

CONTROLLERS, PROGRAMMERS



GEFRAN



Thanks to forty years of experience, Gefran is the world leader in the design and production of solutions for **measuring, controlling, and driving industrial production processes**.

We have 14 branches in 12 countries and a network of over 80 worldwide distributors.

QUALITY AND TECHNOLOGY

Gefran components are a **concentrate of technology**, the result of constant study and **collaboration with major research centres**. Gefran control instruments are characterised by continuous research and state-of-the-art technology, and provide **accurate control of variables such as temperature, pressure, force, humidity, and displacement**.

Gefran's know-how and experience guarantee **continuous** and practical solutions.

A COMPLETE LINE OF CONTROLLERS

Gefran offers a wide choice of PID controllers, from basic models (BASIC) for simple resistance heating to higher value models (VALUE) with additional preventive diagnostic functions and advanced operator interfaces; from models for valve control with setpoint profiles that can be varied over time (PERFORMANCE) to versions with recorder functions and touch screen graphic display (MULTIFUNCTION).

All models offer advanced PID control algorithms and automatic tuning functions. Multifunction models also offer network connectivity and optional remote access.

SERVICES

A team of Gefran experts works with the customer to select the ideal product for its application and to help install and configure devices (customercare@gefran.com).

Gefran offers a wide range of courses at different levels for the technical-commercial study of the Gefran product range as well as specific courses on *demand*.



APPLICATIONS



PLASTIC



RUBBER



METAL



PHARMACEUTICAL



FOOD



PETROCHEMICAL



TEST BENCHES



WATER TREATMENT

SOFTWARE

GF_eXpress

Configuration kit for Gefran instruments by means of PC (Windows environment). Lets you read or write all of the parameters of a single instrument via serial connection.

- A single software for all models
- Easy configuration
- Copy/paste, save recipe, trend functions
- Rapid configuration of instruments
- Saving and management of parameter recipes
- On-line trend and saving of historical data
- Recovery of factory settings
- Custom linearization
- On-line user manual
- Easy programming with custom messages
- Easy graphics programming with setpoint programmers



BASIC SERIES SIMPLICITY AND HIGH PERFORMANCE



Just a few parameters to adapt easily to standard industrial heating applications.

- Operator interface with double LED display
- Universal input for temperature sensors
- Heat and cool PID controls with automatic tuning
- 2 relay and/or logic outputs
- Loop Break alarm
- Dimensioni 1/16 DIN

VALUE SERIES COMPLETE FUNCTIONS



Four different models for a wide range of industrial temperature control applications. Simplicity and practicality combine with experience and know-how in PID control.

- Operator interface with double LED display
- Universal input
- PID heat, cool and heat/cool controls with automatic tuning
- Total and partial load break alarms
- Loop Break alarm
- Up to four relay outputs, logic for SSR
- Analog control and retransmission output
- RS 485 serial communication in Modbus RTU
- 1/16, 1/8, 1/4 DIN and open frame

VALUE SERIES CONTROLLERS THAT SPEAK YOUR LANGUAGE



Innovative PID controllers and temperature programmers that offer precise control plus the widest, clearest, and most complete operator interfaces for all-around easy operation.

- Customizable alphanumeric messages that "speak to the operator" in his language
- Customizable colors, messages, logo
- Full and complete operator interface, at the top of its category in every format
- Easy configuration with Quick Configuration and help on line with scrolling messages
- Copy/paste parameters with Zapper(*), even in the field and without power supply
- Preventive diagnostics with counts of KWh and number of actuator operations
- Ready-to-use configurable logic functions
- Setpoint programmer and motorized valve positioner
- 1/16, 1/8, 1/4 DIN
- Zapper(*)
Battery-powered portable configurator

PERFORMANCE SERIES ADVANCED CONTROLS



Advanced Controllers and Programmers to control machines and process lines.

Several models with various types of outputs and control algorithms to manage both electrical actuators and gas burners, proportional valves with or without feedback, processes with fixed or variable temperatures.

