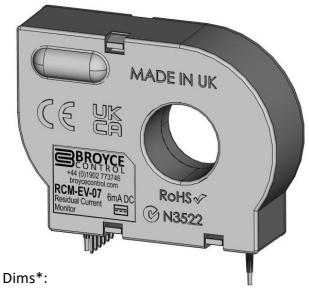
Type: RCM-EV-07

Residual Current Monitor – 6mA DC (Single Output)



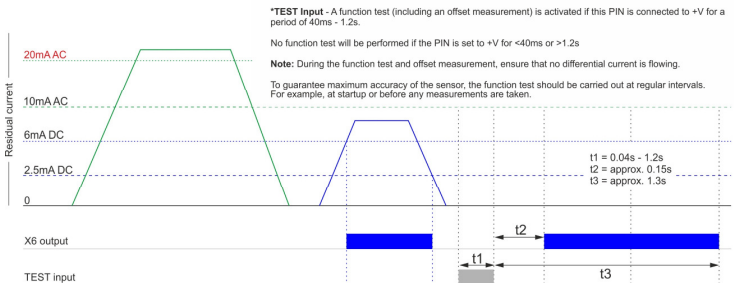
Dims*:
W. 46.5mm
H. 35.8mm
D. 11.8mm

*exc. any 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
- Designed for direct mounting to PCB and secured in place using 2 solderable pins
- 6-way male pin header connector (1.8mm pitch) exiting on the underside of housing
- 5V DC supply voltage
- "Test" input
- 1 x Open collector "Fault" output
- 1 x "Analogue" output
- Auto-resets when fault removed

ISO 9001:2015
Cert. No. 14125771

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.

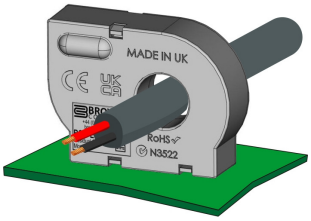
- There are no visual indicators or user adjustments. As soon as power is applied the device will begin monitoring for leakage current.

Troubleshooting.

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

MOUNTING

- The recommended mounting of the RCM-EV-07 is direct to a PCB. The diameter of the two securing pins is 1mm.



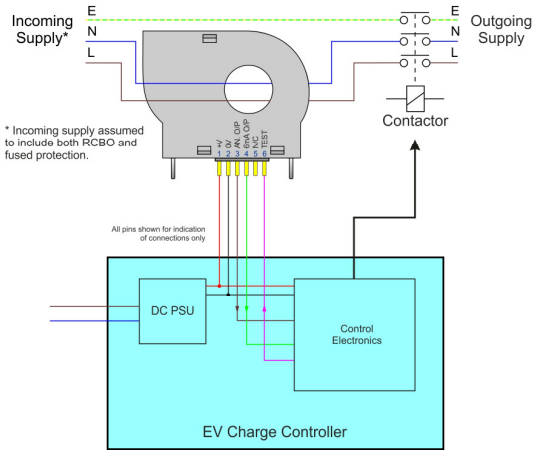
SOLDERING PROCESS

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

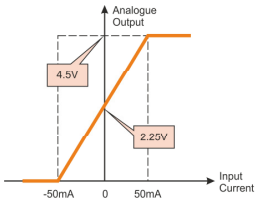
These products are not suitable for re-flow soldering

CONNECTION DIAGRAM

Typical connection example for a single phase EV supply

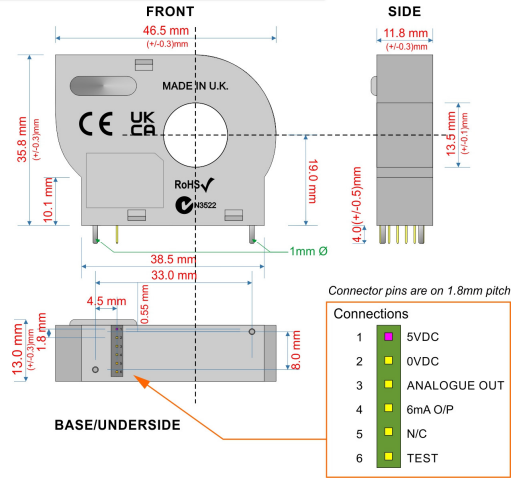


TECHNICAL SPECIFICATION

Auxiliary supply:			
Rated voltage Us **(1, 2):**	5V DC (95 – 105% of Us)		
Power consumption (max.):	0.15W		
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 for suddenly applied residual current (as per IEC 62955)			
Smooth DC:	6mA 10s	60mA 0.3s	0.2A 0.1s
Accuracy:	±10%		
Inputs/Outputs:			
Connection type:	6-way pin header, 1.8mm pitch (0.4mm square pins)		
TEST input **(6):**	Active high (internally pulled to 0V)		
Input voltage, high level:	> 2.5V *(Max. rating 12V DC)*		
Input voltage, low level:	< 0.8V		
Test input pulse width:	0.04 – 1.2s		
AN. output **(3):**	Analogue output		
DC Characteristics:			
6mA "FAULT" output **(4):**	Open collector *(Max. rating 45V DC, 100mA)*		
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:	≈ 45g		
Mounting:	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

DIMENSIONS & CONNECTOR PIN-OUT



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