EPTRIC™
Smart power solutions

USER MANUAL

APS

Advanced Multifunction Centralized voltage protector

For Three Phase Homes

APSxxxA_USM_1.2

Thank you for purchasing EPTRIC's APS product. APS is an advanced multifunctional centralized voltage protector specially designed for 3 phase buildings. It protects all your household equipment from most voltage related damages. In addition, it increases the lifespan of your household equipment and reduces the energy consumption.

Problems with conventional voltage protection solutions: The most common conventional solution is to use separate voltage protection devices for each equipment (such as air-conditioning system, refrigerator, TV etc.). However, this approach has several disadvantages as listed below.

- The protection is limited to a few types of voltage faults
- Every equipment requires one protection device each thus increasing the total cost of protection
- The protection device itself consumes power resulting in increased energy bill
- The protection device itself fails due to certain critical faults like double phasing/surge

Benefits of using APS: Our Centralized and Combinational protector APS-series is a unique solution for all the problems mentioned above. It acts as a single robust protector for the entire home.

This unit is connected inside the power distribution box and between the energy meter and electrical loads. This unique product is patent protected and fits into most of the phase selector kind distribution boxes without any wall alteration/rework.

Receiving and Inspection

After receiving the package, please do the following:

- Check to make sure that the package includes the APS system, the user manual & product warranty card.
- Inspect the unit to ensure it was not damaged during shipment.
- Ensure that the received model is same as ordered one.

APS -Series Product Highlights

- High and low voltage protection
- Double phase/Neutral loose contact fault protection
- Intelligent & automatic phase Selection
- Line surge arrestor
- Intelligent phase routing ensures only healthy input connected to domestic loads (Applicable for some models only)
- Higher power handling capacity with small form factor
- Fuse Blown detection with audio and visual alert from the system
- Multicolor display with phase routing, line voltage and fault status details
- Industry leading Replacement warranty*
- Suitable for various mounting/fixing option
    a. Fix to the exiting phase selector Distribution Box without wall rework.
    b. Panel mount design

** According to warranty terms & conditions*

Installation Guidelines

- AC input power must be disconnected before doing any wiring to the unit.
- Only qualified/trained professionals are allowed to install
- Connect the loads based on the rated load specification limit of the device
- All the loads connected to the system output should be balanced
- Never reassemble internal components or wiring
- The APS system may be destroyed beyond repair if incorrect cables are connected to the input/output terminals.
- Follow the recommended wiring diagram (Refer Fig (1))
- This product is designed for domestic/household application and not for industrial/three phase load applications

Input Fuse Burn Alert

If any input phase line(s) is absent more than 2 hours, the corresponding input phase(s) and EPTRIC logo icon flashes with white color with audio

warning (2 Beeps) and this repeats every 5 Minutes. The user is recommended to inspect the respective fuse on seeing this alert.

Double phase fault indication

Double phasing is a very common and dangerous fault in 3 phase wired homes. The main reason of double phase is neutral line loose contact or disconnection during domestic load operating in unbalanced conditions. During this event, very high voltage (<=440V, Line-to-Line voltage) feeds to the domestic equipment. The domestic equipment is usually rated only for 230V and this high voltage damages the equipment. If APS system detects double phase fault, it switches off all the outputs quickly and **blinks EPTRIC logo in RED color.**

! <Please note that, this fault is not auto recoverable>!

To resume the system operation, switch off the power to the unit (Switching off the power input Isolator / ELCB) and switch on APS system again.

The following steps are recommended if the system shows this fault many times.

- Inspect the Neutral wire related joints from EB service wire to the Domestic power entry area
- Check the quality of electrical earthing (Measure the Neutral to Earth Voltage. Ideally this should be less than 10V)

Line input Status indications

LINE INPUT STATUS INDICATIONS				
Icon	**Mode**	**Colour**	**Decription**	**Remarks**
R-IN	ON	RED	R -Phase Input is Normal	
	OFF	-	R -Input is Low or absent	
	BLINK	Red	High voltage at R-Phase input	
		White	Fuse open fault on R-phase input	Logo Icon blink (White colour)
Y-IN	ON	Yellow	Y -Phase Input is Normal	
	OFF		Y -Input is Low or absent	
	BLINK	Yellow	High voltage at Y-Phase input	
		White	Fuse open fault on Y-phase input	Logo Icon blink (White colour)
B-IN	ON	Blue	B -Phase Input is Normal	
	OFF	-	B -Input is Low or absent	
	BLINK	Blue	High voltage at B-Phase input	
		White	Fuse open fault on B-phase input	Logo Icon blink (White colour)

