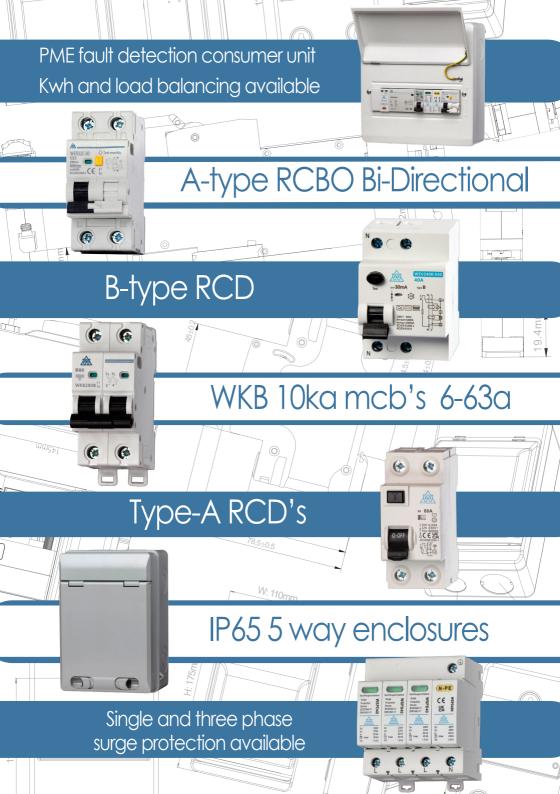




# **EV** Circuit Protection

sales@wced.co.uk www.wced.co.uk

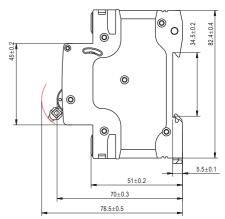
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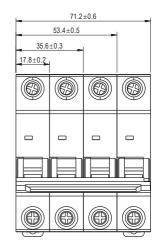


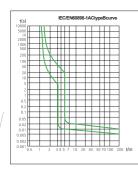
### 2 Pole 10kA MCB

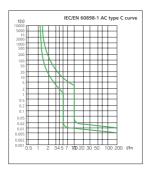
These W brand MCBs can be the ideal solution for domestic, as well as in commercial and industry electrical, distribution systems because of its long lasting and durable nature.

Part No.	Description	Box Qty
WKB206B	2 Pole 6Amps B Curve 10 kA MCB	60
WKB210B	2 Pole 10Amps B Curve 10 kA MCB	60
WKB216B	2 Pole 16Amps B Curve 10 kA MCB	60
WKB220B	2 Pole 20Amps B Curve 10 kA MCB	60
WKB225B	2 Pole 25Amps B Curve 10 kA MCB	60
WKB232B	2 Pole 32Amps B Curve 10 kA MCB	60
WKB240B	2 Pole 40Amps B Curve 10 kA MCB	60
WKB250B	2 Pole 50Amps B Curve 10 kA MCB	60
WKB263B	2 Pole 63Amps B Curve 10 kA MCB	60
WKB206C	2 Pole 6Amps C Curve 10 kA MCB	60
WKB210C	2 Pole 10Amps C Curve 10 kA MCB	60
WKB216C	2 Pole 16Amps C Curve 10 kA MCB	60
WKB220C	2 Pole 20Amps C Curve 10 kA MCB	60
WKB232C	2 Pole 32Amps C Curve 10 kA MCB	60
WKB240C	2 Pole 40Amps C Curve 10 kA MCB	60
WKB250C	2 Pole 50Amps C Curve 10 kA MCB	60
WKB263C	2 Pole 63Amps C Curve 10 kA MCB	60







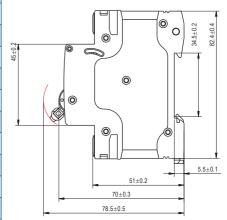


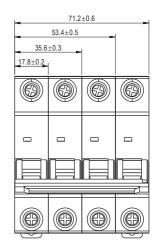


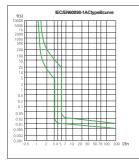
### 4 Pole 10kA MCB

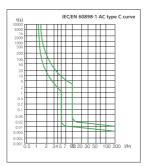
These W brand MCBs can be the ideal solution for domestic, as well as in commercial and industry electrical, distribution systems because of its long lasting and durable nature.

