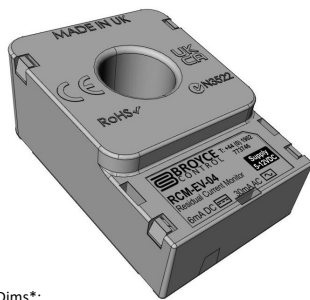




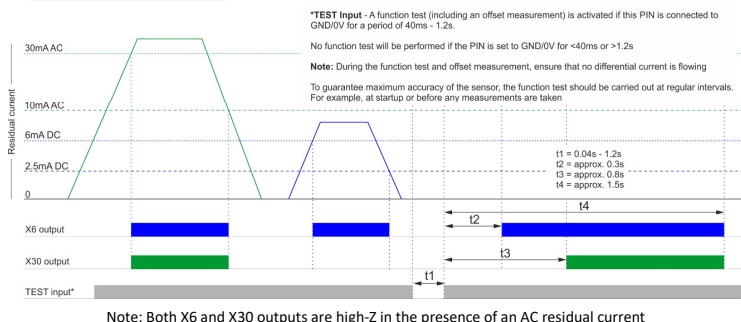
Dims*:
W. 34mm
H. 20mm
D. 49mm

*exc. any pins

- Designed for **Mode 2** and **Mode 3** Electric Vehicle charging systems
- Detects AC and DC fault currents according to IEC 62752
- 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 4 solderable pins
- 2 x 4-way male pin header connector exiting on the underside of housing
- Operates from 5 - 12V DC
- "Test" input
- 3 Open collector outputs – "6mA", "30mA" and "Fault"
- PWM output for monitoring purposes
- Auto-resets when fault removed



FUNCTION DIAGRAM



INSTALLATION



Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE ALL SUPPLIES.
- 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.

Applying power.

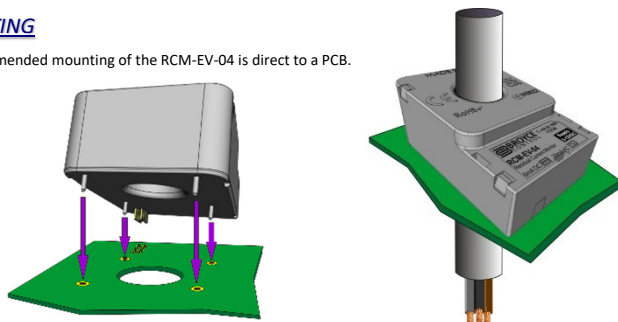
- There are no visual indicators or user adjustments. As soon as power is applied the device will begin monitoring for leakage current.

Troubleshooting.

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

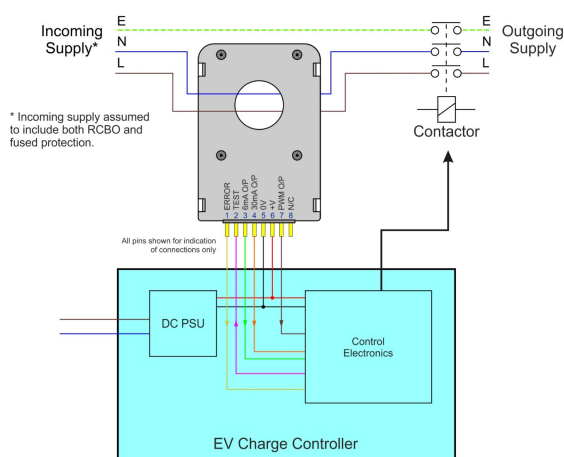
MOUNTING

- The recommended mounting of the RCM-EV-04 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

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

Max. operating time for suddenly applied residual current (as per IEC 62752)

	IΔn	2 x IΔn	5 x IΔn
Sinusoidal AC:	0.3s	0.15s	0.04s ¹
Smooth DC:	6mA	60mA	0.3A
	10s ²	0.3s	0.04s ¹

¹ actual operating time <0.025s

² actual operating time <0.5s

Accuracy: ±10%

Inputs/Outputs:

Connection type: 2 x 4-way pin header

TEST input (2): Active low (internally pulled to +V)
0.04 - 1.2s

Test input pulse width:

ERROR output (1):

6mA output (3):

30mA output (4):

PWM output (7):

PWM Function:

PWM Frequency:

PWM Duty cycle change:

Open collector
(Max. rating 45V DC, 100mA)

Internally pulled to 3.3V

Output proportional to smooth DC residual current

8kHz ±200Hz

3.3%/mA i.e. 20% duty cycle @ IΔdc = ±6mA

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 2000m above sea level

Ingress protection rating: IP20

Housing: Grey flame retardant Lexan UL94 V0

Weight: ≈ 40g

Mounting: See drawing on the left

Approvals: Conforms to: IEC 62752

CE, UKCA and RoHS Compliant.

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

