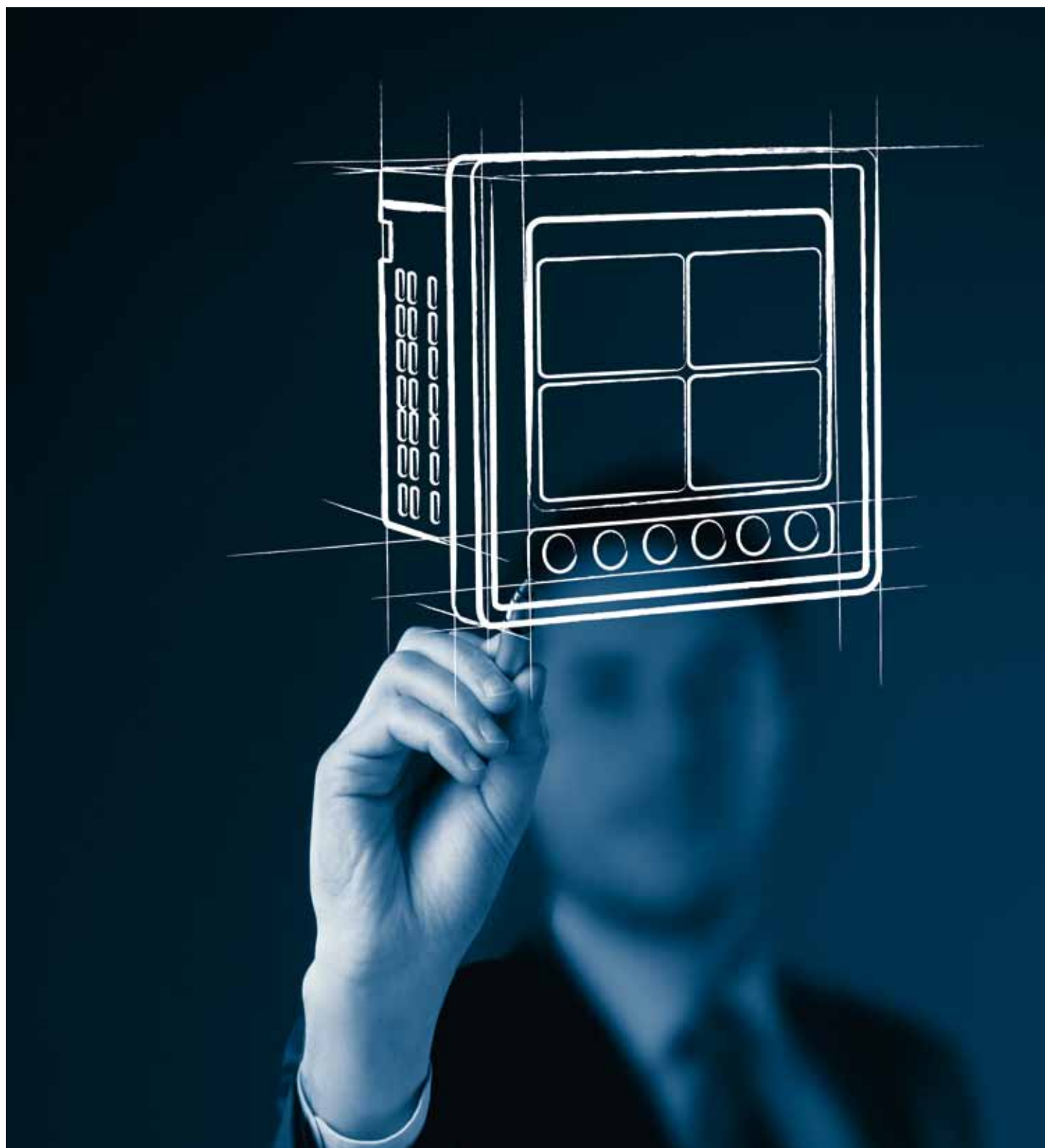


INSTRUMENTATION AND CONTROL **CONTROLLERS, PROGRAMMERS, MULTILoops**

GEFRAN





THE ACKNOWLEDGED INTERNATIONAL LEADER

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.