Part No.	Description	Box Qty
WKB406B	4 Pole 6Amps B Curve 10 kA MCB	30
WKB410B	4 Pole 10Amps B Curve 10 kA MCB	30
WKB416B	4 Pole 16Amps B Curve 10 kA MCB	30
WKB420B	4 Pole 20Amps B Curve 10 kA MCB	30
WKB425B	4 Pole 25Amps B Curve 10 kA MCB	30
WKB432B	4 Pole 32Amps B Curve 10 kA MCB	30
WKB440B	4 Pole 40Amps B Curve 10 kA MCB	30
WKB450B	4 Pole 50Amps B Curve 10 kA MCB	30
WKB463B	4 Pole 63Amps B Curve 10 kA MCB	30
WKB406C	4 Pole 6Amps C Curve 10 kA MCB	30
WKB410C	4 Pole 10Amps C Curve 10 kA MCB	30
WKB416C	4 Pole 16Amps C Curve 10 kA MCB	30
WKB420C	4 Pole 20Amps C Curve 10 kA MCB	30
WKB432C	4 Pole 32Amps C Curve 10 kA MCB	30
WKB440C	4 Pole 40Amps C Curve 10 kA MCB	30
WKB450C	4 Pole 50Amps C Curve 10 kA MCB	30
WKB463C	4 Pole 63Amps C Curve 10 kA MCB	30









### 100A MCB

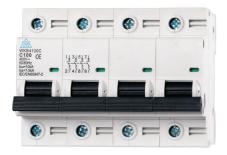
WKB range 100A high breaking capacity circuit breaker is used for protecting the circuit which overload and short circuit may take place. It can be used in lighting and electric motor distribution system. Meantime it is applicable to unfrequently switch the electric apparatus and light circuit under the normal conditions.



#### Selection

Technical data of the network at the point considered: the earthing systems (TNS, TNC), short-circuit current at the circuit-breaker installation point, which must always be less than the breaking capacity of this device, Network normal voltage.

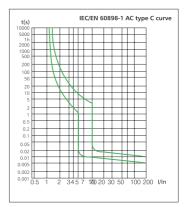
Part No.	description				
WKB2100C	2 Pole 100A C Curve MCB 10KA				
WKB4100C	4 Pole 100A C Curve MCB 10KA	30			
WKB5100C-ST	5 Pole 100A C Curve MCB 10KA c/w 230V Shunt Trip	20			



#### Function

protection of circuits against short-circuit currents, protection of circuits against overload currents, switch, isolation







### 4 Pole A-Type RCBO

These WCED brand Type A RCBOs are designed specifically for individual EV chargers, where the model and make of the vehicle being charged is unknown. They can detect & respond as for type AC, PLUS pulsating DC components.

### **Technical Data**

Rated current(In): 6,16,20,32,40A Rated voltage(Un) 415V AC Breaking capacity (Icn) 6kA Rated residual current: 30mA Tripping characteristics: B,C Electrical endurance: 4000 cycles Mechanical endurance: 10000 cycles Ambient temperature: -25 C -- +40 C

IP 20 rated Complies with BS EN 61009-1 Recommended Torque: 2.5Nm



Part No Description							
ADR4	<sup>‡**</sup> -30	*-30 Type A 6,16,20,32,40Amps b/C Curve 30mA High Immunity RCBO (**insert current rating & trip curve ie ADR440C-30)					
*	<ul><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><li>*</li><l< td=""><td></td><td>Side A</td><td>Side B</td><td></td></l<></ul>		Side A	Side B			
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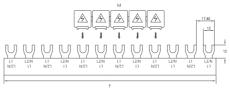
### **Overload Current Protection Characteristics**

