

# 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 / O on remote modules
- **COMPACT:** Panel PC + I / O on remote modules
- **AXM:** Panel PC with dedicated keyboard for Injection + remote I/O in rack
- **MODULA:** Display + Rack PLC
- **PERFORMA:** Display + Rack PLC

### FIT Custom Controller



### COMPACT Compact Controller



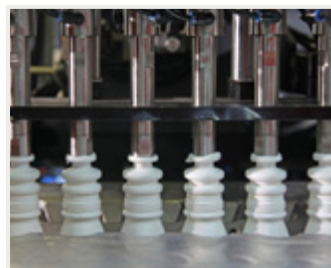
## APPLICATIONS



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

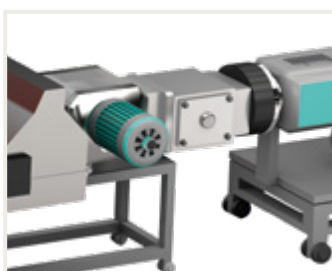
### AXM



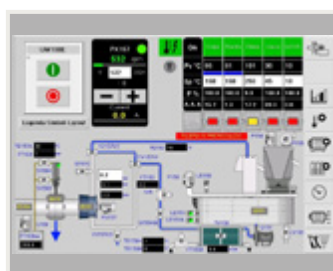
### MODULA Integrated Controller



### PERFORMA Embedded Controller



MELT PUMP



CUTTING



FURNACES

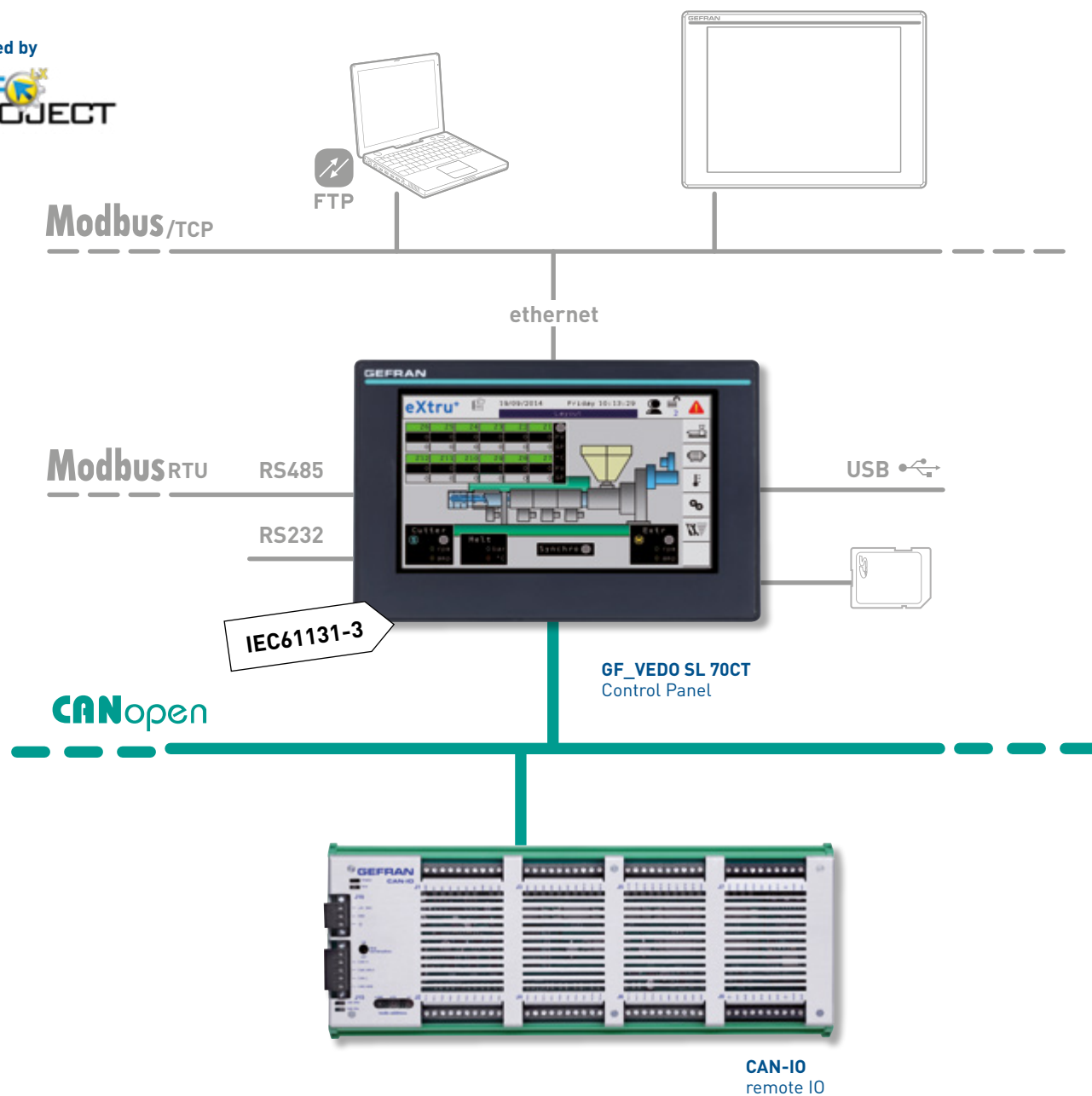


AUTOCLAVES

# 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.

Powered by



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.

