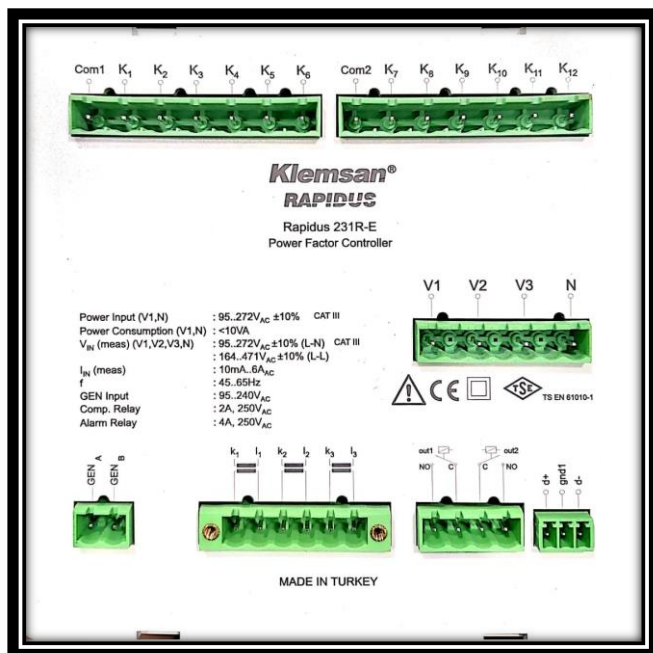


KLEMSAN'S RAPIDUS (12/24 STEPS) PF CONTROLLER

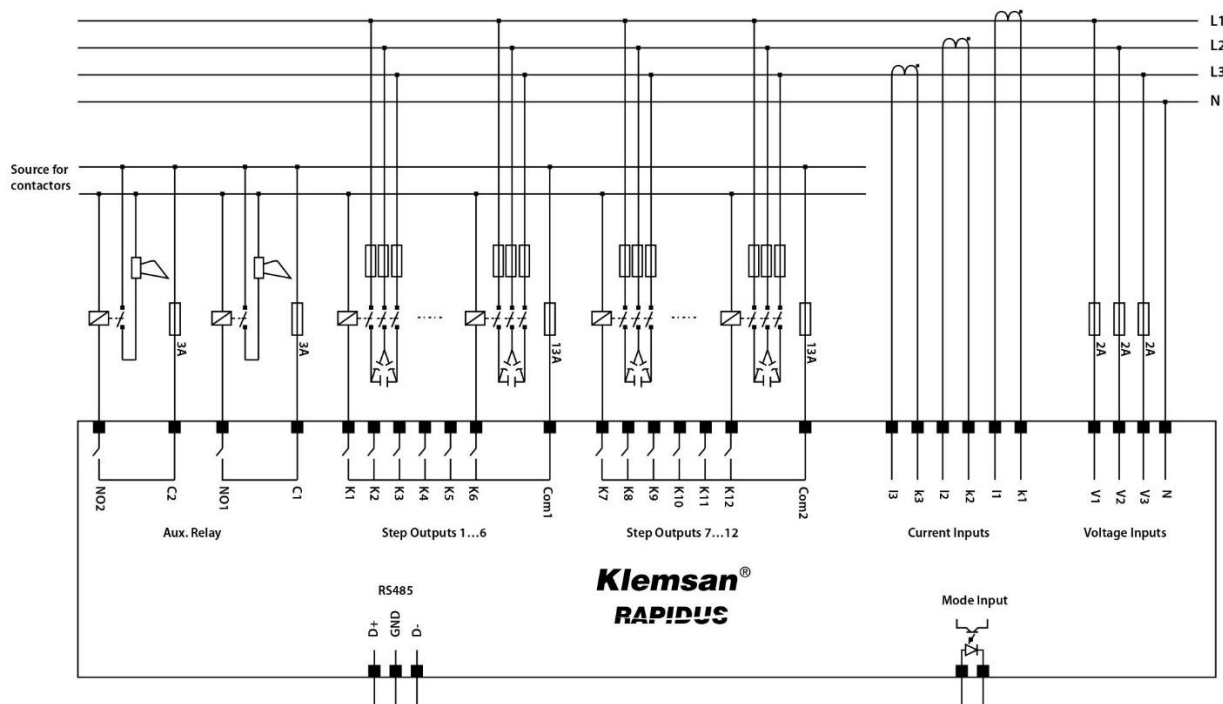
Front



Back

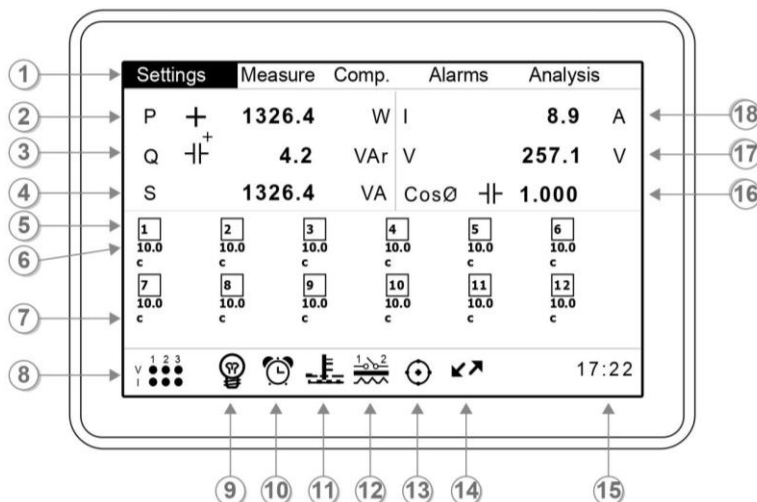


Wiring Diagram:



RAPIDUS Connection diagram (12 Steps)

RAPIDUS Front Panel:



- 1 Menus
- 2 Total Active Power
- 3 Total Reactive Power
- 4 Total Apparent Power
- 5 Number of steps
- 6 Step power
- 7 Step type
- 8 Presence/absence of currents and voltages
- 9 Selected compensation mode
 - ⚡ => Rapidus mode (Smart mode)
 - ⬆ => Asc. sequential mode
 - ⬇ => Des. sequential mode
 - ⬇ => Linear mode
 - 🔄 => Circular mode
 - 👉 => Manual mode
 - ⚠ => Caution Symbol (It is displayed when learning connections are failed)
 - 🕒 => Hourglass (It is displayed when connections or step powers are being learned)
- 10 Alarm status symbol (displayed when alarm occurred in system)
- 11 Temperature alarm status symbol (displayed when an alarm occurred in the system)
- 12 Alarm relay symbol (This symbol is displayed if 1st and/or 2nd alarm relay is assigned to an alarm and an alarm is present in the system. "1" indicates 1st alarm relay, and "2" indicates 2nd alarm relay on the symbol)
- 13 Indicates that DCM is active
- 14 RS485 communication symbol
- 15 System clock
- 16 System CosØ value
- 17 Average VLL(line-line) voltages
- 18 Total Current of Three Phases



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KEY FEATURES/MEASUREMENTS

RAPIDUS measures/calculates (values for each phase)

- Current, voltage and frequency
- Active, reactive and apparent power
- Current and voltage harmonics up to 51st harmonics
- THDV, THDI
- Power factor, Cos Ø

Values for each phase

RAPIDUS has features such as:

- Learning connection methods
- Learning step powers and types
- Recording switching numbers and duty ratios for each step
- Compensation possibility with 6 different programs
- Determination of whether the activated step is faulty and dynamic step monitoring
- For active, reactive (inductive and capacitive) energy, values of index, hourly, previous hour, previous day, monthly and previous month
- Compensation in 12/24 steps
- Current and voltage harmonics measurement up to 51st harmonics
- Testing possibility for relays and steps
- Automatic calculation of C/k ratio

Also, RAPIDUS has the following features:

- Setting an alarm for various measurement parameters.
- Provision of counter monitoring by assigning initial counter values
- Prevention of unauthorized usage with 4 digit password input
- Battery supported real time timer and memories



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General Warnings:

➤ **Voltage measurement input connections:**

Overcurrent protection is required for voltage measurement connections V1, V2 and V3: 2A gG fuses (IEC 269) or M type fuses (IEC 127) with rated voltage 300 VAC.