Test procedure	Curve	Test Current	Initial State	Tripping or Non-tripping Time Limit Expected Result		Remark
а	с	1.13 In	Cold	t≥1h	no tripping	
b	С	1.45 ln	after test a	t < 1h	tripping	Current in the 5s in the increase of stability
c	С	2.55 In	Cold	1 s	tripping	
d	С	5 In	Cold	t≥0.1s	no tripping	Turn on the auxiliary switch to close the current
e	С	10 In	Cold	t < 0.1s	tripping	Turn on the auxiliary switch to close the current

### 2 Pole Fork Busbar

Rated Current	100A
Rated operational voltage	230/400V AC
Rated frequency	50/60 Hz
Rated impulse withstand voltage Uimp	9.5 kV
Rated conditional short-circuit current AC with 350 A gG	15kV
Busbar cross section	18 mm² Cu
Pollution degree	2
Comparative tracking index	CTI 600
Technical Data	IEC/EN60947-2





Part No.	Discription
FBB2P18	2 Pole 18 Way 100A Fork Busbar
FBB2P54	2 Pole 54 Way 100A Fork Busbar



### Modular Contactors

W brand modular contactors are designed for use in modular panels and enclosures. Electric ratings: up to 20A, 25A, 40A, 63A.Compact modular design. No noise during operation. Suitable for housing within a consumer unit or modular enclosure.

#### **Technical Data**

Rated operational voltage: 230/400V 50Hz

IP degree of protection: IP20 conforming to BS EN 60529

Utilization category:AC-7a and AC-1 according to BS EN 60947-4-1

Ambient temperature: -25 °C -- +40 °C

Recommended Torque: 2.0Nm

35mm Din rail mounting

Complies with BS EN 61095

Part No	Description	Qty
WAC2P20	2 Pole 20A 2NO AC contactor	60
WAC2P25	2 Pole 25A 2NO AC contactor	60
WAC2P32	2 Pole 32A 2NO AC contactor	60
WAC2P40	2 Pole 40A 2NO AC contactor	60
WAC2P63	2 Pole 63A 2NO AC contactor	60
WAC2P100	2 Pole 100A 2NO AC contactor	60
WAC2P125	2 Pole 125A 2NO AC contactor	60
WAC4P20	4 Pole 20A 4NO AC contactor	60
WAC4P25	4 Pole 25A 4NO AC contactor	60
WAC4P32	4 Pole 32A 4NO AC contactor	60
WAC4P40	4 Pole 40A 4NO AC contactor	60
WAC4P63	4 Pole 63A 4NO AC contactor	60
WAC4P100	4 Pole 100A 4NO AC contactor	60
WAC4P125	4 Pole 125A 4NO AC contactor	60





#### Ratings

Part No.	Utilization category	Ui (V)	Ue (V~)	Conventional heating current	le (A) A)	Controlled power (kW)
WAC2P20, WAC4P20	AC-1,AC-7a	500	230	20	20	4
WAC2P20, WAC4P20	AC-7b	500	230	20	9	1.2
WAC2P25, WAC4P25	AC-1,AC-7a	500	400	25	25	16
WAC2P32, WAC4P32	AC-1,AC-7a	500	400	40	40	40
WAC2P40, WAC4P40	AC-1,AC-7a	500	400	40	40	40
WAC2P63, WAC4P63	AC-1,AC-7a	500	400	63	63	40
WAC2P100, WAC4P100	AC-1,AC-7a	500	400	100	60	66
WAC2P125, WAC4P125	AC-1,AC-7a	500	400	125	80	70

#### Making and breaking capacity

Model	Utilizationcategory	Making and breaking conditions			Electrification Interval time (s)	Operating cycle	
Model	otilizationcategory	Ic/le Ur/Ue C		COSΦ	time (s)	interval time (s)	times
WAC2P20, WAC4P20	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
WAC2P20, WAC4P20	AC-7b	8	1.05	0.45	0.05	10	50
WAC2P25, WAC4P25	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
WAC2P32, WAC4P32	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
WAC2P40, WAC4P40	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
WAC2P63, WAC4P63	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
WAC2P100, WAC4P100	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
WAC2P125, WAC4P125	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50

### Three Phase SPD unit IP65



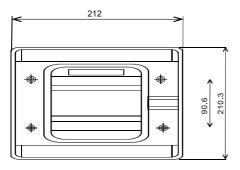
#### WPEV3P\*\*\*SP

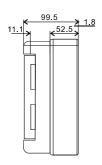
Three phase SPD unit consists of 8 way IP65 plastic enclosure, with 4 pole 20kA/40kA type 2 surge protector and 4 pole 10kA MCB. (\*\*\* Amperage and Curve of MCB).