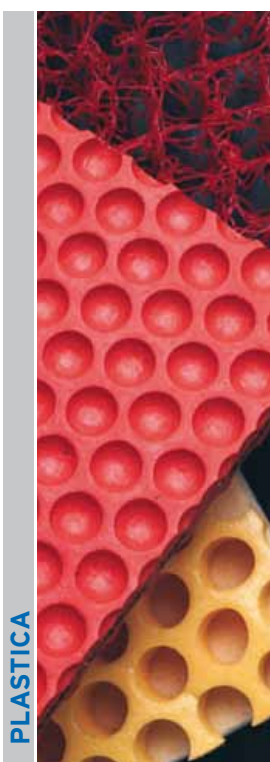


SOFTWARE

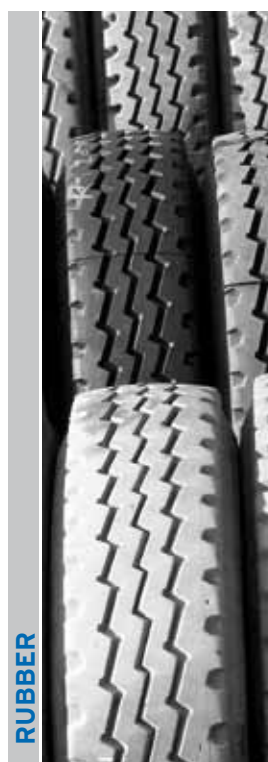
GF_eXpress

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



PLASTICA



RUBBER



METAL



A COMPLETE LINE OF CONTROLLERS

Gefran offers a wide range of models, from **general purpose to advanced, high-performance solutions**, made with graphic devices.

Gefran Controllers can acquire one or more analogue inputs, transforming them into engineering units and comparing them with setpoints.

Advanced PID control algorithms with automatic calculation of parameters supply output signals for control of installed actuators. In addition, they are **connectable in network** and **preset for remote access**.



SERVICES

PRE AND POST SALES

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

TRAINING

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.

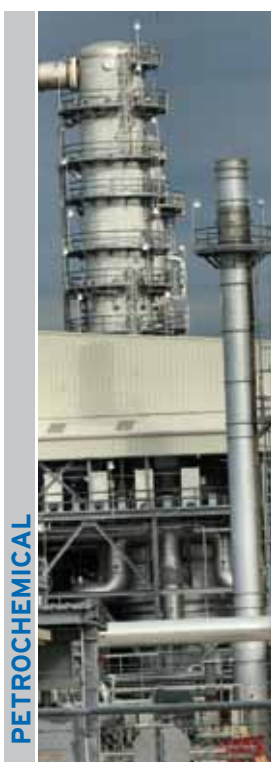
MARKETS



PHARMACEUTICAL



FOOD



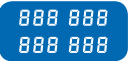
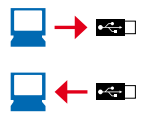
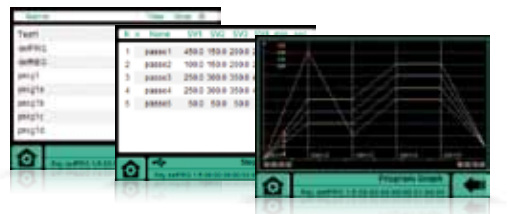
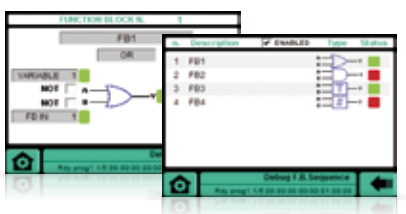
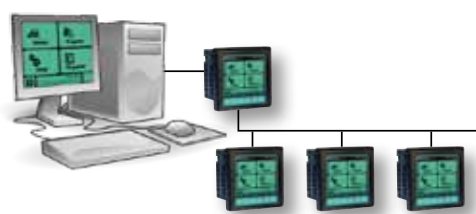
PETROCHEMICAL



TEST BENCHES



WATER TREATMENT

	GF_PROMER	GF_LOOPER
MONITOR  		•
TREND DATALOG  	•	•
RECIPES   	•	•
PROGRAMS  	•	
LOGIC BLOCK  	•	
LOOP DETAIL  	•	•
ALARMS  	•	•
CONNECTIVITY  	•	•



MULTILOOP GRAPHIC CONTROLLERS GF_LOOPER

- > **IP65**
Front protection.
- > **Control**
Remoted control boards.
- > **Display**
TFT color graphics display 3.5" and 5.7", touch screen.
- > **Graphics Pages**
Monitor pages for all zones, single zone, alarms, trends, bargraph, clock.
- > **Communication**
Connections via Ethernet ports with Modbus protocol,
- > **Datalog**
Data storage with export of esv format



PROGRAMMERS/CONTROLLERS GRAPHIC 4 LOOP GF_PROMER

- > **Graphics pages**
Monitor pages with trend, bargraph, alarms, programme profile.
- > **IP65**
Front protection.
- > **Display**
TFT color graphics display 3.5" and 5.7", touch screen.
- > **Programmes**
Up to 100 programmes divided into 300 segments
- > **Logic functions**
Configurable logic blocks to create automatic or machine interlock sequences
- > **Control**
Remoted control boards.
- > **Communication**
Connections via Ethernet ports with Modbus protocol,
- > **I/Os**
I/O expansion cards (optional).

