

GRM-H Series Compact Power Controller Accessories



Part No. **GRM-H-USB-CBL**



Part No. **GRM-H-NFC**

The Gefran NFC Dongle enables contactless configuration and diagnostics of GRM-H power controllers via smartphone app using Near Field Communication technology. The dongle plugs into the micro-USB port on the GRM-H front panel and acts as an NFC antenna (not device memory), allowing wireless data exchange when a smartphone with the free Gefran NFC app (Android/iOS) is placed within a few millimeters of the dongle. Configuration can be performed with the GRM-H powered or unpowered, as the smartphone supplies power to the internal memory during NFC connection, and the device automatically validates transmitted data before loading new recipes to prevent corruption. The USB-TTL programming cable provides an alternative configuration method via PC using GF_eXpress software, featuring USB to micro-USB connectors with 1.8-meter (5.9 ft) cable length and TTL serial communication (non-isolated).

Features

- NFC Dongle with lanyard; removable or can remain inserted after configuration
- NFC Functionality: Enables wireless read/write of configuration recipes, model information, and diagnostic data (energy meters, current peaks, over-temperature events); supports recipe duplication and sharing across multiple devices; works with free Gefran NFC app (Android/iOS)
- USB Programming Cable: 1.8-meter (5.9ft) cable with USB to micro-USB connectors for PC configuration via GF_eXpress software; TTL serial 3V non-isolated communication; powers the GRM-H during programming; used for initial setup and advanced configuration
- Configuration Capability: Both NFC and USB methods support powered or unpowered device configuration; NFC uses smartphone power to access internal memory; automatic data validation ensures recipe integrity before loading; invalid transmissions are rejected to protect device operation



Manual



Scan or click the above QR code to be taken to the GRM-H Series Configuration and Programming Manual

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Model	Description	Weight (lb)	Price
<u>GRM-H-USB-CBL</u>	Gefran configuration cable, USB to micro-USB, 5.9ft/1.8m cable length. For use with Gefran GRM-H series power controllers.	0.13	\$197.00
<u>GRM-H-NFC</u>	Gefran NFC dongle, microB-USB. For use with Gefran GRM-H series power controllers.	0.06	\$17.50
<u>GF-EXPRESS-SW</u>	Gefran Windows configuration and monitoring software, free download only. For use with Gefran GRM-H series power controllers. Requires GRM-H-USB-CBL configuration cable or USB-485M USB to RS-485 communication adapter.	N/A	Free Download

GRM-H Series Compact Power Controllers

GRM-H Series Overview



Part No. GRM-H-25-48-AN-0-1

The Gefran GRM-H series provides ultra-compact single-phase power controllers with current ratings from 10A to 75A and load voltages up to 480 VAC in an extremely compact DIN rail or panel-mount package. These solid-state controllers feature advanced current limiting and continuous load monitoring with special algorithms that prevent startup current surges (which can reach up to 15 times rated current on cold loads like infrared lamps or silicon carbide heating elements) and maintain stable energy delivery by compensating for voltage fluctuations, temperature variations, and heating element aging. Control options include analog input (0–5V, 0–10V, 0–20 mA, 4–20 mA, potentiometer, PWM) or Modbus RTU digital communication, with feedback algorithms in V, I, V^2 , I^2 , P, and Z to ensure consistent power delivery. Multiple firing modes are available including ZC (Zero-crossing), phase angle control, ON/OFF, optimized/fixed cycle time, half-single-cycle, and configurable softstart ramps for demanding applications. The thermal design guarantees continuous rated current delivery at 40 °C (104 °F) ambient temperature through high-efficiency heatsinks. Configuration is accomplished via smartphone app using NFC technology or PC software (GF_eXpress) via USB cable or using RS-485 on supported models with three configurable alarm outputs (two PNP, one dry contact) for comprehensive load diagnostics including partial/total heater break, line faults, and over-temperature detection. The specified models include 10A, 25A, 50A, and 75A ratings at 480V with analog control, both standard and Modbus RTU (MR models) versions, plus NFC dongle and USB programming cable accessories.

Features



Part No. GRM-H-25-48-AN-MR-1

- Current Ratings & Voltage: 10A, 25A, 50A, 75A models rated for 480 VAC (60–530 VAC working range), all in ultra-compact dimensions (137.8mm × 116.5mm × varying widths)
- Analog Control Input: Configurable analog command input supporting 0–10V, 0–5V, 0–20 mA, 4–20 mA, potentiometer (1 kΩ – 47 kΩ with +5V supply), and PWM (1–100 Hz); input accuracy ±1% F.S. ±1 scale point at 25 °C (77 °F)
- Power Supply: 12–30 VDC (I_{max} 20 mA @ 24 VDC) for standard models; 18–30 VDC (I_{max} 35 mA @ 24 VDC) for MR (Modbus RTU) models; cage clamp terminals for power connections
- Control Modes: Zero-crossing (ZC), Burst Firing with optimized cycle time (BF), Fixed Cycle Time (FCT, 1–200 sec), Half-Single-Cycle (HSC), Phase Angle (PA) with configurable softstart ramps; delay triggering 0–90° for inductive loads
- Advanced Load Protection: Continuous current monitoring with current limiting algorithms, feedback control in V, I, V^2 , I^2 , P, Z for stable energy delivery compensating line voltage fluctuations and load aging, startup inrush current management
- Diagnostics & Alarms: Three alarm outputs - two PNP outputs (normally off, configurable), one dry contact N.O. (max 30 VDC 150 mA); configurable alarms for partial/total heater break (HB), line fault, thermal protection, SCR short circuit
- Configuration Options: NFC smartphone app (Android/iOS) with NFC dongle (GRM-H-NFC accessory), or PC software via USB-TTL cable (GRM-H-USB-CBL accessory); supports parameter duplication and sharing
- Environmental & Mounting: Operating temperature 0–80 °C (32–176 °F) with derating curves, IP20 protection rating, DIN EN50022 rail or panel screw mounting, minimum 20mm horizontal spacing between units, vertical orientation required (max 10° inclination)

