# Grid Monitoring Relay Datasheet


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V.25.1

# 1. INTRODUCTION

## 1.1. General Features

This product of the Grup ARGE brand is a multifunctional (Loss of Mains) grid monitoring relay positioned between the main power grid and the renewable energy generation power plant. By continuously monitoring various parameters of the city network, it separates the power plant and the main electricity network within the time specified by the user or specifications in case of any voltage or frequency disturbance that may occur, and ensures that the renewable generation plant is reactivated when the system reaches its nominal value. The device can be explained under the following headings.

Grid monitoring relay: 3 phase-neutral voltages, phase-neutral and phase-phase voltages, frequency, voltage and frequency drift can be measured and displayed on the screen. In addition, it saves the error conditions determined in the device in its memory. Many necessary adjustments related to the device (Vmin, Vmax, Fmin, Fmax) can be made through the menu. Thanks to the communication system, all read parameters can be monitored remotely via standard MODBUS protocol and various adjustments can be made.

## 1.2. Key Features

- Microprocessor Based Monitoring and Control
- **Wide Range Supply:** 85-265 V AC / 24-265 V DC
- **Maximum Measurement Voltage:** 500 V AC RMS (500Vp) (Phase - Phase: 800 V)
- Neutral Interruption Detection
- **Frequency Measurement Range:** 40-70 Hz
- Ease of Communication with RS-485 Modbus RTU Protocol and 247 Different Modbus Address

## 1.3. Inputs and Outputs

- 1 24 V DC Output
- 1 MODBUS RS485 Port
- 4 Digital Inputs
- 3 Relay Outputs 230 V AC / 32 V DC 10A
- 3 Phase - Neutral Analog Voltage Measurement Input

