane by click connectors without the need for screws, thus automatically making the electrical connections required for the operation of the unit.
GILOGIK II is equipped with digital and analogue I/O modules, temperature control modules and counter modules, thus enabling the creation of most automation and control applications.
The remoteness of the modules from the field makes them absolutely immune from disturbances, thereby endowing the entire system with a high level of reliability.
GILOGIK II modules are entirely programmable via software, thus eliminating possible errors during the replacement or maintenance of system parts.
The user connections are achieved using removable female connectors with spring clips. This allows for quick, simple replacement of the modules without having to touch the cabling.
The absence of screws is another simplification in the management of the cabling, improving the reliability of the whole unit.
The entire GILOGIK II system runs on 24Vdc, max 3A, fed directly from the gateway module.
The user interfaces foreseen for the GILOGIK II system are the GT-C and GT-O+GF-BOX.

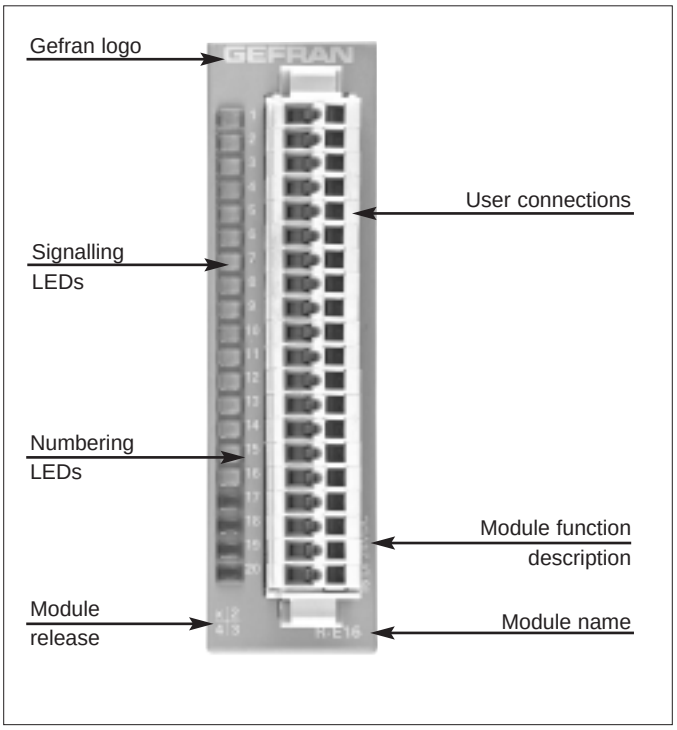
GT-C *is an extremely powerful, modular, PC based, panel mounted control.*
The application programs for the user interface screens and machine operating cycle (soft-logic) run on the GT-C.
GT-C is based on an Intel™ Celeron™ 400 MHz processor, which may be substituted with either a Pentium™III-m 800 MHz or a Pentium™M 1,1 GHz new generation processor equipped with Intel™ Centrino™ technology.
This particular architecture, based on the ETX standard, allows for ongoing upgrading of the product to keep pace with changes in technology.
All the processors are of the low voltage, low consumption type that do not require individual cooling fans, thus the GT-C can even be placed in severe environments.
The GT-C can be equipped with a solid state, mass storage memory of the DOM type, or a 2.5" HD for improved configuration depending on the application utilised.
Thanks to the full range of available ports, namely Ethernet, USB, serial, parallel, PS/2 etc., GT-C can connect with the various peripherals that are currently in use in the industrial field. If to this we add the optional customised interfaces, and the standard PCI, PC104 and PCMCIA expansion slots, a particularly broad spectrum of connectivity is achieved.
Amongst the available interfaces are those for CAN, CANOpen, DeviceNet and Profibus, as well as the RS422/485 serial line expansions for Modbus.
The GT-C supports LCD TFT 10,4" and 12,1" colour displays, both offering 800x600 pixel resolution.
It is also possible to install an optional touch screen membrane.
The standard GT-C version is equipped with a keyboard panel with groups of programmable keys. 8 function keys under the display and 23 programmable keys for different screens; 20 keys are configured with customisable graphics on removable labels, 49 keys configured with status LEDs for management of machine commands, with customisable graphics on removable labels and 6 monitoring LEDs, as well as a customisable customer logo on removable labels.
For memorising machine data, the front panel is equipped with a USB connection for the Pen drive offered as one of the available accessories.
The GT-C can also be ordered with a customised synoptic of the customer's own design. The care taken during assembly and the careful mechanical study provide the user with ease of installation, proper access to the GT-C's expansions and proper product maintenance, thus ensuring durability and reliability over time.

The ***GT-O*** *is a remote command and display unit equipped with LCD TFT 10,4" and 12,1" colour displays, both offering 800x600 resolution. It is also possible to install an optional touch screen membrane. The maximum possible remote distance is 25 m.*
The standard GT-O version is equipped with a keyboard panel with groups of programmable keys. 8 function keys under the display and 23 programmable keys for different screens; 20 keys are configured with customisable graphics on removable labels, 49 keys with status LEDs for the management of machine commands, with customisable graphics on removable labels, 6 monitoring LEDs and a customisable customer logo on removable labels.
For memorising machine data, the front panel is equipped with a USB connection for the Pen drive offered as one of the accessories.
The GT-O can also be ordered with a customised synoptic of the customer's own design.
Power is obtained via the remote control cable connected to the GF-BOX.
The care taken during assembly and the careful mechanical study provide the user with ease of installation, proper access to the GT-O's expansions and proper product maintenance, thus ensuring durability and reliability over time.

GF-BOX *is a high function and resource scalability, industrial PC.*
Specifically, the typical functions of a PC architecture have been combined with certain functions specifically designed for control applications, all in a case of compact dimensions.
The features built into the GF-BOX permit its utilisation in the most varied industrial applications, from a machine control unit to a data centralisation system.
GF-BOX can be equipped with a remote display up to 25 m away.
GF-BOX is based on an Intel™ Celeron™ 400 MHz processor, which may be substituted with either a Pentium™III-m 800 MHz or a Pentium™M 1,1 GHz new generation processor equipped with Intel™ Centrino™ technology. This particular architecture based on the ETX standard, allows for ongoing upgrading of the product to keep pace with changes in technology.
All the processors are of the low voltage, low consumption type that do not require individual cooling fans, thus the GF-BOX can even be placed in severe environments.
The GF-BOX can be equipped with a solid state, mass storage memory of the DOM type, or a 2,5" HD for improved configuration, depending on the application and operating system utilised.
Thanks to the full range of available ports, namely Ethernet, USB, serial, parallel, PS/2 etc., GF-BOX can connect with the various peripherals that are currently in use in the industrial field. If to this we add the optional customised interfaces, and the standard PCI, PC104 and PCMCIA expansion slots, a particularly broad spectrum of connectivity is achieved.
Amongst the available interfaces are those for CAN, CANOpen, DeviceNet, Profibus as well as the RS422/485 serial line expansions for Modbus.
Several functions, such as the management of the keyboard matrix, LEDs and the logic start output with programmable timer are typical of the controls for machines and industrial lines.
The care taken during assembly and the careful mechanical study provide the user with ease of installation, proper access to the GF-BOX's expansions and proper product maintenance, thus ensuring durability and reliability over time.

MODULES

External appearance of the modules

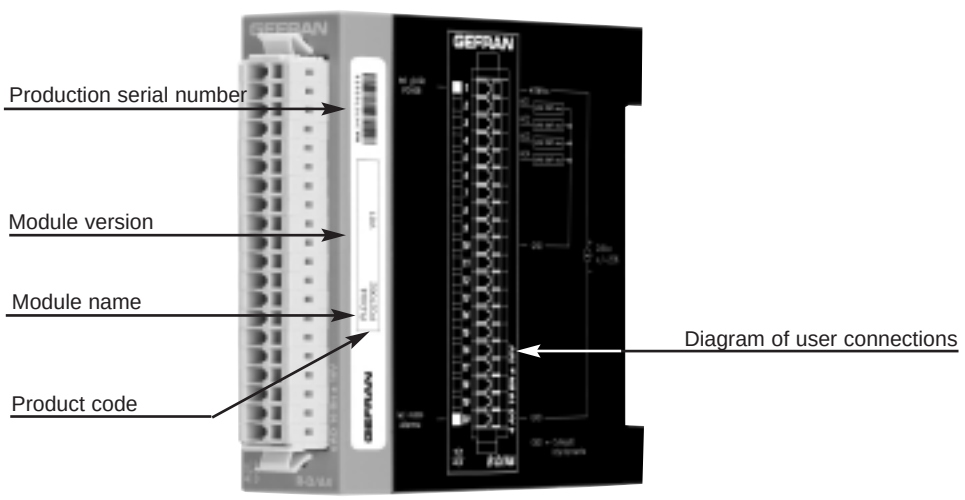


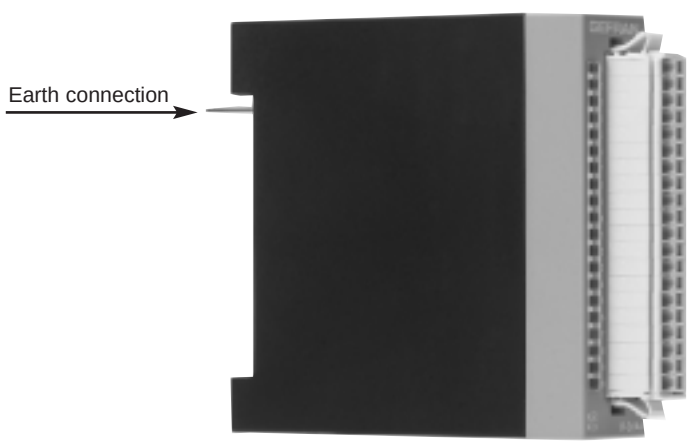
Module identification
Each module carries the information as shown in the above figure on its face plate.

Module production information
On the right hand side of the front panel (green portion) there is identification and tracing data relating to the module, as described below.

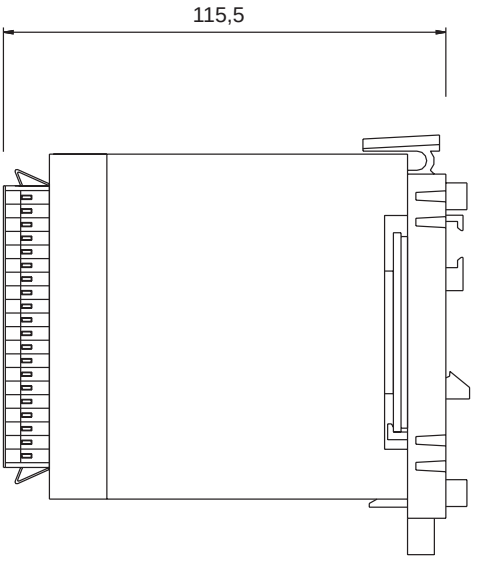
Module connection diagram
On the right hand side of the case (black portion) there is the basic user connection diagram. For additional information consult the technical manual.

Earth connection
A spring loaded connector protrudes from the back of the module for protective electronic earthing of the various modules.
On inserting the module into the back-plane, this connector automatically makes electrical contact with the supporting omega bar.