UNIVERSAL MODELS			ADVANCED MODELS		
Single display	Double display		Double display		
				Valve controllers	Programmers for setpoint profiles
					
		1300	1800	1800V	1800P
					
		1200	1600	1600V	1600P
					
400 - 401	450	600	800	800V	800P
					
		600 OF			
Plastics, packaging, ovens			Furnaces, plants, process industry		

4-LOOP CONTROLLER	HIGH-PERFORMANCES			
	Triple display	LCD, touch screen display		
	High speed High accuracy	Graphic programmers	Graphic controllers	
				169x120 mm
		GF_Promer 5,7"	GF_Looper 5,7"	
				96x96 mm (1/4 DIN)
	2500 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)
GFXTERMO4 FIELD BUS*				
	Plastics, textile, process	Furnaces, heat treatments, climatic chambers, food, process heat		

FIELD BUS*: Profibus DP, CANopen, DeviceNet, Modbus TCP, Modbus RTU, Ethernet IP, EtherCAT, Profinet, PC Configurable

UNIVERSAL MODELS



		400	401	450
INPUTS				
Process analog	Number	1		
	Function	acquisition of process variable		
Sensor type	Thermocouple	TC: J,K,T,N,R,S,B,E internal cold junction compensation		
	Resistance thermometers	RTD: PT100 DIN43760		
	Thermistor	PTC: 990Ω@25°C on request		-
	Linare corrente	V voltage: 0...60mVdc,0...10Vdc		-
	Linear current	I current: 0/4...20mA		-
	Sampling time	120 ms		
	Accuracy	0,2% fs±1 digit		
	Resolution	< 4μV on 60mV, < 0,8mV on 10Vdc		
	Linearization	< 0,1% FS		
	Input filter	0...20,0 sec		
Auxiliary analog	Number	-	1	-
	Function	-	read: current absorbed by load	-
	Sensor type	-	Current transformer 0...50mAac <20Ω	-
Auxiliary digital	Number	-		-
	Function	-		-
	Type	-		-
OUTPUTS				
	Number	min.2 max.3		2
	Out. 1 Type	R,D		
	Out. 2 Type	R,D		R
	Out. 3 Type	-	R,D alternative to auxiliary analog input	-
	Out. 4 Type	-	-	-
	Out. 5 Type	-	-	-
	Out. 6 Type	-	-	-
	Function	heating, cooling, alarm		
	Type description	R Relay: NO/NC,max 5A,250Vac/30Vdc (resistive load) D Digital: 24Vdc,30mA, Rout:100Ω T Triac: 20...240Vac±10%V, 50/60Hz, 1A max. snubberless		
	Transmitter power supply	-		-
DISPLAY / KEYBOARD				
Display	Number	1		2
	Color	green		
	Display range	-1999...9999		
	Keyboard	4 keys		
FUNCTIONS				
	Main input diagnostics	sensor open or in short circuit (SBR)		
	Main output diagnostics	control loop open (LBA)		
	Aux. analogue input diagnostics	-	load interrupted (HB)	-
	Regulation	P, PD, PI, PID, on/off - single action heat or cool / double action heat + cool		P, PD, PI, PID, on/off - single action heat or cool
	Tuning	selftuning, autotuning,		
	Alarms no./	max.2	max.3	1
	Types	absolute, relative, symmetrical, direct, inverse		
SERIAL COMMUNICATION				
	Type	-		-
	Protocol	-		-
GENERAL DATA				
	Format	48x48 (1/16 DIN)		
	Depth	99mm		
	Front protection	IP65		
	Mounting	removable panel		
	Power supply	100...240Vac ±10%, opt. 11...27Vac ±10% 50/60Hz, 10VA max		
	Certifications	CE, UL		CE, UL pending