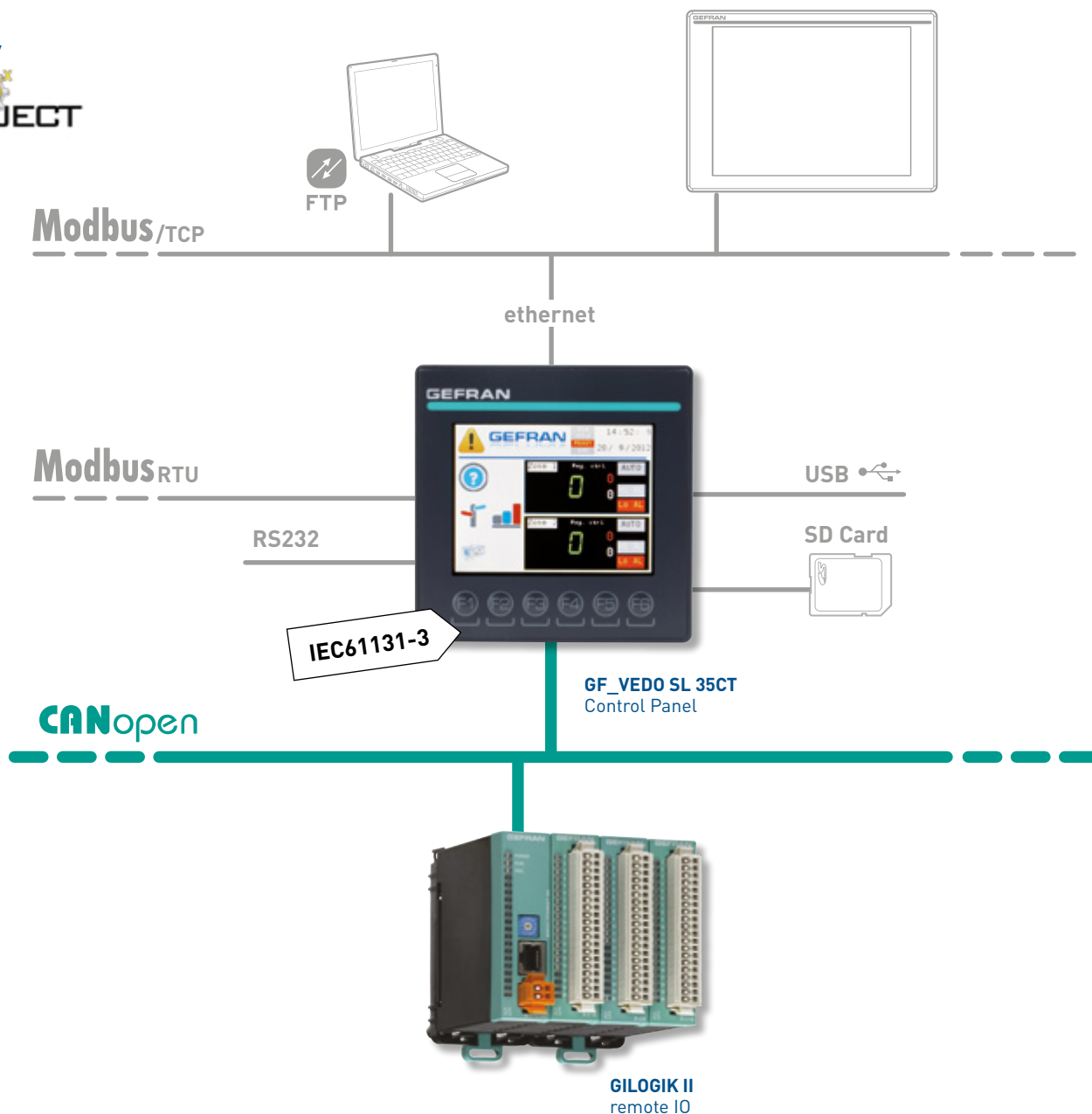
Solution consisting of two elements, an integrated control (PLC and HMI) and a remote I/O board with a high level of customisation.

- **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.

Powered by



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.

