WHITECLIFFE ELECTRICAL PME Fault Detection Unit Owner's Manual

Contents

WHITECLIFFE ELECTRICAL

WHITE CLIFFS ELECTRICAL PME Fault Detection Unit

Specifications

- Standard: BSEN61439-3, BS 7671
- Rated Current: 40A
- Rated Voltage: 230V AC
- Frequency: 50/60Hz
- Short Circuit Rating: 16kA
- Operation Voltage Range: 207V-253V (4 seconds)
- IP Rating: IP40
- No. of Modules: 8
- Incomer Device: 40A RCBO Type A (-25°C to +55°C)
- Available in either IP40 metal or IP65 plastic enclosure

Product Usage Instructions

Main Function

1. Automatically monitor the supply voltage on both 230V & 240V.
2. If under-voltage (<207V) or over-voltage (>253V) is detected, Live, Neutral & Earth will be isolated within 5 seconds.
3. After an under-voltage isolation, the system will reset automatically when the normal operating range is restored.
4. For over-voltage isolation, press the RESET button of WVP32 to reset the device.

Monthly Test
If using the RCBO version, test monthly using the test button.

Installation Operation
The PME is suitable for EV chargers with integral DC leakage protection but no PME fault detection. No earth rod is needed when using this distribution board.

- Following power on, the PME Fault Detection device checks the supply voltage for 5 seconds. If out of limits, a PME fault detection device is activated. To clear, the supply must return within normal operating limits.

- If the voltage rises above 253V and does not return within 5 seconds, a PEN fault condition is tripped, disconnecting Live, Neutral, and Earth connections from the vehicle.
- The EV driver is informed of the high-voltage applied to the vehicle under this condition for safety checks before driving.

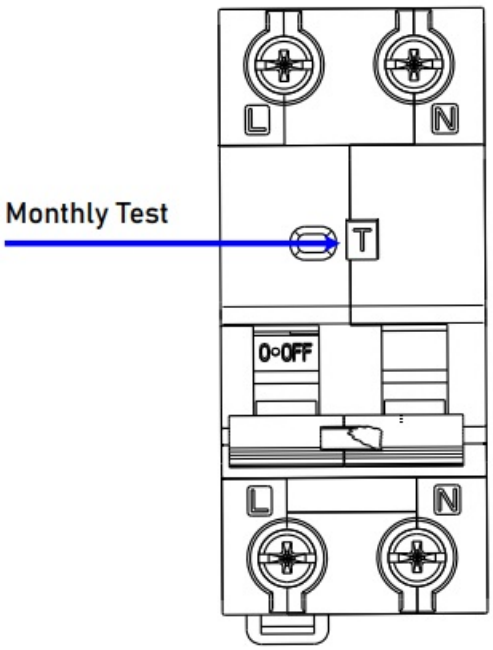
Introduction

The PME is an EV (Electric Vehicle) distribution board that will completely disconnect all phases and earth if a PME fault is detected. It provides customers with a safer and more compliant electric vehicle charging solution. There is no need for an earth rod if this distribution board is used. It is suitable for EV chargers with integral DC leakage protection but no PME fault detection.

Technical Data

Standard	BSEN61439-3, BS 7671
Rated current	40A
Rated voltage	230V AC
Frequency	50/60Hz
Short circuit rating	16kA
Operation	207V-253V (4 seconds)
IP Rating	IP40
No. of modules	8
Incomer device	40A RCBO Type A
Ambient temperature (°C)	-25 +55
Storage temperature (°C)	-35 +55

Available in either IP40 metal or IP65 plastic enclosure.