600		1200		1300		600 OF	
1							
acquisition of process variable							
TC: J,K,T,R,S, custom, internal cold junction compensation						TC: J,K,T,R,S, custom, internal cold junction compens.	
RTD: PT100 DIN43760, PT100,custom						RTD: PT100 DIN43760, PT100,custom	
PTC,NTC 990Ω@25°C/1KΩ@25°C						PTC,NTC 990Ω@25°C/1KΩ@25°C	
V voltage: 0...60mVdc,0...10Vdc custom						V voltage: 0...60mVdc,0...10Vdc custom	
I current: 0/4...20mA, custom						I current: 0/4...20mA, custom	
120 ms						0-120 ms	
0,2% fs±1 digit							
< 2μV su 60mV, < 0,4mV su 10Vdc						<2mV su 60mV, <0,4mV su 10Vdc	
< 0,1% FS							
0...20,0 sec							
1						-	
read: current absorbed by load						-	
Current transformer 0...50mAac <20Ω						-	
1		2				-	
configurable (man/auto,loc/rem,hold...)							
NPN 4,5mA, PNP 5mA 24Vdc isol.1500V						-	
min.2 max.4						5	
R						R, D	
R,D,T						R	
none, R,D,C,W alternative to auxiliary input		none, R,D,C,W				R	
none, R, alternative to serial line		none, R, D				R	
-						buzzer	
-						D	
heating, cooling, alarm							
R Relay: NO/NC,max 5A,250Vac/30Vdc __ (resistive load), D Digital: 24Vdc,30mA, Rout:100Ω T Triac: 20...240Vac±10%V, 50/60Hz, 1A max. snubberless, C Continue: 0...10Vdc, 0/4...20mA 500Ω not isolated W Continue: 0...10Vdc, 0/4...20mA 500Ω isolated							
2 wires, 15/24Vdc±10%, 50mA short-circuit protection						-	
2							
green,							
-1999...9999							
4 keys							
sensor open or in short circuit (SBR)							
control loop open (LBA)							
load interrupted (HB)						control loop open (LBA)	
P, PD, PI, PID, on/off - single action heat or cool / double action heat + cool							
selftuning, autotuning, autotuning single action - (600-OF: 3 steps for set profile)							
max.3 absolute, relative,							
symmetrical, direct, inverse, latching or non-latching							
RS485						RS485 (on request)	
Modbus RTU / Cencal GEFran						Modbus RTU	
48x48 (1/16 DIN)		48x96 (1/8 DIN)		96x96 (1/4 DIN)		90x45	
99mm		100mm				45mm	
IP65						-	
removable panel						rear panel	
switching 100...240Vac ±10% opt. 11...27Vac ±10%, 50/60Hz 8VA		switching 100...240Vac ±10%, 50/60Hz 18VA opt. 11...27Vac ±10%, 50/60Hz 11VA				switching 100...240Vac ±10% 50/60Hz 8VA	
CE, UL						CE	

ADVANCED MODELS



		800	1600	1800
INPUTS				
Process analog	Number	1		
	Function	acquisition of process variable		
Sensor type	Thermocouple	TC: J,K,T,N,R,S,B,E,N,L(GOST),Ni-Ni18Mo, custom, internal cold junction compensation		
	Resistance thermometers	RTD: PT100 DIN43760,JPT100,custom		
	Thermistor	PTC: 990Ω@25°C, custom		
	Linare corrente	V voltage: 0...60mVdc,0...10Vdc custom		
	Linear current	I current: 0/4...20mA custom		
	Sampling time	120 ms		
	Accuracy	0,2% fs±1 digit		
	Resolution	< 1μV on 60mV, < 0,2mV on 10Vdc		
	Linearization	< 0,1% FS		
	Input filter	0...20,0 sec		
Auxiliary analog	Number	1		
	Function	read: current absorbed by load - linear input, potentiometer		
	Sensor type	Current transformer 0...50mA 50/60HZ - linear voltage 0/2...10V, Ri>1MΩ, linare corrente 0/4...20mA, Ri=5Ω - pot. > 500Ω		
Auxiliary digital	Number	2 (second input alternative to output 5)		
	Function	configurable (man/auto,loc/rem,hold...)		
	Type	NPN 4,5mA, PNP 3,6mA 24V isol.1500V		
OUTPUTS				
	Number	min.2 max.5	min.2 max.6	
	Out. 1 Type	R,D	R,D	
	Out. 2 Type	R,D	R	
	Out. 3 Type	none, R, D	R	
	Out. 4 Type	none, R, V, I	none V, I	
	Out. 5 Type	none, V, I alternative Second digital input alternative	none V, I	
	Out. 6 Type	none	none V, I	
	Function	heating, cooling, alarm		
	Type description	R Relay: NO/NC, max.5A, 250V __ (resistive load) D Digital: 12Vdc, 20mA, Rout 220Ω V Analog: 0...10Vdc 500Ω Resolution 12bit I Analog: 0/4..20mA 500Ω isolated Resolution 12bit		
	Transmitter power supply	2wires, 10Vdc/24Vdc, 30mA short-circuit protection, isolated		
DISPLAY / KEYBOARD				
Display	Number	2		
	Color	verde		
	Display range	-1999...9999		
	Keyboard	4 keys		
FUNCTIONS				
	Main input diagnostics	sensor open or in short circuit (SBR)		
	Main output diagnostics	control loop open (LBA)		
	Aux. analogue input diagnostics	load interrupted (HB)		
	Regulation	P, PD, PI, PID, on/off - single action heat or cool - double action heat + cool		
	Tuning	selftuning, autotuning, single action		
	Alarms no./ Types	max. 5 absolute, relative, symmetrical, direct, inverse		
SERIAL COMMUNICATION				
	Type	RS232-RS422/485 - current loop, optoisolated, 4 wires		
	Protocol	Modbus RTU - Cencal GEFran		
GENERAL DATA				
	Format	48x48 (1/16 DIN)	48x96 (1/8 DIN)	96x96 (1/4 DIN)
	Depth	129mm	115mm	
	Front protection	IP65		
	Mounting	removable panel		
	Power supply	switching 100...240Vac/dc ±10% opt. 20...27Vac/dc ±10% 50/60Hz, 12VA max		
	Certifications	CE, RINA	CE, UL	