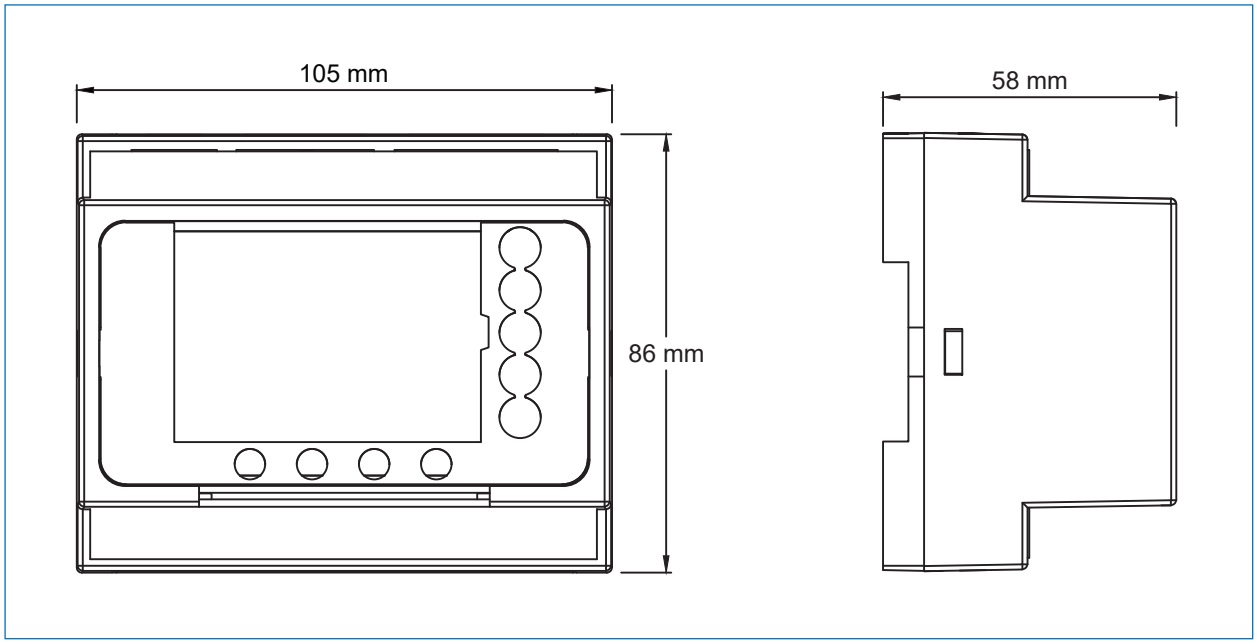
## 1.4. Functions

- Low and High Voltage 1st Step Trip / Protection
- Low and High Voltage 2nd Step Trip / Protection
- Low and High Frequency 1st Step Trip / Protection
- Low and High Frequency 2nd Step Trip / Protection
- Trip / Protection Against Incremental Frequency Change Per Second (ROCOF)
- Trip / Protection Against Voltage Angle Shift (Vector Shift)

