AUTOMATION

AUTOMATION PLATFORMS



GEFRAN

Automation Platforms

Gefran is a leading company in the design and production of automation platforms dedicated to the control of plastic material transformation processes, simple thermal processes such as for the glass sector or more complex as in the case of industrial autoclaves dedicated to the production of composite materials.

Our solutions are represented by specific hardware and software proposals constantly updated and evolved to meet the most challenging requests presented by the market.

Continuous collaboration with sector OEMs has led us to gain specific know-how in applications such as:

- Injection, extrusion, blow moulding and auxiliary units Parison control, melt pump management and filter change, water/air cutting unit)

Our platforms:

- FIT: Panel PC + I / 0 on remote modules
- COMPACT: Panel PC + I / 0 on remote modules

-AXM: Panel PC with dedicated keyboard for Injection + remote I/O in rack

- MODULA: Display + Rack PLC- PERFORMA: Display + Rack PLC





APPLICATIONS









INJECTION EXTRUSION

BLOW

PARISON STAND ALONE

SCALABILITY - REUSABILITY - CUSTOMISATION

- Scalability for a custom choice
- Project reusability to optimise development costs
- Custom hardware and software to characterise the proposals













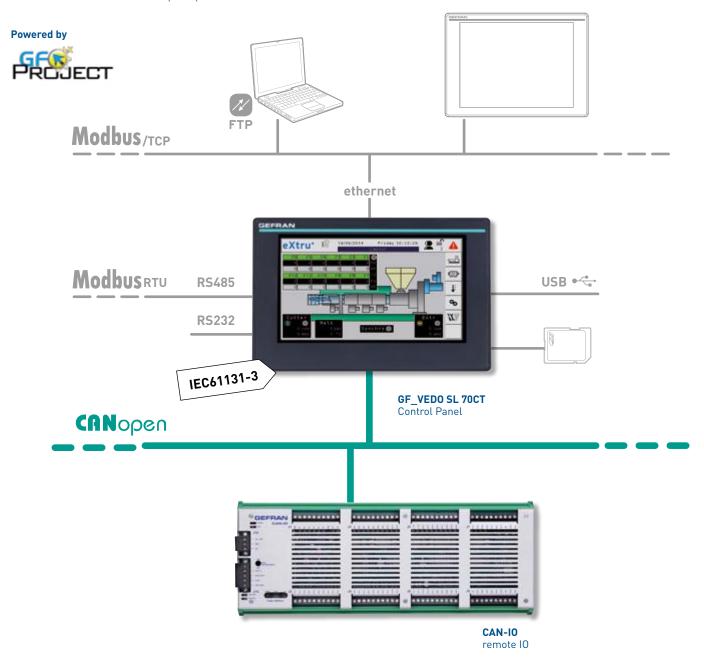


CUTTING FURNACES

AUTOCLAVES

GCube Fit custom controller

Platform based on VEDO SL family operator panel combined with custom board (defined number of I/Os). The best solution in terms of price/performance.



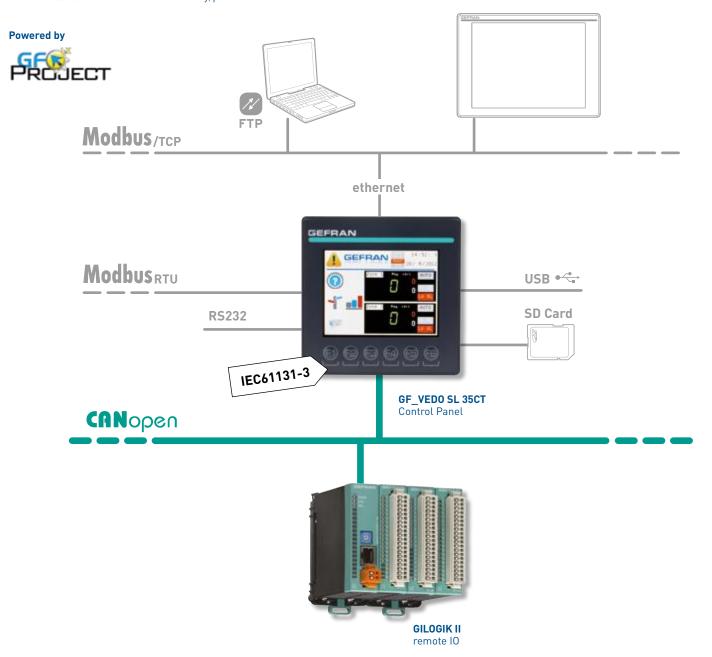
Particularly suitable for price-sensitive applications, this highly flexible solution is used on different markets, such as: plastic extruders, autoclaves, furnaces, metal washers, plastic dryers, etc.