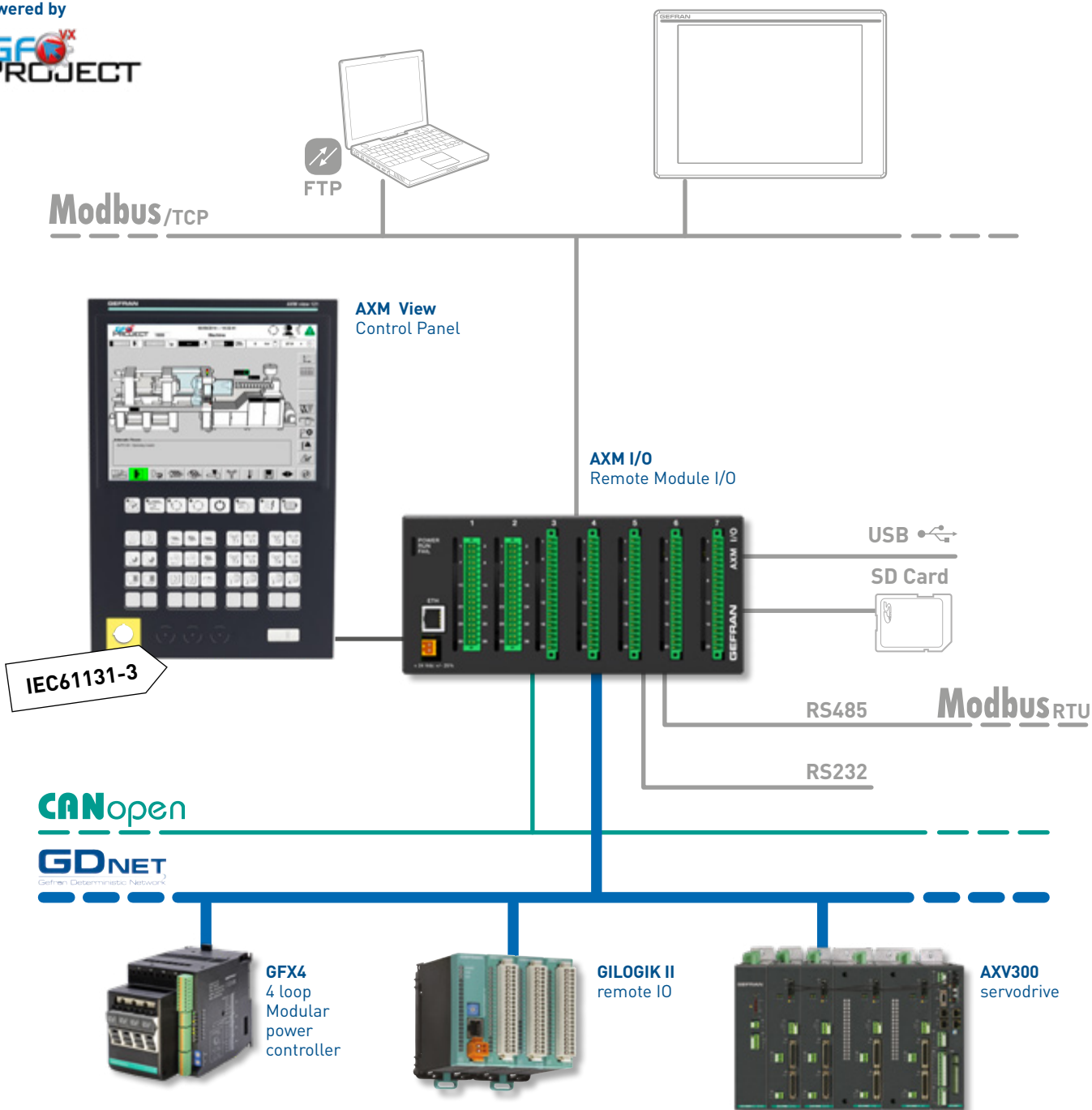
- MODULAR SOLUTION
- OPEN ARCHITECTURE
- DEDICATED FUNCTIONS LIBRARY



## 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

Powered by



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

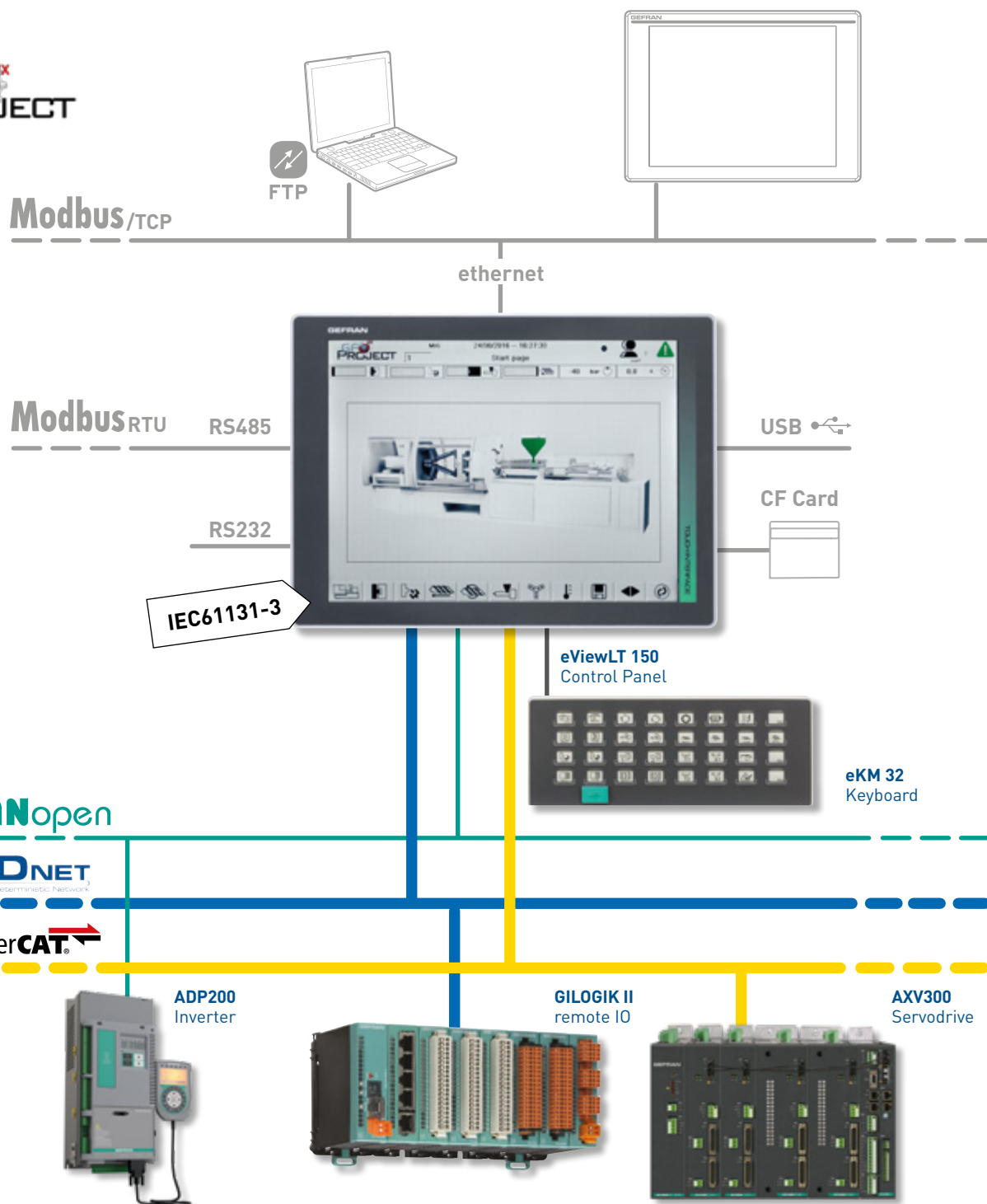
Soluzione basata sul controllo integrato (PLC e HMI) e dai moduli I/O remoti collegati attraverso un fieldbus Ethernet real-time.