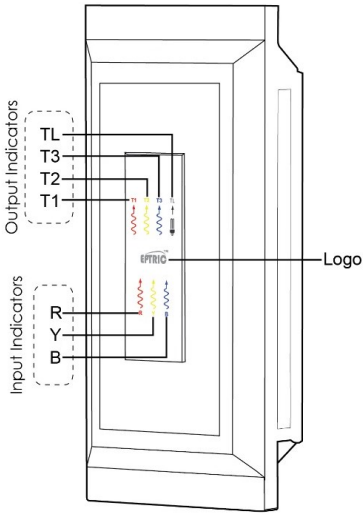
Line Output Status indications

LINE OUTPUT STATUS INDICATIONS				
Icon	**Mode**	**Colour**	**Decription**	**Remarks**
T1	ON	Red	R -Phase Input connected to T1 output	
		Yellow	Y -Phase Input connected to T1 output	
		Blue	B -Phase Input connected to T1 output	
	OFF	-	T1 output is OFF	
T2	ON	Red	R -Phase Input connected to T2 output	
		Yellow	Y -Phase Input connected to T2 output	
		Blue	B -Phase Input connected to T2 output	
	OFF	-	T2 output is OFF	
T3	ON	Red	R -Phase Input connected to T3 output	
		Yellow	Y -Phase Input connected to T3 output	
		Blue	B -Phase Input connected to T3 output	
	OFF	-	T3 output is OFF	
TL	ON	Majenta	TL output is ON	
		Red	TL output is OFF (after 5 times overcurrent Restart)	
	OFF	-	Low voltage cutt-off (All input phases are low)	
	BLINK	Majenta	TL-output is cut-off due to All phase input is High volt	
		Red	TL Overload Restart delay in Progress	

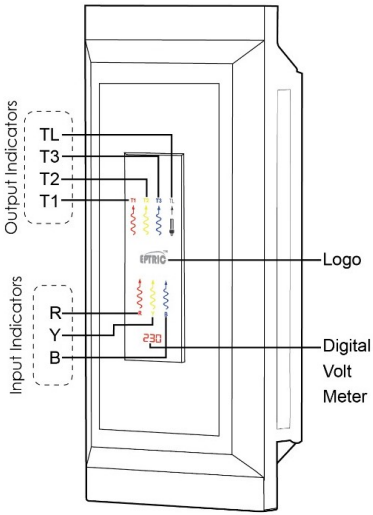
Technical Specification

SL No	Parameter	MODELS			
		ELITE		ELITE +	
		APS63A	APS100A	APS63A	APS100A
1	System Operating Voltage	85 to 375 VAC (Phase Voltage)			
2	System Power Consumption	< 9 Watt			
3	System Operating Frequency	40 to 65 Hz			
4	Input Power Source type	3 phase			
5	Total Connected Load Power Capacity	32KVA	55KVA	32KVA	55KVA
6	Power Output Contact Current rating (T1,T2,T3)	63A	100A	63A	100A
8	Over Voltage Cut-off Limit (Power Contacts- T1,T2&T3)	265VAC +/-2%			
9	Under Voltage Cut-off Limit (Power Contacts- T1,T2&T3)	160VAC +/-2%			
10	Over Voltage Cut-off Limit (Lighting Load - TL)	265VAC +/-2% (Not Applicable for APS100A)			
11	Under Voltage Cut-off Limit (Lighting Load - TL)	120VAC +/-2% (Not Applicable for APS100A)			
12	Over Current Limit (Applicable for TL output only)	12Amps (Not Applicable for APS100A)			
13	Number of Over load Restart (Applicable for TL output only)	5 Nos	NA	5Nos	NA
14	Digital Voltmeter	No		Yes	
15	Overload Restart Interval (Applicable for TL output only)	60 Seconds (Not Applicable for APS100A)			
	Voltage Protections				
16	Neutral Break/Double phase Protection	Yes			
	High/Low Voltage Protection	Yes			
	Overcurrent protection (Only for TL output)	Yes			
	Surge Rating	6KA			
	Other Features				
17	Intelligent & Automatic Phase Selection	Yes			
	Line fuse burn detection and user alert	Yes			
	Audio and Display status for various Faults				
	Multi colour Display with Phase routing map				
18	User Display	14.5 cm X 4.5 cm		17 cm X 4.5 cm	
19	Mechanical Dimension (L X W X H) in mm	320X 140X 90			
20	Mounting or fixing method	Panel Mound			