#### WPRCUSP4\*\*\*

Three phase SPD unit consists of 8 way IP65 plastic enclosure, with 4 pole 20kA/40kA type 2 surge protector and 4 pole A-type RCBO. (\*\*\* Amperage and Curve of RCBO).







### Three Phase SPD unit



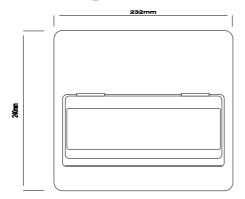
#### WMCUSP4\*\*\*

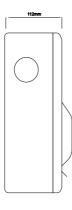
Three phase SPD unit consists of 8 way IP40 metal enclosure, with 4 pole 20kA/40kA type 2 surge protector and 4 pole 10kA MCB. (\*\*\* Amperage and Curve of MCB).

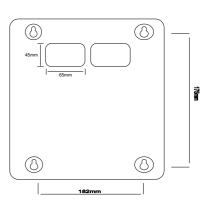


WRCUSP4\*\*\*

Three phase SPD unit consists of 8 way IP40 metal enclosure, with 4 pole 20kA/40kA type 2 surge protector and 4 pole A-type RCBO. (\*\*\* Amperage and Curve of RCBO).







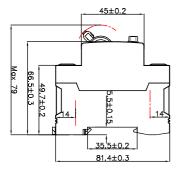
### Type A time delay RCD

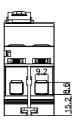
The W brand Time Delayed RCD is used typically when two RCDs are installed in series, and the time delayed RCD enables discrimination, i.e. in the event of a fault only the 'upstream' RCD should trip

#### **Features**

Mode: electro-magnetic Residual current characteristics: A Rated operational voltage: 230/400V 50Hz Earth-leakage sensitivity: 100 mA Rated conditional short-circuit current: 6kA IP degree of protection: IP20 conforming to BS EN 60529 Ambient temperature: -25 °C -- +40 °C Complies with BS EN 61008-1

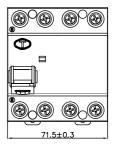
Part No	Description	Qty
ATDR263-100	2 Pole 63Amps 100mA Time Delay Type Ahigh immunity RCD	60
ATDR280-100	2 Pole 80Amps 100mA Time Delay Type A high immunity RCD	60
ATDR2100-100	2 Pole 100Amps 100mATime Delay Type A high immunity RCD	60
ATDR463-100	4 Pole 63Amps 100mA Time Delay Type A high immunity RCD	30
ATDR480-100	4 Pole 80Amps 100mA Time Delay Type A high immunity RCD	30
ATDR4100-100	4 Pole 100Amps 100mA Time Delay Type A high immunity RCD	30











### Standardised values of operating time

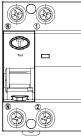
Туре	IN A	IAN A	Standard values of break time and non-actuating time at a residual current equal to							
			IΔN	2 IAN	5 I∆N	5 I∆N or 0,25A	5A-200A, 500A	IΔt		
S (time	>25	>0.03	0.5	0.2	0.15		0.15	0.15	Max. break times	
delayed)	-23	20.03	0.13	0.06	0.05	-	0.04	0.04	Min. non-actuating times	

35.6±0.2

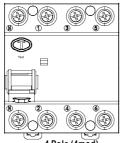


### B type RCD/RCCB

W brand Type B RCCBs provide protection against DC residual fault currents, and against AC residual fault currents up to 1000 hertz. They comply with IEC/EN 61008-1 and IEC/EN 62423.Applications included: EV & PV installations, frequency converters, UPS installations, high-frequency power converters, building site power supply cabinets.