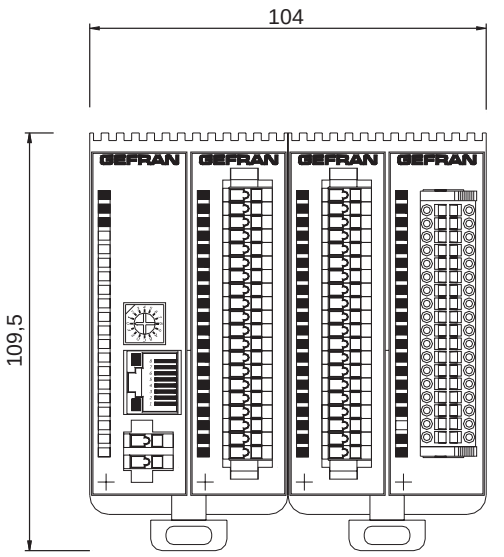




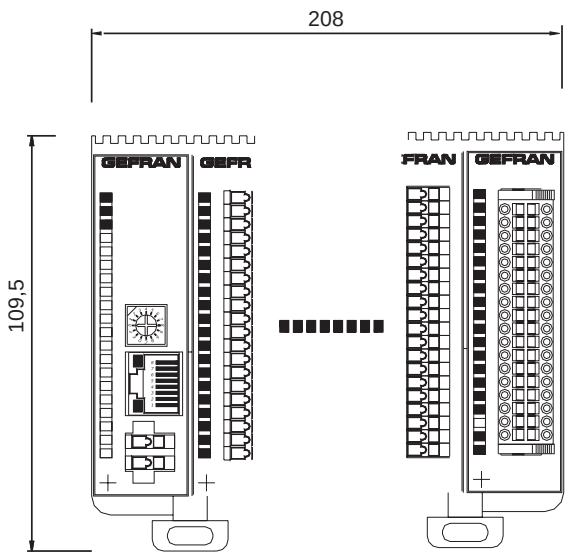
MECHANICAL FEATURES, DIMENSIONS AND INSTALLATION



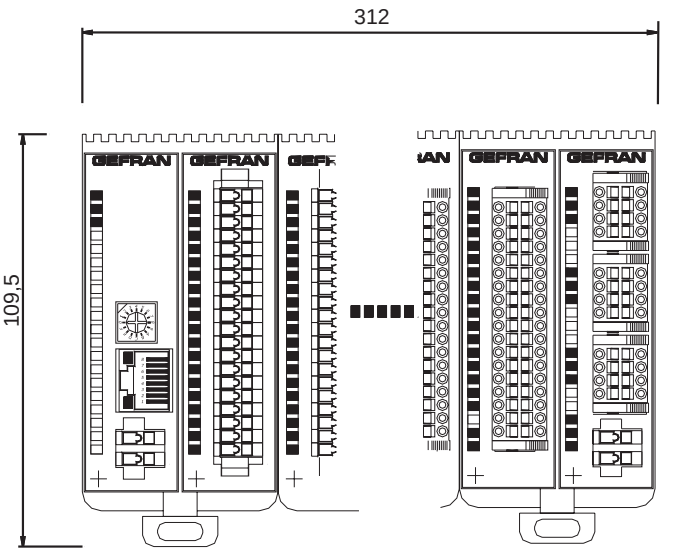
Dimensions of the **4 slot** system



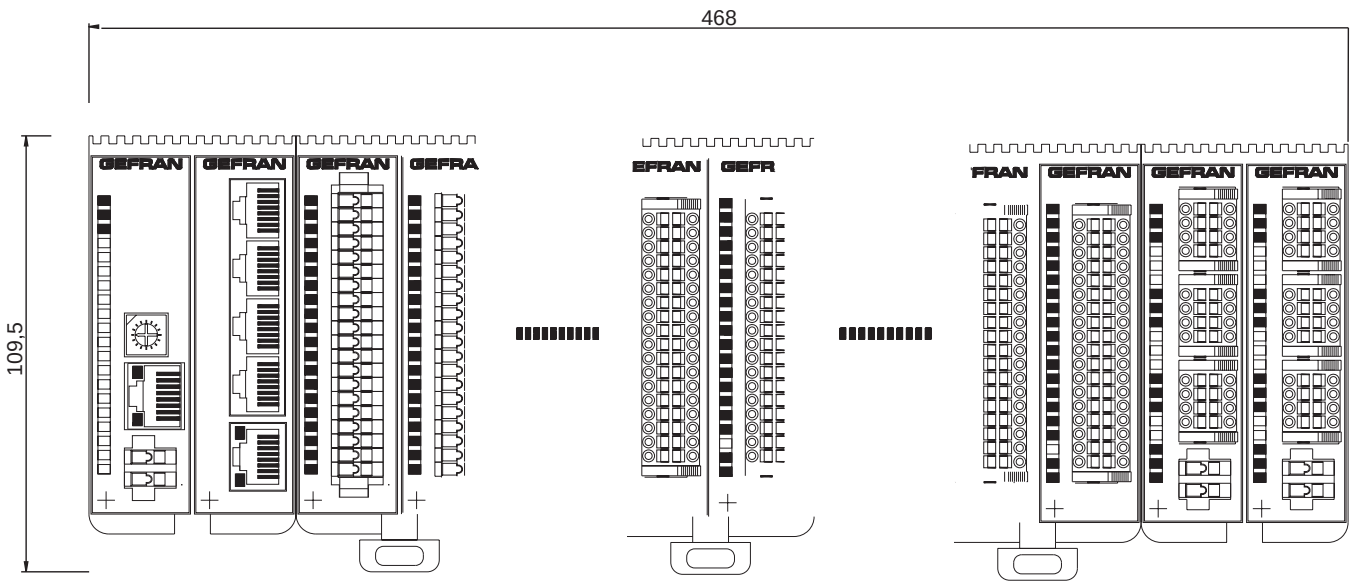
Dimensions of the **8 slot** system



Dimensions of the **12 slot** system



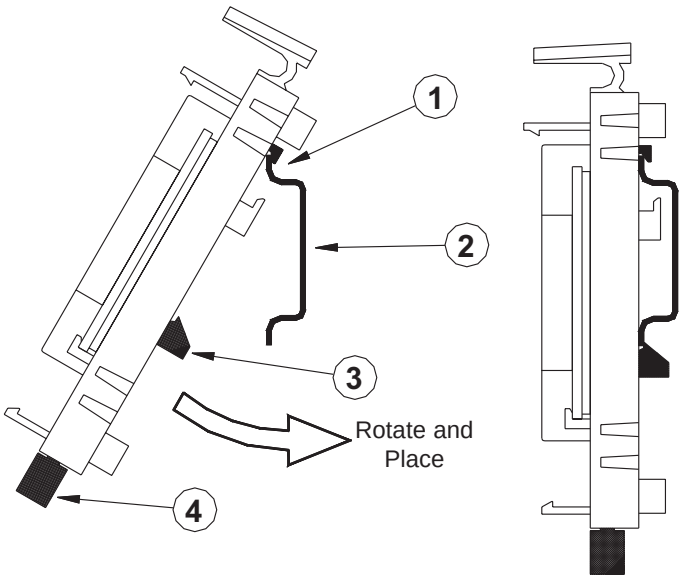
Dimensions of the **18 slot** system



INSTALLATION AND REMOVAL OF THE BACK-PLANE

Installation and removal of the back-plane
The back-plane can be mounted on either 35mm Omega bar or directly on a base plate.

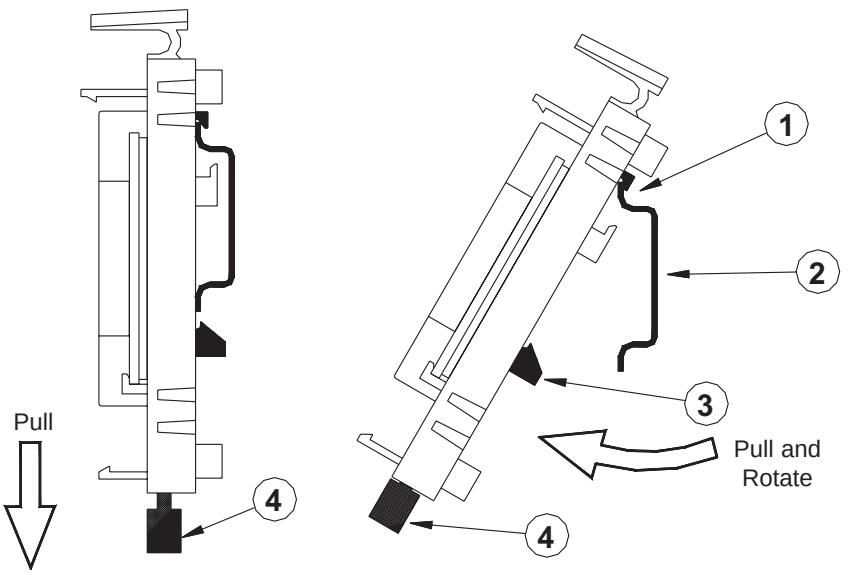
To **INSTALL** the back-plane on an Omega bar, first fix the omega bar to the base plate and insert the back-plane as shown in the following figures.



WARNING:
DO NOT FIT THE BACK-PLANE ONTO THE OMEGA BAR WITH THE MODULES ATTACHED TO THE BACK-PLANE ITSELF.

Hitch the back-plane to the omega bar by means of tooth (1), rotate and press until tooth (3) clicks into place.

To **UNHITCH** the back-plane, proceed as shown in the figure below.

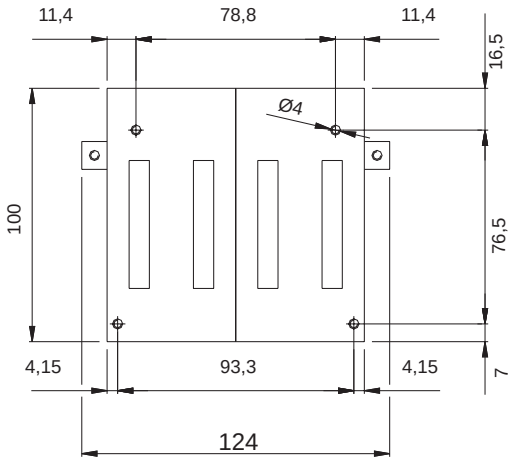


Pull lever (4), making the holding tooth (3) retract, rotate the back-plane as indicated by the arrow and remove from tooth (1).

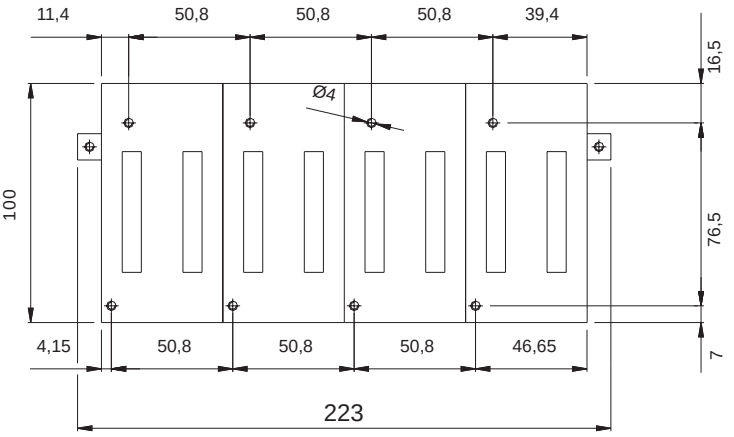
INSTALLATION AND REMOVAL

To fit the back-plane directly onto the base plate, drill the holes using to the template described below, depending on the back-plane utilised.

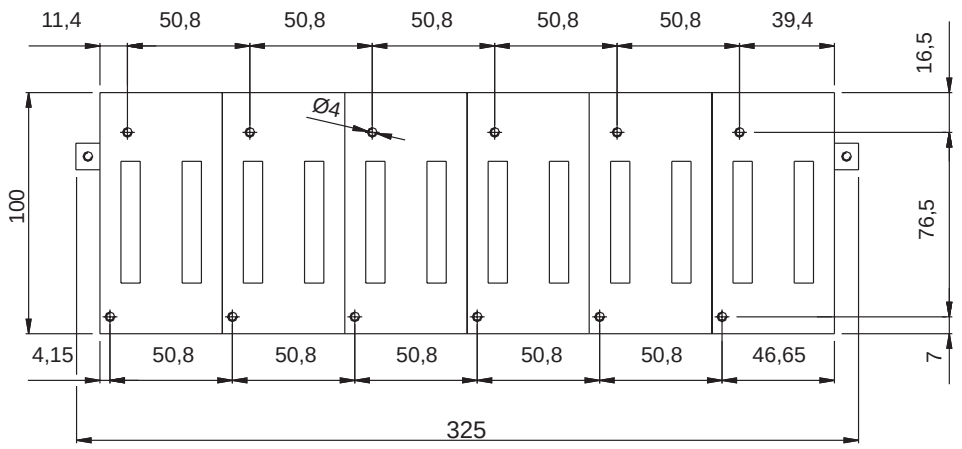
R-BUS4 MECHANICAL DIMENSIONS



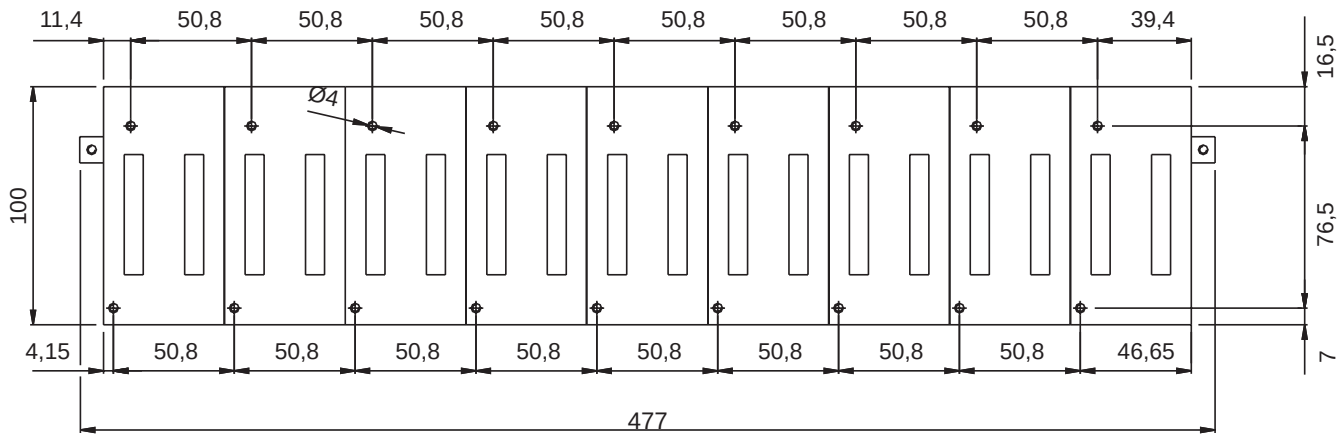
R-BUS8 MECHANICAL DIMENSIONS



R-BUS12 MECHANICAL DIMENSIONS



R-BUS18 MECHANICAL DIMENSIONS



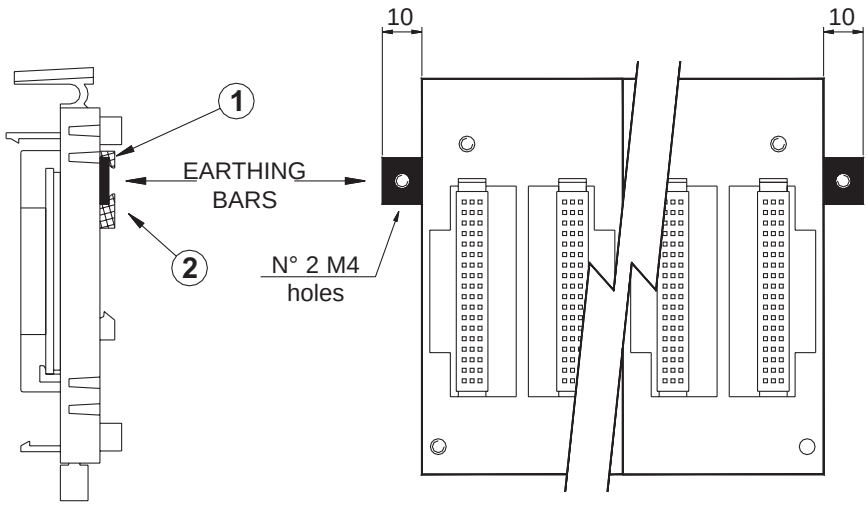
INSTALLATION AND REMOVAL

Fix the earthing bar onto the back-plane, between teeth 1 and 2 (see accessories).

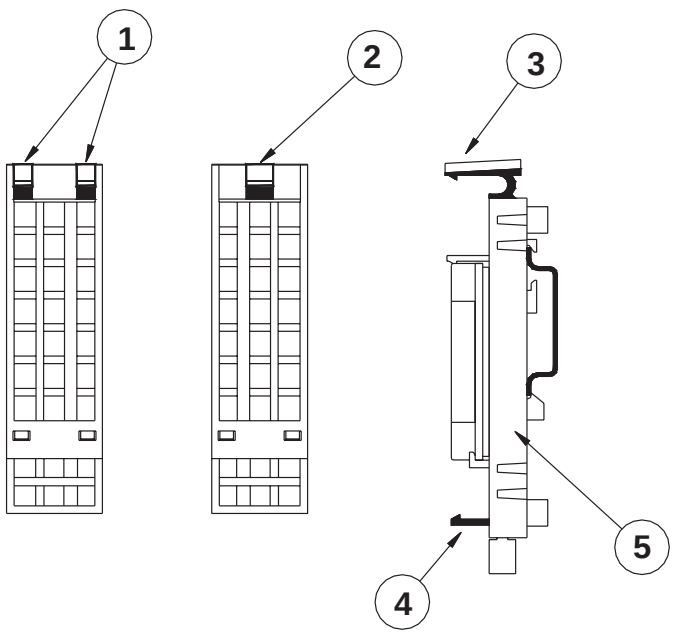
The bar must protrude from the bus by approximately 1 cm on each side.

Align the back-plane with the holes and fix it in place using the 4 MA x 20 mm flat-head screws.

Once the back-plane is fitted, connect the earthing bar to earth by means of an appropriate electrical wire, utilising the M4 threaded hole.
Connect to earth on one side only.



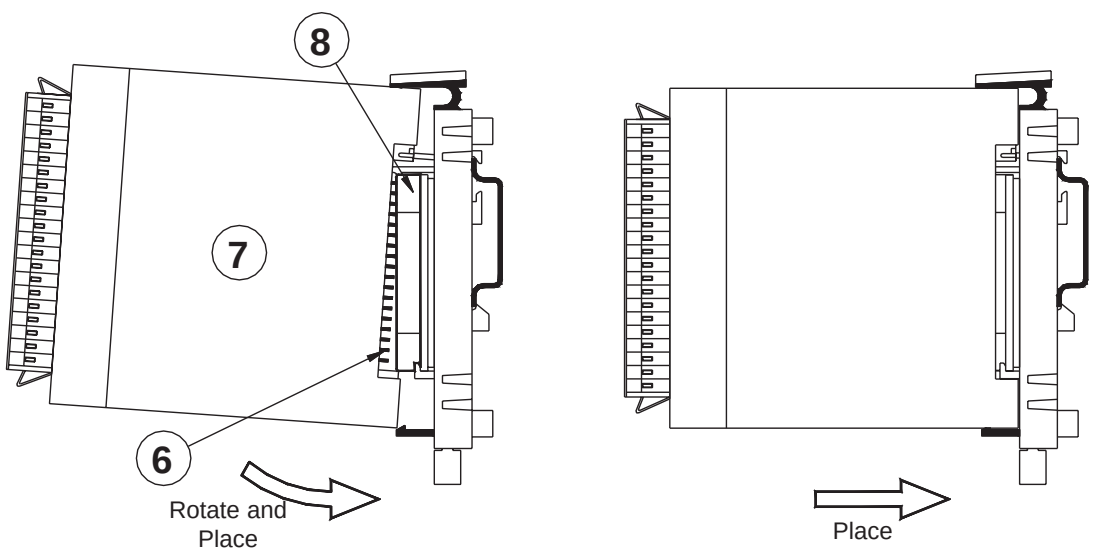
Installation and removal of the module
Proceed as indicated below to install the module onto the back-plane:



Position the module (7), slightly inclined, on the back-plane (5), ensuring that the teeth (3) are facing the provided seats (1) on the case.