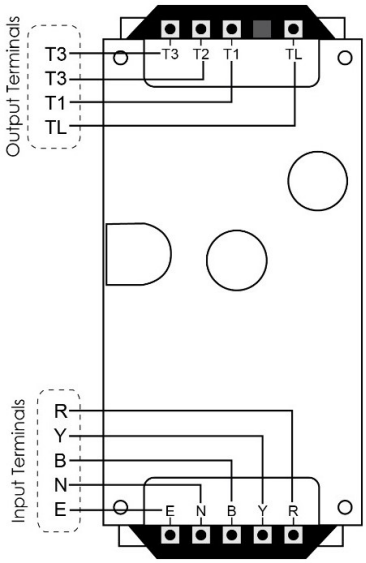
Display Indicators & Power Connectors



Elite

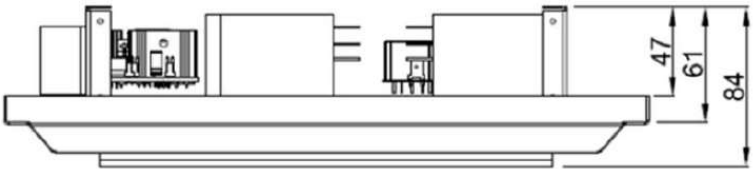


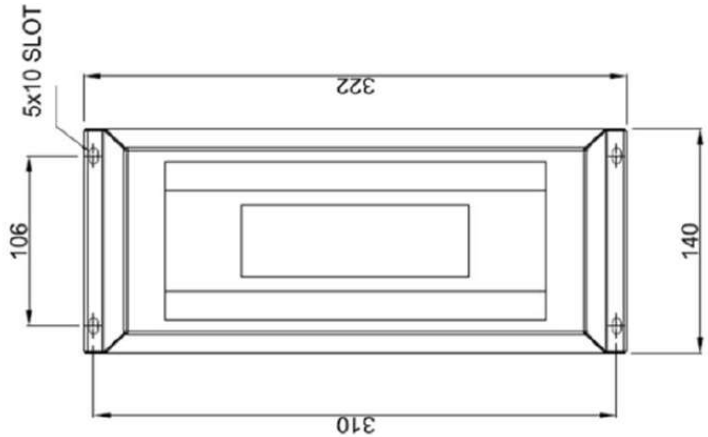
Elite +/ Galaxy



Rear View

Mechanical Drawing

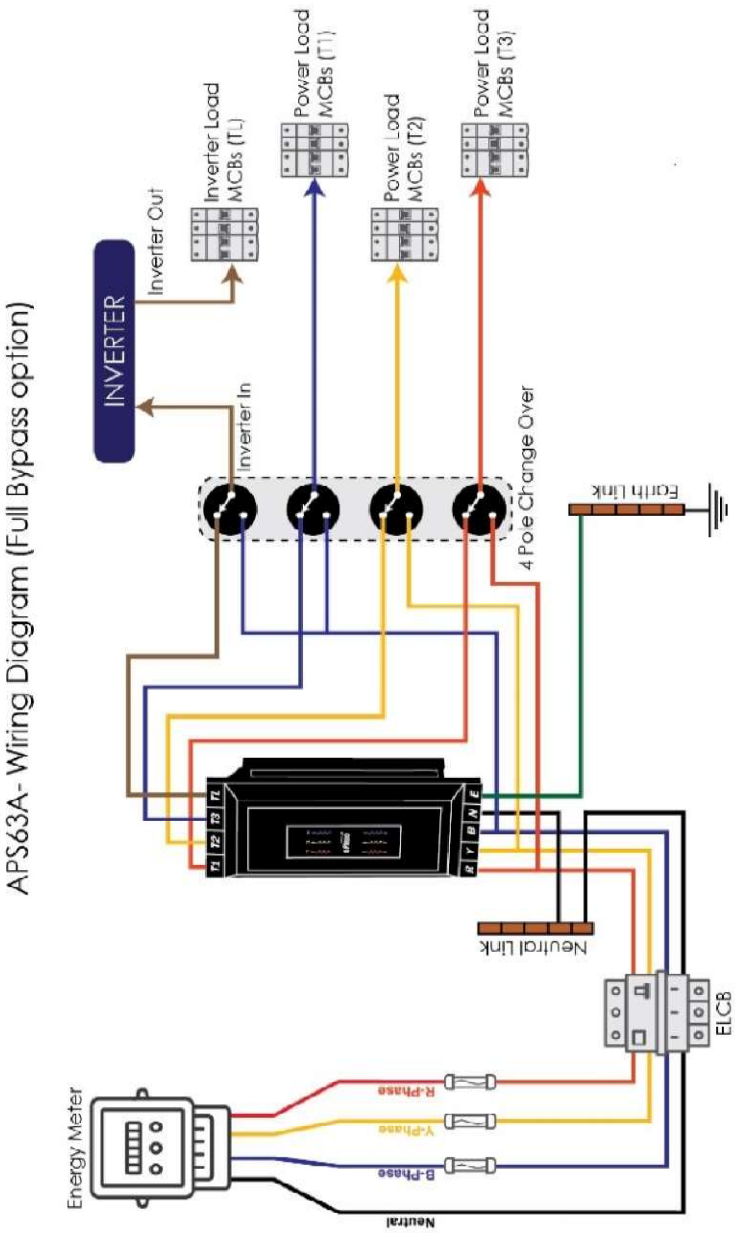




Panel Mound Cut-out

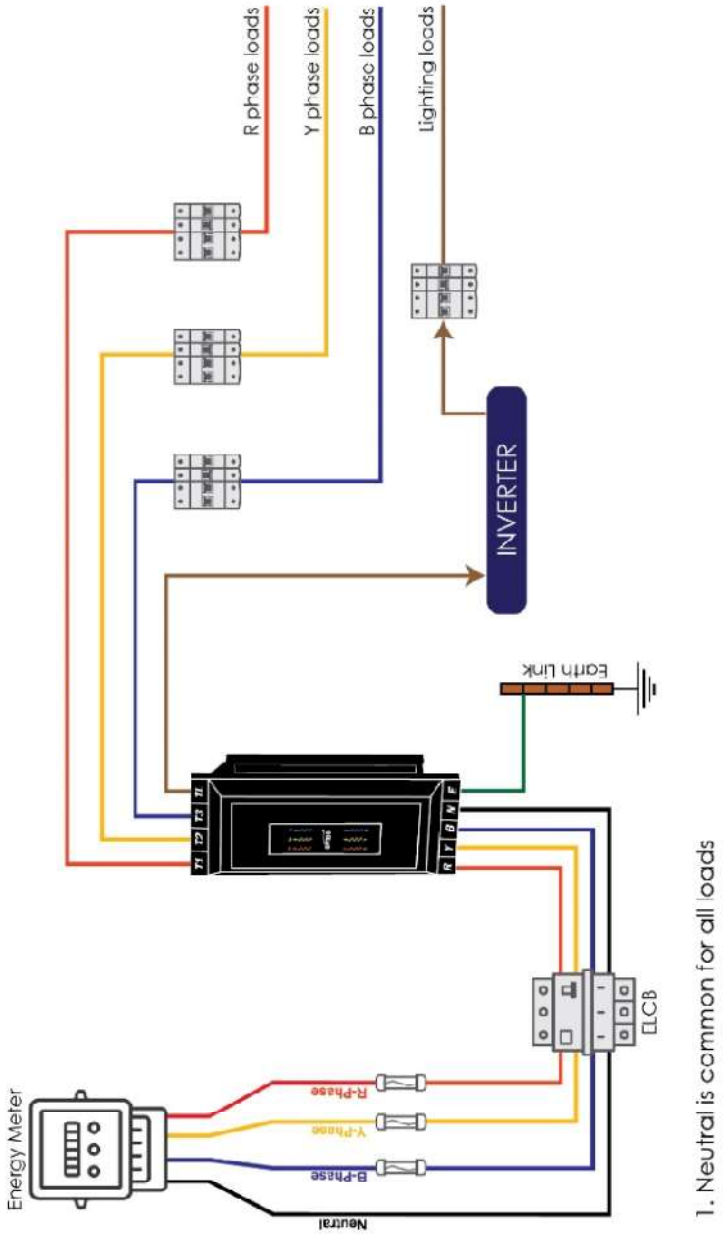
All units are in mm

Wiring Diagram (Option: A): With Bypass Switch (Recommended)



1. Neutral is common for all loads
2. 4 Pole MCB type change over switch is used for emergency Bypass
3. Make sure Bypass switch is ON position the APS63A output is giving the power to the load

Wiring Diagram (Option: B): Without Bypass Switch



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