

INFRARED LAMP POWER CONTROL



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

QUALITY AND TECHNOLOGY

Gefran components are a **concentrate of technology**, the result of constant research and of **cooperation with major research centres**.

For this reason, Gefran is synonymous with **quality and expertise in the design and production of:**

- **Sensors** for measuring main variables such as **temperature, pressure, position and force**.
- **State-of-the-art components and solutions for indication and control**, satisfying demands for optimisation of processes and intelligent management of energy consumption.
- **Automation platforms** of various complexities.
- **Electronic drives and electric motors** in AC and DC for all industrial automation, lift, and photovoltaic needs.

Gefran's know-how and experience guarantee **continuity** and tangible solutions.

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



PET BOTTLES



GLASS



FOOD



WOOD EDGE BANDING



SEMICONDUCTORS



PHOTOVOLTAICS



AUTOMOTIVE PLASTIC WELDING



HEAT TREATMENTS



PRINTING

In addition to foreseeing the market's application needs, Gefran forms partnerships with its customers to find **the best way to optimise and boost the performance of various applications.**

Gefran products communicate with one another to provide integrated solutions, and can dialogue with devices by other companies thanks to compatibility with numerous fieldbuses.

CANopen

EtherCAT

DeviceNet

EtherNet/IP

Modbus

PROFIBUS

PROFINET

WHY GEFRAN

IMPROVED LAMP LIFE CYCLE

Up to 20% cost saving thanks to a specific IR Soft Start.

SOLID PERFORMANCES

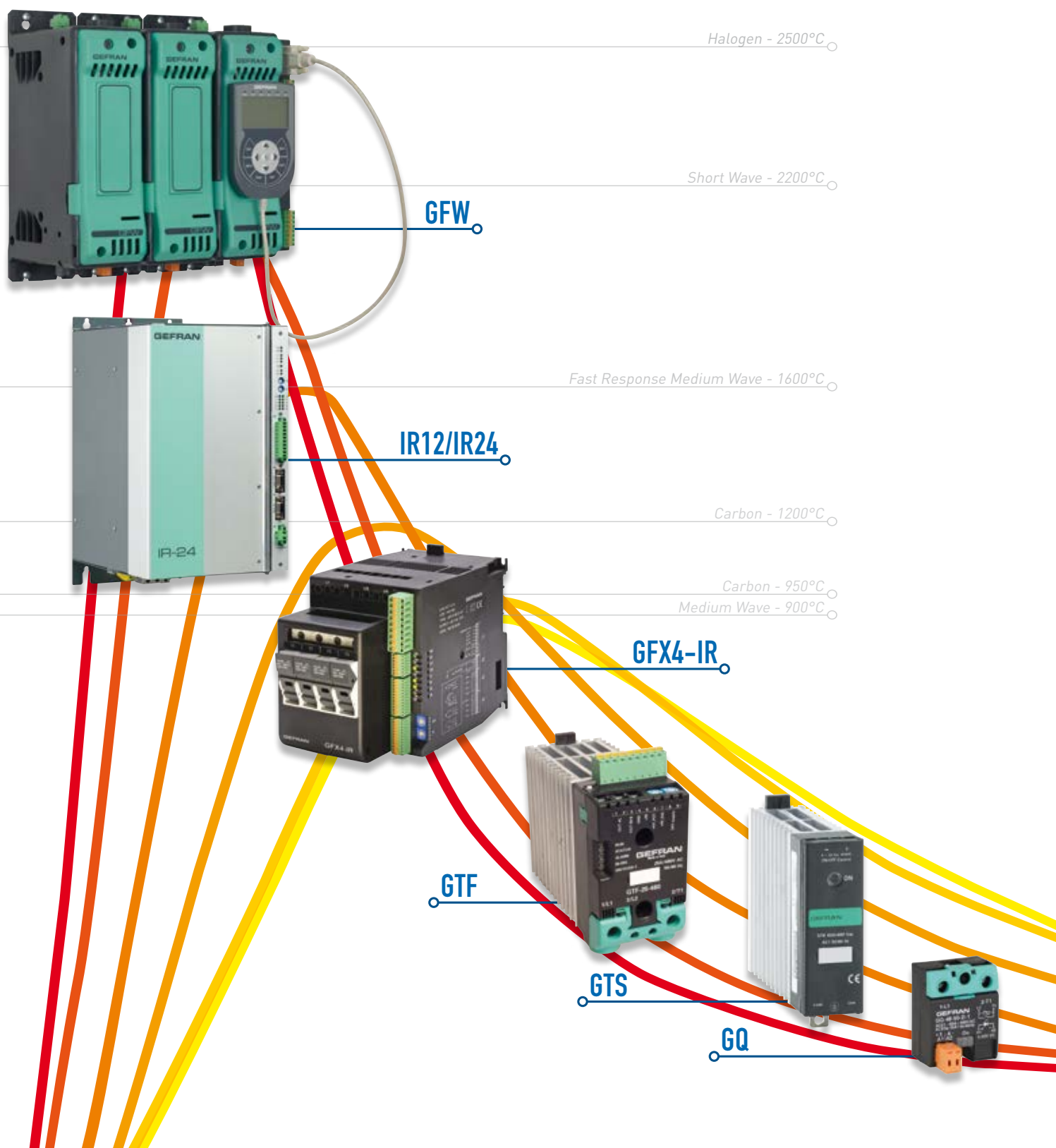
For high demanding applications as photovoltaic.

