



## WMTP28-R40CSP 3 Phase PME Fault Detection metal consumer unit

### 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 an 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 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 WFD 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 current of RCBO	40A
Frequency	50Hz
Cable entry	Selection of knockouts
terminal type	Cage clamp
IP Rating	IP40
Surge protection	Type2
Visual indication of surge protection	<b>Green=Good, Red=Replace</b>
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-in PME 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 5 seconds, a PEN fault condition is tripped and live, neutral and earth connections are removed from the vehicle.

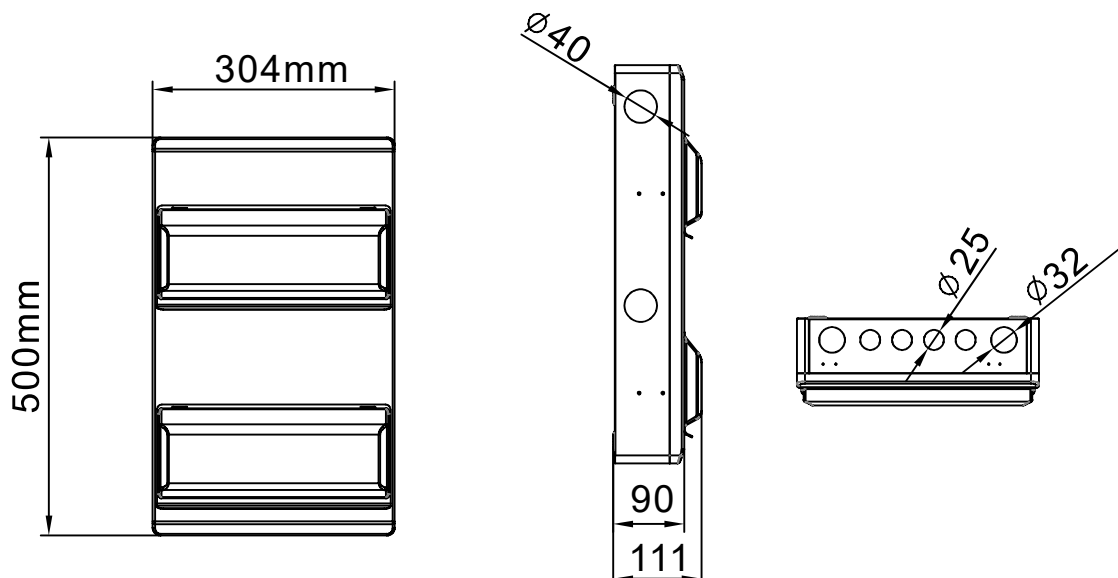
PME fault detection device continues to monitor the supply health but if it returns to within normal operating limits the fault condition is not cleared without manual intervention to power cycle.

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 an 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