Galvanically isolated inputs and outputs guarantee a high level of immunity to noise, even in heavy-duty installations.

- Models V to control motorized valves with open/close commands
- Models P to manage variable setpoint profiles
- 1/16, 1/8, 1/4 DIN

MULTIFUNCTION SERIES HIGH DEMAND APPLICATIONS



Gefran's top line of controllers offers models with special functions to satisfy the demands of complex applications.

- 2500 Series for ultra-fast pressure and force controls
- Promer Graphic Series for generation of setpoint profiles for 4 zones, with built-in recorder function
- Looper Graphic Series for control of 16 independent zones, with built-in recorder function
- Ultra-compact GFXTERM04 series for PID control of 4 independent zones, with a complete range of Fieldbuses.

(*)

FIELBUS (*)



CANopen



Modbus TCP/RTU



EtherCAT

BASIC SERIES		VALUE SERIES		PERFORMANCE SERIES	
SINGLE LOOP					
Double display		Double/Triple Display		Double display	
		Controllers Valve controllers Programmeters		Valve controllers - Programmeters	
					
1300		1350		1800	
					
1200		1250		1600	
					
450		650		800	
					
600				800V	
					
600 OF				800P	
Cold, Plastics, Packaging, Laboratory furnaces, Chillers, Life Science			Furnaces, plants, process industry, test benches, laboratory equipment, life science		

MULTIFUNCTION SERIES				
SINGLE LOOP	MULTILOOP			
Triple display	LCD Display Graphic touch screen			
High speed - accuracy	Programmers with Data Logger	Controllers with Data Logger		
FIELDBUS*				
				169x120 mm
	GF_Promer 5,7"	GF_Looper 5,7"		
				96x96 mm (1/4 DIN)
2500 (Fieldbus Profibus)	GF_Promer 3,5"	GF_Looper 3,5"		
				48x96 mm (1/8 DIN)
				48x48 mm (1/16 DIN)
				90x45x45 mm (Open frame)
				25x140x140 mm (DIN bar)
			GFXTERM04	
Plastics, textile, process	Furnaces, heat treatments, climatic chambers, food, process heat			

SELECTION GUIDE

	BASIC	VALUE						
								
	450	6000F	600	1200	1300	650	1250	1350
MAIN FEATURES								
Format	48x48mm (1/16 DIN)	90x45x45mm	48x48mm (1/16 DIN)	48x96mm (1/8 DIN)	96x96mm (1/4 DIN)	48x48mm (1/16 DIN)	48x96mm (1/8 DIN)	96x96mm (1/4 DIN)
No. of Control Loops (max.)	1	1	1	1	1	1	1	1
OPERATOR INTERFACE								
Display								
Double LED Display	X	X	X	X	X			
Triple LED Display								
Double LCD Display						X		
Triple LCD Display							X	X
Bargraph							X	X
Graphic LCD (TFT)								
Alphanumeric messages						X	X	X
Scrolling alphanumeric messages						X	X	X
Keypad								
No. of keys	4	4	4	4	4	4	4	6
INPUTS								
Main inputs								
Sensor type								
Ingressi da sensori di Temperatura (TC, RTD)	X	X	X	X	X	X	X	X
Temperature sensor inputs Infrared						X	X	X
Linear inputs (mV,V,mA)		X	X	X	X	X	X	X
Pressure and force sensor inputs (4 wires, 6 wires)								
Position sensor inputs (potentiometers, magnetostrictives)								
Accuracy								
Accuracy 0,2% (f.s.)	X	X	X	X	X	X	X	X
Accuracy 0,1% (f.s.)						X (Linears)	X (Linears)	X (Linears)
Sampling time								
120ms	X	X	X	X	X	X	X	X
60ms						X	X	X
2ms								
Auxiliary inputs								
CT (ammeter) inputs			X	X	X	X(2)	X(2)	X(2)
Remote setpoint inputs (V, mA)						X	X	X
Valve position feedback inputs (4-20mA, potentiometer)								
Temperature sensor inputs								
Digital inputs								
No.		X (1)	X (1)	X (2)	X (2)	X (3)	X (5)	X (5)
OUTPUTS								
Relay (R)	X (2)	X (5)	X (4)	X (4)	X (4)	X (4)	X (4)	X (4)
Logic (D)	X (1)	X (2)	X (2)	X (3)	X (3)	X (2)	X (2)	X (2)
Triac (T)			X (1)	X (1)	X (1)	X (1)	X (1)	X (1)
Analog (V, mA) (C, W)			X (1)	X (1)	X (1)	X (1)	X (1)	X (1)
Analog output isolation						X	X	X
Total no. of outputs (max)	2	5	4	4	4	5	5	5