2 Pole (3mod)



4 Pole (4mod)

#### В Туре

Tripping is ensured for sinusoidal AC residual currents pulsed DC residual currents, alternating residual sinusoidal currents up to 1000Hz, pulsating direct residual currents and for smooth direct residual currents, whether applied suddenly or increasing slowly



Wiring diagrams N 1

N 2

F

Т

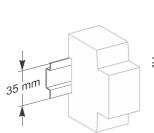
Part No	Description
WEV240B-030	2 Pole 40Amps 30mA Type B RCCB (3 module)
WEV263B-030	2 Pole 63Amps 30mA Type B RCCB (3 module)
WEV2100B-030	2 Pole 100Amps 30mA Type B RCCB (3 module)
WEV440B-030	4 Pole 40Amps 30mA Type B RCCB (4 module)
WEV463B-030	4 Pole 63Amps 30mA Type B RCCB (4 module)
WEV4100B-030	4 Pole 100Amps 30mA Type B RCCB (4 module)

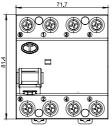
#### Tripping sensitivity

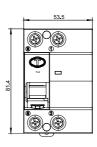
30mA - additional protection against direct contact 100mA - coordinated with the earth system according to the formula I∆n<50/R, to provide protection against indirect contacts 300mA - protection against indirect contacts, as well as fire hazard

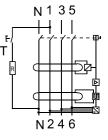
Part No	Description
WEV240B-100	2 Pole 40Amps 100mA Type B RCCB (3 module)
WEV263B-100	2 Pole 63Amps 100mA Type B RCCB (3 module)
WEV2100B-100	2 Pole 100Amps 100mA Type B RCCB (3 module)
WEV440B-100	4 Pole 40Amps 100mA Type B RCCB (4 module)
WEV463B-100	4 Pole 63Amps 100mA Type B RCCB (4 module)
WEV4100B-100	4 Pole 100Amps 100mA Type B RCCB (4 module)

#### **Dimensions**











### Type-A RCBO

The WER Range RCBO from WCED with type A & AC Type RCD protection in one. RCBO's (Residual Current Circuit Breaker with Overload Protection) provide residual and overload protection in one neat device. They can detect & respond as for type AC, PLUS pulsating DC components. Ideal for Electric Vehicles, Domestic and Commercial applications.

#### **Key Featrues**

The WER Range RCBOs with switched neutral built in as standard will fully isolate a faulty or damaged circuit by disconnecting live and neutral conductors. They offer the most comprehensive circuit protection available.

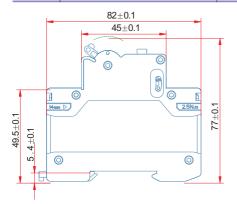
Using the WER range rcbo's will guarantee that healthy circuits remain in service and that only a faulty circuit is switched off. This avoids danger and prevents inconvenience in the event of a fault. They have switched neutral built in as standard, live and neutral conductors do not have to be disconnected for insulation resistance testing. This saves time and money.

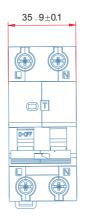
Twin handle system, black handle controls MCB function, white handle controls RCD function. If only black handle trips off, it indicates over loador short circuit. If both white and black handle trip, it will indicate residual current fault. This will assist an electrician to solve the electrical fault quickly, saving time and money.

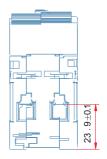
Part No	Description	Qty
WER06B-30	Type A 6Amp B Curve 30mA High Immunity RCBO	60
WER10B-30	Type A 10Amps B Curve 30mA High Immunity RCBO	60
WER16B-30	Type A 16Amps B Curve 30mA High Immunity RCBO	60
WER20B-30	Type A 20Amps B Curve 30mA High Immunity RCBO	60
WER32B-30	Type A 32Amps B Curve 30mA High Immunity RCBO	60
WER40B-30	Type A 40Amps B Curve 30mA High Immunity RCBO	60
WER06C-30	Type A 6Amps C Curve 30mA High Immunity RCBO	60
WER10C-30	Type A 10Amps C Curve 30mA High Immunity RCBO	60
WER16C-30	Type A 16Amps C Curve 30mA High Immunity RCBO	60
WER20C-30	Type A 20Amps C Curve 30mA High Immunity RCBO	60
WER32C-30	Type A 32Amps C Curve 30mA High Immunity RCBO	60
WER40C-30	Type A 40Amps C Curve 30mA High Immunity RCBO	60

