WHITECLIFFE ELECTRICAL WMTP28 3 Phase PME Fault Detection Metal Consumer Unit Owner's Manual

Contents

Whitecliffe

WHITECLIFFE ELECTRICAL WMTP28 3 Phase PME Fault Detection Metal Consumer Unit

Product Information

Specifications

- **Product Name:** WMTP28-R40CSP 3 Phase PME Fault Detection metal consumer unit
- **Manufacturer:** Whitecliffe Electrical
- **Email**: sales@wced.co.uk
- **Telephone**: 0161 723 1451
- **Phase**: 3 Phase
- **Rated Voltage Operation:** 400V, 207V-253V for 4 seconds each phase
- **Rated Current of Main Switch:** 100A
- **Standard Number of Modules:** 28
- BIP Rating not specified

Product Usage Instructions

Installation Requirements:
This product must be installed by a qualified electrician following IET Wiring Regulations BS 7671 (18th edition or later) and current Building Regulations. Ensure the electrical supply is disconnected before installation or removing the cover of the unit.

Installation Steps:

1. Cut and dress the main incoming cables and connect them into the appropriate terminals.
2. Tighten the main incoming terminals securely using the recommended torque of 2.5Nm for Isolator, MCB, SPD & RCBO.

Product Operation:

- With the incoming main switch isolator closed, the unit will monitor the incoming supply. The WARB breaker with a built-in PME Fault detection device detects the supply voltage for 5 seconds and determines if the voltage is within normal operating limits. If any phase is out of limits, a PME fault detection device is activated.
- If all phases are 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 of any phase 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.

Maintenance:
Ensure all connections are torqued properly to prevent fires. Regularly test the RCBO according to IEC 61009-1 specifications using a calibrated test meter.

Description

The WMTP28-R40CSP is an 3 phase EV distribution board that will completely disconnect all phases and earth, if a PME fault is detected. It provides customers with a safer and 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.

Main Function

1. Automatically monitors the supply voltage on 400V
2. Completed with one 5 Pole circuit breaker with a built-in PME fault detection,
3. Following under-voltage isolation, will automatically reset when normal operating range is restored.
4. Following an over-voltage isolation, on the grounds of safety, will need to press the RED “REST” button of WP9 to rest the device.

WARNING
This product must be installed by a by a qualified electrician in accordance with IET Wiring Regulations BS 7671(18th edition or later) and current Building Regulations. Ensure the electrical supply is disconnected before installation or removing the cover of the Unit. Once installed, the unit has a Live Main Supply (400v or Higher) within the enclosure. The cover must not be removed until the supply to the unit has been isolated or disconnected.

Safety Advice

The unit must be installed in a dry ventilated location; it must never be covered or have restricted ventilation.

Before powering up the circuit check all connections are

TORQUED
Loose connections cause fires!!!

Connection of Main Incoming Device

1. Cut and dress the main incoming cables and connect them into the appropriate terminals.
2. Tighten the main incoming terminals securely. Recommended Torque: 2.5Nm for Isolator, MCB, SPD & RCBO

RCBO TEST

THE WED IS MANUFACTURED IN ACCORDANCE WITH IEC 61009-1 AND MUST BE TESTED TO THIS SPECIFICATION USING A CALIBRATED TEST METER.

0.5IΔn	**RCBO will not trip**
1Δn	**RCBO must trip within 300ms**
5IΔn	**RCBO must trip within 40ms**

Main Technical Data

Standard	BS EN 61439-3, BS7671
Number of modules	28
Rated Voltage	400V
Operation	207V-253V(4 Seconds) each phase
Rated current of Main Switch	100A
Rated curent of RCBO	40A
Frequency	50Hz
Cable entry	Selection of knockouts
terninal type	Cage clamp
IP Rating	IP40
Surge protection	Type2
Visual indication of surge protection	**Green=Good**, **Red=Replace**
Device mounting	35mm din rail
Ambient temperature	-25°C +55°C