		800V	1600V	1800V
INPUTS				
Process analog	Number	1		
	Function	acquisition of process variable		
Sensor type	Thermocouple	TC: J,K,T,N,R,S,B,E,N,L(GOST),Ni-Ni8Mo, custom, internal cold junction compensation		
	Resistance thermometers	RTD: PT100 DIN43760,JPT100,custom		
	Thermistor	-		
	Linare corrente	V voltage: 0...60mVdc,0...10Vdc custom		
	Linear current	I current: 0/4...20mA custom		
	Sampling time	120 ms		
	Accuracy	0,2% fs±1 digit		
	Resolution	< 1µV on 60mV, < 0,2mV on 10Vdc		
	Linearization	< 0,1% FS		
	Input filter	0...20,0 sec		
Auxiliary analog	Number	1		
	Function	read: current absorbed by load - linear input, potentiometer		
	Sensor type	Current transformer 0...50mA 50/60HZ - linear voltage 0/2...10V, Ri>1MΩ, Linear current 0/4...20mA, Ri=5Ω - pot. > 500Ω		
Auxiliary digital	Number	2 (second input alternative to output 5)		
	Function	configurable (man/auto,loc/rem,hold...)		
	Type	NPN 4,5mA, PNP 3,6mA 24V isol.1500V		
OUTPUTS				
	Number	min.2 max.5	min.2 max.6	
	Out. 1 Type	R	R, D	
	Out. 2 Type	R	R	
	Out. 3 Type	none, R, D	R	
	Out. 4 Type	none, R, V, I	none V, I	
	Out. 5 Type	none, V, I alternative Second digital input alternative 2	none V, I	
	Out. 6 Type	none	none V, I	
	Function	Open, close, heating, cooling, alarm		
	Type description	R Relay: NO/NC, max.3A, 250V __ (resistive load) D Digital: 12Vdc, 20mA V Analog: 0...10Vdc 500Ω isolated 12bit I Analog: 0/4...20mA 500Ω isolated 12bit		
	Transmitter power supply	10Vdc/24Vdc, 30mA short-circuit protection, isolated		
DISPLAY / KEYBOARD				
Display	Number	2	2 + bargraph	
	Color	green,	green, red	
	Display range	-1999...9999		
	Keyboard	4 keys	5 keys	
FUNCTIONS				
	Main input diagnostics	sensor open or in short circuit (SBR)		
	Main output diagnostics	control loop open (LBA)		
	Aux. analogue input diagnostics	load interrupted (HB)		
	Regulation	P, PD, PI, PID, on/off - single action heat or cool - double action heat + cool Tree step motorized valves (with or without position feedback)		
	Tuning	selftuning, autotuning,		
	Alarms no./ Types	max. 5 absolute, relative, symmetrical, direct, inverse		
SERIAL COMMUNICATION				
	Type	RS232-RS422/485 - current loop, optoisolated, 4 wires		
	Protocol	Modbus RTU - Cencal GEFran		
GENERAL DATA				
	Format	48x48 (1/16 DIN)	48x96 (1/8 DIN)	96x96 (1/4 DIN)
	Depth	129mm	115mm	
	Front protection	IP65		
	Mounting	removable panel		
	Power supply	switching 100...240Vac/dc ±10% opt. 20...27Vac/dc ±10% 50/60Hz, 12VA max		
	Certifications	CE, RINA	CE, UL	