\* For 110V version add (110) at the end of part number











### WKS 10kA MCB

### **Function**

- Protection of circuits against short-circuit currents;
- Protection of circuits against overload currents;
- Switch;
- Isolation

### Selection

Technical data of the network at the point considered: the earthing systems (TNS, TNC), short-circuit current at the circuit-breaker installation point,which must always be less than the breaking capacity of this device, network normal voltage.

#### Tripping curves:

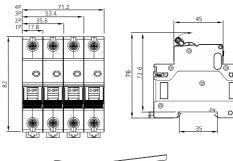
B curve (3-51n)---protection for people and big length cables in TN and IT systems.

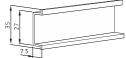
C curve (5-10In)---protection for resistive and inductive loads with low inrush current

D curve(10-14In)---protection for circuits which supply loads with high inrush current at the circuit closing (LV/LV transformers, breakdown lamps)

### Application

WKS range circuit-breakers are used in domestic installation, as well as in commercial and industry electrical distribution systems.





<b>(</b>	
WKS116C C16 230V~ 50/60Hz	
œ	-

Part No.	Discription	Box Qty
WKS1**B	1 Pole 10kA MCB 6A-63A B curve	180
WKS2**B	2 Pole 10kA MCB 6A-63A B curve	90
WKS3**B	3 Pole 10kA MCB 6A-63A B curve	60
WKS4**B	4 Pole 10kA MCB 6A-63A B curve	45
WKS1**C	1 Pole 10kA MCB 6A-63A C curve	180
WKS2**C	2 Pole 10kA MCB 6A-63A C curve	90
WKS3**C	3 Pole 10kA MCB 6A-63A C curve	60
WKS4**C	4 Pole 10kA MCB 6A-63A C curve	45
WKS1**D	1 Pole 10kA MCB 6A-63A D curve	180
WKS2**D	2 Pole 10kA MCB 6A-63A D curve	90
WKS3**D	3 Pole 10kA MCB 6A-63A D curve	60
WKS4**D	4 Pole 10kA MCB 6A-63A D curve	45

### PME fault detection metal consmer unit

The WMPME08/SP 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 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.

#### Main Function

1) Automatically monitors the supply voltage on both 230V & 240V

- 2) 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.
- 3) Following an under-voltage isolation, will automatically reset when normal operating range is restored.

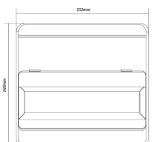
4) Following an over-voltage isolation, on the grounds of safety, you will need to press the "REST" button of WVP32 to reset the device.

#### Technical Data

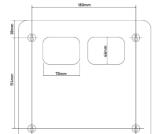
Standard	BSEN61439-3, BS 7671
Rated current	40A
Rated voltage	230V AC
Frequency	50/60Hz
Short circuit rating	16kA
Operation	270V-253V (4 seconds)
IP Rating	IP40
No. of modules	8
Incomer device	40A RCBO Type A
Ambient temperature ( $^{\circ}C$ )	-25 +55
Storage temperature ( $^{\circ}C$ )	-35 +55
Material	Metal

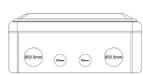


### Dimensions











#### Installation Instructions

The WMPME08/SP 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 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, PME fault detection device allows 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, 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.

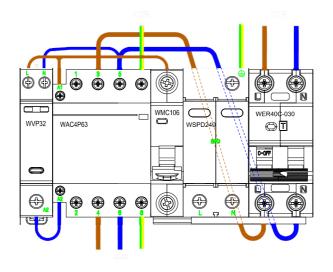
Under this condition the EV driver is made aware of the high-voltage applied to the vehicle and can then perform safety checks before driving the vehicle.

#### 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 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.



### PME fault detection with load balancing

### Description

The **WMEPME12/LB** range consumer unit is perfect for EV Chargers that do not have integral PME protection & earth leakage protection & overload protection & require load management. This board also includes a Kilowatt hour meter.

