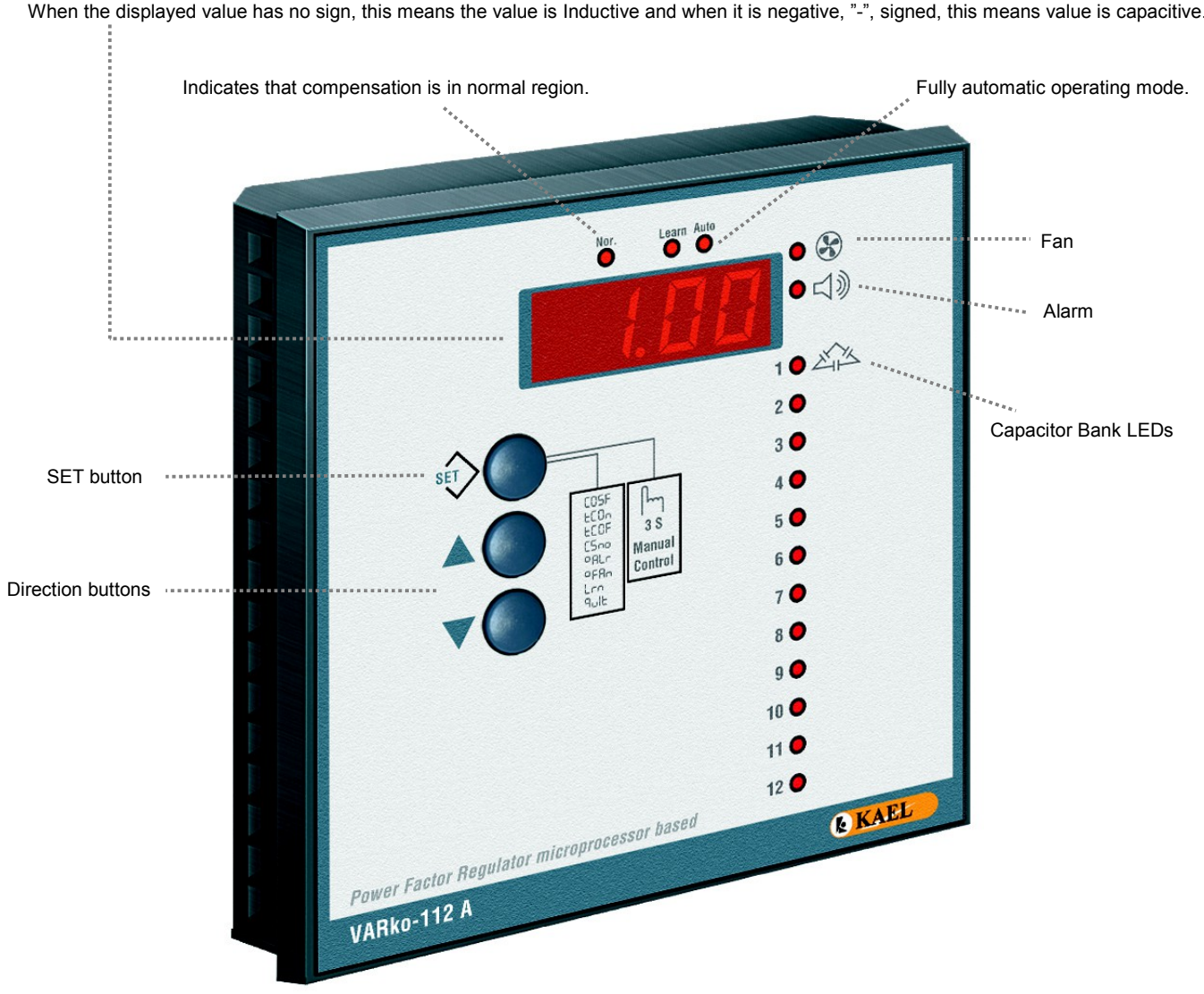
MODELS

VARko-112 Reactive Power Factor Controller (Single phase – 12 steps)
VARko-112A Reactive Power Factor Controller (Single phase – 12 steps- Alarm and Fan output)
VARko-106 Reactive Power Factor Controller (Single phase – 6 steps)
VARko-106A Reactive Power Factor Controller (Single phase – 6 steps- Alarm and Fan output)

FRONT PANEL (Display and LED Functions)

When the displayed value has no sign, this means the value is Inductive and when it is negative, ”-”, signed, this means value is capacitive.



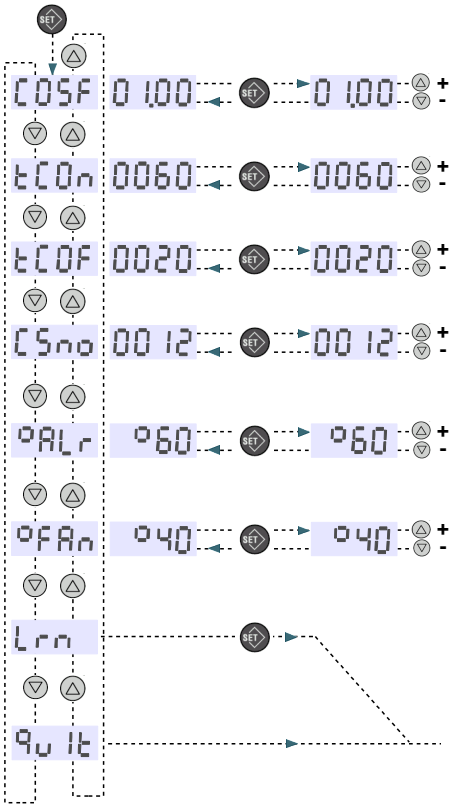
OPERATING MODES

MANUAL MODE:
This is the manual mode. In this mode, device does not switch the banks by its own. It is accessed by pressing down the set button 3 seconds in Main Menu. In this mode, both mode leds are off, '**EL**' text and current display value are continuously interchanged. By pressing down the up button, capacitors are sequentially switched on and by the down button switched off. During the process, the last parameter accessed in the main menu is displayed on the display. By pressing down the set button, system returns to main menu. This mode is used only for testing the system.