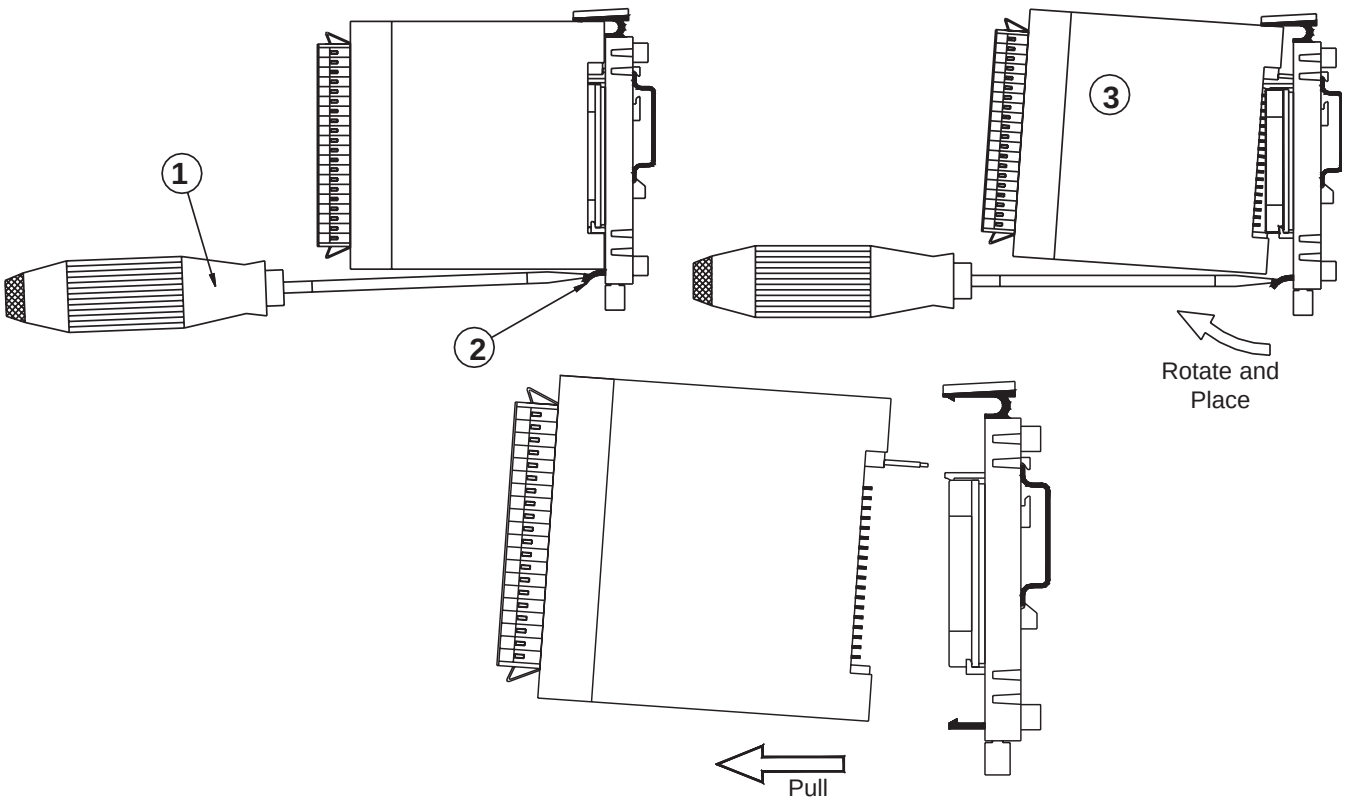
Rotate the module until the male connector (6) enters the corresponding female one (8).

Press down until completely inserted and the module is hooked onto the tooth (4) on the base (2).



INSTALLATION AND REMOVAL

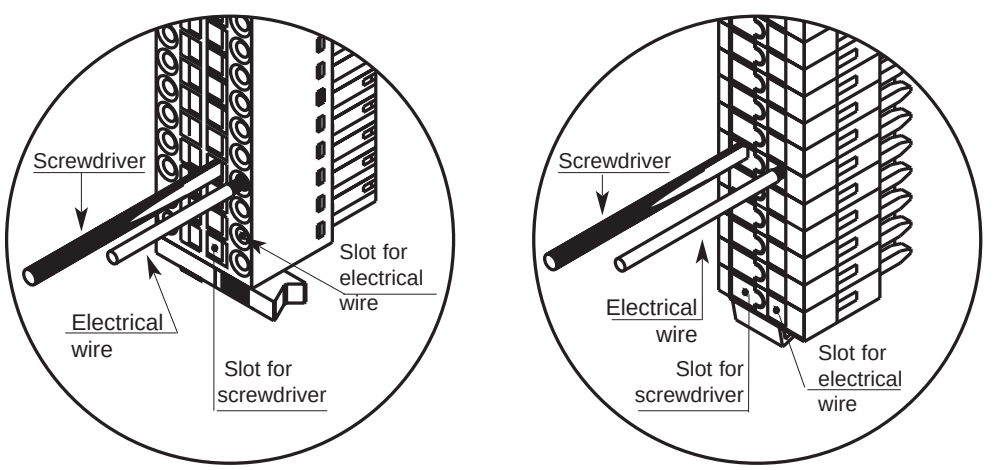
To unhitch the module, proceed as indicated below:



Insert the screwdriver (1) between the case (3) and the holding tooth (2), so as to unhook the module.
Rotate slightly and pull until the separation is complete.

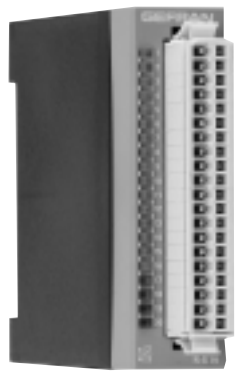
Cabling of modules

Cabling of the modules is carried out without the use of screws as all the connectors are fitted with spring clamps. Obtain an appropriate screwdriver: maximum shaft diameter 2.5mm.
To connect the cable, proceed as described below, using the attached diagrams for assistance.
INSERT the screwdriver into the first slot, INSERT the peeled electrical wire into the slot naked i.e. without any fitting or solder applied, REMOVE the screwdriver.

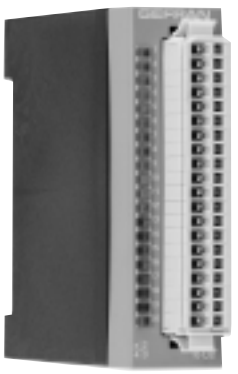
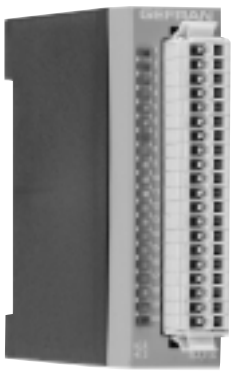
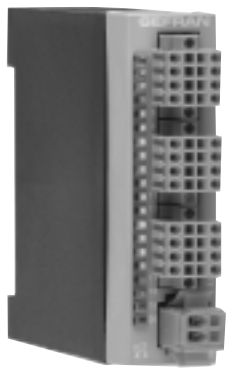


To remove a wire, proceed in the same way.
NOTE: utilise an appropriate screwdriver: maximum shaft diameter 2.5mm. DO NOT APPLY ANY FITTINGS OR SOLDER to the electrical wire.
DO NOT USE STIFF WIRE.
The cross-section of the wire is specified in the data sheet of each module, and depends on the current and the utilisation.

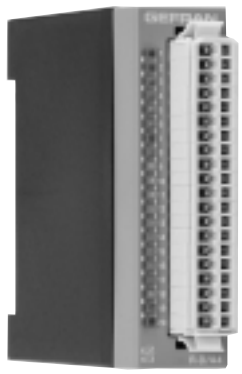
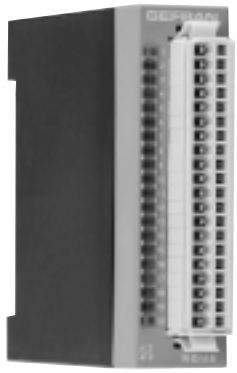
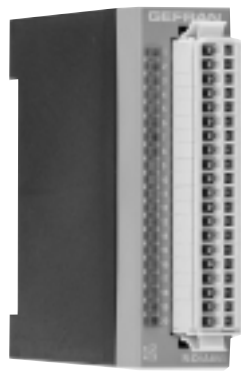
TECHNICAL DATA

		
R-ETH100	**R-SW5**	**R-E16**
GDNET Gateway in the GILOGIK II system Fast Ethernet. It manages the communication to and from the other I/O modules on the back-plane, and also provides them with power..	Ethernet switch. 1 Uplink port and 4 port by-passes. Allows expansion of the GDnet network. It is equipped with 5 standard Fast Ethernet ports with RJ45 connectors. It is fitted to R_BUS(x) series back-planes from which it receives power. Can be utilised as an industrial Ethernet switch, also in traditional networks.	Module with 16 x 24Vdc optically isolated digital inputs.
TECHNICAL FEATURES		
Gateway Ethernet 10/100 Mbps	Ethernet Switch 10/100 Mbps	16 x 24Vdc Digital Inputs
Ethernet Port RJ45	Ethernet 5 port RJ45	20 Pole Female Connector
CPU ARM 200 Mhz	Power feed from back-plane	PNP type optically isolated inputs
Node selection via 0-15 rotary switch	Automatic connection recognition (auto sense)	10 ms or 200µs filters, individually selectable via software
I/O refresh frequency = 100 µs	Mounting on Back plane R-BUS(x)	Green LED for inputs status
Number of I/O modules controlled: 16		Inverse polarity protection
Power feed 18-36 Vdc 3A max		Interrupt control for each individual input, with software selectable barrier
MECHANICAL FEATURES		
	Dim: 26 x 90 x 120	
Weight 150 g.	Weight 120 g.	Weight 120 g.
	Protection IP20	
	Temperatures: Operating 0°C .. +50°C Storage -20°C .. +70°C	
	Humidity: Max 90% non-condensing	
	Certifications: CE	
ORDER CODES		
F026081	**F027062**	**F026082**

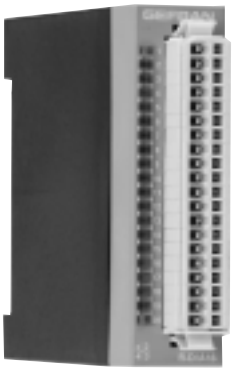
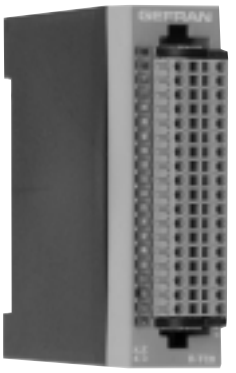
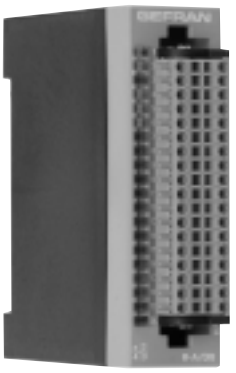
TECHNICAL DATA

		
R-U8	**R-U16**	**R-C3**
Module with 8 optically isolated digital outputs, max 3 A each.	Module with 16 optically isolated digital outputs, max 2 A each.	Module with 3 inputs, encoder and optically isolated counters.
TECHNICAL FEATURES		
8 x PNP type, 24 Vdc digital outputs. 4 groups of 2 outputs with a common power supply. Common GND	16 x PNP type, 24 Vdc digital outputs. 1 group of 8 outputs with a common power supply 2 groups of 4 outputs with a common power supply Common GND	Up down counter inputs, encoder inputs, time-laps measurement inputs, frequency measurement inputs.
20 Pole female connector with spring mounting	20 Pole female connector with spring mounting	3 x 8 Pole female connectors with spring mounting
Total maximum current per module: 15 A	Total maximum current per module: 15 A	Inputs for encoder: Differential type, Single Ended, Push-Pull, Open Collector
Total maximum current per group 5 A	Total maximum current: for 4 output group = 5 A for 8 output group = 8 A	Filters input: 100 Hz, 5 KHz, 50 KHz, 250 KHz individually selectable
Total maximum current per output 3 A	Total maximum current per output 2 A	
Protection against max. current, Overheating, High voltage with a diagnostic for each outputs.	Protection against max. current, Overheating, High voltage with a diagnostic for each outputs.	Interrupted wire diagnostic
Inductive load control	Inductive load control	
Group power supply max 30Vdc	Group power supply max 30Vdc	
Individual output status monitoring LED, power supply and fault diagnostic LEDs	Individual output status monitoring LED, power supply and fault diagnostic LEDs	Inputs status LED
MECHANICAL FEATURES		
	Dim: 26 x 90 x 120	
Weight 120 g.	Weight 120 g.	Weight 110 g.
	Protection IP20	
	Temperature: Operating 0°C .. +50°C Storage -20°C .. +70°C	
	Humidity: Max 90% non-condensing	
	Certification: CE	
ORDER CODES		
F026084	**F027083**	**F027066**

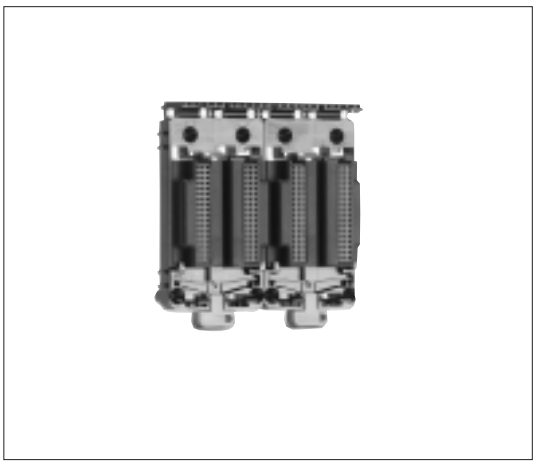
TECHNICAL DATA

		
R-D/A4 Module with 4 optically isolated analogue outputs	**R-D/A8** Module with 8 optically isolated analogue outputs	**R-D/A8VI** Module with 8 optically isolated analogue, software configurable outputs
TECHNICAL FEATURES		
4 Analogue outputs ±10V 20 mA max	8 Analogue outputs ±10V 20 mA max	8 Configurable Analogue outputs ±10V 20mA max 0-20mA, 500Ω max 4-20mA 500Ω max
	16 bit Conversion	
	Settling time 50 µs	
	Output diagnostics	
	20 Pole Female connector with spring mounting	
	External power supply 24Vdc 0,5A max	
	Diagnostic LEDs for power supply and fault	
MECHANICAL FEATURES		
	Dim: 26 x 90 x 120	
Weigh 110 g.	Weigh 120 g.	Weigh 120 g.
	Protection IP20	
	Temperature: Operating 0°C .. +50°C Storage -20°C .. +70°C	
	Humidity: Max 90% non-condensing	
	Certification: CE	
ORDER CODES		
F027510	**F027064**	**F028004**

TECHNICAL DATA

		
R-D/A16	**R-TC8**	**R-A/D8**
Module with 16 optically isolated analogue outputs.	Module equipped with processor with 8 optically isolated temperature inputs configurable via software, 16 digital outputs for temperature control and 1 optically isolated digital input for measuring time lapse. If not used for temperature control, the outputs can be re-defined and used for other functions.	Module with 8 optically isolated analogue inputs.
TECHNICAL FEATURES		
16 Analogue outputs ±10V 20 mA max	8 Analogue inputs, configurable via software. Inputs for thermocouples: J, K, R S with on-board compensation RTD PT100 2, 3 and 4 wires Linear 0..50mV, 0..2V	Inputs for: Potentiometer min. 2 KOhm Differential 0..100mV, 0..25mV per strain gauge Linear 0..10V, +/-10V, 0..2V Linear 0..20mA, 4..20mA.
16 bit Conversion	18 bit minimum Conversion	16 bit Conversion
Settling time 50µs	Sample time 120 ms all channels	Sample time < 100 µs all channels
Diagnostica uscite		
	1 x PNP 24 Vdc type input	On-board transducer power supply
	Max. input frequency 5 KHz	Filter in input selectable via software 100 Hz, 2 Khz
	16 optically isolated digital outputs 0,5A max 6A simultaneous, protected	Linearity input < 0,1%
20 Pole female connector with spring mounting	36 Pole female connector with spring mounting	36 Pole female connector with spring mounting
External power supply 24Vdc 0,5A max		
Individual output status monitoring LED plus power supply and fault diagnostic LEDs	Individual output status monitoring LED plus power supply and fault diagnostic LEDs	LED plus power supply and fault diagnostic LEDs
MECHANICAL FEATURES		
	Dim: 26 x 90 x 120	
Weight 120 g.	Weight 130 g.	Weight 120 g.
	Protection IP20	
	Temperature: Operating 0°C .. +50°C Storage -20°C .. +70°C	
	Humidity: Max 90% non-condensing	
	Certification: CE	
ORDER CODES		
F027065	**F026944**	**F027063**

TECHNICAL DATA



R-BUS4	**R-BUS8**
4 slot Back-plane module	8 slot Back-plane module

TECHNICAL FEATURES

16 Bit parallel Bus
Terminated
Geographic addressing

Installation on DIN 35 mm bar
Installation on base plate by means of
4 MA screws
Modules click-attach with no screws

MECHANICAL FEATURES

Dim: 104 x 110 x 30	Dim: 208 x 110 x 30
Weight 120 g.	Weight 240 g.