TEMPERATURE & POWER CONTROL AUTOTUNING

Up to 40% cost saving for a superior process control loop.

COMPACT FOOT PRINT

Up to 50% space saving in hi-density applications..



THE RIGHT CONTROL FOR ALL IR HEATING LAMPS



IMAGE: Heraeus Noblight, Hanau

*Medium wave radiators with carbon filament
Radiators with or without gilded reflector*

Gefran provides a **complete range of power control devices intended for IR heating lamp control, ranging from simple to complex.**

Infrared heaters are used in lots of systems due to their versatility and their ability to convey thermal energy allowing **accuracy, high efficiency and energy savings.**

The Gefran power controllers, with its specific functions, provide infrared heaters with the fastest and more precise electronic control they require, keeping them in perfect control and enhancing their performance.

SPECIAL IR SOFT START

Current peaks and overloads under control due to a specific algorithm: the lamp lighting follows an unlinear curve.

FREE FIRING MODE SELECTION

The half single cycle firing mode controls the IR lamps with reduced flickering and no EMC noise emission: no filters required.

Phase angle control guarantees perfect power stability for the lamps.

“FEEDBACK” FUNCTIONS

Voltage, current and power feedback allow for perfect adjustment: it automatically corrects voltage and current variations, so that at any time and in all conditions the process is provided exactly with the energy it requires.

LAMP DETECTION

Fast true RMS current reading ensures control of broken lamps, in any firing mode.

A self-learning heater technical characteristic procedure increases the accuracy of lamp detection.

CURRENT LIMIT

No risk of exceeding the limit. Peak current and RMS current values are always under control.

SMART CONFIGURATION



Select the ideal device to adjust your IR lamps and discover how simple configuring is with 'smart configuration' managed by **GF_eXpress**, GEF-RAN's universal configuration SW.

GF_eXpress is the software for configuring/parameterizing all GEF-RAN devices (components, automation products, drives, and sensors). Selecting and parameterizing the instrument is easy and user-friendly thanks to the graphic interface provided.

The "Smart Configurator" function allows you to configure quickly, through a guided selection of options, without the parameters of the product being known.

Main features:







- Guided selection of products
- Simplified settings
- Multi-lingual
- Printing of parameters
- Creation and saving of instructions
- Autoscanning of network devices
- Trend and logging functions



GUIDE TO SELECTION

	SHORT WAVES	MEDIUM WAVES	LONG WAVES
Single zone devices	GTF, GFW	GTF, GFW	GQ, GTS, GTF, GFW
Multi-zone devices (4 "all in one" zones)	GFX4-IR	GFX4-IR	GFX4-IR
Multi-zone devices (12/24 zones)	IR12/IR24	IR12/IR24	IR12/IR24

PRODUCT FEATURES

	SERIES					
	GQ	GTS	GTF	GFX4-IR	IR12/IR24	GFW
						
TECHNICAL DATA						
Digital control	x	x	x	x		x
Analogue control			x	x		x
Potentiometer control			x			x
Control through fieldbus			x	x	x	x
"Zero crossing" control	x	x	x	x		x
Single cycle and half single cycle control			x	x	x	x
"Phase angle" control"			x	x	x	x
Solutions up to 9 A					x	
Solutions up to 40A	x	x	x	x		x
Solutions up to 90A	x	x	x			x
Solutions up to 120A		x	x			x
Solutions up to 250A			x			x
Line voltage 480 Vac	x	x	x	x	x	x
Line voltage 600 Vac	x		x			x
Three-phase configurations			x	x	x	x
Interrupted load check (partial and total)			opt.	x	x (tot.)	opt.
Impedance/temperature curve linearization			x	x		x
Soft Start, Current limit, Feedback of V, V ² , I, I ² , P			opt.	x		opt.
Internal PID control				x		opt.
On-board extra-rapid fuse			opt.	opt.	x	opt.
Internal restorable electronic fuse			opt.			opt.
Fieldbus			x	x	x	x

