RKRS / RKRT
Datasheet

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V.25.1

1.1. General Features

The RKRS PFC (Power Factor Controller) measures the voltages and currents of three phases, calculates the reactive power drawn by operating loads and provides a effective response through its independently controlled SVC (Static Var Compensator) steps in addition to conventional capacitor and reactor steps it automatically learns. It is a new generation advanced Power Factor Controller (PFC).

Additionally, the RKRS PFC measures and displays parameters such as phase currents, phase-to-neutral and phase-to-phase voltages, frequencies, active and reactive powers, harmonics and phase angle differences between current and voltage. It also offers monitoring capabilities through its communication interface. Furthermore, it measures and records active and reactive energies for both import and export.

The PFC records demand and peak values for these measured line parameters, which can be viewed directly on the device.

Many necessary adjustments related to the device (Current Transformer Ratio, Measurement and Line Voltages, Compensation Parameters, etc.) can be made either through individual menus or collectively via the "Assistant" section.

Thanks to its communication capability, all read parameters can be remotely monitored via standard MODBUS protocols and various adjustments can be performed.

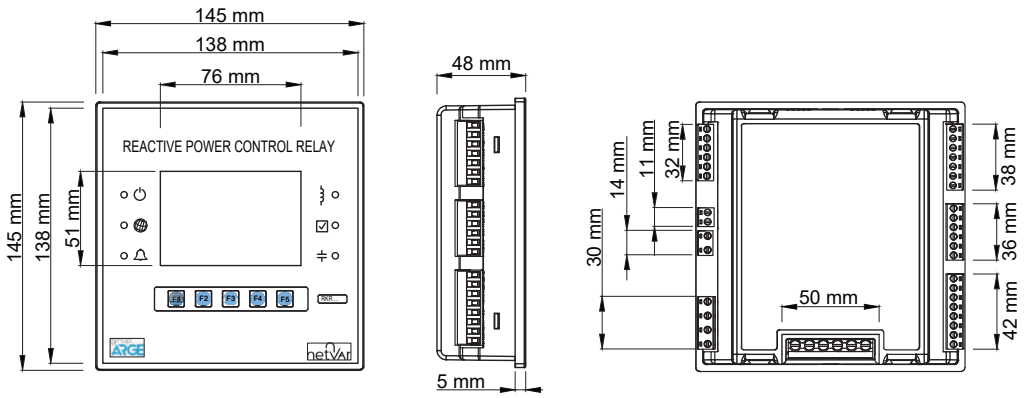
Alarms can be generated through various set values configured in the device menu. The compensation process can enable or disable measurement recovery features for protection against disconnections and connection losses.

1.2. Technical Features

- Uninterrupted safe compensation with detection of current and voltage connection errors thanks to three phase supply technology
- Hybrid compensation with contactors and thyristors with meas-urement, control and management of AC/DC voltage levels of step supply partners
- Detailed event /warning / error logging support with date and time signature and preventive maintenance
- Dynamic diagnostics of steps during compensation and automatic value update
- Compensation step synthesis with advanced reactive power profile analysis support
- Smart menus and userfriendly screens with TFT display
- Temporary or permanent additional reactive power setting for inductive and capacitive loads not seen by the compensation system
- Slim ergonomic design with a to-tal depth of 43 mm inside the panel including all terminal blocks