ADVANCED MODELS



		800P	1600P	1800P
INPUTS				
Process analog	Number	1		
	Function	acquisition of process variable		
Sensor type	Thermocouple	TC: J,K,T,N,R,S,B,E,N,L(GOST),Ni-Ni18Mo, custom, internal cold junction compensation		
	Resistance thermometers	RTD: PT100 DIN43760,JPT100,custom		
	Thermistor	-		
	Linare corrente	V voltage: 0...60mVdc,0...10Vdc custom		
	Linear current	I current: 0/4...20mA custom		
	Sampling time	120 ms		
	Accuracy	0,2% fs±1 digit		
	Resolution	< 1µV on 60mV, < 0,2mV on 10Vdc		
	Linearization	< 0,1% FS		
	Input filter	0...20,0 sec		
Auxiliary analog	Number	1		
	Function	read: current absorbed by load - linear input, potentiometer		
	Sensor type	TA 0...50mA 50/60HZ lin. voltage 0/2...10V, Ri>1MΩ, lin. current 0/4...20mA, Ri=5Ω - pot. > 500Ω	0...50mA ac <20Ω - 0/4...20mA 0..10Vdc > 1MΩ - 100...1000Ω isol.1500V	
Auxiliary digital	Number	2 (second input alternative to output 5)		
	Function	configurable (man/auto,loc/rem,hold...)		
	Type	NPN 4,5mA, PNP 3,6mA 24V isol.1500V		
OUTPUTS				
	Number	min.2 max.5	min.2 max.6	
	Out. 1 Type	R, D	R, D	
	Out. 2 Type	R, D	R	
	Out. 3 Type	none, R, D	R	
	Out. 4 Type	none R, V, I	none, R, D	
	Out. 5 Type	none, V, I alternative Second digital input alternative	none V, I	
	Out. 6 Type	none	none V, I	
	Function	Open, close, heating, cooling, alarm		
	Type description	R Relay: NO/NC, max.3A, 250V __ (resistive load) D Digital: 12Vdc, 20mA V Analog: 0...10Vdc 500Ω isolated 12bit I Analog: 0/4...20mA 500Ω isolated 12bit		
	Transmitter power supply	2 wires, 10Vdc/24Vdc, 30mA short-circuit protection, isolated		
DISPLAY / KEYBOARD				
Display	Number	2	2 + baragraph	
	Color	green,	green, red	
	Display range	-	-1999...9999	
	Keyboard	4 keys	5 keys	
FUNCTIONS				
	Main input diagnostics	sensor open or in short circuit (SBR)		
	Main output diagnostics	control loop open (LBA)		
	Aux. analogue input diagnostics	load interrupted (HB)		
	Regulation	P, PD, PI, PID, on/off - single action heat or cool - double action heat + cool	P, PD, PI, PID, on/off - single action heat or cool - double action heat + cool Tree step motorized valves (with or without position feedback)	
	Tuning	selftuning, autotuning, single action		
	Alarms no./ Types	max. 5 absolute, relative, symmetrical, direct, inverse		
PROGRAMMER di setNr. Programs		4		
	Nr. passi	up to 16 steps		
SERIAL COMMUNICATION				
	Type	RS232-RS422/485 - current loop, optoisolated, 4 wires		
	Protocol	Modbus RTU - Cencal GEFran		
GENERAL DATA				
	Format	48x48 (1/16 DIN)	48x96 (1/8 DIN)	96x96 (1/4 DIN)
	Depth	129mm	115mm	
	Front protection	IP65		
	Mounting	removable panel		
	Power supply	switching 100...240Vac/dc ±10% opt. 20...27Vac/dc ±10% - 50/60Hz, 12VA max		
	Certifications	CE, RINA	CE, UL	