- 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.

Powered by



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

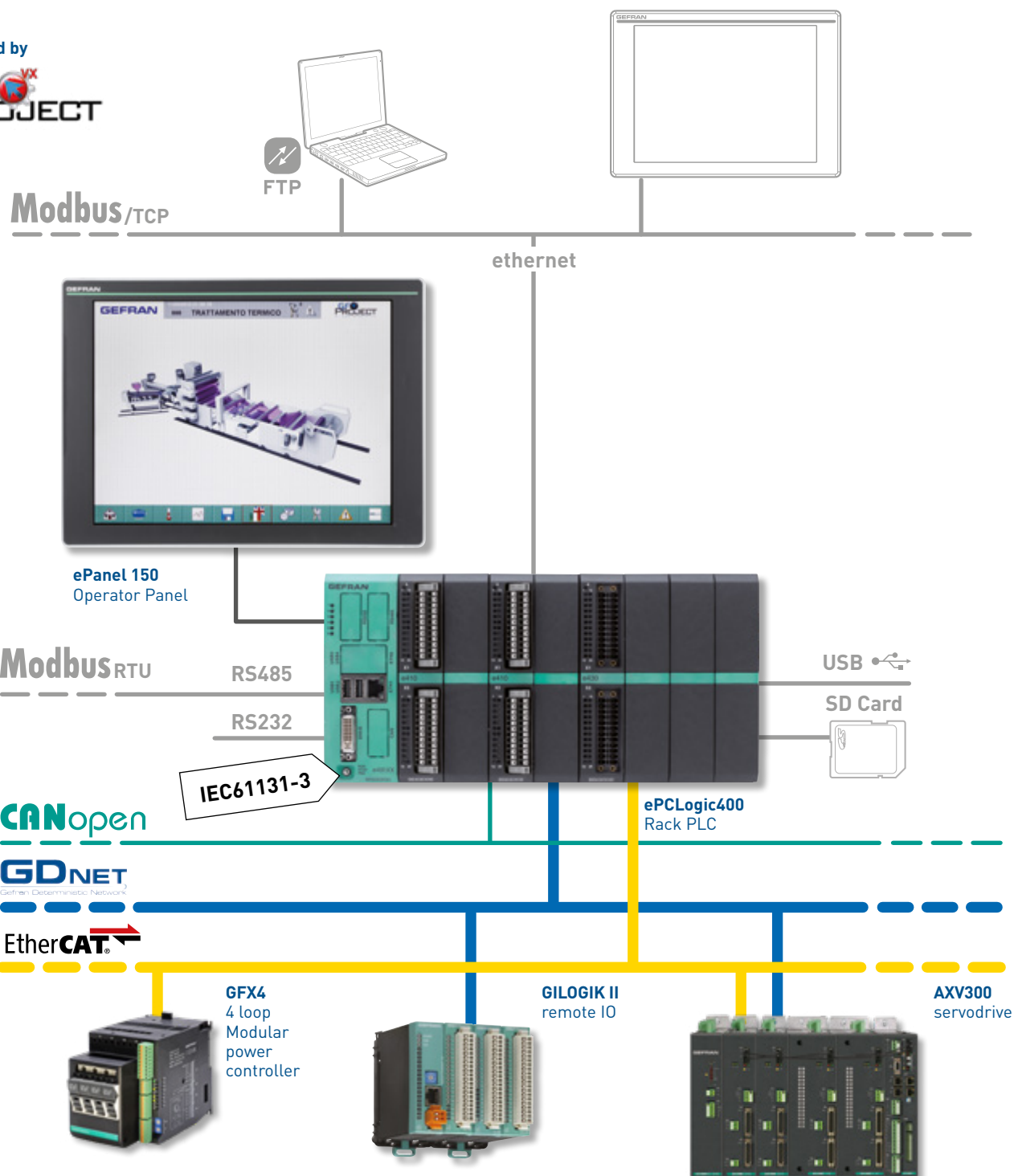
Solution based on integrated control (PLC and HMI) and remote I/O modules connected via a real-time Ethernet fieldbus.