Solution consisting of two elements, an integrated control (PLC and HMI) and a remote I/O board with a high level of customisation.

- COMPACT SOLUTION
- PROCESS FUNCTIONS
- DATA FILING

GCube Compact COMPACT CONTROLLER

Platform based on VEDO SL family operator panel combined with GILOGIK II family remote modules. The best solution in terms of flexibility/price.



This very compact modular solution enables the satisfaction of different medium-small automation solutions.

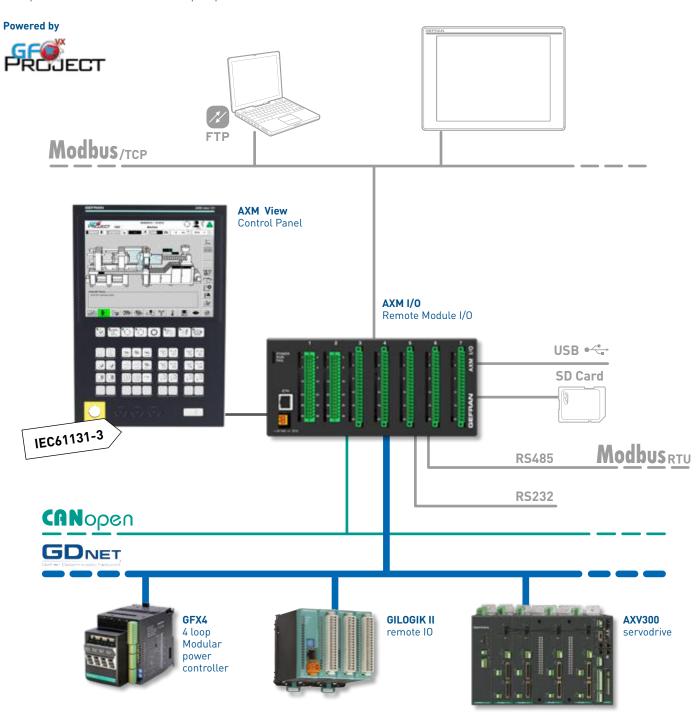
Solution consisting of two elements, an integrated control (PLC and HMI) and remote I/O modules.

- MODULAR SOLUTION
- OPEN ARCHITECTURE
- DEDICATED FUNCTIONS LIBRARY

AXM EMBEDDED CONTROLLER

The AXM platform is a Panel PC based proposal with dedicated keyboard for the injection sector and the choice between two possible combinations of I/O in pre-assembled racks

Optimal choice for solutions that require performance and contain costs



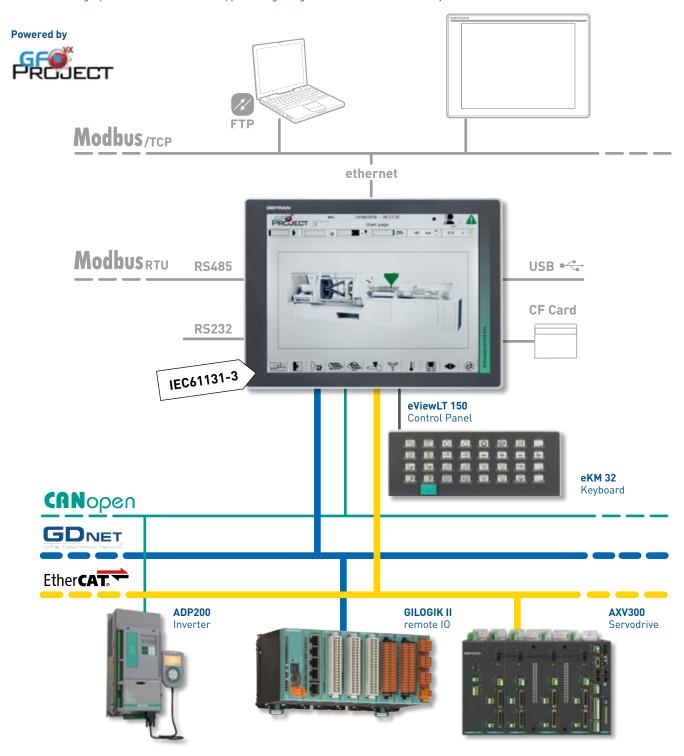
It allows you to create high performance applications for injection machines, multiprotocol applications that are easily integrated into company networks.