➤ **Compensation relay connections:**

Overcurrent protection is required for compensation relay outputs. Fuses are recommended to be inserted at COM connections, namely COM1 (for 1..6 compensation relays) and COM2 (for 7..12 compensation relays). Technical details are as follows: 13A gG fuses (IEC 269) or M type fuses (IEC 127) with rated voltage 300 VAC.

➤ **Alarm relay connections:**

Overcurrent protection is required for alarm relay outputs: 3A gG fuses (IEC 269) or M type fuses (IEC 127) with rated voltage 300 VAC.

➤ It is required to use a circuit breaker in order to easily disconnect RAPIDUS from mains. Circuit breaker should have the following specifications:

- 4 poles (one pole for each phase and the fourth pole for the neutral line),
- 300 VAC or above rated voltage
- 1 A or above rated current

➤ **Short circuit** the k-l terminals of the CTs in another location before disconnecting the CTs. Failing to do so will cause dangerous high voltages in the secondary terminals of the CTs.

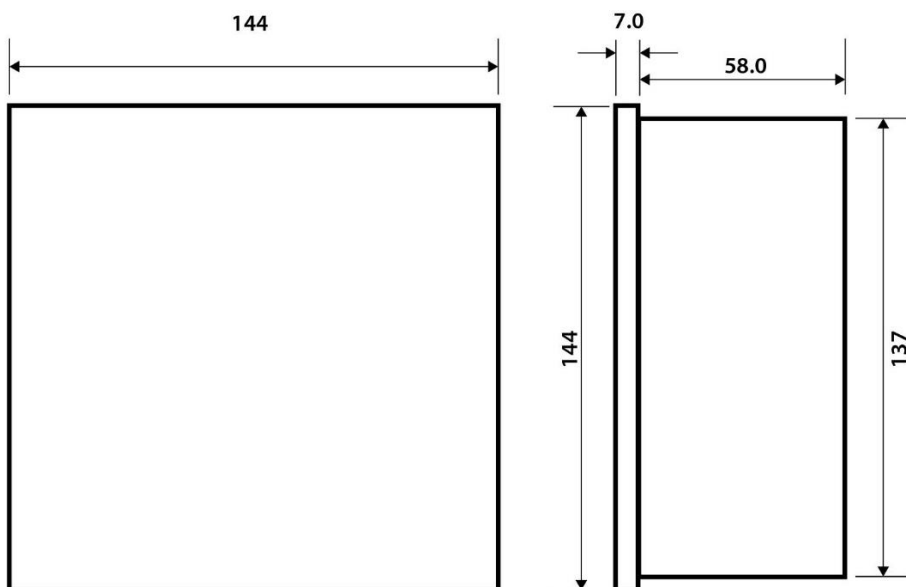
➤ It is advisable to connect a **circuit breaker** or automatic **fuse** between the current input of the device and the main electricity source. (2 Amps)

➤ Use **2-Core Shielded** cable for the connection of **RS-485**.



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Dimensions (mm):





E-LINKS PAKISTAN

Technical Specifications:

Number of Steps

Can be selected between 1-12/1-24.

Target CosØ Interval

-0.800-0.800 can be selected with 0.001 steps.

CTR

Can be set 1..5000.

VTR

Can be set 1..5000.

Demand Period

Can be set 1 to 60 minutes.

User Interface

Keypad: 6 keys with ESD protection

LCD: Self-illuminated 160 x 240 graphic

Communication

Isolated RS485 Port.....:1 Channel, ESD and over current/voltage protected, programmable, 2400bps to 115200 bps baud rate. 2000VRMS isolation.

Operating Temperature

-20°C..+55°C

Storage Temperature

-30°C..+80°C

Relative Humidity

Maximum 95% No Condensation

Dimensions

W144 x H144 x D78

Protection class

IP40 front, IP20 rear

Power Consumption

<10VA