- **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.

Powered by



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





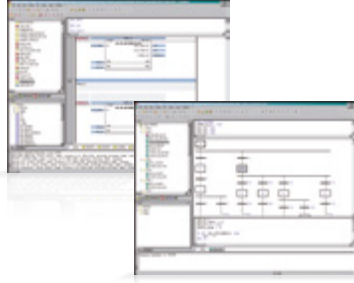
### OPERATOR INTERFACE (HMI)



Configuration of the man/machine graphic pages interface



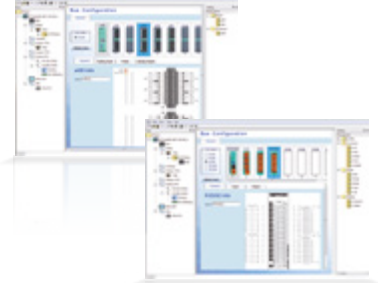
### MACHINE CONTROL SEQUENCE (PLC)



Configuration of the part of machine control for Real Time solutions. Standard language IEC61131-3



### HW + SYSTEM ARCHITECTURE



Configuration of the single devices used and the type of communication adopted



### PROJECT MANAGER



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.



### PROCESS LIBRARY



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



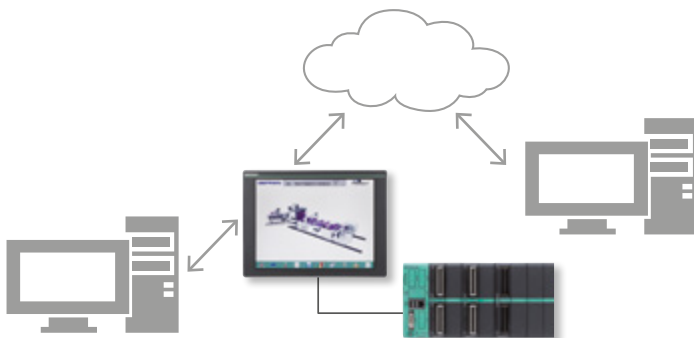
### DIAGNOSTIC



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			
			
Models	35 CT	70 CT	V70 CT
Function	Control Panel [PLC+HMI]		
Display	3,5" TFT color	7" TFT wide color, extended format	
Touch screen	resistive		
Keypad	Programmable 6-key membrane	Programmable 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	√	√	-
Vertical	-	-	√
Protection	IP65 front, IP20 rear		
Power supply	24 VDC ±15%		
Programming software	GF_Project LX		
Code	F055906 GF_VEDO SL 35CT LX0 S1 C1 U1 00 G	F055908 GF_VEDO SL 70CT LX0 S1 C1 U1 00 G	F056956 GF_VEDO SL V70CT LX0 S1 C1 U1 00 G

## AUTOMATION PLATFORMS

eView LT					
					
Models	104	121	150	AXM View 104	AXM View 121
Function	Control Panel [PLC+HMI]				
Display	10,4" TFT colors	12,1" TFT colors	15" TFT colors	10,4" TFT colors	12,1" TFT colors
Touch Screen	resistive			4-wire resistive technology	
Resolution	SVGA 800x600		XVGA 1024x768	SVGA 800 × 600	
Backlight	white LED service life 30.000h @ 25 °C	white LED service life 50.000h @ 25 °C		White LEDs life 30.000 ore @ 25 °C	White LEDs life 50,000 ore @ 25 °C
Processor	ATOM E640, 1 GHz - ATOM E660, 1.3 GHz			E640 1GHz	E660 1,3GHz
Memory					
System	512 MB, DRAM tipo DDR II				
Mass	2 GB Flash memory				
Extension	Slot SD Card *				
Connessioni					
Ethernet	2x Ethernet 10/100 Mbps - (Modbus TCP, GDNet, EtherCAT)				
CAN	1x CANopen (option)			-	1x CANopen (option)
Serials	1x RS232 (option) 1x RS485 (option)			-	1x RS232 (option) 1x RS485 (option)
USB	2x USB 2.0 host				
TF serial	1x machine keyboard				
Installation					
horizontal	✓			-	-
vertical	✓				
Protection	IP65 front			IP 65 on front panel (as per IEC 68-2-3)	
Power supply	24 VDC ± 25%				
Programming Software	GF_Project VX				
Code	F065733 eView LT104-20-E1-00-00	F069961 eView LT121-20-E1-00-00	F065746 eView LT150-20-E1-00-00	F071521 AXMView104-35-20-E1-00-00	F071425 AXMView 121-44-30-E1-S1-C1
	F065704 eView LT104-20-E1-S1-C1	F070167 eView LT121-20-E1-S1-C1	F065750 eView LT150-20-E1-S1-C1		
	F065739 eView LT104-30-E1-00-00	F070169 eView LT121-30-E1-00-00	F065752 eView LT150-30-E1-00-00		
	F065743 eView LT104-30-E1-S1-C1	F070170 eView LT121-30-E1-S1-C1	F065705 eView LT150-30-E1-S1-C1		
	F068164 eView LT104-30-E2-S1-C1	F070171 eView LT121-30-E2-S1-C1	F065707 eView LT150-30-E2-S1-C1		