HIGH-PERFORMANCES



		2500	GFXTERMO4
INPUTS			
Process analog	Number	1 (2)	4
	Function	acquisition of process variable	
Sensor type	Thermocouple	Strain gauge: 350, sensibility 1,5...4mV/V with probe power supply 5/10Vdc. Potentiometer: £100Q, Ri>10MQ-@2,5Vdc DC linear:±60mV, ±100mV, Ri>10MΩ, ±60mV, ±100mV, Ri> 10MΩ - TC	J,K,T,R,S, custom, internal cold junction compensation
	Resistance thermometers		PT100 DIN43760, PT100, custom
	Linare corrente		0/12...60mV, Ri>1MΩ, 0/0,2...1V, Ri>1MΩ, custom 60mV
	Linear current		0/4...20mA, Ri=50Q, custom 20mA a 32 segments
	Sampling time	2 ms	120ms
	Accuracy	0,1% fs ±1 digit	0,2% fs ±1 scale point at 25°C
	Resolution	< 0,6µV on 60mV, < 0,1mV on 10Vdc	-
	Input filter	0...20,0 sec	
Auxiliary analog	Number	2	4
	Function	remote set, offset, mathematics	Read: current absorbed by load - linear input - TC
	Sensor type	Potentiometer: 1...10KQ-@10Vdc DC linear 10V, Ri>2mΩ, 0/4...20mA, Ri=50Q	External CT 50mAac; 50/60Hz, Ri = 10Ω Range voltage 0/12...60mV, Ri > 1MΩ TC J, K, R, S, T, custom
Auxiliary digital	Number	from 2 to 6	1
	Function	configurable	configurable (man/auto,loc/rem,hold, prg ...)
	Type	NPN 5mA - PNP 5mA 24Vdc isolati	PNP, 24Vdc, 8mA (isol. 3500V)
OUTPUTS			
	Number	4	min.6 max.10
	Out. 1 Type	none, R,D,V,I - alternative R power supply	D
	Out. 2 Type	none, R,D,V,I transmitter power supply alternative	D
	Out. 3 Type		D
	Out. 4 Type	R alternative	D
	Out. 5 Type	-	O,R,D,C,T
	Out. 6 Type	-	O,R,D,C,T
	Out. 7 Type	-	O,R,D,C,T
	Out. 8 Type	-	O,R,D,C,T
	Out. 9 Type	-	R
	Out. 10 Type	-	R
	Function	heating, cooling, alarm	
	Type description	24Vdc, 100mA	-
	Transmitter power supply	10Vdc, bridge resistance 250mA	-
DISPLAY / KEYBOARD			
	Color	green, red	-
	Keyboard	6 keys	-
FUNCTIONS			
	Main input diagnostics	sensor open or in short circuit (SBR)	
	Main output diagnostics	control loop open (LBA)	
	Aux. analogue input diagnostics	load interrupted (HB)	
	Regulation	P, PD, PI, PID, on/off, - single action heat or cool, double action heat + cool	
	Tuning	selftuning, autotuning, autotuning single action	
	Alarms no./ Types	max 10	max.8, absolute, relative, symmetrical, direct, inverse, latching or non-latching
SERIAL COMMUNICATION			
	Serial 1	optional	always present
	Type	RS485	RS485
	Protocol	-	Modbus RTU
	Serial 2	-	optional
	Type	-	according to protocol
	Protocol	Modbus RTU, Profibus	Profibus DP, CANopen, DeviceNet, Modbus TCP, Modbus RTU, Ethernet IP, EtherCAT, Profinet
GENERAL DATA			
	Power supply	switching 100...240Vac/dc ±10% option 20...27Vac/dc ±10% 48/62Hz, max 15VA	24Vdc ±25%, 5VA max
	Certifications	CE, UL	

HIGH-PERFORMANCES

GF_PROMER 3.5" & 5.7"