Soluzione basata sul controllo integrato [PLC e HMI] e dai moduli I/O remoti collegati attraverso un fieldbus Ethernet real-time.

- TWO POSSIBLE ALTERNATIVES: 10" OR 12" WITH DEDICATED KEYBOARDS
- I/OS IN PRE-ASSEMBLED RACKS
- POSSIBLE COMBINATION OF PC PANELS WITH REMOTE GILOGIK II MODULES FOR MAXIMUM FLEXIBILITY

GCube Modula INTEGRATED CONTROLLER

Platform based on remote I/O concept. eView LT family PC panel combined with GILOGIK II family remote modules. The best high-performance solution for approaching designs with extended machine layouts.



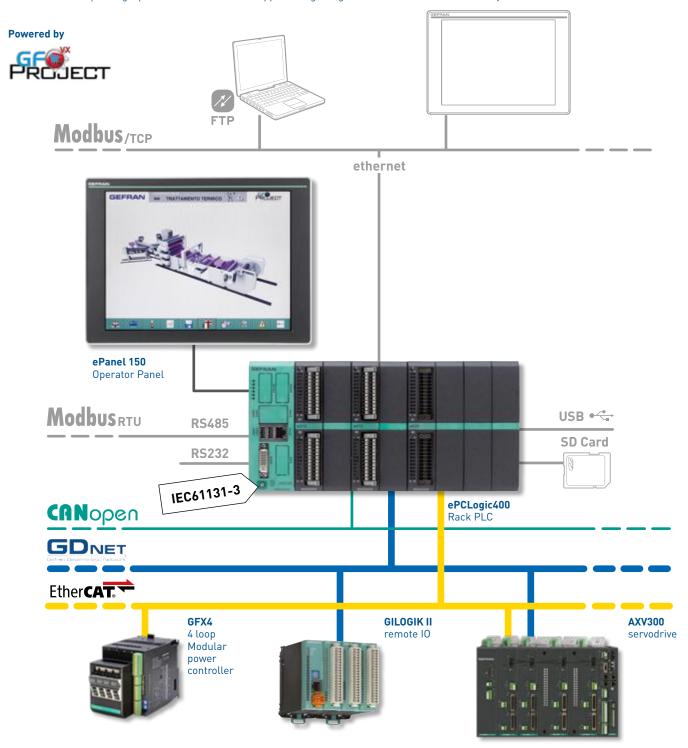
Enables the construction of high-performance, multiprotocol applications that are easily integrated into company networks.

Solution based on integrated control (PLC and HMI) and remote I/O modules connected via a real-time Ethernet fieldbus.

- ETHERCAT MASTER
- SCALABLE
- MULTI PROTOCOL

GCube Performa EMBEDDED CONTROLLER

Platform based on PLC concept. ePanel family HMI combined with e-PCLogic400 series PLC racks. The best compact high-performance solution for approaching designs with concentrated machine layouts.



Is a cost-effective industrial solution for medium-high level automation applications.

The complete and integrated solution for control, monitoring, communication and management of machine automation.