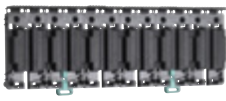
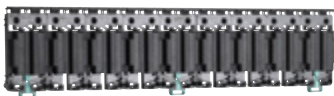
\* SD card not supplied. Available as accessory

eKM		
		
<b>Models</b>	<b>eKM32</b>	<b>eKM64</b>
<b>Function</b>	Machine keyboard to use in combination with eView LT	
<b>Connections</b>	High-speed serial protocol on Ethernet cable	
<b>No. Keys</b>	32	64
<b>No. LEDs</b>	32	64
<b>Protection</b>	IP65 front	
<b>Code</b>	<b>F061352</b> EKM32-104-N0-G0	<b>F072295</b> 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

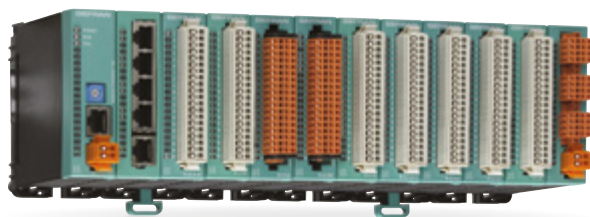
BACK-PLANE				
				
Modelli	R-BUS4	R-BUS8	R-BUS12	R-BUS16
Mdulo back-plane	From 4 slot	From 8 slot	From 12 slot	From 16 slot
Code	F026085	F026086	F026087	F026088


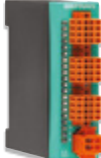
- SPACE SAVING DESIGN
- PARALLEL BACKPLANE
- FAST-ETHERNET GDNET / CANOPEN PROTOCOL
- MODULAR SOLUTION

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		
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/s...1Mbit/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 24 V DC	16	8	16		
Digital Output 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
<b>Analog Input</b>	<b>8</b>	<b>6</b>				<b>6</b>	<b>6</b>	<b>6</b>	<b>8</b>	
Voltage 0...10V 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 0/4...20mA	4	4				4	4	4		
Strain gauge 0...25mV DC						4	4	4		
Strain gauge 0...30mV DC	2	2								
Strain gauge 0...60mV DC						4	4	4		
Strain gauge 0...100mV DC	2	2				4	4	4		
Temperature RTD						4	4	4	2	
Temperature TC						4	4	4	8	
Current Transformer 0...50mA AC						2	2	2		
Potentiometer	8	6				4	4	4		
Transducer power supply +10V DC	•	•				•	•	•		
Transducer power supply +24V DC	•	•								
<b>Analog Output</b>		<b>6</b>	<b>4</b>	<b>8</b>	<b>16</b>	<b>2</b>	<b>2</b>			
Voltage -10...+10V DC		6	4	8	16	2	2			
Current 0/4...20mA						2	2			
<b>Digital Input</b>						<b>8</b>	<b>8</b>		<b>1</b>	
24 V DC						8	8		1	
<b>Digital Output</b>						<b>8</b>	<b>8</b>	<b>8</b>	<b>16</b>	
24 V DC						8	8	8	16	
Relays							4			
PWM						2	2	2		
<b>Encoder-Counter</b>						<b>2/3</b>	<b>2/3</b>			<b>3/3</b>
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

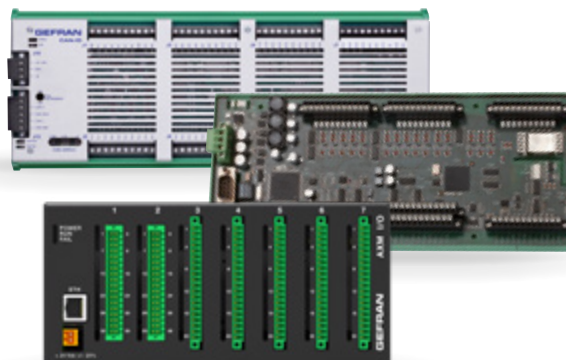


# REMOTE I/Os

## 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		
<b>Models</b>		
<b>DIGITAL IO</b>		
Digital inputs +24 VDC	9	6
Digital outputs +24 VDC 0,5 A	8	24
<b>ANALOG IO</b>		
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
<b>COMMUNICATION</b>		
Connector		Open-Style 5 pin male+female
<b>GENERAL</b>		
Installation		on DIN rail
Protection		IP20
Connectors		screw-type non-removable, 10 pins
Code	<b>F057637</b> CAN-IO-D090080000A08000000000-002	<b>F065859</b> CAN-I/O D060xx0000A6000xx0000x0-111-U06

AXM I/Os		
<b>Models</b>		
<b>AXM I/Os 100</b>		
Position 1	Gateway GDNET	V
Position 2	Temperature	8 TC x 24 bit
	Digital outputs	16 x 0.5A
Position 3	Analog inputs	6 x 16 bit
	Analog outputs	6 x 16 bit
Position 4	Digital inputs	16
Position 5	Digital inputs	16
Position 6	Digital outputs	16 x 2A
Position 7	Digital outputs	16 x 2A
Position 8	Digital inputs	8
	Digital outputs	8 x 0,5A
Code	<b>F071522</b>	<b>F071523</b>