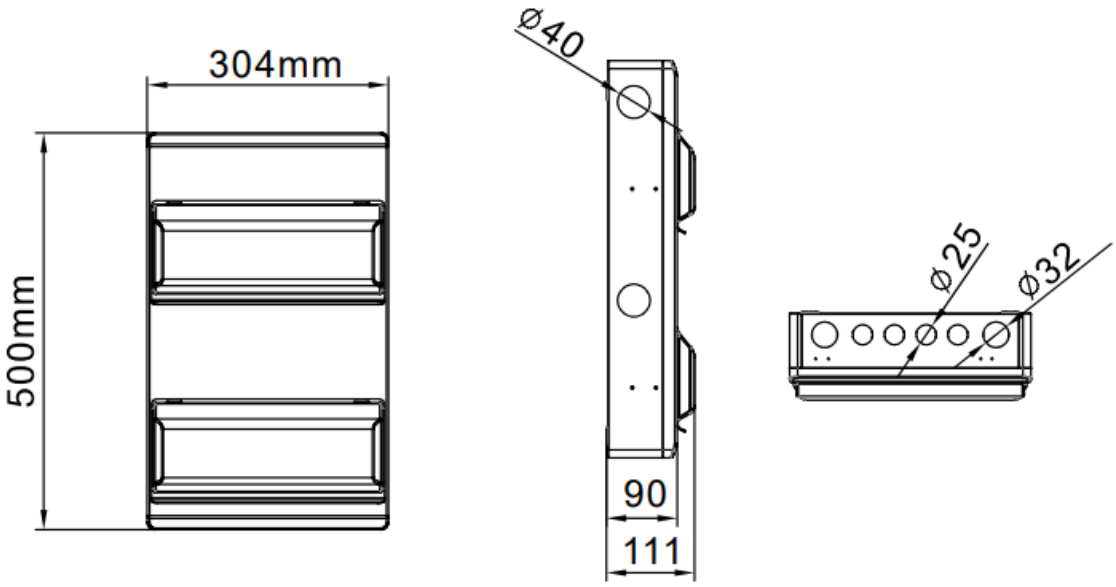
Operation Instructions

- With the incoming main switch isolator closed the unit will monitor the incoming supply. After the incoming main switch isolator is closed, the WARB breaker with built-inPME Fault detection device detect the supply voltage for 5 seconds and determines if the voltage is within normal operating limits.(No differentiation is necessary between 400Vac or 415Vac supply
- If any phase 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 all phase within limits, PME fault detection device allows connection of live, neutral and earth to the vehicle, and continues to monitor the supply.
- If the voltage of any phase 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.

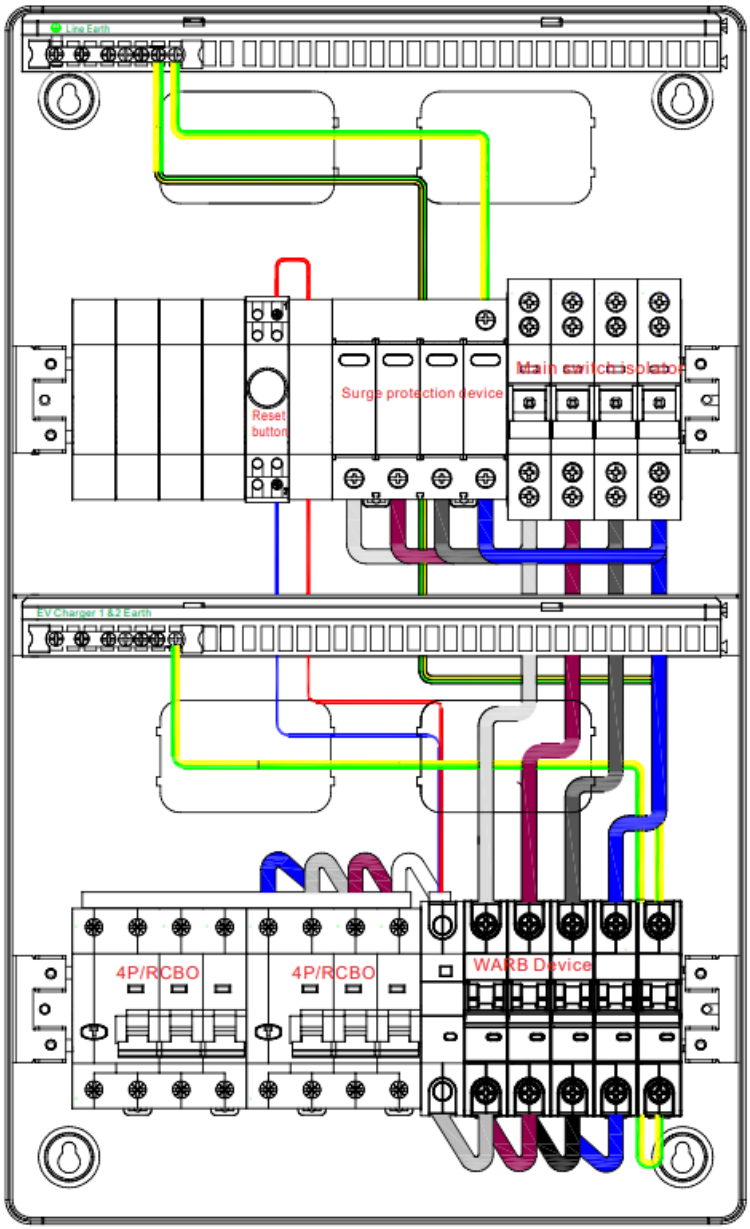
- However, a voltage dip could also cause the same fault condition. Therefore, PME fault detection device continuously monitors the supply health and if it returns to within normal operating range, automatically allows re-connection of live, neutral and earth to the vehicle.
- If the voltage of any phase rises above 253Vac and does not return for up to 5seconds, 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 400 & 415V supplies without the need for any manual dip switch settings. Within 5 seconds in the event of an under-voltage of any phase less than 207V or an over-voltage of any phase more than 253V Live,
- Neutral & Earth will be isolated.
- Following under-voltage isolation, will automatically reset when normal operating range is restored. Following an over-voltage isolation, on the grounds of safety, will require a manual reset. Press the Red button of WP9 to reset



WMTP28-R40CSP wiring layout



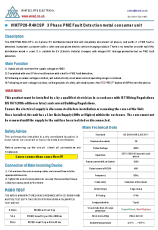
- sales@wced.co.uk
- **Tel** 0161 723 1451
- www.wced.co.uk

FAQ

Q: Do I need an earth rod when using this distribution board?
A: No, there is no need for an earth rod if you are using the WMTP28-R40CSP distribution board.

Q: What should I do if a PME fault is detected?
A: If a PME fault is detected, ensure the supply returns within normal operating limits. You may also need to perform a power off/on cycle if the cause was an over-voltage condition.

Documents / Resources



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References

- **User Manual**