- CONFIGURED AND TESTED FOR THE REQUIRED NUMBER OF I/OS
- LOCALLY EXPANDABLE, REMOTELY EXTENDABLE
- SCALABLE SOLUTION



OPERATOR INTERFACE (HMI)



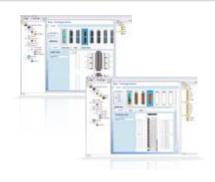
MACHINE CONTROL SEQUENCE (PLC)



HW + SYSTEM ARCHITECTURE







Configuration of the man/machine graphic pages interface

Configuration of the part of machine control for Real Time solutions. Standard language IEC61131-3 Configuration of the single devices used and the type of communication adopted



PROJECT MANAGER



PROCESS LIBRARY



DIAGNOSTIC







A common configuration style with a clear graphic visualisation for all the project modules help and make easy their configurations.

The following main modules are available:

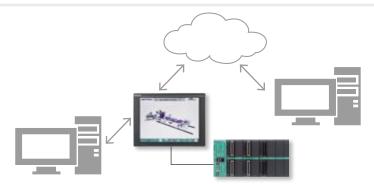
- alarm management
- multilanguage management (unicode)
- recipe management
- user management.

In the module library are a structured set of libraries FB that facilitate and reduce the development time of an automation project.

The diagnostic module provides a complete set of easy to use and efficient tool for all phases of testing and verification of the system.



CONNECTIVITY



The connectivity module includes a set of tools to meet the growing demand for remote access to machines and plants.

- PLC online
- Desktop Remote
- Monitoring
- Remote Pages
- Data Exchange

CONTROL PANELS

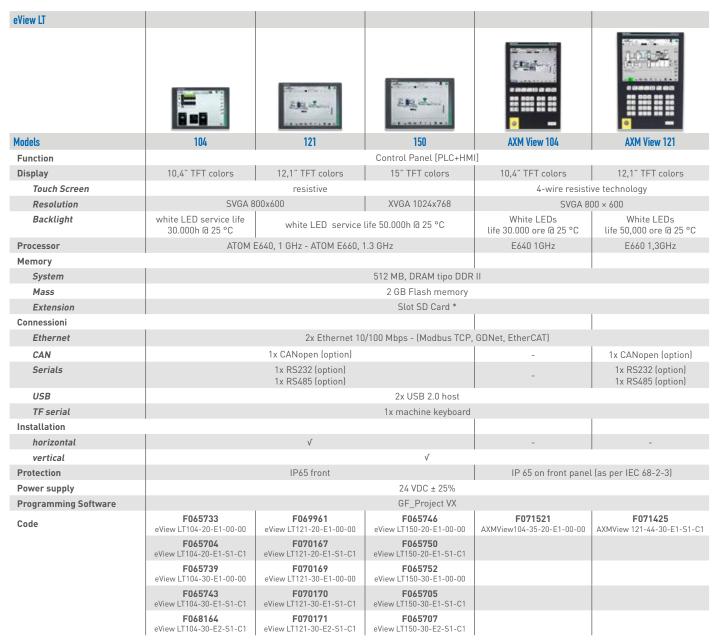
GF_VEDO and **eView** LT

Outstanding Control and Graphic capabilities in a single product. Display size from 3.5" to 15". Extensive data logging and recipe handling.

- TOUCH-SCREEN
- INTEGRATED ETHERNET INTERFACE
- INTEGRATED RUN-TIME PLC
- VERTICAL / HORIZONTAL INSTALLATION



GF_VEDO SL			
	The second secon		
Models	35 CT	70 CT	V70 CT
Function		Control Panel [PLC+HMI]	
Display	3,5" TFT color	7" TFT wide colo	r, extended format
Touch screen		resistive	
Keypad	Programmable 6-key membrane	Programmable 1	10-key membrane
Resolution	QVGA 320x240	WVGA 800x480	WVGA 480x800
Backlight		White LEDs, duration 50.000 hours @ 25 °C	
Processor		ARM9, 400 MHz	
Memory			
System		64 MB DRAM	
Mass		128 MB NAND Flash	
Retentive		32kB FRAM	
Extension		1 x SD memory card slot	
Connections			
Ethernet		1 x 10/100Mbps	
CAN		1 x CANopen	
Serial		1xRS232, 1xRS485	
USB		1xUSB2.0 Host	
Installation			
Horizontal	√	V	-
Vertical	-	-	√
Protection		IP65 front, IP20 rear	
Power supply		24 VDC ±15%	
Programming software		GF_Project LX	
Code	F055906 GF_VED0 SL 35CT LX0 S1 C1 U1 00 G	F055908 GF_VED0 SL 70CT LX0 S1 C1 U1 00 G	F056956 GF_VED0 SL V70CT LX0 S1 C1 U1 00 G