# 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					
					
Models	104CT	V104CT	150CT	V150CT	eGT-I
Function	Operator Panel				Specific Operator Panel for plastic/rubber injection machines
Display	10.4" TFT colors		15.0" TFT colors		10.4" TFT colors
Touch	resistive				resistive
Keyboard	no				yes
Resolution	SVGA 800x600	SVGA 600x800	XVGA 1024x768	XVGA 768x1024	SVGA 800x600
Backlight	white LEDs, 30.000 hours @ 25°C		white LEDs, 50.000 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				1x USB 2.0 host [type A], rear 1x USB 2.0 host [type A], rear 1x USB 2.0 client [type B], rear
Protection	IP65 front, IP20 rear				
Power Supply	+24 VDC, ± 25%				
Code	F056417	F056418	F056421	F056422	F058480

eKM		
		
Models	eKM32	eKM64
Function	Machine keyboard to use in combination with eView LT	
Connections	High-speed serial protocol on Ethernet cable	
No. Keys	32	64
No. LEDs	32	64
Protection	IP65 front	
Code	F061352	F072295
	EKM32-104-N0-G0	EKM64-150-N0-G0

# Rack PLC

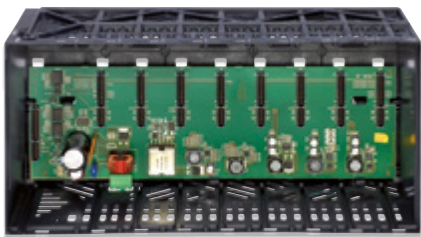
## ePCLoGic400




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	Rack
	
Models	e4R08
Brief Description	Rack complete with communications backplane and power supply [ housing for 1 CPU and 8 IO modules]
Number of slots	9 [1x CPU + 8x IO]
Mounting	On DIN-RAIL
Protection Level	IP20
Power Supply	+24 VDC, ± 25%
Code	F057555

ePCLoGic400	CPU			
				
Models	e49204	e49207	e49304	e49307
Processor	Atom E640 serie		Atom E660 serie	
Frequency	1GHz		1.3 GHz	
Memory				
System	512 MB DRAM			
Mass	4 GB Flash			
Retentive	to file			
Mass memory extension	1 x SD card slot			
Connections				
Video	DVI-D			
Ethernet	2x 10/100 Mbps [1x Modbus TCP 1xGDnet]			
CAN		1x CANopen		1x CANopen
Serial		1x RS232, 1x RS485		1x RS232, 1x RS485
USB	4x USB 2,0 Host [tipo A]			
Programming software	GF_Project VX			
Code	F057542	F057545	F057770	F057773



ePCLoGic400	IO digital / analog / functional			
				
<b>Models</b>	<b>e410</b>	<b>e411</b>	<b>e430</b>	<b>e431</b>
<b>Brief Description</b>	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
<b>Total channels</b>	36	32	18	32
<b>Analog Input</b>			6	
Voltage 0...10 V			6	
Voltage -10...+10V			6	
Current 0...20 mA			6	
Potentiometer			6	
Transducer power supply +10V			√	
<b>Temperature Input</b>			8	12
Thermocouple			8 [ J, K, S, N, T, E, B, R, L ]	12 [ J, K, S, N, T, E, B, R, L ]
<b>Analog Output</b>			4	
Voltage -10...+10V			4	
<b>Digital Input</b>	16	16		
+ 24 V DC	16	16		
Fast Digital Input	3			
<b>Digital Output</b>	20	16		20
+ 24 V DC, 2A	20	16		
+ 24 V DC 0.5A				20
PWM	2			
<b>Code</b>	F057165	F065881	F057166	F071367

ePCLoGic400 (Completo)	e49204	e49207	e49304	e49307	e410	e411	e430	e431
<b>Code</b>								
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



GF_Connect	
	
Modello	GF_C 49204 REMOTE ASSISTANCE
Processor	ARM Cortex-A8 - 1 GHz
Flash	4GB
RAM	512 Mb
Connections	
Ethernet port	2 ( port 0 - 10/100, port 1 - 10/100 )
USB port 1	Host v2.0, max. 500mA
Serial port 1	RS-232, RS-485, RS-422, software configurable
SD card	Si
Expansion	1 slot
Power supply	24 Vdc [ 10 to 32 Vdc ]
Protection	IP20
Programming software	GF_Designer HD
Code	F071519





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.