Protection IP20

Temperature:
Operating 0°C .. +50°C
Storage -20°C .. +70°C

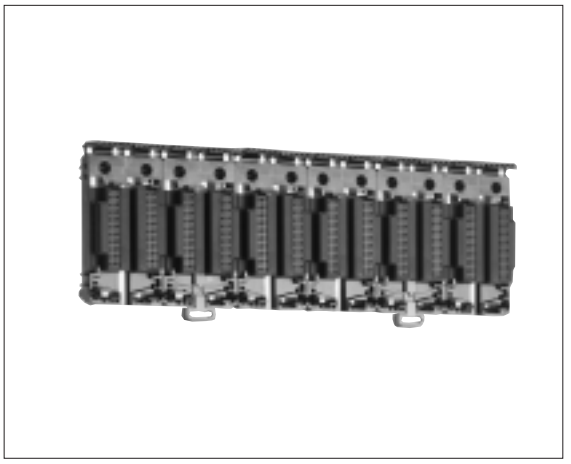
Humidity: Max 90%
non-condensing

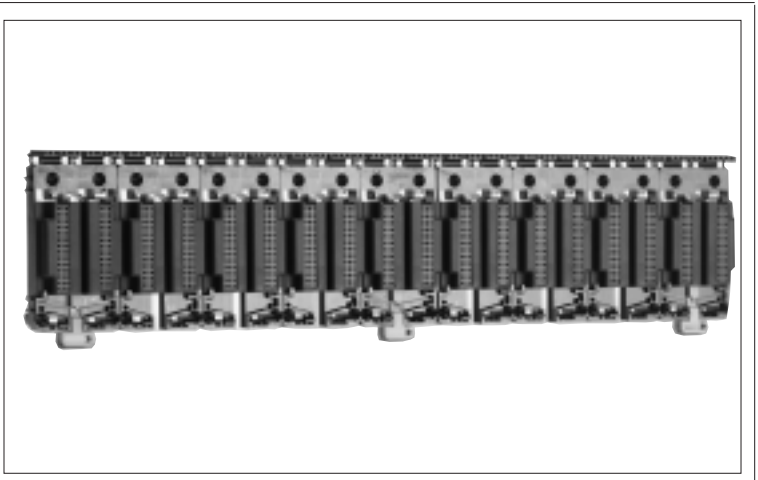
Certification: CE

ORDER CODES

F026085	**F026086**

TECHNICAL DATA





R-BUS12	**R-BUS18**
12 slot Back-plane module	18 slot Back-plane module

TECHNICAL FEATURES

16 Bit parallel Bus
Terminated
Geographic addressing

Installation on DIN 35 mm bar
Installation on base plate by means of
4 MA screws
Modules click-attach with no screws

MECHANICAL FEATURES

Dim: 312 x 110 x 30	Dim: 468 x 110 x 30
Weight 360 g.	Weight 540 g.

Protection IP20

Temperature:
Operating 0°C .. +50°C
Storage -20°C .. +70°C

Humidity: Max 90%
non-condensing

Certification: CE

ORDER CODE

F026087	**F026088**

INSTALLATION

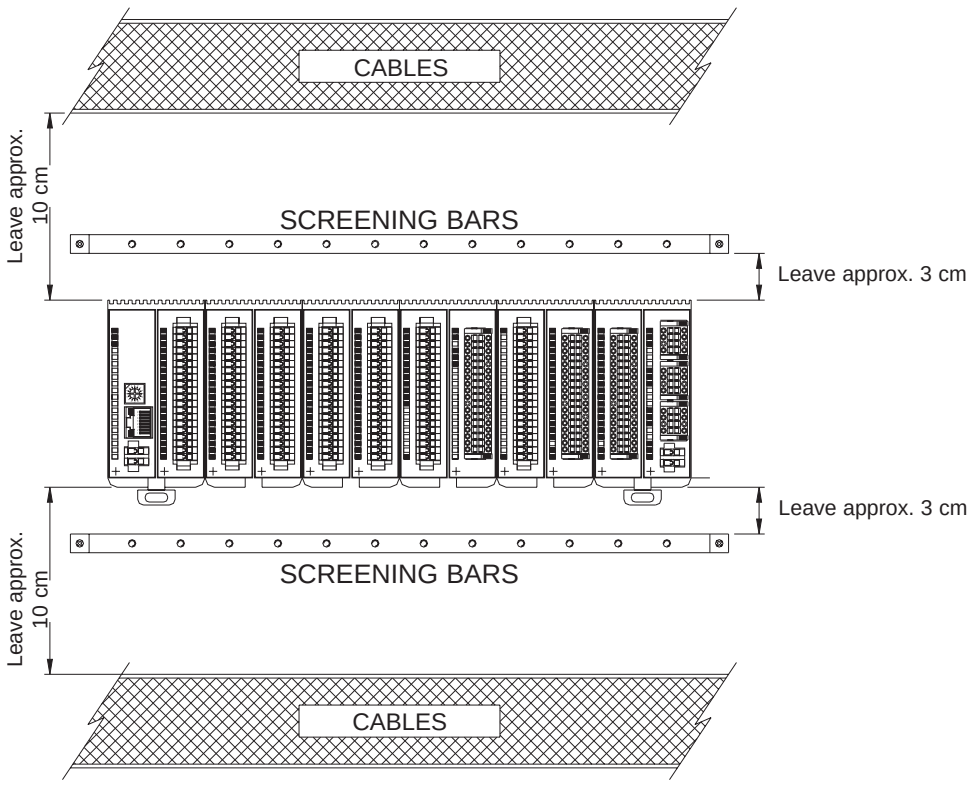
Installation of the system

The maximum ambient temperature for operation of the module is 50° C.

Do not install the product in any equipment or cases that have insufficient circulation of air or insufficient dissipation of heat to maintain the temperature below 50°C
Check that the air vents are not blocked and keep the input and output air filters clean.

When installing the product, take the necessary care to position it so as to avoid accidental bumping.

Install the GILOGIK II system leaving a gap of at least 10cm above and below the top and bottom panels to allow for air circulation into the modules.



GT-C

GT-C with standard Gefran synoptic

Processors
- Intel™ Celeron™ 400Mhz
- Intel™ Pentium™ III-m 800Mhz (opt.)
- Intel™ Penitum™ M 1.1 Ghz*(opt.)

Chipset
- Via Eden Twister-T
- Intel 82855 GM 400Mhz FSB*

Graphics card
- S3Savage 4 (VT8606) AGP
- Intel Extreme Graphics2*
- 8 Mb Ram Video

Display
- 12,1”
  - TFT res. 800x600 pixels
  - angle of view 170° / 170°
  - contrast 300:1
- 15”
  - TFT res. 1024x768 pixel
  - angle of view 170° / 170°
  - contrast 300:1

Dynamic RAM
- 128Mb SODIMM
- expandable to 512Mb (see order code)

Static RAM
- 256Kb with lithium battery buffer

SSD
- 64MB DOM
- expandable to 756MB DOM (see order code)

HD
- HD 2.5“ IDE 20 Gb min. (see order code)

FDD
- Port for external FDD complete with power supply

TECHNICAL DATA

Watch Dog
- Timer with reset hardware generation.

I/O Custom ports
- Synchronous serial port for control of matrices of max. 128 keys and 64 LEDs
- Logic output 24Vdc, open collector max 100mA , optically isolated for starting by programmable timer, can be activated with system switched off.

Keyboard
- 8 Function keys
- 23 display management and input keys
- 20 control keys, customisable by means of printable labels
- 49 control keys, customisable by means of printable labels
- 6 LEDs for monitoring
- Front end USB connection for historical data and formulae
- Pocket for custom brand tag

Expansions
- 1 Slot PCI
- 1 Slot PC104 16 Bit max 3 cards.
- 2 Slot PCMCIA type II or 1 type III
- 3 Slot custom with ISA signals
- 1 Slot custom with PCI signals

Custom cards
- Module GT-SER2: 2 serial ports 2xRS232/RS422/RS485 optically isolated (see specific documentation)
- Module GT-CAN1: 1 channel CAN L2 optically isolated (see specific documentation)
- Module GT-CAN2: 2 channel CAN L2 optically isolated (see specific documentation)
- Module GT-ETH1: 1 channel Ethernet (see specific documentation)
- Module GT-ETH2: 2 channel Ethernet (see specific documentation)

Power supply
- 18..36 Vdc 2.5A max. with polarity protection
- CC Protection with restorable PTC
- Start and stop switch

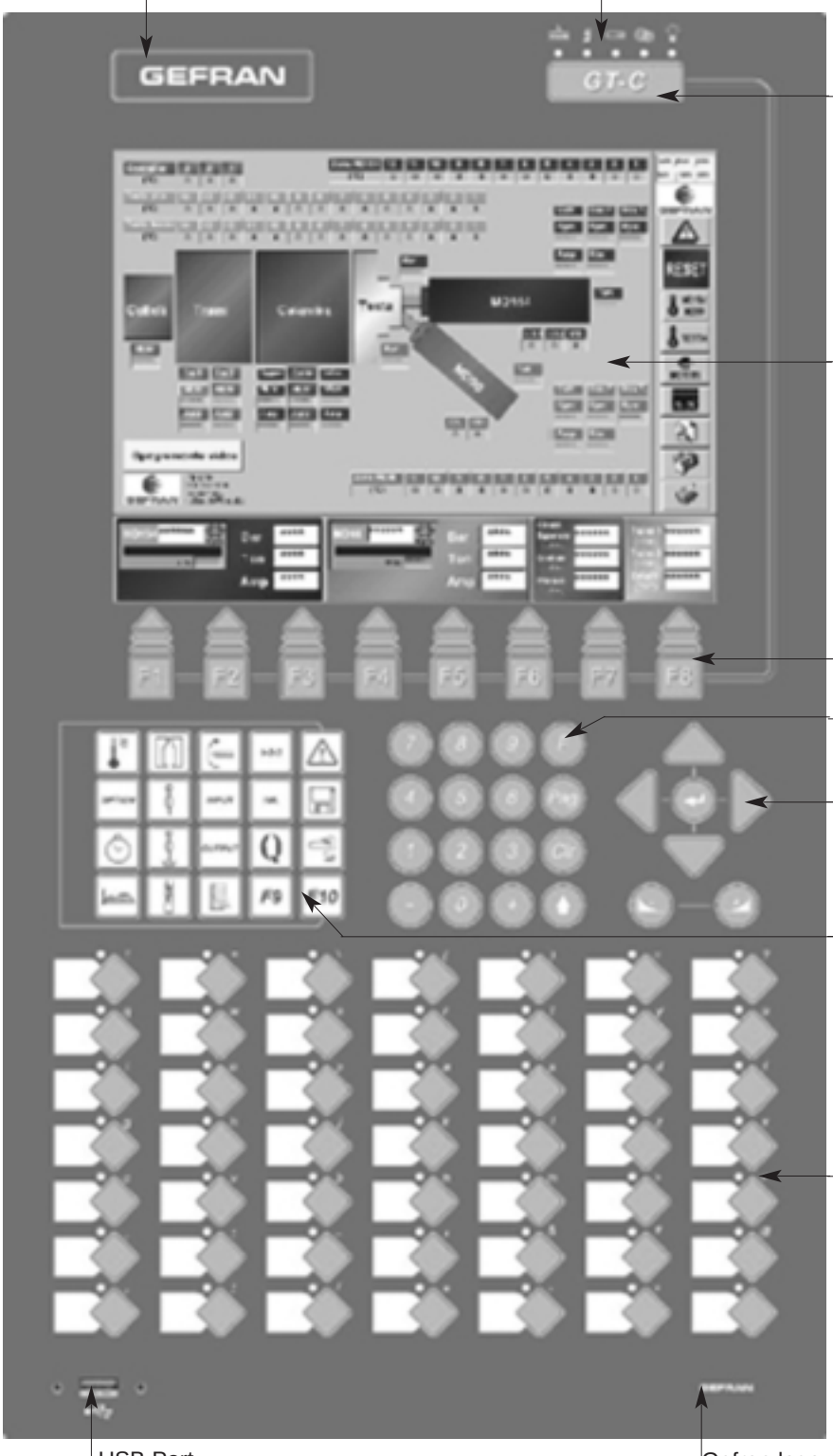
Operating systems
- Microsoft™ Windows™ 98
- Microsoft™ Windows™ XP Embedded
- VxWorks
- Others available on request

Environmental and operating conditions
- Front end IP 65 protection
- Operating temperatures: 0°C..+50°C
- Storage temperatures: -10°C..+70°C
- Humidity: max 90% non-condensing

Dimensions and weight
- With 10,4” display: 305x512x105 mm - 5Kg max
- With 12,1” display: 318x540x115 mm - 6Kg max

