



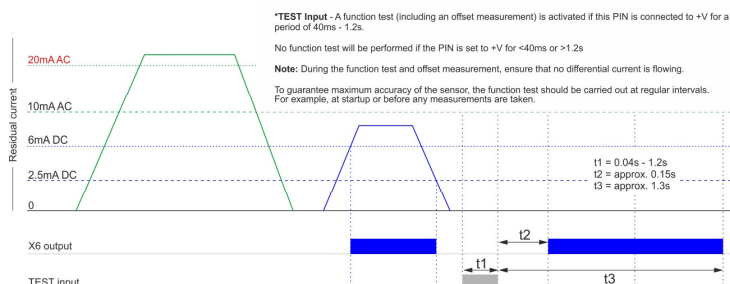
Dims\*:  
W. 47.3mm  
H. 35.8mm  
D. 12.9mm

\*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



### 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.

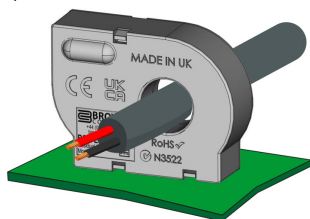
- There are no visual indicators or user adjustments. As soon as power is applied the device will begin monitoring for leakage current.

#### 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.

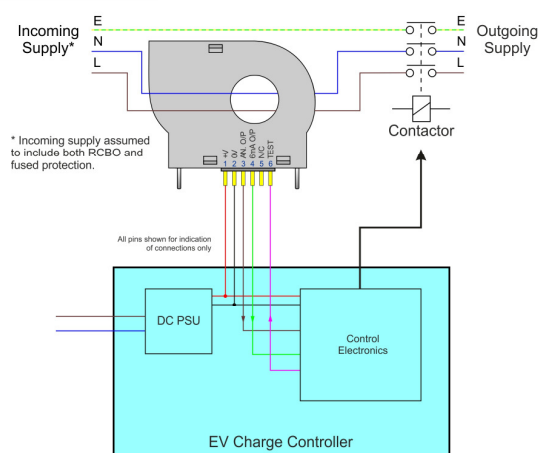


### SOLDERING PROCESS

Recommended process: Wave soldering only  
Heating temperature: 260°C  
Heating time: 5s max.  
*These products are not suitable for re-flow soldering*

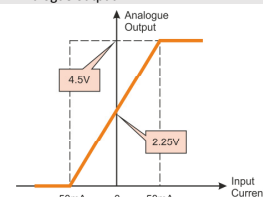
### CONNECTION DIAGRAM

Typical connection example for a single phase EV supply



### TECHNICAL SPECIFICATION

|                                                                                     |                                                   |
|-------------------------------------------------------------------------------------|---------------------------------------------------|
| <b>Auxiliary supply:</b>                                                            |                                                   |
| Rated voltage Us (1, 2):                                                            | 5V DC (95 – 105% of Us)                           |
| Power consumption (max.):                                                           | 0.15W                                             |
| <b>Monitored circuit:</b>                                                           |                                                   |
| Rated current In:                                                                   | 32A                                               |
| Rated voltage Un:                                                                   | 230/400V AC                                       |
| Rated frequency:                                                                    | 50/60Hz                                           |
| <b>Trip and time delay characteristics:</b>                                         |                                                   |
| Sensitivity/Trip level IΔn:                                                         | 6mA DC (fixed)                                    |
| Residual non-operating current:                                                     | 0.5 x IΔn                                         |
| Reset level:                                                                        | 2.5mA DC                                          |
| <i>Unit resets automatically when current drops below this level</i>                |                                                   |
| <b>Max. operating time for suddenly applied residual current (as per IEC 62955)</b> |                                                   |
| Smooth DC:                                                                          | 6mA 60mA 0.2A                                     |
|                                                                                     | 10s 0.3s 0.1s                                     |
| <b>Accuracy:</b>                                                                    |                                                   |
|                                                                                     | ±10%                                              |
| <b>Inputs/Outputs:</b>                                                              |                                                   |
| Connection type:                                                                    | 6-way pin header, 1.8mm pitch (0.4mm square pins) |
| <b>TEST input (6):</b>                                                              | 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                                       |
| <b>AN. output (3):</b>                                                              | 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