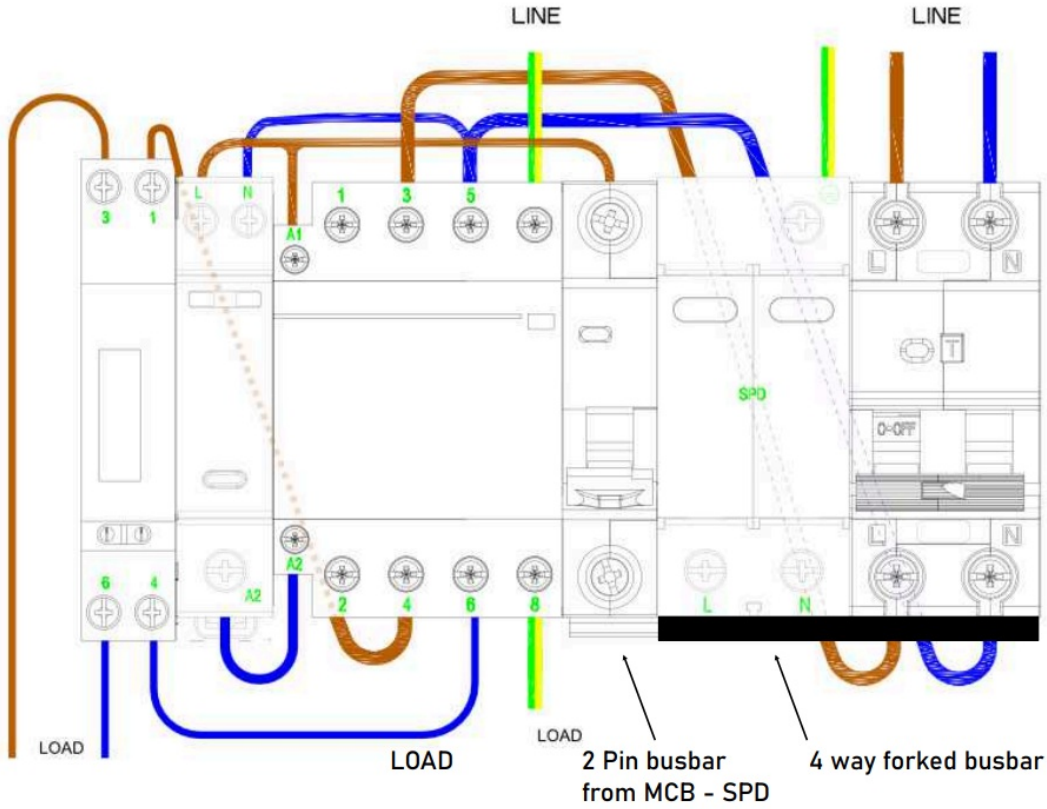


RCBO or MCB variants (if using the RCBO version test monthly using the test button)

Installation operation

- The PME is an EV distribution board that will completely disconnect all phases and earth if a PME fault is detected. It provides customers with a safer and more compliant electric vehicle charging solution. There is no need for an earth rod if this distribution board is used. It is suitable for EV (Electric Vehicle) chargers with integral DC leakage protection but no PME fault detection. Following power on, our PME Fault detection device the supply voltage for 5 seconds and determines if the voltage is within normal operating limits. (No differentiation is necessary between 230Vac or 240Vac supply)
- If out of limits a PME fault detection device is activated. To clear, the supply must return within normal operating limits, and may also require a power off/on cycle should the cause have been an over-voltage condition.
- If within limits, the PME fault detection device allows the connection of live, neutral, and earth to the vehicle, and continues to monitor the supply. If the voltage drops below 207Vac and does not return for up to 5 seconds, a PEN fault condition is tripped and live, neutral, and earth connections are removed from the vehicle.
- However, a voltage dip could also cause the same fault condition. Therefore, the PME fault detection device continuously monitors the supply health and if it returns to within normal operating range, automatically allows re-connection of live, neutral and earth to the vehicle.
- If the voltage rises above 253Vac and does not return for up to 5 seconds, a PEN fault condition is tripped, and live, neutral, and earth connections are removed from the vehicle.
  PME fault detection device continues to monitor the supply heath but if it returns to within normal operating limits the fault condition is not cleared without manual intervention to power cycle.
- Under this condition, the EV driver is made aware of the high voltage applied to the vehicle and can then perform safety checks before driving the vehicle.

In summary Functions
Automatically monitors the supply voltage on both 230V & 240V supplies without the need for any manual dip switch settings. Within 5 seconds in the event of an under-voltage of less than 207V or an over-voltage of more than 253V Live, Neutral & Earth will be isolated.
Following under-voltage isolation will automatically reset when the normal operating range is restored.
Following an over-voltage isolation, on the grounds of safety, will require a manual reset.



FAQ

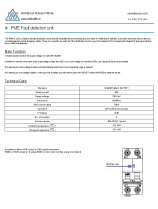
- **What is the main function of the PME Fault detection unit?**

  The main function of the PME Fault detection unit is to automatically monitor the supply voltage and disconnect Live, Neutral & Earth in case of under-voltage or over-voltage conditions.
- **How often should I test the RCBO version?**

  You should test the RCBO version monthly using the test button to ensure proper functionality.
- **Is an earth rod required when using the PME distribution board?**

  No, there is no need for an earth rod when using the PME distribution board.

Documents / Resources

	WHITECLIFFE ELECTRICAL PME Fault Detection Unit [pdf] Owner's Manual WVP32, PME Fault Detection Unit, PME, Fault Detection Unit, Detection Unit, Unit

References

- Distributor | WCED | Radcliffe
- User Manual