^{*} SD card not supplied. Available as accessory

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	# # # # # # # # # # # # # # # # # # # #	(1) 成 服 服 体 结 数 结 统 数 型 展 概 数 数 图				
Models	eKM	32	eKM64			
Function		Machine keyboard to use in	combination with eView LT			
Connections		High-speed serial prof	tocol on Ethernet cable			
No. Keys	32)	64			
No. LEDs	32		64			
Protection		IP65 front				
Code	F061352 EKM32-104-N0-G0	F060589 EKM32-104-I0-G0	F072295 EKM64-150-N0-G0			

REMOTE I/Os

GILOGIK II

High performance remote modular I/O. Compact design with high I/O density per module for installation in small spaces. High performance Fast-ethernet GDnet or CANopen protocol with easy integration of third-party products

BACK-PLANE				
	***		্ৰা <u>ক</u> বং সংগ্ৰহ বাং	
Modelli	R-BUS4	R-BUS8	R-BUS12	R-BUS16
Mdulo back-plane	From 4 slot	From 8 slot	From 12 slot	From 16 slot
Code	F026085	F026086	F026087	F026088

- SPACE SAVING DESIGN
- PARALLEL BACKPLANE
- FAST-ETHERNET GDNET / CANOPEN PROTOCOL
- MODULAR SOLUTION

Different backplanes are available [2, 4, 8, 12 and 18 slot] for the installation of digital, analogue and functional modules. The type of fast-ethernet GDNet or CANopen communication protocol is achieved via fieldbus modules installed in the first position on the backplane.

GILOGIK II		FIELDBUS							
	CANOpen	GDNET Date Constraint Falsace							
Models	R-GCANs	R-ETH100	R-SW5	R-ETM100					
Function	Fieldbus coupler	Fieldbus coupler	Ethernet switch	Fieldbus coupler					
Protocol	CANopen -slave -	GDNet –Fast Ethernet-	-	Modbur TCP/IP					
Connector	D-sub 9 male	RJ45	5x RJ45	RJ45					
Baudrate	20 Kbit/s1Mbit/s	10/100 Mbit/s	10/100 Mbit/s	10/100 Mbit/s					
Code	F035293	F026081	F027062	F032378					

GILOGIK II		DIGITALI							
Models	R-E16	R-EU16	R-EU32	R-U8	R-U16				
Totale Canali	16	16	32	8	16				
Digital Input	16	8	16						
24 V DC	16	8	16						
Digital Output		8	16	8	16				
24 V DC		8	16	8	16				
Code	F026082	F030782	F043995	F026084	F026083				



GILOGIK II			ANALOG					FUNCTIONAL		
Models	R-AD8	R-MA6	R-DA4	R-DA8	R-DA16	R-MIX	R-MIXR	R-TEMP4	R-TC8	R-C3
Total Channels	8	12	4	8	16	24	28	14	25	3
Analog Input	8	6				6	6	6	8	
Voltage 010V DC	8	6				4	4	4		
Voltage -10+10V DC	2									
Voltage 0+2V DC	4	4							8	
Voltage 0+2.5V DC						4	4	4		
Current 0/420mA	4	4				4	4	4		
Strain gauge 025mV DC						4	4	4		
Strain gauge 030mV DC	2	2								
Strain gauge 060mV DC						4	4	4		
Strain gauge 0100mV DC	2	2				4	4	4		
Temperature RTD						4	4	4	2	
Temperature TC						4	4	4	8	
Current Transformer 050mA AC						2	2	2		
Potentiometer	8	6				4	4	4		
Transducer power supply +10V DC	•	•					•	•		
Transducer power supply +24V DC	•	•								
Analog Output		6	4	8	16	2	2			
Voltage -10+10V DC		6	4	8	16	2	2			
Current 0/420mA						2	2			
Digital Input						8	8		1	
24 V DC						8	8		1	
Digital Output						8	8	8	16	
24 V DC						8	8	8	16	
Relays							4			
PWM						2	2	2		
Encoder-Counter						2/3	2/3	_		3/3
Incremental Encoder						2	2			3
Encoder Power Supply +5V										•
Encoder Power Supply +24V										•
Counter						3	3			3
Code	F027063	F032132	F027510	F027064	F027065	F045312	F046466	F046467	F026944	F027066