Distributed solution with series GFX modules

		GFX1	GFX2	GFX4 / GFX4-IR	GFXTERM04
INPUTS (per module)					
Process analog	Number of PID loops	1	1	4	4
	Function	Acquisition of process variable			
Sensor type	Thermocouple	J,K,R,S,T, TC custom (32 pti), internal cold junction compensation			
	Resistance thermometers	PT100 DIN 43760, PT100 custom (32 pti)			
	Tensione	0/12...60mV, Ri>1MΩ; 0/0,2...1V, Ri>1MΩ; 0-60mV custom (32 pti)			
	Corrente	0/4-20mA, Ri=50Ω, mA custom (32 pti)			
	Sampling time	120 msec.			
	Accuracy	0,2% f.s. ±1 scale point at 25°C			
	Input filter	0...20,0 sec			
Auxiliary analog	Number	0	1	4TA / 4 AUX	
	Function	-	Feedback pot	Read external CT/visual.AUX	
	Sensor type	-	Potentiometer min...max.	50mAac; 50/60Hz, Ri=10Ω / TC 0-60mV	
OUTPUTS (per module)					
Control analog	Number	-	2	4	4
	Function	Heating/Cooling control outputs			
	Type description	0-10V, 0/4-20mA			
Digital/Relay	Number	max 4	max 4	max 6	max 10 (max 6 Relay)
	Function	Heat / Cool / Alarms / Event outputs			
DISPLAY					
	Dimensioni	3,5" and 5,7"			
	Type	display LCD TFT colors, 1/4 VGA, touch screen			
	Keyboard	resistive touch screen, 6 mechanical keys, pressed key feedback (mod. 35CT)			
	FUNCTIONS	data display, programmed setpoint graphics, PV+SP graphics, PV+SP bargraph Pout% bargraph, alarms, password, RTC calendar			
FUNCTIONS					
	Main input security	sensor open or in short circuit (SBR)			
	Main output security	control loop open (LBA)			
	Actuator/load safety	load interrupted alarm (even partial) with inputs from CT and alarm outputs			
	Regulation	ON/OFF, Proportional (P), Proportional Derivative (PD), Proportional Integral Derivative (PID) Heat, Cool, Heat/Cool with double independent PID			
	Tuning	selftuning, autotuning, one shot autotuning			
PROGRAMMER					
	Programs	100 Programs			
	Steps	300 steps			
	Program repetition	infinite			
	Steps repetition	infinite			
	Clearance inputs	up to max 16 (with optional modules)			
	Event OUTPUTS	up to max 16 (with optional modules)			
	Logical FUNCTIONS	100 logical blocks (AND, OR, TIMER, TRIGGER) configurable			
	Save config. parameters	to internal solid disk, can be copied to USB flash drive			
	Save recipes	to internal solid disk, can be copied to USB flash drive			
SERIAL COMMUNICATION					
	Type	RS485, Ethernet port			
	Protocol	Modbus RTU, Modbus TCP			
GENERAL DATA					
	Format	96x96mm (3,5") / 169x120mm (5,7")			
	Front protection	IP65			
	Mounting	panel-mounted (and on DIN rod for control modules)			
	Power supply	24V dc			
	Certifications	CE, UL			

GF_LOOPER 3.5" & 5.7"


Distributed solution with series GFX modules

		GFX4 / GFX4-IR		GFXTERMO4	
INPUTS (per module)					
Process analog		Number of PID loops		4	4
		Function		Acquisition of process variable	
Sensor type		Thermocouple		J,K,R,S,T, TC custom (32 pti), internal cold junction compensation	
		Resistance thermometers		PT100 DIN 43760, PT100 custom (32 pti)	
		Tensione		0/12...60mV, Ri>1MQ; 0/0,2...1V, Ri>1MQ; 0-60mV custom (32 pti)	
		Corrente		0/4-20mA, Ri=50Ω, mA custom (32 pti)	
		Sampling time		120 msec.	
		Accuracy		0,2% f.s. ±1 scale point at 25°C	
		Input filter		0...20,0 sec	
Auxiliary analog		Number		4TA / 4 AUX	
		Function		Read external CT/visual.AUX	
		Sensor type		50mAac; 50/60Hz, Ri=10Ω / TC 0-60mV	
OUTPUTS (per module)					
Control analog		Number		4	4
		Function		Heating/Cooling control outputs	
		Type description		0-10V, 0/4-20mA	
Digital/Relay		Number		max 6	max 10 (max 6 Relay)
		Function		Heat / Cool / Alarms	
DISPLAY					
		Dimensioni		3,5" e 5,7"	
		Type		display LCD TFT colors, 1/4 VGA, touch screen	
		Keyboard		resistive touch screen, 6 mechanical keys, pressed key feedback (mod. 35CT)	
		FUNCTIONS		data display, PV+SP graphics, PV+SP bargraph, Pout% bargraph, alarms, password, RTC calendar	
FUNCTIONS					
		Main input security		sensor open or in short circuit (SBR)	
		Main output security		control loop open (LBA)	
		Actuator/load safety		load interrupted alarm (even partial) with inputs from CT and alarm outputs	
		Regulation		ON/OFF, Proportional (P), Proportional Derivative (PD), Proportional Integral Derivative (PID) Heat, Cool, Heat/Cool with double independent PID	
		Tuning		selftuning, autotuning, one shot autotuning	
MULTILOOP					
		Number of loops		da 4 a 16	
		GFX communications		with Modbus RTU (RS485)	
		Double setpoint SP/SP2		available	
		UP/DOWN SP working		available	
		ON/OFF single Loop		available	
		Data logging		available with export of csv data	
		Multilanguage		available	
		Save config. parameters		to internal solid disk, can be copied to USB flash drive	
		Save recipes		to internal solid disk, can be copied to USB flash drive	
SERIAL COMMUNICATION					
		Type		RS485, port Ethernet	
		Protocol		Modbus RTU, Modbus TCP	
GENERAL DATA					
		Format		96x96mm (3,5") / 169x120mm (5,7")	
		Front protection		IP65	
		Mounting		panel-mounted (and on DIN rod for control modules)	
		Power supply		24V dc	
		Certifications		CE, UL	

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