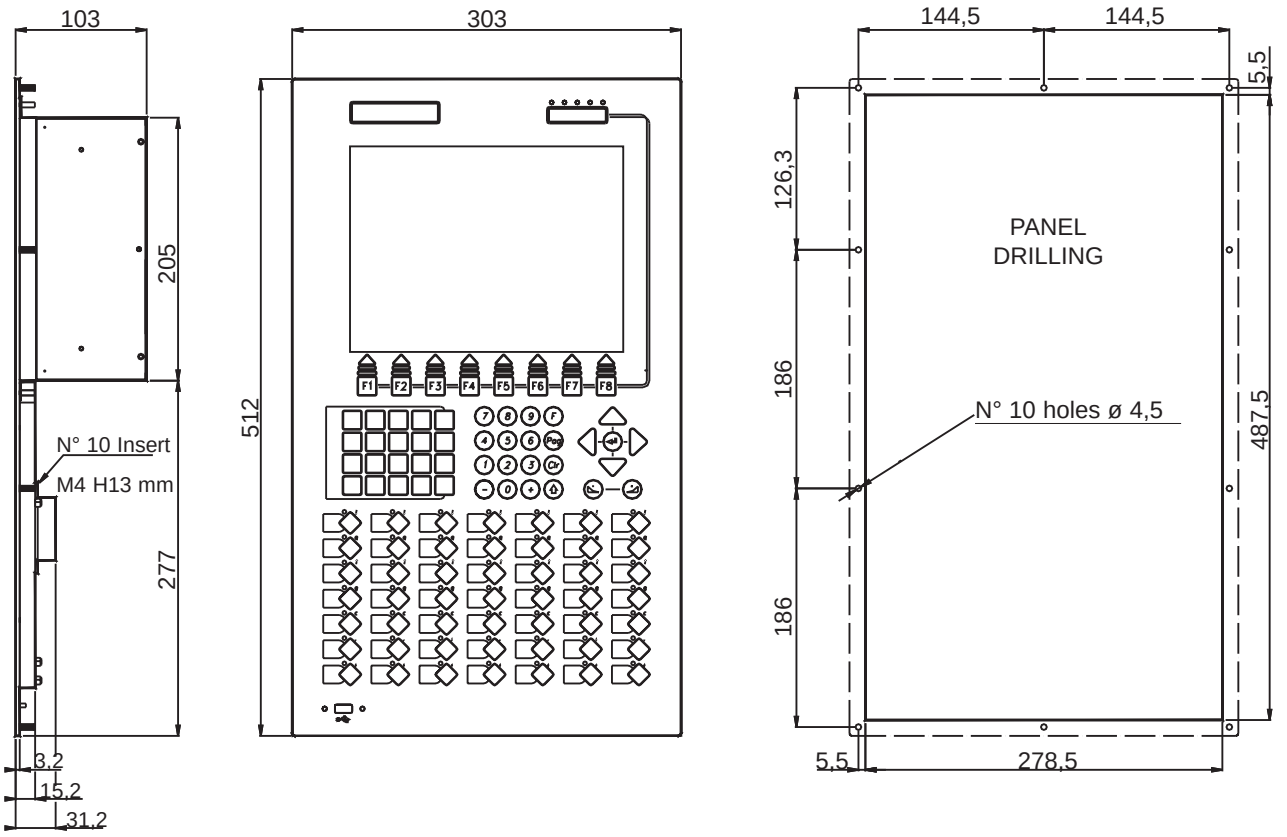
* Only for Pentium™ M

FRONT PANEL DECRIPTION

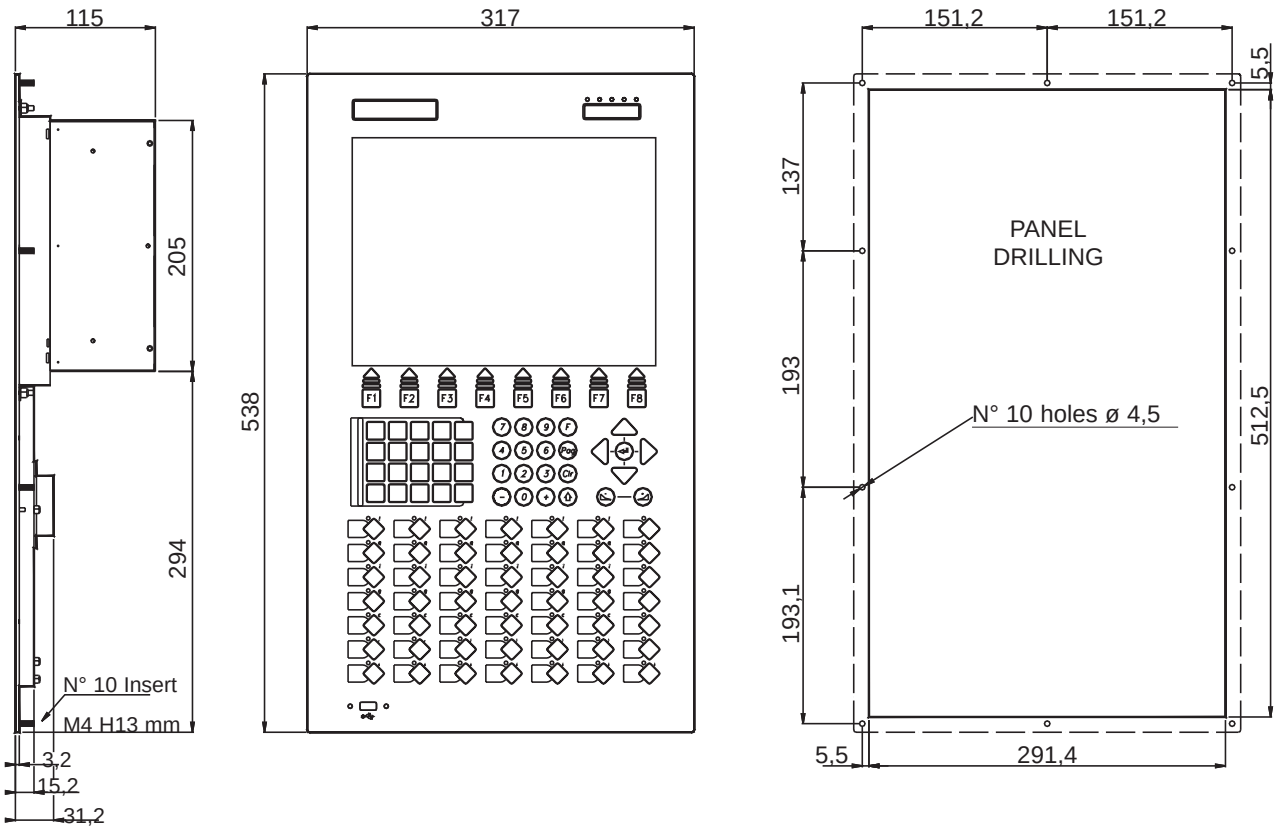


MECHANICAL FEATURES - DIMENSIONS AND INSTALLATION

Dimensions and drill template for the 10,4” GTC



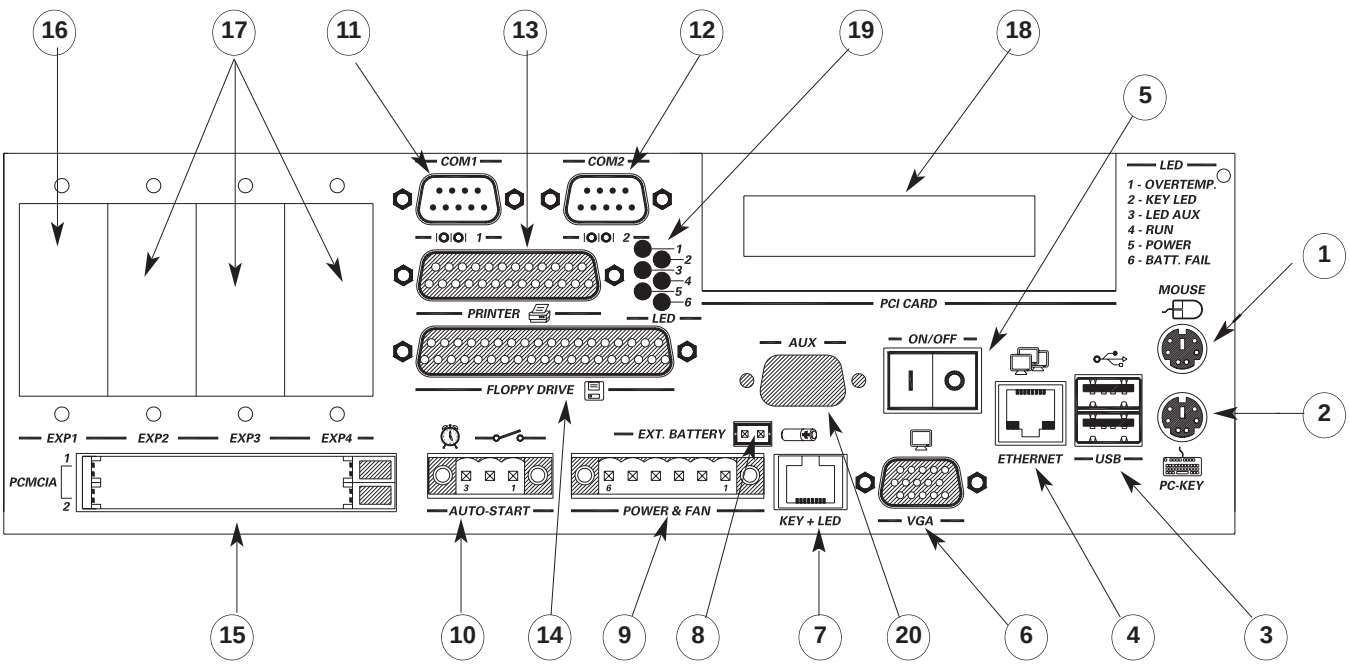
Dimensions and drill template for the 12,1” GTC

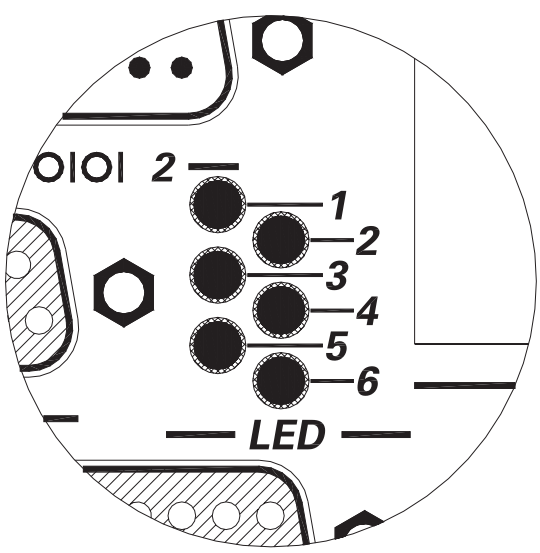


The GT-C is held by 10 x M4 nuts on the back of the panel

EXTERNAL USER CONNECTIONS

(**1**) Standard PS2 mouse jack
(**2**) AT keyboard jack
(**3**) 2 USB connectors
(**4**) 10/100 bps Ethernet output, standard RJ45
(**5**) ON/OFF switch
(**6**) Standard VGA jack x CRT
(**7**) Keyboard and matrix LED connection, connection with GT-TAST interface
(**8**) External 3,6V battery connection
(**9**) Power supply connector and external fan jack
(**10**) Auto-on output connector
(**11**) Standard COM 1 serial
(**12**) Standard COM 2 serial
(**13**) Centronics parallel connection
(**14**) External floppy connection with integrated power supply
(**15**) 2 PCMCIA slots
(**16**) PCI custom expansion slot
(**17**) 3 custom 3 ISA-bus expansion slots
(**18**) PCI slot
(**19**) Monitoring LED
(**20**) AUX slot, auxiliary connection





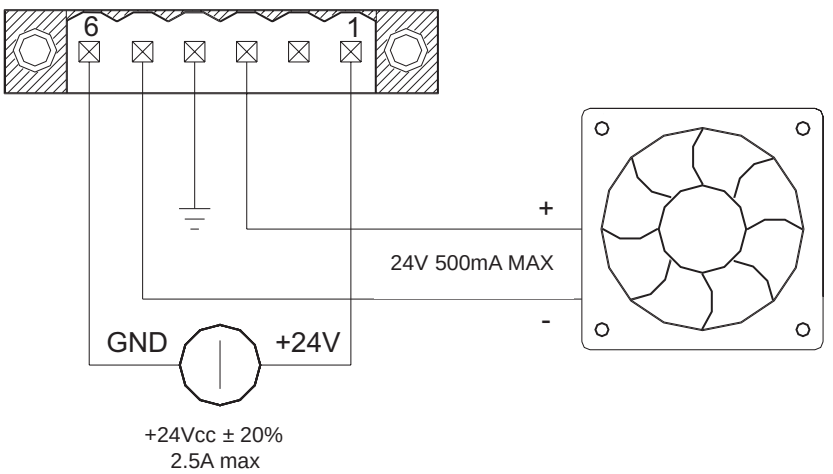
Legend: signalling and monitoring LEDs

(**1**) Red Led OVERTEMPERATURE ALARM
(**2**) Green Led EXTERNAL MATRIX KEYBOARD CONNECTION
(**3**) Green Led AUX
(**4**) Green Led RUN
(**5**) Yellow Led POWER
(**6**) Red Led BATTERY FAIL

All the resources are standard PC based.
Refer to the technical manual for details of the signals.

CONNECTIONS

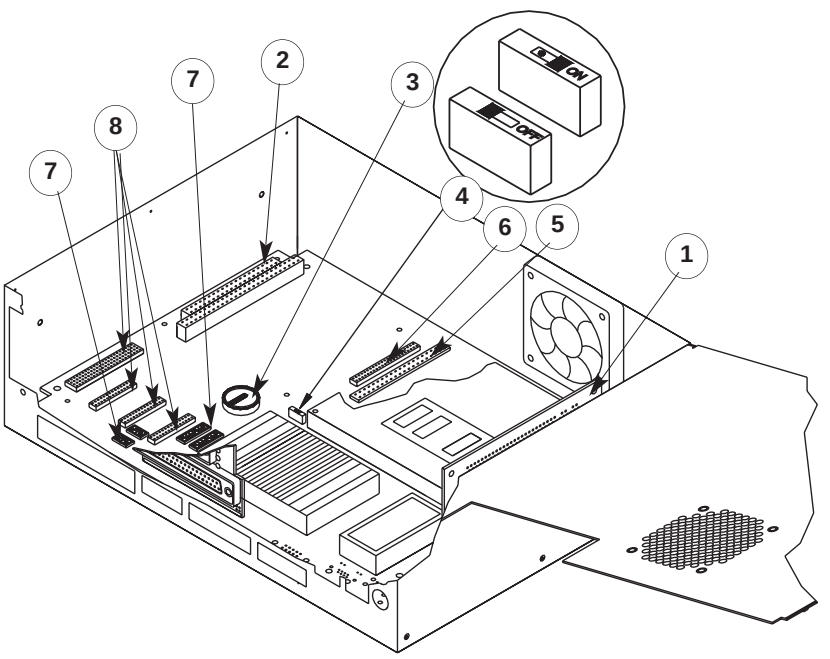
Below is the detail of the connections for the GT-C power supply only.



Expansions and internal resources

Open the GT-C cover to access its electronics and some internal resources.

(**1**) standard PCI slot
(**2**) standard PC104 slot
(**3**) battery
(**4**) battery switch
(**6**) 44-pin primary IDE connector
(HD and DOM installation)
(**5**) 40-pin secondary IDE connector
(**7**) COM1 serial configuration
(**8**) 4 Gefran custom expansion slot

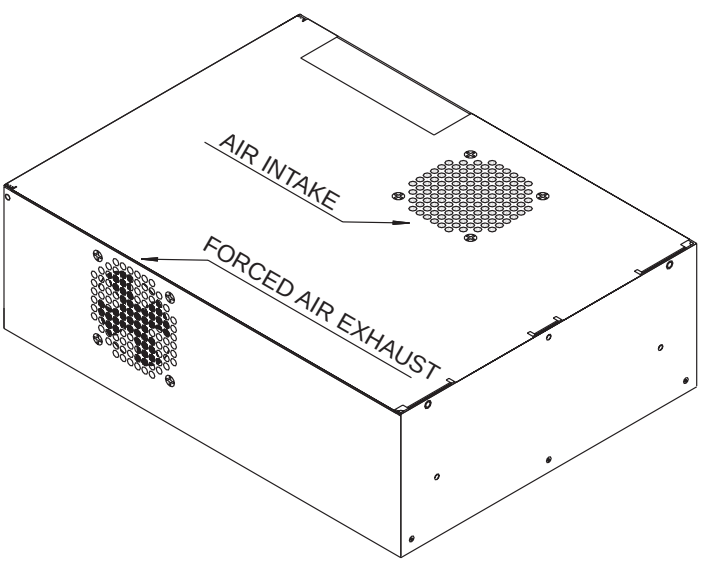


To insert and install the internal resources, refer to the technical manual.