REMOTE I/Os

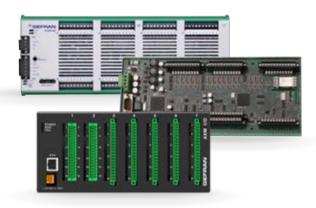
CAN-IO

Compact remote I/O modules with CANopen protocol.
Complete with fieldbus diagnostic LEDs and input/output state LEDs for acquisition of different signals from the field.
Easy installation and rapid wiring make it the ideal solution for small and medium

applications.

- COMPACT

- CANopen PROTOCOL



CAN-IO		
Models		
DIGITAL IO		
Digital inputs +24 VDC	9	6
Digital outputs +24 VDC 0,5 A	8	24
ANALOG IO		
Analog inputs		
±10 V	-	6
0-20 mA	8	-
Temperature inputs		
Thermocouples J, K, S, N, T, E, B, R	-	12
Analog outputs ±10 V	-	3
COMMUNICATION		
Connector		Open-Style 5 pin male+female
GENERAL		
Installation		on DIN rail
Protection		IP20
Connectors		screw-type non-removable,10 pins
Code	F057637 CAN-IO-D090080000A08000000000-002	F065859 CAN-I/O D060xx0000A6000xx0000x0-111-U06

AXM I/OS							
Models		AXM I/OS 100	AXM I/OS 116				
Position 1	Gateway GDNET	v	,				
Position 2	Temperature	8 TC x 24 bit					
FUSICION Z	Digital outputs	16 x	0.5A				
Position 3	Analog inputs	6 x 1	6 bit				
1 03111011 0	Analog outputs	6 x 1	6 bit				
Position 4	Digital inputs	1,	6				
Position 5	Digital inputs	1	6				
Position 6	Digital outputs	16 >	2A				
Position 7	Digital outputs	16 >	2A				
Position 8	Digital inputs		8				
FUSICION 6	Digital outputs		8 x 0,5A				
Code		F071522	F071523				

OPERATOR PANEL

eGT-I, ePanel

The Operator Panels, equipped with a high-contrast color display with very wide viewing angle, let you display and change automation data on a touch screen (always present). Installable on the panel, on the rack, or on the control console, in combination with the ePCLogic400 series PLC, they are an efficient and reliable solution for a wide range of machines. Integrated keyboard solutions are available, designed specifically for plastic processing machinery.

- COLOR, TOUCH SCREEN
- INDUSTRIAL MONITORS
- SLIM AND COMPACT DESIGN
- CUSTOM DESIGN



ePANEL					
	Elegion,			E. C.	
Models	104CT	V104CT	150CT	V150CT	eGT-I
Function		Operator Panel			Specific Operator Panel for plastic/rubber injection machines
Display	10.4" TF	T colors	15.0" TF	T colors	10.4" TFT colors
Touch		resi	stive		resistive
Keyboard		r	10		yes
Resolution	SVGA 800x600	SVGA 600x800	XVGA 1024x768	XVGA 768x1024	SVGA 800x600
Backlight	white LEDs, 30.	000 hours @ 25°C	white LEDs, 50.0	000 hours @ 25°C	white LEDs, 30.000 hours @ 25°C
Connections					
Video			DVI-D		
USB		2x USB 2.0 host [type A], rear 1x USB 2.0 client [type B], rear			
Protection			IP65 front, IP20 r	ear	
Power Supply			+24 VDC, ± 25%	6	
Code	F056417	F056418	F056421	F056422	F058480

eKM					
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Models	eKM3	2	eKM64		
Function		Machine keyboard to use in	n combination with eView LT		
Connections		High-speed serial pro	tocol on Ethernet cable		
No. Keys	32		64		
No. LEDs	32		64		
Protection	IP65 front				
Code	F061352 EKM32-104-N0-G0	F060589 EKM32-104-I0-G0	F072295 EKM64-150-N0-G0		