LEARNING MODE :
When the device is energized for the first time,it detects the current transformer polarity even if connected in reverse direction and then capacitor switching is done as 'first-in-first-out'. Device starts to calculate each bank's power after every switching. When the device has learned all the capacitor bank's power, it operates in full automatically by the device.

SET UP

►**SEt :** The parameters to be set are under this menu. Desired parameter can be accessed by using the direction buttons. On the display, parameter name and numerical value are shown by interchanging. To change the parameter values, press the set button, using the direction buttons reach the desired value. By pressing down the set button, displayed value is stored and the menu is directed to interchange screen. To quit from set menu, pass to 'quit' section and press Set button on it.



COSΦ: It is the section that Cosφ value is set in the range of ± 0.80 – 1.00
Default value is 1.00

tCOn : (Max. capacitor bank switch on time) It can be adjusted in the range of 3-120 seconds.
Default value is 15 sec.

tCOF : (Max. capacitor bank switch off time) It can be adjusted in the range of 10-60 secs.
Default value is 10 sec.

CSno : It is the section that used to set used capacitor step number. Capacitor step number is set in the range of 3-8/12. Parameter name and capacitor step number are shown by interchanging on the screen.
Default value is 12

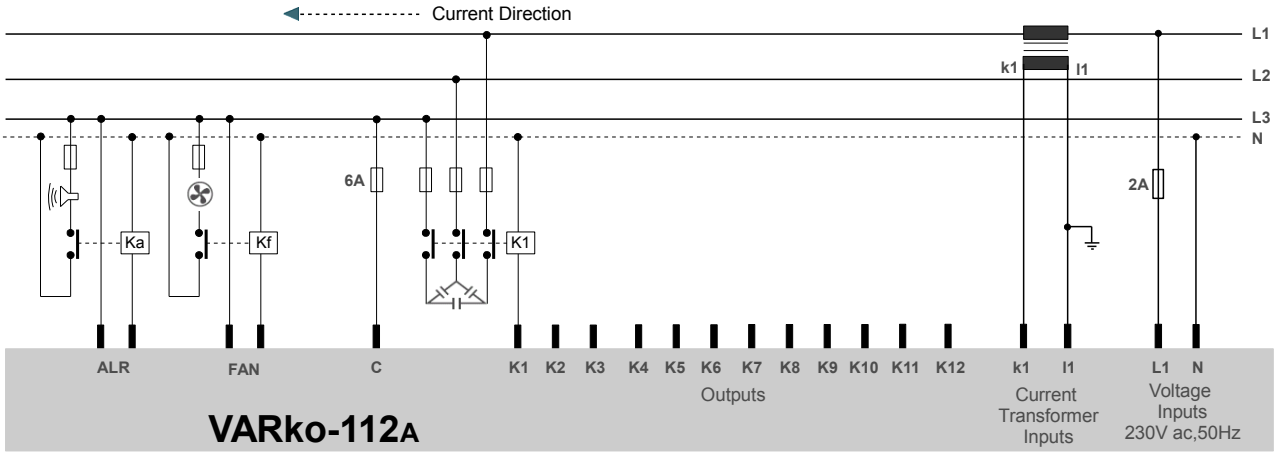
°ALr : It is the set value for over temperature alarm message (°C)
If the temperature exceeds to the alarm set value, then alarm relay is activated and device switches off all steps respectively.

°FAn : The setpoint temperature for the start of the fan(°C)

Lrn : When the newcapacitor/s are connected the system, you shoud start to learning mode. Device starts to calculate each bank's power after every switching .When the device has learned all the capacitor banks' powers, it operates in fully automatically by the device.

quit : Pressing down the set button, device returns to main menu.

Connection Diagram



The fuses shown in the connection diagram must be FF type and must have specified current values.
Chosen current transformers' real value must not be less than drawn current and they must be X/5 Amps.It must be stated on the switches that are connected to supply voltage lines of the device that they will be used to disconnect the device from the power line.
Before making the connections, the warnings and cautions in section 2 must be read.

TECHNICAL DATA

Rated Voltage(Un)	: (Phase-Neutral) 230VAC,
Operating Range	: (0.8 – 1.1) x Un
Operating Frequency	: 50-60 Hz
Power Consumption	: < 10 VA
Measurement Inputs	
Power Consumption	: < 1 VA
Contact Current	: Max. 3 A /240 VAC
Current Measurement Range	: 0.1-6 Amp AC
Protection Class	: IP 20
Connector Protection Class	: IP 00
Display	: 4 Digits LED Display

Display Range	:(Power Factor) 0.00 – 1.00 Ind.&Cap.
Current Transformer Ratio	: 5/5 .... 10000/5 A
Max. Cap. Bank Switch On&Off Time	: 10.... 60 s
Min. Cap. Bank Switch On&Off Time	: 2.... 10s
Ind% Set Value	: 10%... 50% (Factory set value=20%)
Cap% Set Value	: 5%... 50% (Factory set value=10%)
Ambient Temperature	: -5°C....+50°C
Connection Type	: To front panel tap
Dimensions	: 144x144x40 mm