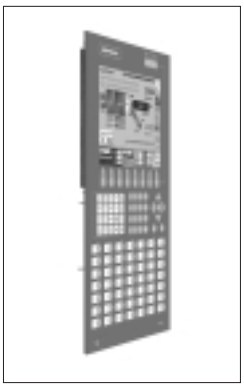
Installation warnings

Do not install the product inside devices or boxes without adequate air circulation or heat exchange sufficient to keep the temperature below 50°C

Install the product in a position that will avoid accidental impact



GT-O



TECHNICAL DATA

- Humidity:
  max 90% non-condensing

Dimensions and weight
- With 10,4” monitor”:
  305x512x105 mm – 3.5 Kg max
- With 12,1” monitor:
  318x540x115 mm – 4.5 Kg max

GT-O with standard Gefran synoptic

Monitor section
- 10,4” or 12,1” LCD TFT colour display, 800x600 resolution

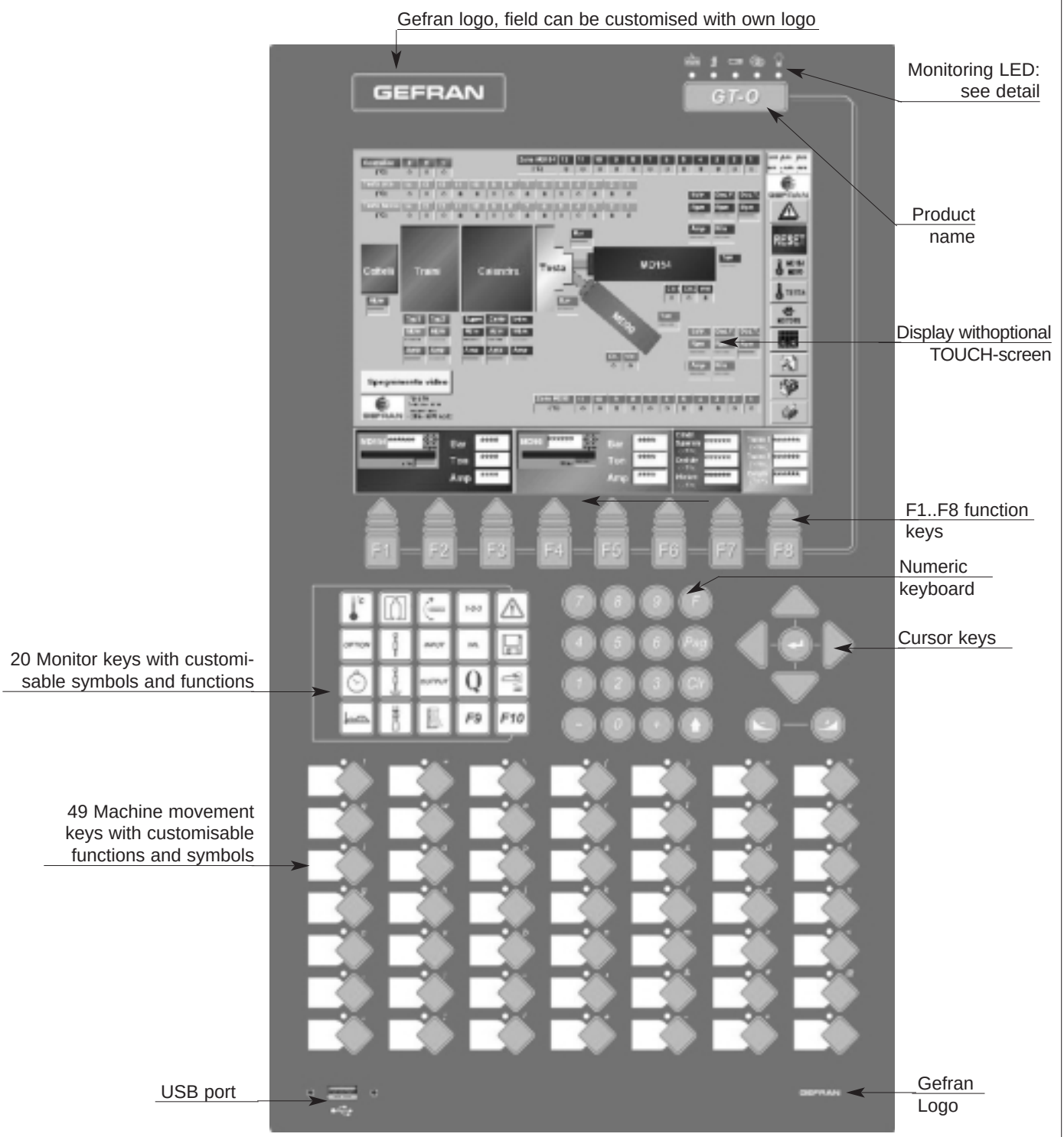
Keyboard
- 8 Function keys
- 23 display management and input keys
- 20 control keys, customisable by means of printable labels
- 49 control keys, customisable by means of printable labels
- 6 LEDs for monitoring
- Front end USB connection for historical data and formulae
- Pocket for custom brand tag

External connections
- standard XVGA input for local connections (2m)
- input for link cables to remote connections (25m)
- input for AT keyboard and PS2 Mouse, or compatible

Power supply
The GT-C system obtains its power through the remote control link cable and does not require a local feed.

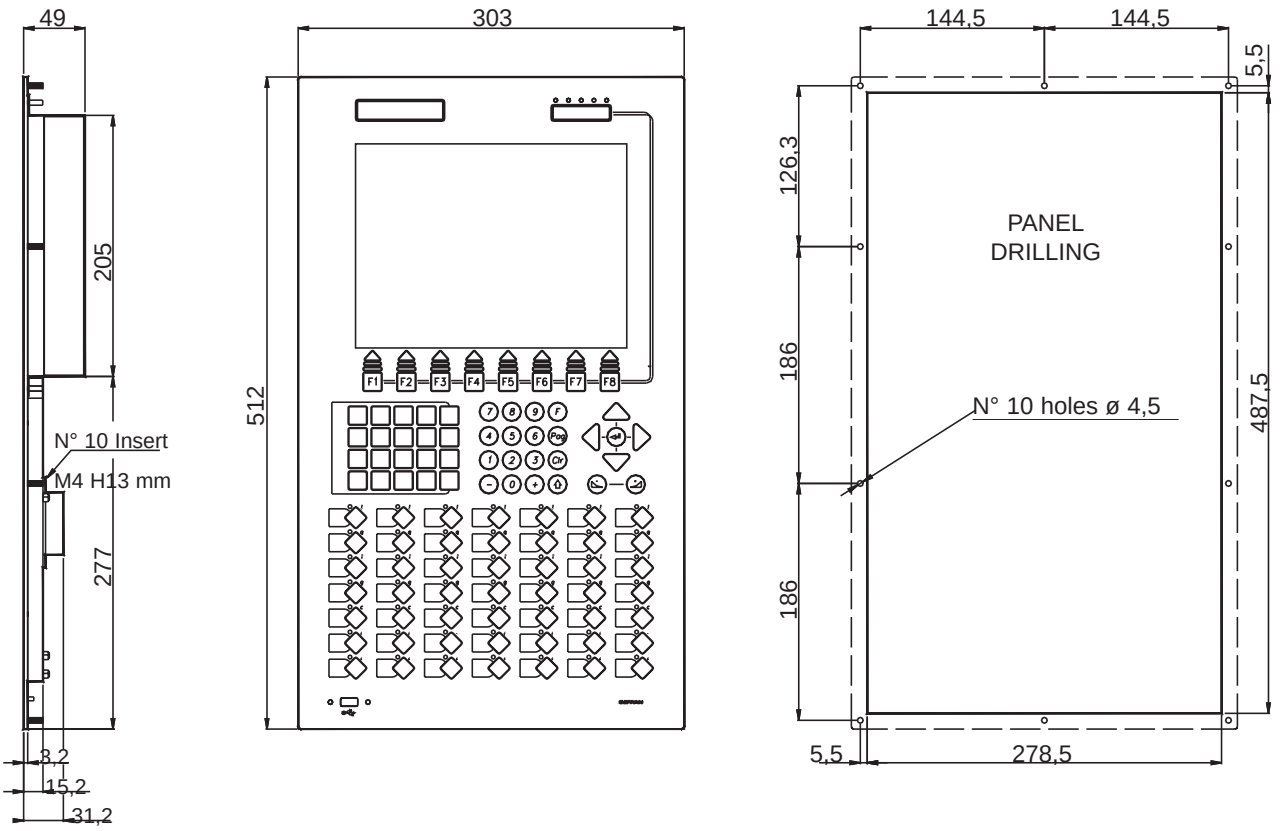
Environmental conditions
- Faceplate IP 65 protection
- Operating temperatures:
  0°C +50°C
- Storage temperatures:
  -10°C +70°C

FRONT PANEL DECRIPTION

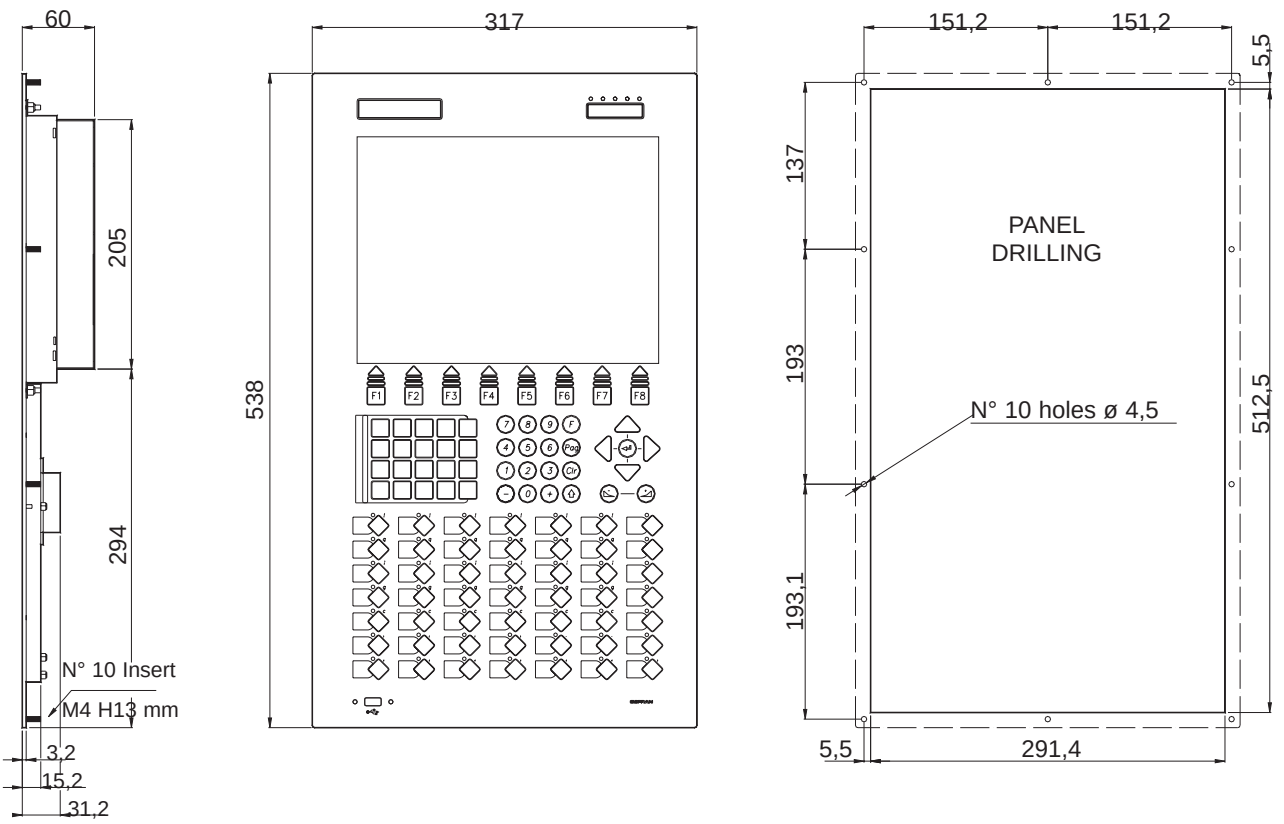


MECHANICAL FEATURES - DIMENSIONS AND INSTALLATION

Dimensions and drill template for the 10,4” GT_O



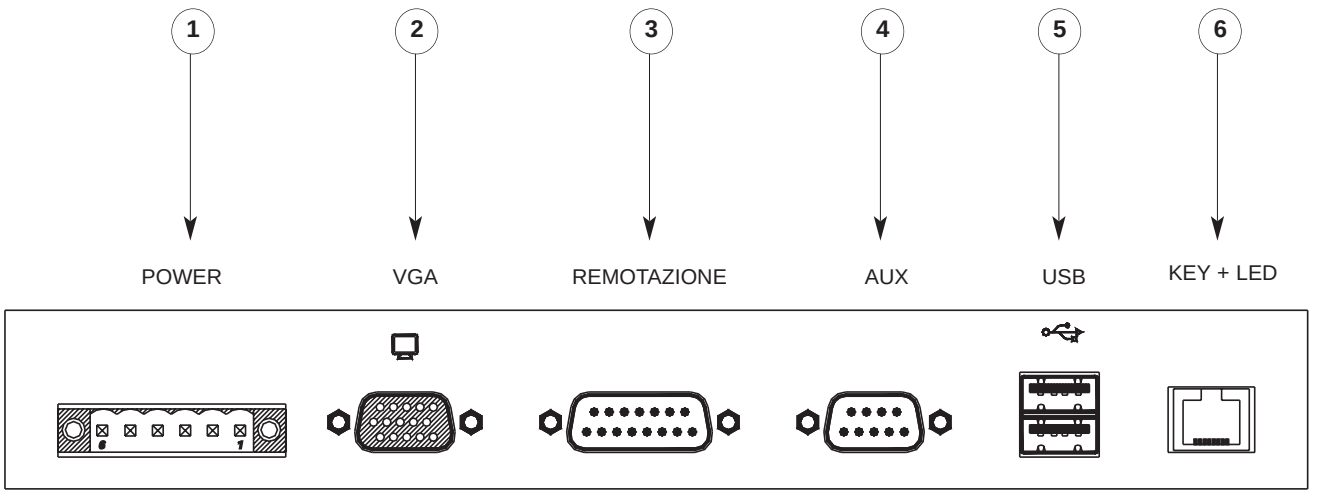
Dimensions and drill template for the 12,1” GT_O



The GT-O is held by 10 x M4 nuts on the back of the panel

EXTERNAL USER CONNECTIONS

(**1**) Optional external power supply
(**2**) Standard VGA input
(**3**) Remote control connection
(**4**) Auxiliary connection
(**5**) Double USB port
(**6**) Matrix keyboard and LEDs



GF-BOX

TECHNICAL DATA

Processors
- Intel™ Celeron™ 400 MHz
- Intel™ Pentium™ III 800 MHz (opz.)
- Intel™ Penitum™ M 1.1 GHz*(opz.)

Chipset
- Via Eden Twister-T
- Intel 82855 GM 400 MHz FSB*

Graphics card
- S3Savage 4 (VT8606) AGP
- Intel Extreme Graphics2*
- 8 Mb Ram Video

Remote Display Connection
- By means of SVGA DB interface, 15 pole High Density for distances up to 2 m.
- Interface for distances up to 25 m.

Dynamic RAM
- 128 Mb SODIMM
- expandable to 512 Mb (see order code)

Static RAM
- 256Kb with lithium battery buffer

SSD
- 64 Mb DOM
- expandable to 756 Mb DOM (see order code)

HD
- HD 2.5“ IDE 20 Gb min. (see order code)

FDD
- DB37 port for external FDD with integrated power supply

Watch Dog
- Timer with reset hardware generation.

I/O Custom ports
- Synchronous serial port for matrix control, max. 128 keys and 64 LEDs
- 24 Vdc Logic output, open collector max 100mA ,optically isolated for switch-on with programmable timer, can be activated even with system off.