Rack PLC

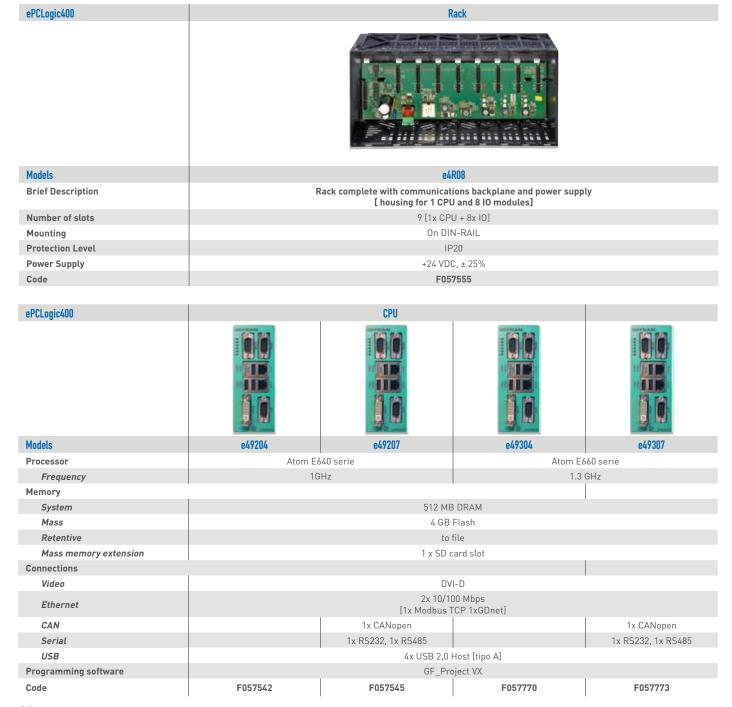
ePCLogic400

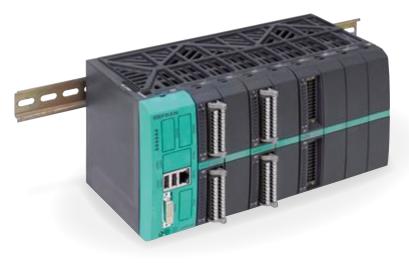
ePCLogic400 is the complete solution for process and automation control: a single, modular system (preconfigured and expandable) that controls sequences and manages work processes.

The ePanel and eGT-I operator interfaces are available separately, in combination with the in-rack ePCLogic400 PLC, which integrates CPU and I/O modules.

The PLC can be completely customized with respect to CPU power and to the number and type of inputs and outputs, adapting perfectly to the machine or system to be controlled.

- FANLESS AND DISKLESS SOLUTION
- DIN RAIL MOUNTING
- READY TO USE





ePCLogic400		IO digital / analog / functional					
Models	e410	e411	e430	e431			
Brief Description	16 digital inputs + 20 digital outputs	16 digital inputs + 16 digital outputs	6 analog inputs + 4 analog outputs + 8 temperatures	20 digital outputs + 12 temperatures			
Total channels	36	32	18	32			
Analog Input			6				
Voltage 010 V			6				
Voltage -10+10V			6				
Current 020 mA			6				
Potentiometer			6				
Transducer power supply +10V			V				
Temperature Input			8	12			
Thermocouple			8 [J, K, S, N, T, E, B, R, L]	12 [J, K, S, N, T, E, B, R, L]			
Analog Output			4				
Voltage -10+10V			4				
Digital Input	16	16					
+ 24 V DC	16	16					
Fast Digital Input	3						
Digital Output	20	16		20			
+ 24 V DC, 2A	20	16					
+ 24 V DC 0.5A				20			
PWM	2						
Code	F057165	F065881	F057166	F071367			

ePCLogic400 (Completo)	e49204	e49207	e49304	e49307	e410	e411	e430	e431
Code								
F070035	1							
F070036		1						
F059812	1				2		1	
F058253		1			2		1	
F073006		1			2	1	1	
F070039			1					
F070040				1				
F070041			1		2		1	
F039887				1	2			

INDUSTRY 4.0

GF_Connect

GF_Connect is Gefran's answer to customers who require connectivity and communication services in industry 4.0 optics when there are no programmable automation products. GF_Connect can be used to provide advanced connectivity services for various Gefran product lines: sensors, drives, automation components.

