

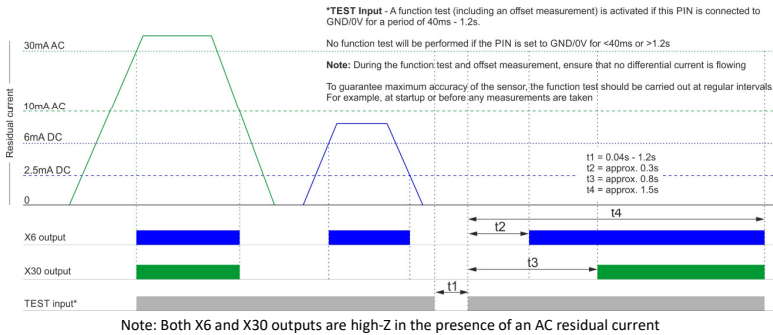
Dims:
W. 42.5mm
H. 46mm
D. 27mm *exc. any pins

- ❑ Designed for **Mode 2** and **Mode 3** Electric Vehicle charging systems
- ❑ Detects AC and DC fault currents
- ❑ Conforms to IEC 62752
- ❑ Conforms to IEC 62955¹
- ❑ **Fixed** 6mA DC and 30mA AC trip levels
- ❑ 3000A surge withstand capability
- ❑ Suitable for single phase or three phase loads rated up to 32A
- ❑ Built-in current sensor with 13.5mm dia. aperture
- ❑ Designed for direct mounting to PCB and secured in place using screws
- ❑ 2 x 4-way pin header connector (2.54mm pitch) exiting at the underside of housing
- ❑ Operates from 5 - 12V DC
- ❑ "Test" input
- ❑ 4 Open collector outputs – "6mA", "30mA", "Fault" and "PWM" – Active high²
- ❑ Auto-resets when fault removed



¹ Refer to Technical Specification

FUNCTION DIAGRAM



INSTALLATION

- BEFORE INSTALLATION, ISOLATE ALL SUPPLIES.
- Mount the device according to the preferred method of use and equipment design.
- DO NOT install the unit in close proximity to equipment generating high magnetic fields.
- Ensure the conductors that pass through the aperture are straight, and as central as possible. Ensure the conductors do not cause any undue stress on the unit itself.
- The earth connection must not pass through the aperture.



Installation work must be carried out by qualified personnel.

Applying power.

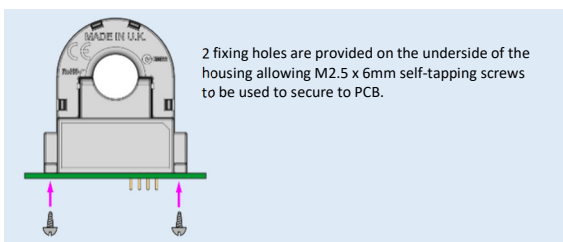
- There are no visual indicators or user adjustments. As soon as power is applied the device will begin monitoring for leakage current.

Troubleshooting.

- If the unit fails to operate correctly check that all wiring and connections are good.

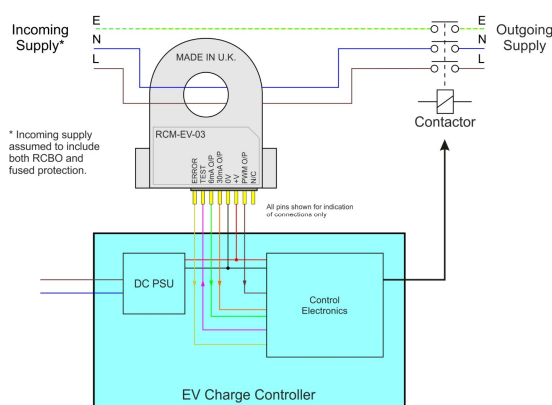
MOUNTING

- The recommended mounting of the RCM-EV-03 is direct to a PCB.



CONNECTION DIAGRAM

Typical connection example for a single phase EV supply



TECHNICAL SPECIFICATION

Auxiliary supply:	
Rated voltage Us (5, 6):	5 - 12V DC (90 - 110% of Us)
Power consumption (max.):	0.6W
Monitored circuit:	
Rated current In:	32A
Rated voltage Un:	230/400V AC
Rated frequency:	50/60Hz
Maximum frequency:	2000Hz
Trip and time delay characteristics:	
Sensitivity/Trip level IΔn:	6mA DC / 30mA AC (fixed)
Residual non-operating current:	0.5 x IΔn
Reset level:	2.5mA DC / 10mA AC
Unit resets automatically when current drops below this level	
Time delay (max.):	IΔn 2 x IΔn > 5 x IΔn
	0.3s 0.15s 0.025s
Accuracy:	±10%
Inputs/Outputs:	
Connection type:	2 x 4-way pin header, 2.54mm pitch
TEST input (2):	Active low (internally pulled to +V)
Test input pulse width:	0.04 - 1.2s
ERROR output (1):	Open collector - Active high
6mA output (3):	Active low (Max. rating 45V DC, 100mA)
30mA output (4):	Open collector - Active high (Max. rating 45V DC, 100mA)
PWM output (7):	Frequency: 8kHz ±200Hz, 50% duty cycle @ IΔdc = 0
Duty cycle change:	3.3%/mA
² These pins are in a high impedance state during a fault condition	
Environmental/General:	
Ambient temperature:	-40 to +85°C
Storage temperature:	-40 to +85°C
Relative humidity:	Max. 75% @ 40°C
Overvoltage category:	III
Pollution degree:	2
Altitude:	Up to 3000m above sea level
Ingress protection rating:	IP20
Housing:	Grey flame retardant Lexan UL94 V0
Weight:	≈ 32g
Mounting:	See drawing on the left
Approvals:	Conforms to: IEC 62752

CE, UKCA and RoHS Compliant.

¹ Conditional and dependant on circuit/system design. To ensure IEC 62955 compliance, do not connect to pin "X30 out" shown in the pin-out drawing below.

Numbers in brackets refer to pin numbers on the connector

SOLDERING PROCESS

Recommended process:	Wave soldering only
Heating temperature:	260°C
Heating time:	5s max.

These products **are not** suitable for re-flow soldering

DIMENSIONS & CONNECTOR PIN-OUT