Expansions
- 1 PCI Slot
- 1 PC104 16 Bit Slot
- 2 PCMCIA type II or 1 type III Slot
- 3 Custom slots with ISA signals
- 1 Custom slots with PCI signals

Optional Custom Cards
- Module GT-SER2: 2 serial ports 2xRS232/RS422/RS485, optically isolated (see order code)
- Module GT-CAN1: 1 CAN L2 channel optically isolated (see order code)
- Module GT-CAN2: 2 CAN L2 channel optically isolated (see order code)
- Module GT-ETH1: 1 Ethernet channel (see order code)
- Module GT-ETH2: 2 Ethernet channel (see order code)

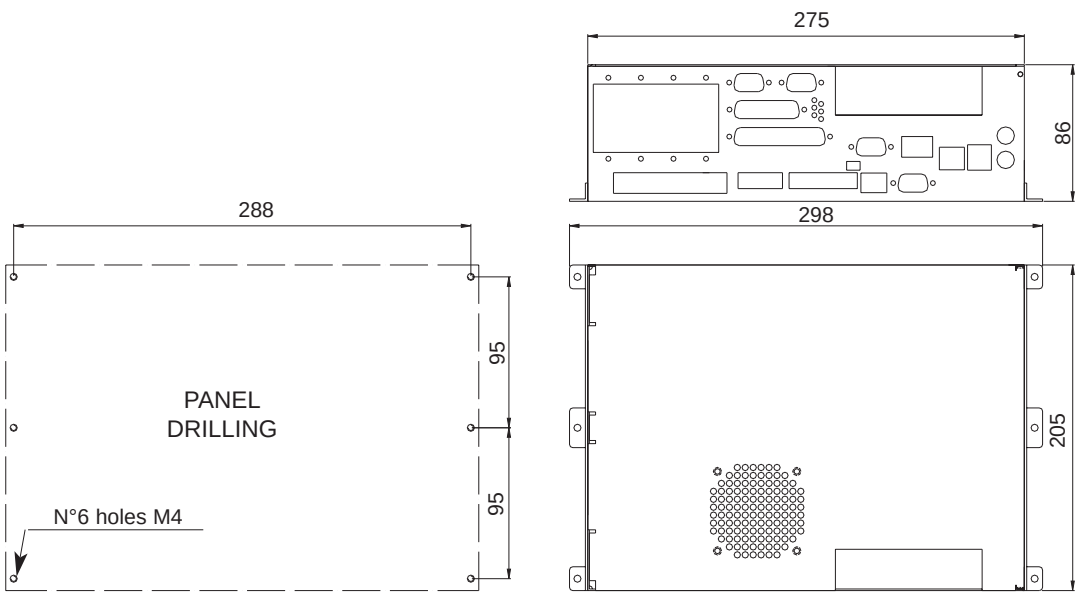
Power supply
- 18..36Vdc 2.5A max. max. with polarity protection
- Short circuit protection with resettable PTC
- On/Off switch

Operating systems
- Microsoft™ Windows™ 98
- Microsoft™ Windows™ XP Embedded
- VxWorks
- Others available on request

Ambient operating conditions
- IP 40 Protection
- Operating temperatures: 0°C..+50°C
- Storage temperature: -20°C..+70°C
- Humidity: max 90% non-condensing

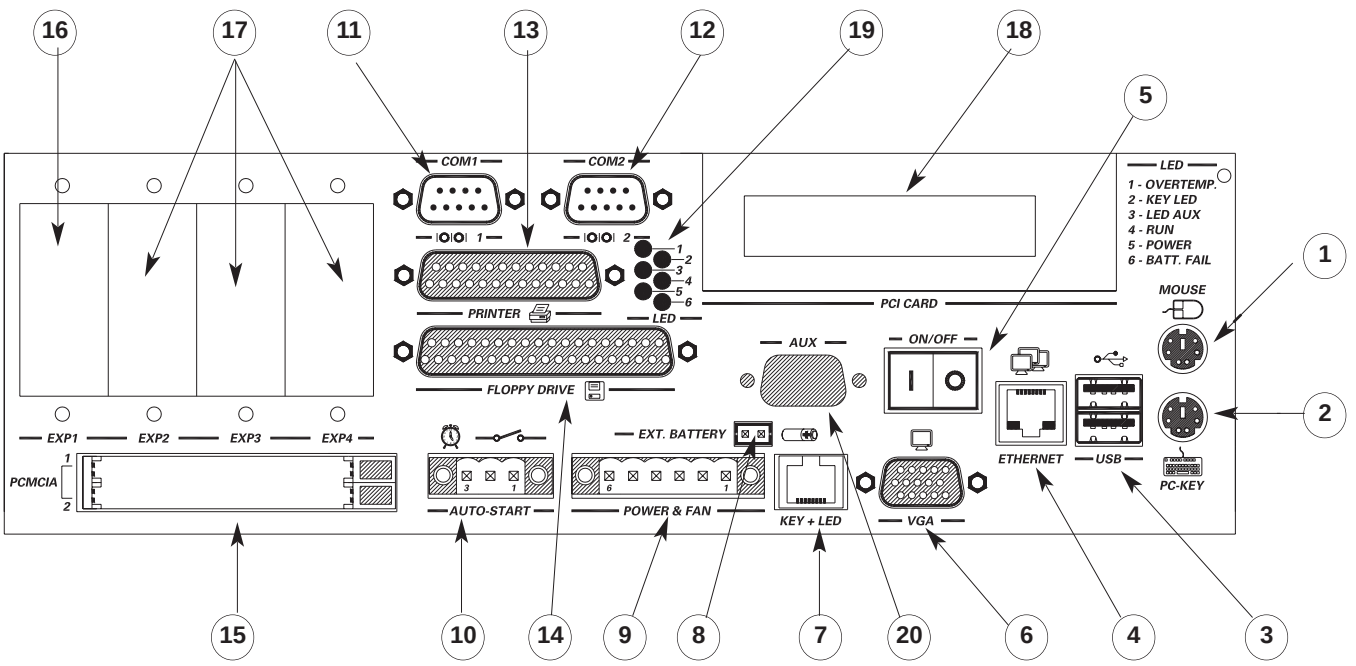
* Only for Pentium™ M

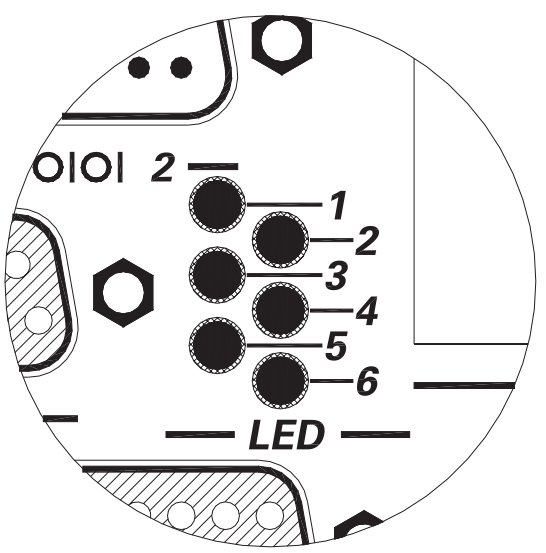
MECHANICAL FEATURES - DIMENSIONS AND INSTALLATION



EXTERNAL USER CONNECTIONS

(**1**) Standard PS2 mouse jack
(**2**) AT keyboard jack
(**3**) 2 USB connectors
(**4**) 10/100 bps Ethernet output, standard RJ45
(**5**) ON/OFF switch
(**6**) Standard VGA jack x CRT
(**7**) Keyboard and matrix LED connection, connection with GT-TAST interface
(**8**) External 3,6V battery connection
(**9**) Power supply connector and external fan jack
(**10**) Auto-on output connector
(**11**) Standard COM 1 serial
(**12**) Standard COM 2 serial
(**13**) Centronics parallel connection
(**14**) External floppy connection with integrated power supply
(**15**) 2 PCMCIA slots
(**16**) PCI custom expansion slot
(**17**) 3 custom 3 ISA-bus expansion slots
(**18**) PCI slot
(**19**) Monitoring LED
(**20**) AUX slot, auxiliary connection





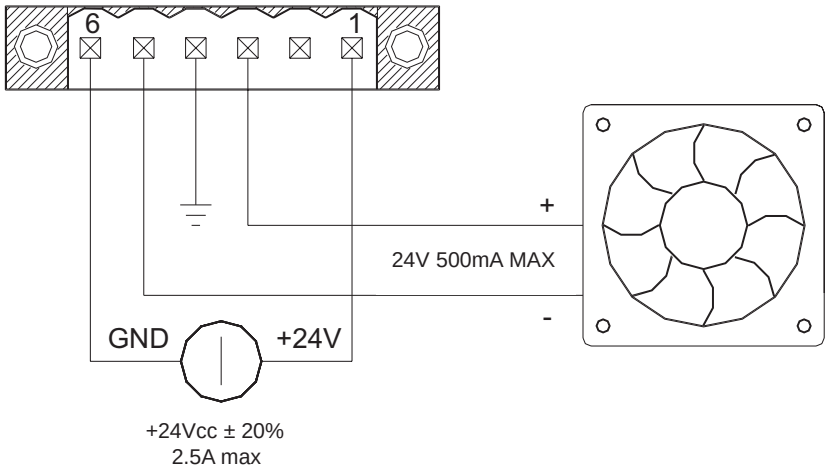
Signal and monitoring legend

(**1**) Red LED: OVERTEMPERATURE ALARM
(**2**) Green LED: EXTERNAL MATRIX KEYBOARD CONNECTION
(**3**) Green LED: AUX
(**4**) Green LED: RUN
(**5**) Yellow LED: POWER
(**6**) Red LED: BATTERY FAIL

All resources are basic PC standard.
See the technical manual for details on signals.

CONNECTIONS

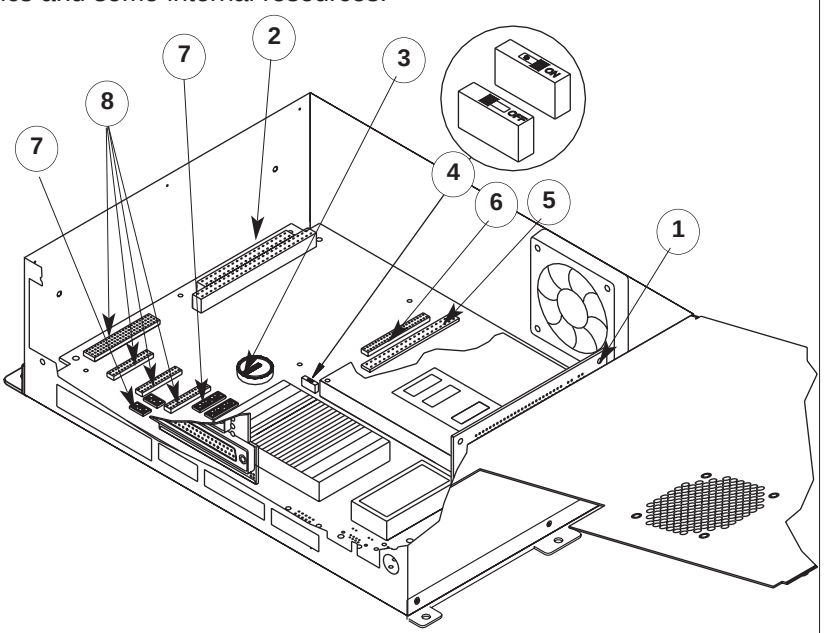
The GF-BOX power supply connection is illustrated below



Expansions and internal resources

Open the GF-BOX cover to access its electronics and some internal resources.

(**1**) Standard PCI slot
(**2**) Standard PC104 slot
(**3**) Battery
(**4**) Battery switch
(**6**) 44-pin primary IDE connector (HD and DOM installation)
(**5**) 40-pin secondary IDE connector
(**7**) COM 1 serial configuration
(**8**) 4 Gefran custom expansion slots

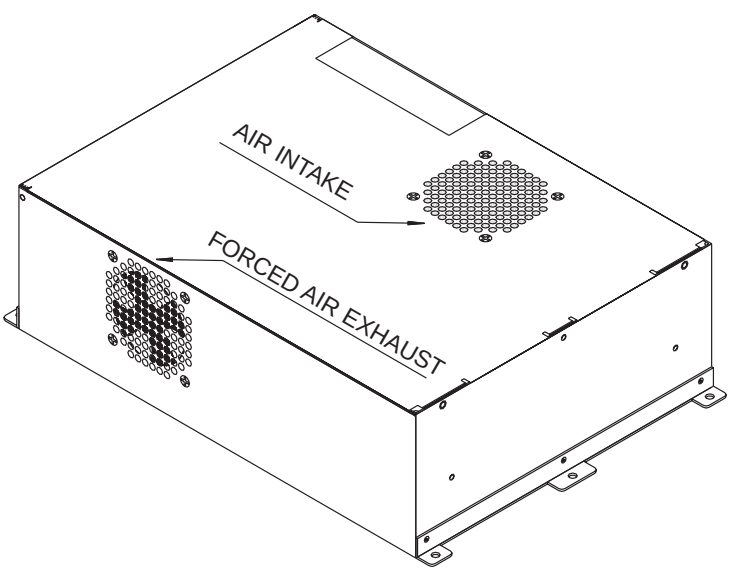


Refer to the technical manual for installation and use of internal resources.

Installation warnings

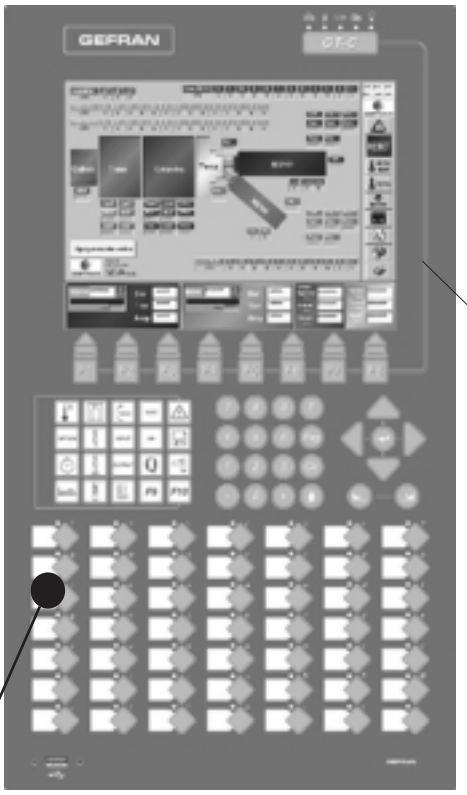
Do not install the product inside devices or boxes without adequate air circulation or heat exchange sufficient to keep the temperature below 50°C

Install the product in a position that will avoid accidental impact



APPLICATIONS

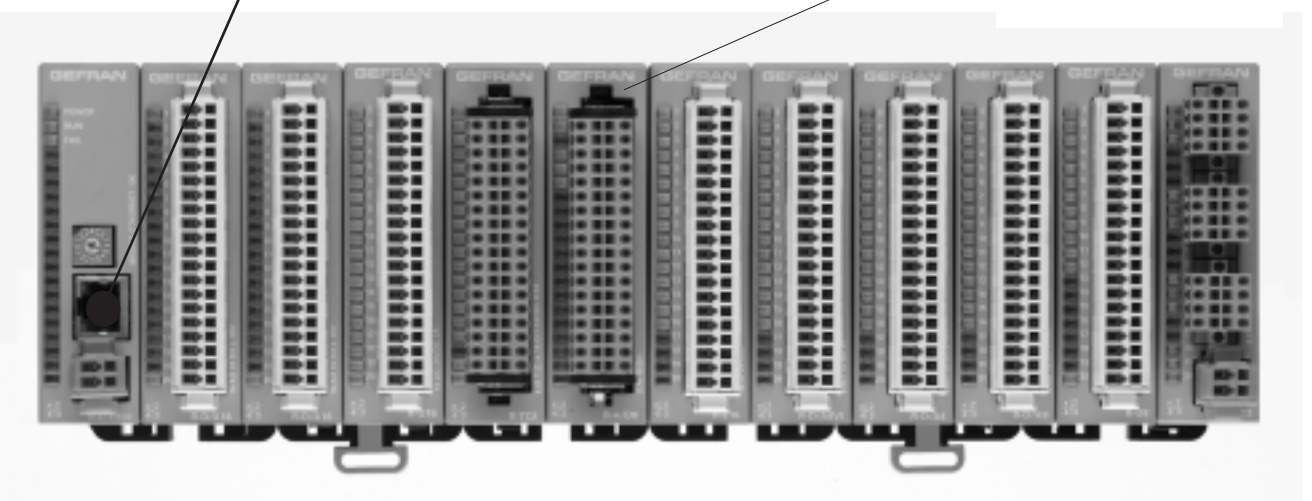
Typical POINT – POINT application



GT-C:
soft-logic control system
programs pages and programs cycle

RJ45 Ethernet connection, crossover cable.
GDNET communication

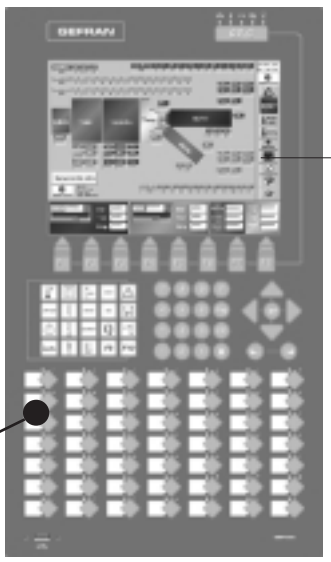
GILOGIK II
Remote I/O up to 16 modules, 256 I/O



The typical point to point application foresees the use of a control GT-C, on which the programs for screen display and machine cycle are installed.
The system of remote GILOGIK II I/Os is linked to the GT-C by means of a standard Ethernet 100 Mbit/s connection.
Communication between the two units is ensured by the GDNET communication protocol.
GDNET guarantees: I/O refresh times of 100 µs
jitter => 0
cycle times < 1 ms
If required, the GT-C can be substituted with the GT-O + GF-BOX.
GF-BOX is an in-panel control that allows the remote control of the synoptics of the machine with GT-O from a maximum distance of 25 m.