GF_Connect offers a secure connection based on an OpenVPN and SSL system for remote management of industrial installations by connecting to a centralised server through gateways.

- REMOTE ACCESS TO NETWORK OR SERIAL CONNECTED DEVICES
- VIA TOOL ON SECURE PC CONNECTION WITH TUNNEL VPN
- SECURE CONNECTION: MACHINE NETWORK AND SEPARATE CORPORATE NETWORK
- ACCESS FROM DEVELOPMENT ENVIRONMENT OR CONFIGURATION TOOL (ALSO FOR 485 DEVICES)
- EMAIL DELIVERY UPON EVENT
- PDF REPORTS
- INTEGRATED WEB SERVER
- GATEWAY BETWEEN VARIOUS PROTOCOLS
- OPC UA SERVER AND CLIENT







AUTOMATION PLATFORMS AUTOMATION PLATFORMS BIG BIA ANALYTICS BIA BIA ANALYTICS

Industry 4.0: what are we talking about? We're talking about integrating new **digital technologies** to improve industrial plant working conditions, increase productivity and production quality.

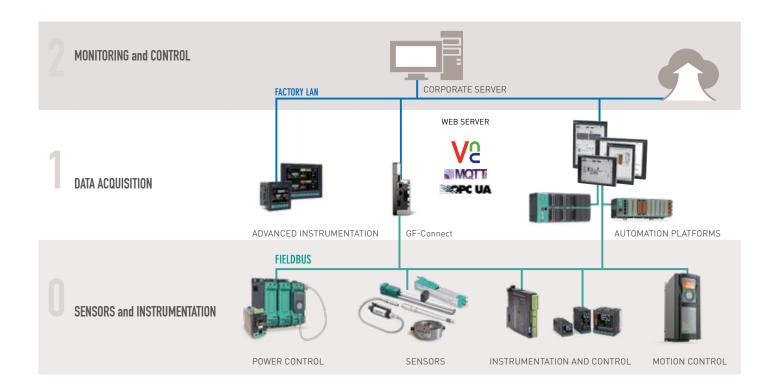
Industry 4.0 means smart factory and implies a new factory conception that goes beyond all those actions solely focused on machine development and perfection. Thus, the *smart factory* idea involves the entire company: from design to the *supply chain* up to the production area. The data required and automation instruments that must provide them to create a 4.0 process aim to **globally improve the company**.

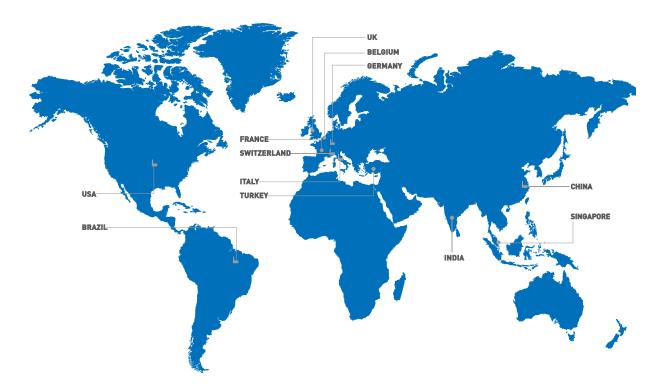
4.0 thus involves a change in mentality starting from the selection of operating technologies must suited to the production process and, therefore, to the factory up to corporate *information technology*.

Gefran interprets this new factory vision with a catalogue of 4.0 DNA products that meets connectivity, factory data acquisition, monitoring and diagnostic maintenance needs.

Interconnected products and connected to the cloud, to monitor raw material stock turnover and plan re-order, monitor consumption or plan maintenance.

View monthly production trends, check productivity indexes, machine downtime and statistics through data aggregation according to need.





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