Numbers in () are maximum allowed values

PERFORMANCE			MULTIFUNCTION			
						
800 / 800V / 800P	1600 / 1600V / 1600P	1800 / 1800V / 1800P	2500	PROMER	LOOPER	GFXTERM04
48x48mm (1/16 DIN)	48x96mm (1/8 DIN)	96x96mm (1/4 DIN)	96x96mm (1/4 DIN)	96x96mm (1/4 DIN); 169x120mm	96x96mm (1/4 DIN); 169x120mm	25x140x140mm
1	1	1	1	4	16	4
X	X	X	X			
	X(V,P)	X(V,P)	X(2)	X	X	
				X	X	
				X	X	
4	5	5	6	6		
X	X	X	X	X	X	X
X	X	X	X	X	X	X
			X			
			X			
X	X	X		X	X	X
			X			
X	X	X		X	X	X
X	X	X		X	X	X
X	X	X	X			
X	X	X				
			X(1)	X(4)	X(16)	X(4)
X(2)	X(2)	X(2)	X(8)	X(2)	X(8)	X(2)
X(4)	X(4)	X(4)	X(4)	X(6)	X(24)	X(6)
X(3)	X(2)	X(2)		X(8)	X(32)	X(8)
				X(4)	X(16)	X(4)
X(2)	X(2)	X(2)	X(3)	X(4)	X(16)	X(4)
X	X	X	X			
6	6	6	11	10	40	10

SELECTION GUIDE

	VALUE							
BASIC								
								
	450	6000F	600	1200	1300	650	1250	1350
CONTROL FUNCTIONS								
Control								
Single action PID heat, single action PID cool	X	X	X	X	X	X	X	X
Double action PID heat/cool		X	X	X	X	X	X	X
PID parameter groups						X	X	X
Self Tuning / Auto Tuning	X	X	X	X	X	X	X	X
Control outputs for motorized valves						X	X	X
Control outputs for motorized valves (with valve position feedback)								
Setpoint programmer								
Number of programs		1				4	4	4
Number of steps		3				12	12	12
Multiple setpoints			X (2)	X (2)	X (2)	X (4)	X (4)	X (4)
Logic operations (Function Blocks)						X	X	X
Timer function						X	X	X
Energy counter						X	X	X
Diagnostics								
Short circuit of main input ("LBA")	X	X	X	X	X	X	X	X
Interrupted load (total and partial) ("HB")			X	X	X	X	X	X
Short circuit actuator (ex: ssr alarm)			X	X	X	X	X	X
Output switch counters						X (4)	X (4)	X (4)
Mathematical calculations								
Data Logger								
Real Time Clock								
SERIAL INTERFACE								
RS 485 Modbus RTU protocol		X	X	X	X	X	X	X
FIELD BUS								
Profibus								
Profinet								
CanOpen								
DeviceNet								
Modbus TCP								
Ethernet IP								
EtherCAT								
Configuration with GF_eXpress	X	X	X	X	X	X	X	X
Configuration without Power Supply						X	X	X
Copy / Paste parameters with Zapper						X	X	X
GENERAL DATA								
Operating temperature								
0...50°C	X	X	X	X	X			
-10...55°C						X	X	X
Power supply								
100...240Vac	X	X	X	X	X	X	X	X
11...27Vac/dc	X		X	X	X			
20...27Vac/dc						X	X	X
24Vdc								
Front panel protection								
IP00		X						
IP20								
IP 54								
IP 65	X		X	X	X	X	X	X
CERTIFICATIONS								
CE	X	X	X	X	X	X	X	X
UL	X	X	X	X	X	X	X	X

