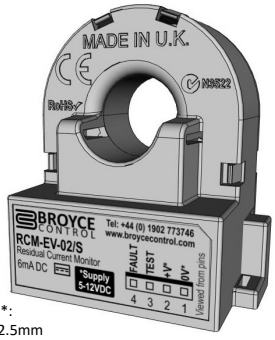
Type: RCM-EV-02

Residual Current Monitor – 6mA DC (Single Output)



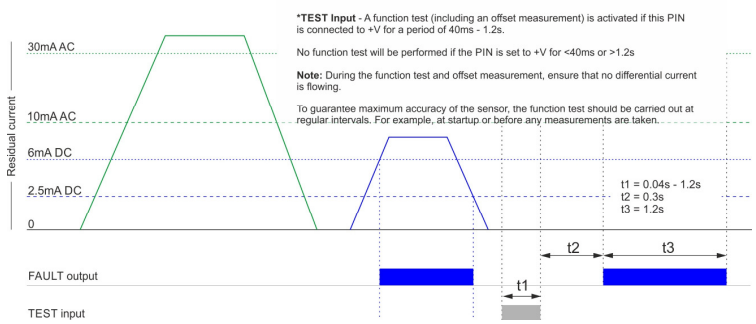
Dims*:
W. 42.5mm
H. 46mm
D. 27mm

*exc. connector pins

- Designed for **Mode 3** Electric Vehicle charging systems (as per IEC 62955)
- **Fixed** 6mA DC trip level
- 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
- Universal mounting/securing options:
  - PCB using fixing screws
  - Attaching to cable using a cable tie and slots provided
- 4-way (2.54mm pitch) connector – with two options available
  - Male pin header exiting at the underside of the housing (product part no. **RCM-EV-02/P**)
  - Latching right-angle pin header exiting at the rear of the housing (product part no. **RCM-EV-02/S**)
- Operates from 5 - 12V DC
- "Test" input
- "Fault" output (Open collector) – Active high[1]
- Auto-resets when fault removed

Citation ISO Certification – Quality management – ISO 9001: 2015 – REGISTERED
Certificate No.156532009

FUNCTION DIAGRAM



INSTALLATION

Installation work must be carried out by qualified personnel.

- 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.

Applying power.

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

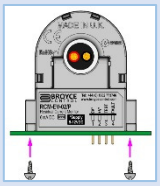
Troubleshooting.

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

MOUNTING OPTIONS

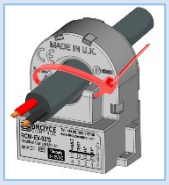
- Depending on model variant, there are two intended methods of mounting:

PCB Mounting using RCM-EV-02/P



2 fixing holes are provided on the underside of the housing allowing M2.5 x 6mm self-tapping screws to be used to secure to PCB.

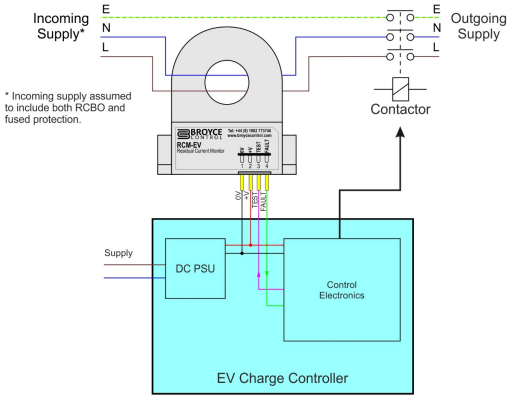
Direct to cable using RCM-EV-02/S



With the cable passing through the aperture, utilising a cable tie and the slots provided, allows the device to be secured in place.

CONNECTION DIAGRAM

Typical connection example for single phase supply



TECHNICAL SPECIFICATION

Auxiliary supply:				
Rated voltage Us **(1, 2):**	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 (fixed)			
Residual non-operating current:	0.5 x IΔn			
Reset level:	2.5mA DC *Unit resets automatically when current drops below this level*			
Max. operating time (as per IEC 62955) *(For suddenly applied residual current)*	6mA	30mA	60mA	≥150mA
Smooth DC:	10s	-	0.3s	0.1s
Sinusoidal AC:	No tripping		>0.3s	>0.08s
Accuracy:	±10%			
Inputs/Outputs:				
Connection type:	**RCM-EV-02/P** 4-way pin header, 2.54mm pitch		**RCM-EV-02/S** Latching right-angle 4-way pin header, 2.54mm pitch[2]	
TEST input **(3):**	Active high (internally pulled down)			
Input voltage, high level:	> 2.5V *(Max. rating 12V DC)*			
Input voltage, low level:	< 0.8V			
Test input pulse width:	0.04 – 1.2s			
FAULT output **(4)**[1]:	Open collector – Active high *(Max. rating 45V DC, 100mA)* [1] This pin is in a high impedance state during a fault condition			
Environmental/Other:				
Ambient temperature:	-40 to +85°C			
Storage temperature:	-40 to +85°C			
Relative humidity:	+95% max.			
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 options:	See drawing on the left			
Approvals:	Conforms to: IEC 62955 CE, UKCA, and RoHS Compliant.			

Numbers in brackets refer to pin numbers on the connector

[2] Recommended mating connector housing – **Molex KK 254** series

SOLDERING PROCESS

Recommended process:	Wave soldering only for the **RCM-EV-02/P**
Heating temperature:	260°C
Heating time:	5s max.

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

DIMENSIONS & CONNECTOR PIN-OUT