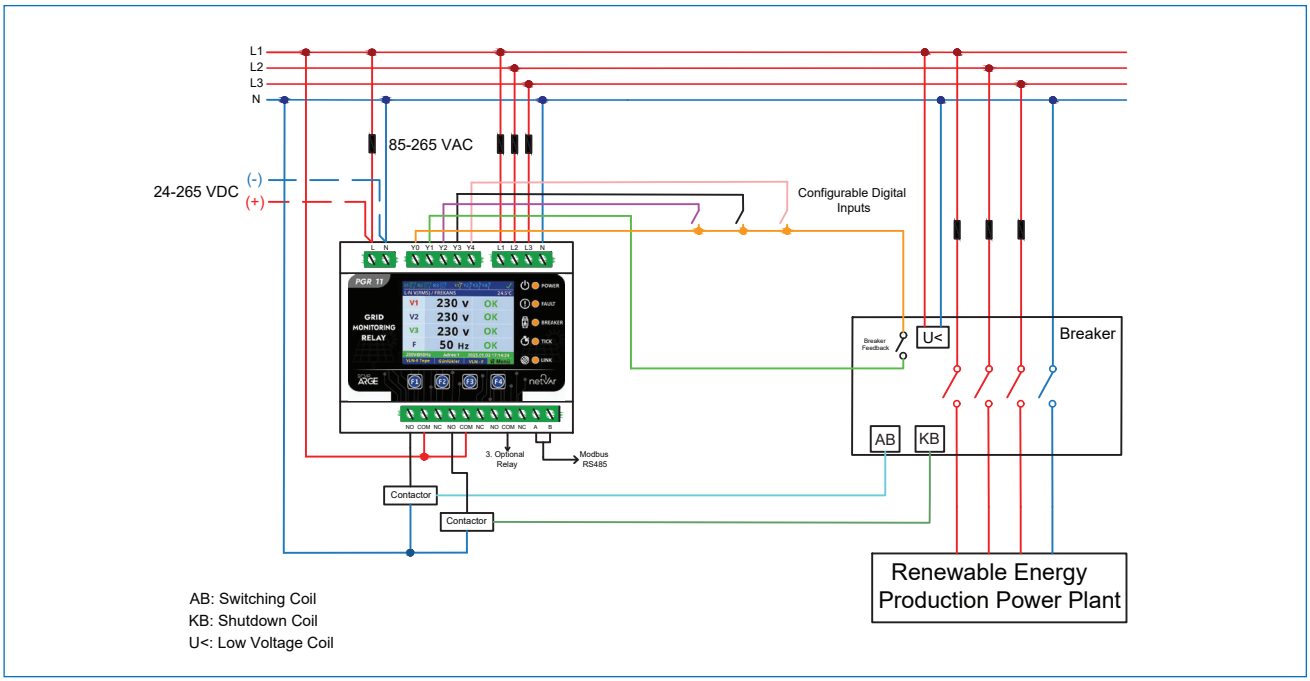
## 1.5. Compatibility

- EMC - Immunity EN 61000-6-2
- EMC - Emission EN 61000-6-3

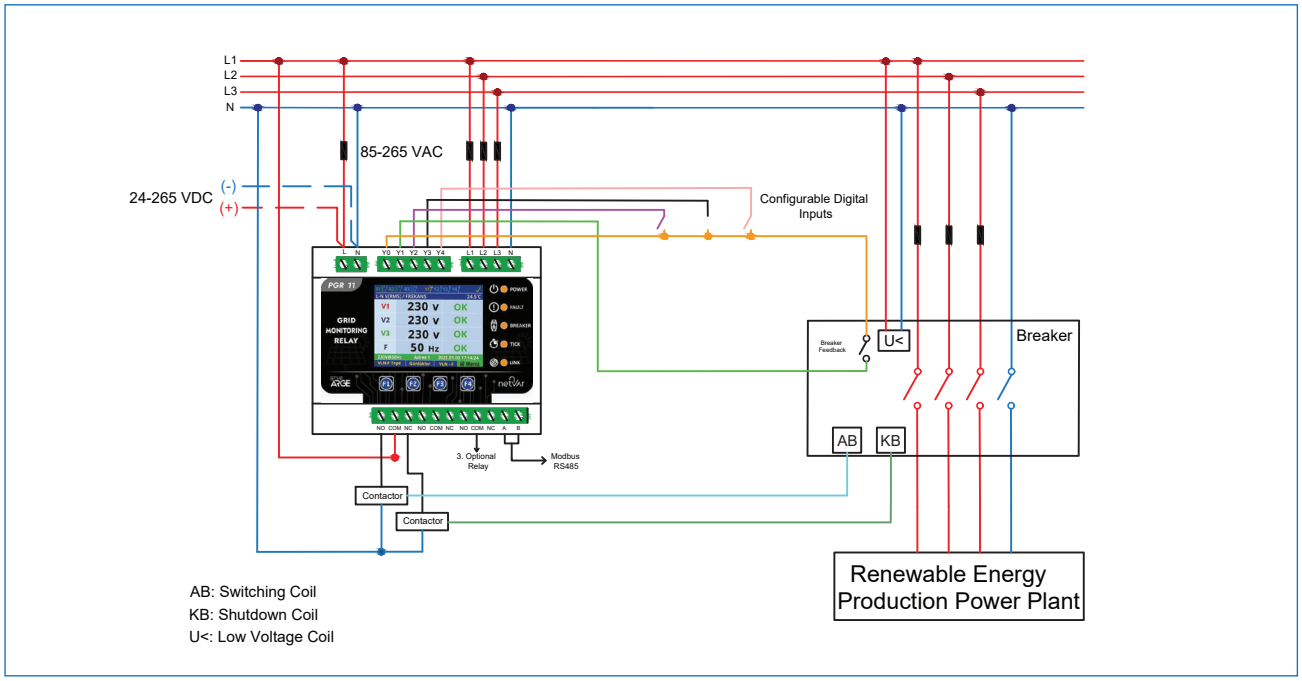
## 1.6. Technical Drawing



## 1.7. Connection Diagram




**Pulse Mode (Discrete Mode):** To operate in this mode;
INPUT / OUTPUT SETTINGS -> Relay Output -> Output-K1 -> Mode -> Open Trigger
INPUT / OUTPUT SETTINGS -> Relay Output -> Output-K2 -> Mode -> Close Trigger.




**Continious Mode (Continuous Operation):** To operate in this mode;
INPUT / OUTPUT SETTINGS -> Relay Output -> Output-K1 -> Mode -> Continuous
INPUT / OUTPUT SETTINGS -> Relay Output -> Output-K2 -> Mode -> Continuous.

**NOTE:** In systems that do not have a low voltage coil in the switch and operate only with an on-off coil, it is recommended to use a UPS (Uninterruptible Power Supply) to ensure control integrity against power outages.

In order to monitor contact status and provide remote control functions reliably, it is recommended that the control circuit and device be supplied via a 24V DC output rectifier.