APPLICATIONS

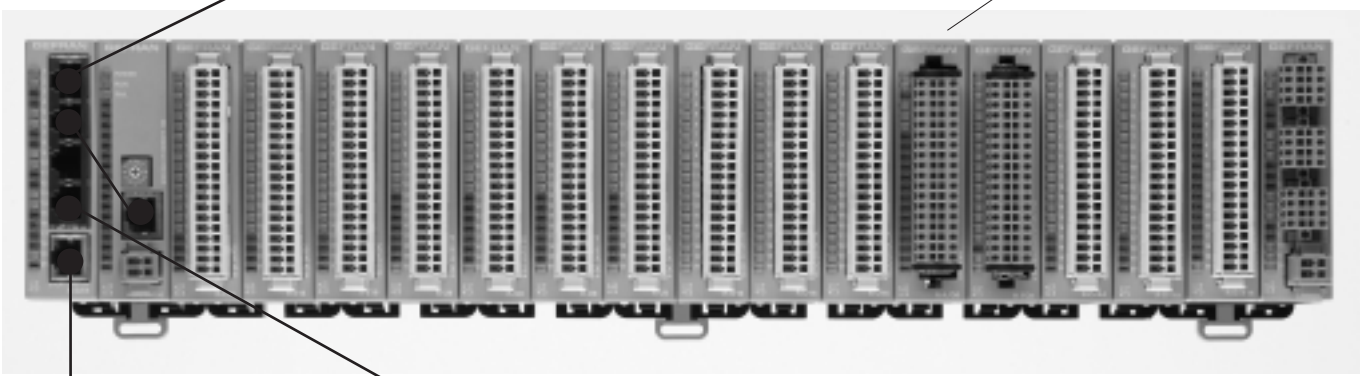
Typical MULTIPOINT application

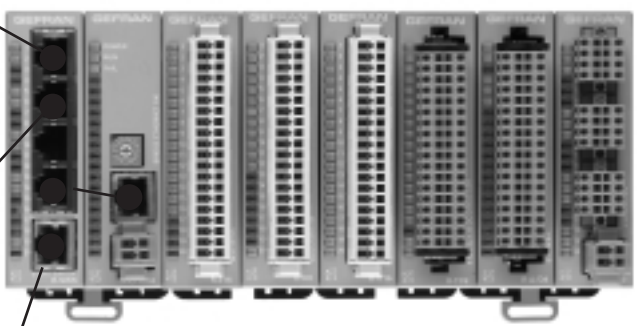


GT-C:
soft-logic control system programs pages

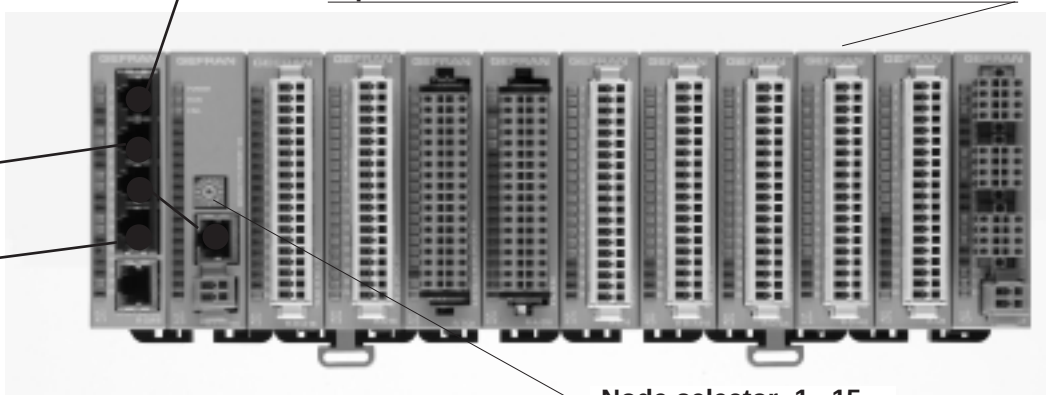
RJ45 Ethernet connection, crossover cable.
GDNET communication protocol

GILOGIK II
Remote I/O up to 16 modules, 256 I/O





Up to 15 GDNET network NODES = 15 GILOGIK II



Node selector 1...15

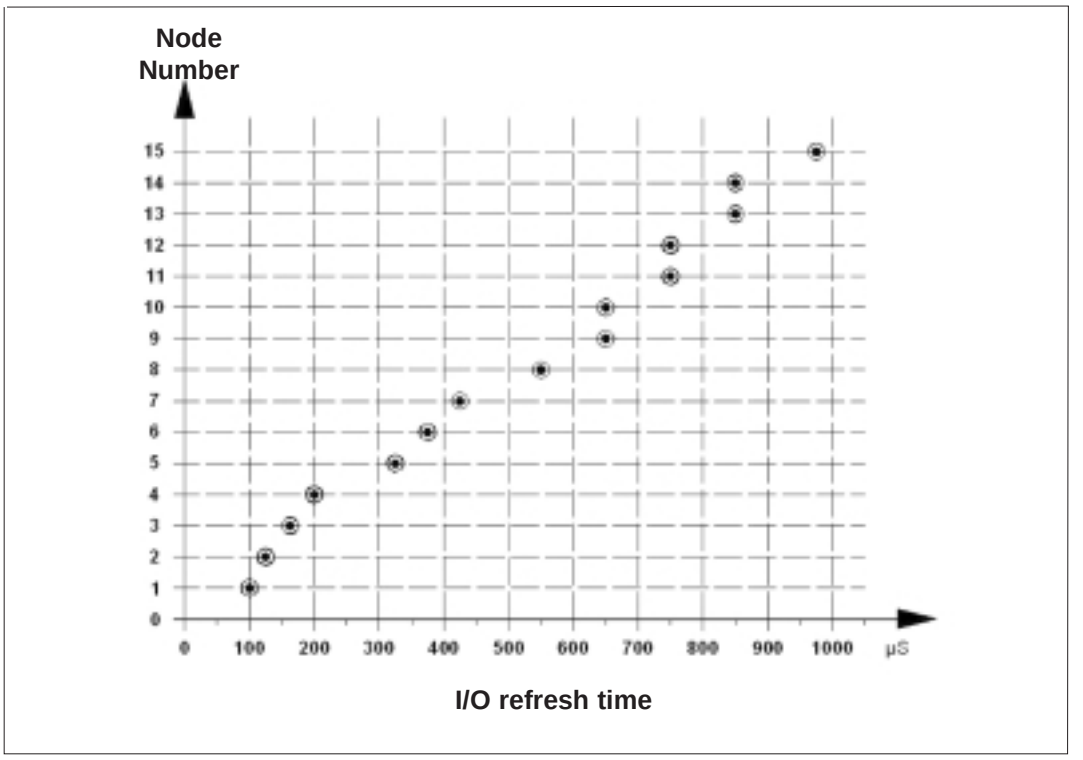
OTHER NODES

The typical MULTIPOINT application foresees the use of a control GT-C, on which the programs for screen display and machine cycle are installed.
The system of remote GILOGIK II I/Os is linked to the GT-C by means of a standard Ethernet 100 Mbit/s connection.

The expansion to multiple GILOGIK II units is achieved by means of the switch module (R-SW5), which, depending on the Ethernet standard, permits branching of the nodes.

Communication between the two units is ensured by the GDNET communication protocol.
GDNET supports up to 15 nodes

GDNET guarantees:
I/O refresh times according to the figure below:



jitter => 0
cycle times < 1 ms

If required, the GT-C can be substituted with the GT-O + GF-BOX.
GF-BOX is an in-panel control that allows the remote control of the synoptics of the machine with GT-O from a maximum distance of 25 m.

ORDER CODE GILOGIK II

MODEL	
R-ETH100	**F026081**
R-SW5	**F027062**
R-E16	**F026082**
R-U8	**F026084**
R-U16	**F027083**
R-C3	**F027066**
R-D/A4	**F027510**
R-D/A8	**F027064**
R-D/A8VI	**F028004**
R-D/A16	**F027065**
R-TC8	**F026944**
R-A/D8	**F027063**
R-BUS4	**F026085**
R-BUS8	**F026086**
R-BUS12	**F026087**
R-BUS18	**F026088**

Kindly contact GEFRAN for information on availables codes.

ORDER CODE GT-C

GT-C □ □ □ □ □ □ □ □ □ □

MODEL	
10.4” 800x600 *	10
12.1” 800x600	12
10.4” 800x600 touch *	10T
12.1” 800x600 touch	12T

OPERATING SYSTEM	
not installed *	00
windows 98	98
windows XP embedded	XP
Vx Works	VW

PROCESSOR	
Celeron 400 MHz *	C40
Pentium III 650 MHz	C65
Pentium III 800 MHz	P80
Pentium IV 1.1 GHz	P11

DYNAMIC RAM	
sodimm 128 MB *	R128
sodimm 256 MB	R256
sodimm 512 MB	R512

DOM & HD	
dom 64 MB *	D064
dom 128 MB	D128
dom 256 MB	D256
dom 512 MB	D512
dom 768 MB	D768

SYNOPTIC	
000	none *
001	Standard Gefran
xxx	Custom mode

CUSTOM SLOT 4 EXPANSION	
00	none *
C1	1 CAN channel: GT-CAN1
C2	2 CAN channel: GT-CAN2

CUSTOM SLOT 3 EXPANSION	
00	none *
C1	1 CAN channel: GT-CAN1
C2	2 CAN channel: GT-CAN2

CUSTOM SLOT 2 EXPANSION	
00	none *
SR	2 serial: GT-SER2

CUSTOM SLOT 1 EXPANSION	
00	none *
E1	1 ethernet channel: GT-ETH1
E2	2 ethernet channel: GT-ETH2

* Standard Model

Kindly contact GEFRAN for information on availables codes.

ORDER CODE GT-O

GT-O □ □ □

VIDEO	
Local 2 m max *	00
Remote 25 m max	RE

MODEL	
10.4” 800x600 *	10
12.1” 800x600	12
10.4” 800x600 touch *	10T
12.1” 800x600 touch	12T

SYNOPTIC	
none	000
Standard Gefran *	001
Custom mode	xxx

* Standard Modell

Kindly contact GEFRAN for information on availables codes.

ORDER CODE GF-BOX

GF-BOX □ □ □ □ □ □ □ □ □

DISPLAY	
Local 2 m max *	LOC
Remote 25 m max	REM

OPERATING SYSTEM	
not installed *	00
windows 98	98
windows XP embedded	XP
Vx Works	VW

PROCESSOR	
Celeron 400 MHz *	C40
Pentium III 800 MHz	P80
Pentium IV 1.1 GHz	P11

DYNAMIC RAM	
sodimm 128 MB *	R128
sodimm 256 MB	R256
sodimm 512 MB	R512

DOM & HD	
dom 64 MB *	D064
dom 128 MB	D128
dom 256 MB	D256
dom 512 MB	D512
dom 768 MB	D768
HD 20G **	HD20

CUSTOM SLOT 4 EXPANSION	
00	none *
C1	1 channel CAN: GT-CAN1
C2	2 channel CAN: GT-CAN2

CUSTOM SLOT 3 EXPANSION	
00	none *
C1	1 channel CAN: GT-CAN1
C2	2 channel CAN: GT-CAN2

CUSTOM SLOT 2 EXPANSION	
00	none *
SR	2 serial: GT-SER2

CUSTOM SLOT 1 EXPANSION	
00	none *
E1	1 ethernet channel: GT-ETH1
E2	2 ethernet channel: GT-ETH2

* Standard Model

** minimum hard disk capacity depends on the market conditions

Kindly contact GEFRAN for information on availables codes.

ORDER CODE ACCESSORIES

R-CON (h) Connectors

R-CON2F-A	R-CON8F-A	R-CON20F-B	R-CON36F-A	R-CONRJ45
2 Pole female connector with cage clamp connection	8 Pole female connector with screw connection	20 Pole female connector for modules with screw connection	36 Pole female connector with extractors	8 Pole male connector RJ45 for Ethernet cable cat. 6
ORDER CODES				
353379	**35335C**	**353314**	**353319**	**56076**

R-CAVETHX (h) Cables

Ethernet cables fitted with 2x RJ45 connectors, cross connected. Category 6 cables

ORDER CODES

Cable code	Cable length in meters	Order codes
R-CAVETHX1.5	1, 5	F028467
R-CAVETHX2.5	2, 5	F028468
R-CAVETHX4	4	F028469
R-CAVETHX6	6	F028595
R-CAVETHX10	10	F028470
R-CAVETHX15	15	F028471
R-CAVETHX20	20	F028472
R-CAVETHX25	25	F028473

R-BSCH (n) Screening bars

Bars for connection of cable screens
Copper Bar, screw closure

ORDER CODES

Bar code	To be used with:	Order codes
R-BSCH4	R-BUS4	F028478
R-BSCH8	R-BUS8	F028479
R-BSCH12	R-BUS12	F028480
R-BSCH18	R-BUS18	F028481

R-BPE (n) Earthing bars

Bars for connection of modules to earth when installing the R-BUS(x) directly onto a base plate without omega bar
Copper bar

ORDER CODES

Bar code	To be used with:	Order codes
R-BPE4	R-BUS4	F028474
R-BPE8	R-BUS8	F028475
R-BPE12	R-BUS12	F028476
R-BPE18	R-BUS18	F028477

If the required accessory code is not included above, kindly contact the staff at Gefran for assistance.

ORDER CODE ACCESSORIES

CONNECTORS

MODEL	
R-CON2F-A	**353379**
R-CON8F-A	**35335C**
R-CON20F-B	**353314**
R-CON36F-A	**353319**
R-CONRJ45	**56076**

CABLES

MODEL	
R-CAVETHX1.5	**F028467**
R-CAVETHX2.5	**F028468**
R-CAVETHX4	**F028469**
R-CAVETHX6	**F028595**
R-CAVETHX10	**F028470**
R-CAVETHX15	**F028471**
R-CAVETHX20	**F028472**
R-CAVETHX25	**F028473**

SCREENING BARS

MODEL	
R-BSCH4	**F028478**
R-BSCH8	**F028479**
R-BSCH12	**F028480**
R-BSCH18	**F028481**

EARTHING BARS

MODEL	
R-BPE4	**F028474**
R-BPE8	**F028475**
R-BPE12	**F028476**
R-BPE18	**F028477**

Kindly contact GEFRAN for information on availables codes.

CE

The instrument conforms to European Union Directives 89/336/CEE and 73/23/CEE with reference to generic standards:
CEI-EN 61000-6-2 (immunity in industrial environment) - **EN 50081-1** (emissions in residential environments) - **EN 61010-1** (safety)