### **PME Protection**

1) Automatically monitors the supply voltage on both 230V & 240V

2) 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.

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 "REST" button of WVP32 to rest the device.

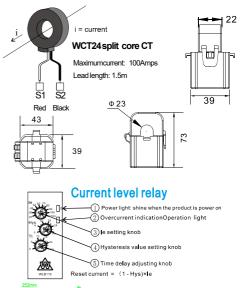
### **Technical Data**

Standard	BSEN61439-3, BS 7671
Rated current	40A
Rated voltage	230V AC
Frequency	50/60Hz
Short circuit rating	16kA
Operation	270V-253V(4 Seconds)
Load Management Current	10 - 110 Amps
IP Rating	IP40
No. of modules	12
Incomer Device	40A RCBO Type A
Ambient temperature(°C)	-25 +55
Storage temperature(°C)	-35 +55
Material	Metal

#### Load management

Installing a current transformer on the incoming supply (Main cable) protects against the car charger overloading the installation. This feature is useful for properties with existing high current electric appliances, e.g. induction hobs, electric showers and heating.







#### Installation Instructions

The WMPME08/SP 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 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, PME fault detection device allows 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, 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.

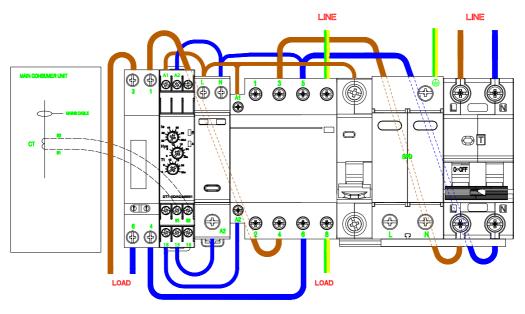
Under this condition the EV driver is made aware of the high-voltage applied to the vehicle and can then perform safety checks before driving the vehicle.

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 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.



### Mini metal enclosure

Fully Enclosed metal construction body with drop down metal lid 25mm Circular cable entry knock-outs on top and bottom.

25 & 32mm Circular cable entry knock-outs on top and bottom on 3 & 4 way metal enclosures.

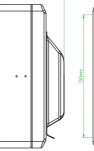
Raised key holes for secure easy installation modern style finished with polyester powder coating complete with Din rail and earth terminal bar

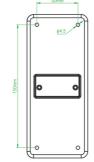
230V/400V IP40 rated Recommended Torque: 2.0Nm for earth terminal bar Complies with BS EN 61439-3



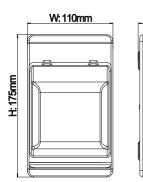
Part No	Description	Qty	W	Н	D
WME2L/25	2 Way Metal Enclosure with Lid	30	74	175	90
WME3L	3 Way Metal Enclosure with Lid	20	110	175	91
WME4L	4 Way Metal Enclosure with Lid	20	110	175	91



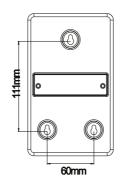














3/4 way



### IP40 WMK2\*\*B

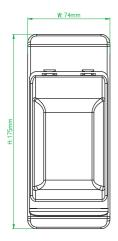
Compact 2 module metal enclosure with drop down lid and 2 25mm knockouts top and bottom. Complete with 2 pole 10KA MCB of your choice.

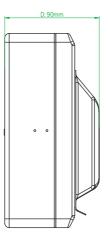
- IP40 Metal Enclosure with lid
- 2 Pole 10KA 6-63A MCB
- · Fast and Easy to install

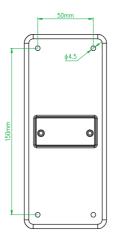
Recommended Torque: 2.0Nm for Earth Terminal Bar

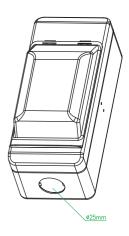


Part No	Description	Qty	W	Н	D
WMK2**B	2 Module Enclosure + 6-63A 10KA MCB B Curve	30	74	175	91
WMK2**C	2 Module Enclosure + 6-63A 10KA MCB C Curve	30	74	175	91









### **WMRC**

WMRCenclosure are finished in white polyester powder coating. Multiple circular cable entry knock-outs (25&32mm) on the top and bottom. It is ideal for electrical vehicle installations. Twin handle system for RCBO, black handle controls MCB function, white handle controls RCD function. If only black handle trip off, it indicates overload or short circuit. If both white and black handle trip, it will indicate residual current fault. This will assist electrician to solve the electrical fault quickly, saving time and money.