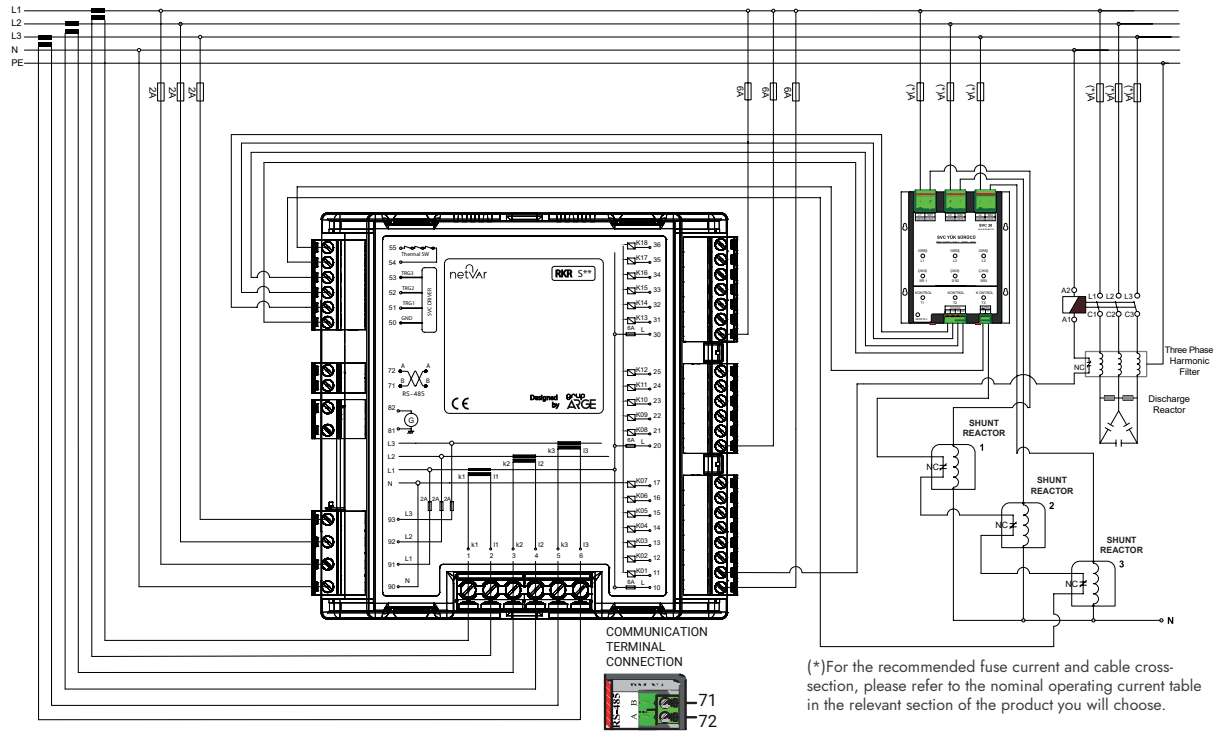
1.3. Technical Drawing

RKRS / RKRT Power Factor Controller With SVC

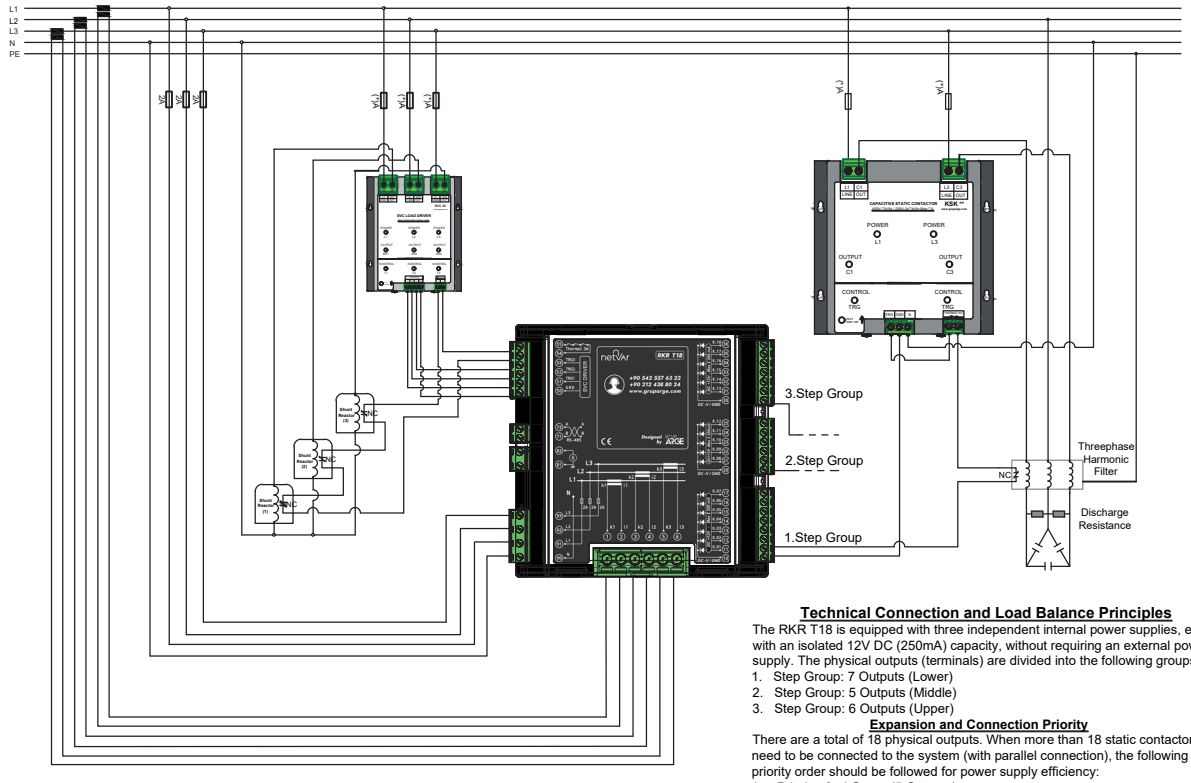


1.4. Connection Diagram

RKRS 07/12/18 Power Factor Controller With SVC



RKR T18 Power Factor Controller With SVC



Technical Connection and Load Balance Principles

The RKR T18 is equipped with three independent internal power supplies, each with an isolated 12V DC (250mA) capacity, without requiring an external power supply. The physical outputs (terminals) are divided into the following groups:

1. Step Group: 7 Outputs (Lower)
2. Step Group: 5 Outputs (Middle)
3. Step Group: 6 Outputs (Upper)

Expansion and Connection Priority

There are a total of 18 physical outputs. When more than 18 static contactors need to be connected to the system (with parallel connection), the following priority order should be followed for power supply efficiency:

1. Priority: 2nd Group (5 Outputs)
2. Priority: 3rd Group (6 Outputs)
3. Priority: 1st Group (7 Outputs)

Safety and Efficiency Warnings:

Group Capacity: Each step group can electrically supply up to 10 static contactors in total.

Parallel Connection Limit: A maximum of 2 static contactors should be connected in parallel to a single output terminal.

Load Distribution: To ensure the system can continue compensation in the event of a possible failure, high and low power steps should not be grouped together in a single group; they should be distributed homogeneously (equally) across all groups.