PERFORMANCE

MULTIFUNCTION



800 / 800V / 800P



1600 / 1600V / 1600P



1800 / 1800V / 1800P



2500



PROMER

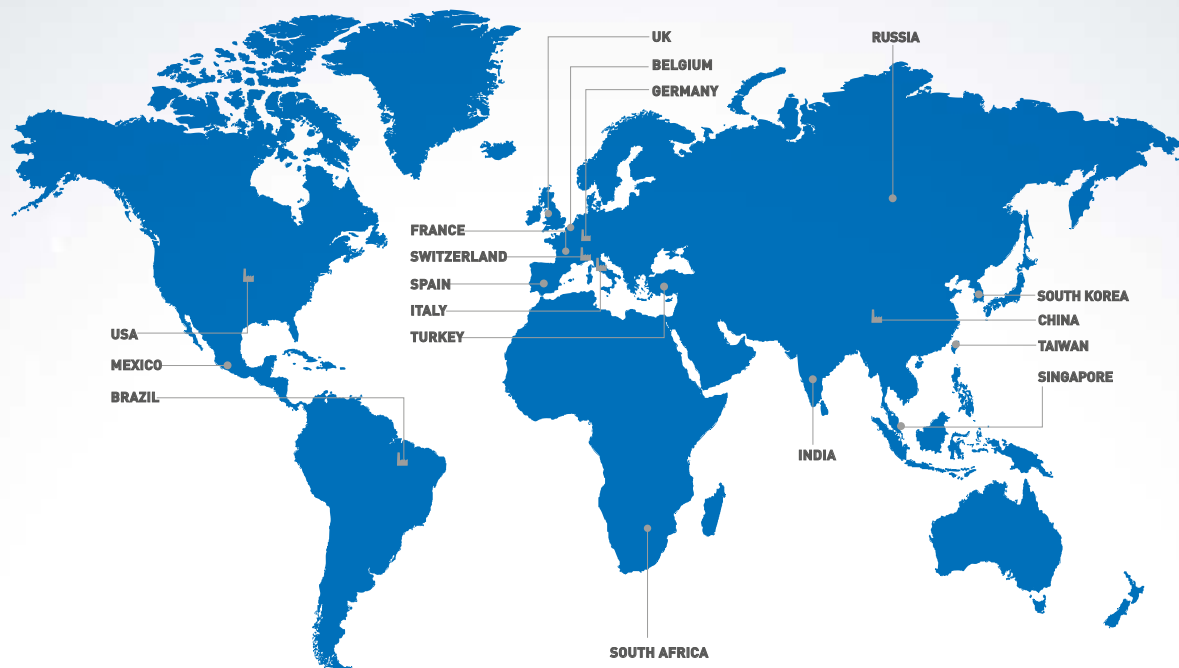


LOOPER



GFXTERM04

X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X (mod. V)	X (mod. V)	X (mod. V)		X		
X (mod. V)	X (mod. V)	X (mod. V)		X		
X (mod. P)	X (mod. P)	X (mod. P)		X		
4	4	4		100		
16	16	16		300		
X (4)	X (4)	X (4)		X (2)	X (8)	X (2)
X	X	X		X		
X	X	X	X	X	X	X
X	X	X		X	X	X
			X	X	X	
				X	X	
X	X	X	X	X	X	X
			X			X
						X
						X
				X	X	X
						X
						X
X	X	X	X			X
X	X	X	X	X	X	X
X	X	X	X			
X	X	X	X			
				X	X	X
			X			X
X	X	X		X	X	
X	X	X	X	X	X	X
X	X	X	X	X	X	X



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