GFW

Single-/bi-/tri-phase modular single channel static power regulator.

- Digital signals, analogue signals, potentiometers, serial communication and Fieldbus input controls
- Traditional fuse or on-board electronic fuse (optional)
- Smart Load Management (SLM) for energy bill control
- PID controller (optional)

IR 12/ IR24

Power regulator static 12/24 channels

- Command input via serial communication or Fieldbus
- For single-phase connections balanced on the three phases.
- Fuses and fuse holders on board

GFX4-IR

4 channel solid state power controller with on-board PID capability controller

- Analogue input control or serial communication/Fieldbus input control

- Configurable for single phase and 3-phase solutions with all possible wiring
- "all in one": PID control with autotuning, power control, lamp detection, on-board fuses and fuse-holders, Fieldbus communication.

GTF

Single channel solid state power unit

- Digital signals, analogue signals, potentiometers, serial communication input controls
- Enhanced lamp detection with high resolution
- Traditional fuse or on-board electronic fuse (optional)

GTS

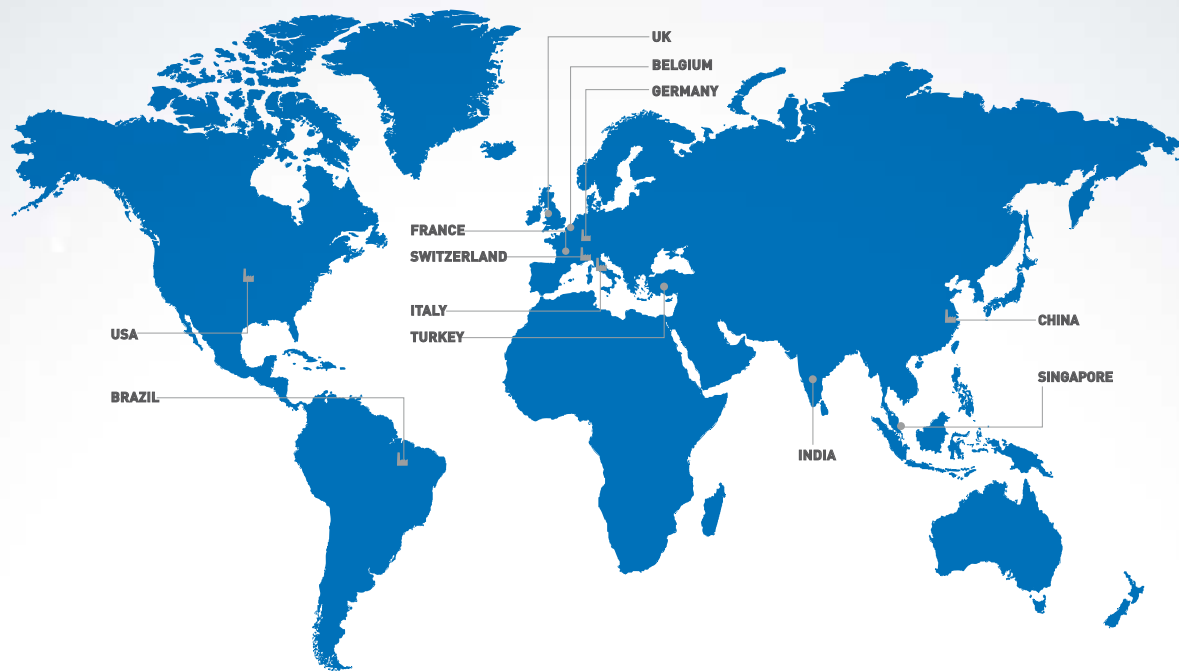
Solid state power unit

- Digital input control, zero crossing firing mode

GQ

Static relay, from 25A to 90A, 480Vac and 600 Vac

- Digital Vdc and Vac input command, zero crossing firing mode



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