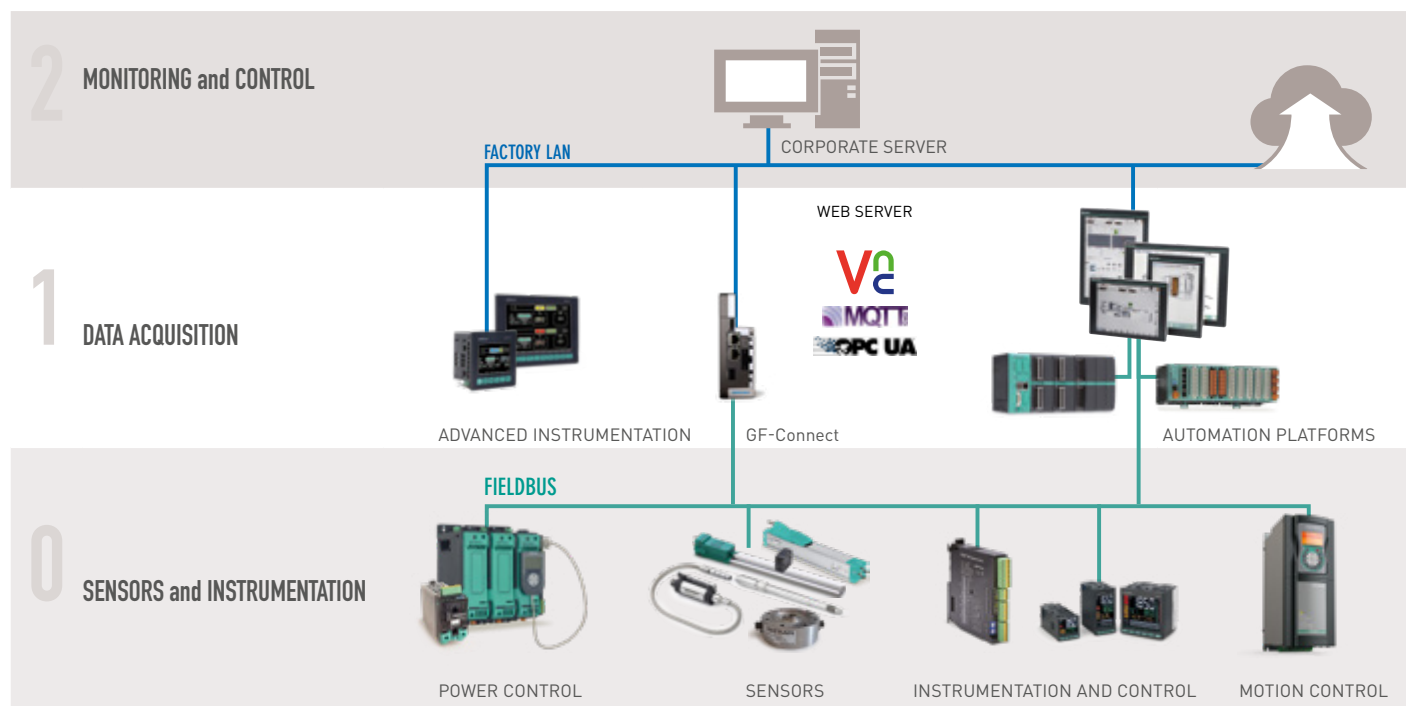
*Industry 4.0 means smart factory* and implies a new factory conception that goes beyond all those actions solely focused on machine development and perfection. Thus, the *smart factory* idea involves the entire company: from design to the *supply chain* up to the production area. The data required and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

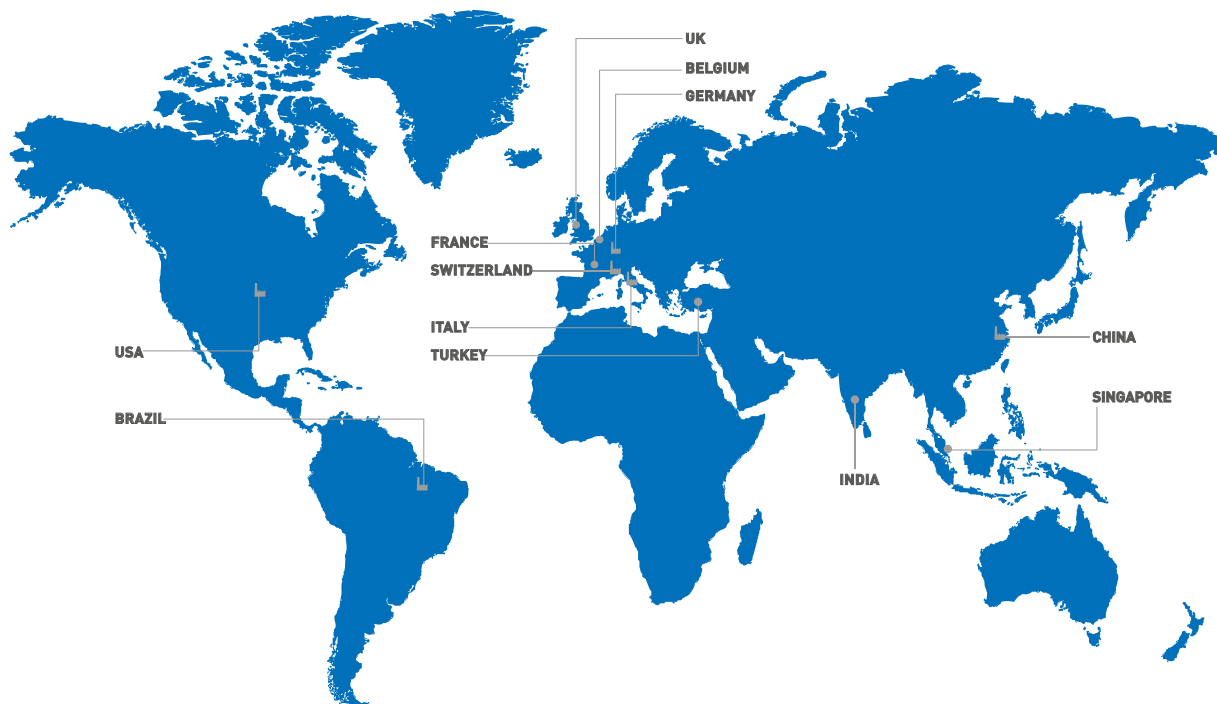
4.0 thus involves a change in mentality starting from the selection of operating technologies must suited to the production process and, therefore, to the factory up to corporate *information technology*.

**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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