### **Technical Data**

Standard	BS EN61439-3 BSEN61009-1 BS EN61643-11
Number of modules	4
Rated Voltage	230V
Rated current	according to the rated current of rcbo
Frequency	50Hz
Cable entry	Selection of Knockouts
Incoming terminal capacity	35mm² max
Terminal type	Cage Clamp
Protection class ip rating	IP40
Surge protection	Туре2
Visual Indication of Surge protection	Green=Good, Red=Replace
Device mounting	35mm din rail
Ambient temperature	-25°C +40°C
Visual Indication of Surge protection Device mounting	Green=Good, Red=Replace 35mm din rail

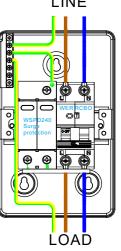
### Features

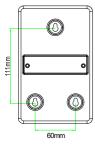
OR

Supplied with 2 pole A type RCBO Fitted with Type2 surge protection device The dual switch action indicates the type of fault detected 18th Edition Compliant Non-combustible enclosure Earth leakage protection overload and short circuit protection

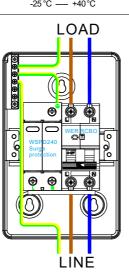














WPRC enclosures are ideal for electrical vehicle installations. Supplied with A type RCBO which detect AC and pulsating DC earth leakage up to 6ma. Twin handle system RCBO, black handle controls MCB function, white handle controls RCD function. If only black handle trip off, it indicates overload or short circuit. If both white and black handle trip, it will indicate residual current fault. This will assist electrician to solve the electrical fault quickly, saving time and money.

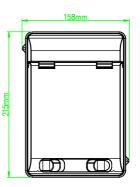
### **Technical Data**

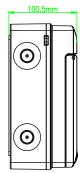
BS EN 60439-3 BSEN 61009-1 BS EN 61643-11	
5	
230V	W:
according to the rated current of rcbo	
50Hz	
Selection of Knockouts	
35mm² max	
Cage Clamp	
IP65	
Туре2	
Green=Good, Red=Replace	
35mm din rail	
-25 °C +40 °C	
	BSEN 61009-1 BS EN 61643-11 5 230V according to the rated current of rcbo 50Hz Selection of Knockouts 35mm <sup>2</sup> max Cage Clamp IP65 Type2 Green=Good, Red=Replace 35mm din rail

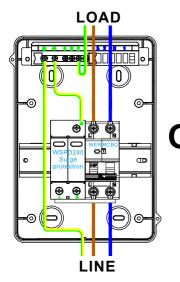
#### **Customer Information**

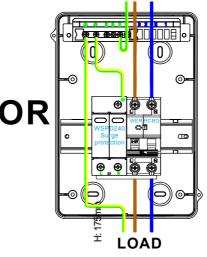
In line with the current BS7671 wiring regulations, the test button (T) must be operated monthly. If unit fails please consult your installer.

In the event of the unit tripping, return handles to the on **1100** If they continue to trip or fail to **Department** consult your installer.

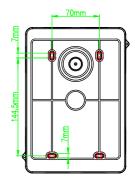








LINE



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## A-Type Mini RCBOS BI-Directional



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407

## 4+5 pole 100A mcb + shunt trip

le 63A Ue- 4077 Ui- 5007 Ui- 5007 Ui- 5007 IEC 61095 EN 61075 CE

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17.8mm

## Modular contactors

## WKN 2 Pole single module mcb's

W: 110mm

36+0.5mm

### A-type electric vehicle RCBO enclosure + Surge



## 4 Pole A-Type RCBO

## Three Phase Surge protection available in RCBO/RCD/MCB

