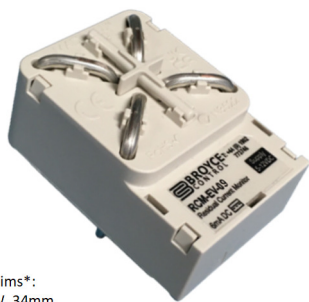




Dims*:
W. 34mm
H. 30mm (inc. insulator plug)
D. 49mm

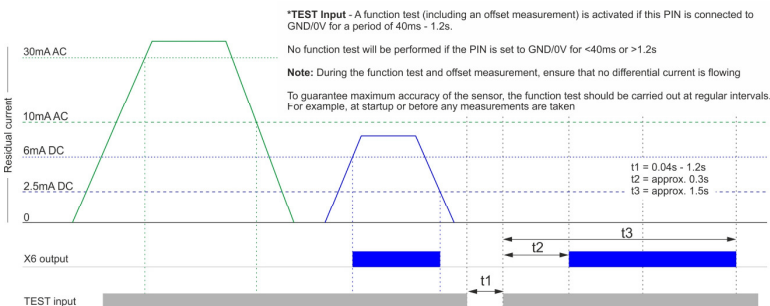
*exc. any pins

- 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 and 4 integral primary conductors provide a convenient easy to fit solution
- Designed for direct mounting on to PCB
- 2 x 4-way male pin header connector exiting on the underside of housing
- Operates from 5 - 12V DC
- "Test" input
- Open collector outputs – "6mA" and "Fault"
- PWM output for monitoring purposes
- Auto-resets when fault removed



ISO 9001:2015
Cert. No. 14125771

FUNCTION DIAGRAM



INSTALLATION

- BEFORE INSTALLATION, ISOLATE ALL SUPPLIES.
- DO NOT install the unit in close proximity to equipment generating high magnetic fields.
- For safety reasons the insulator plug must be fitted before applying power.



Installation work must be carried out by qualified personnel.

Applying power.

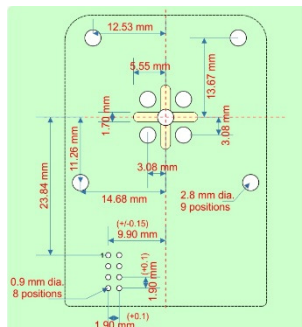
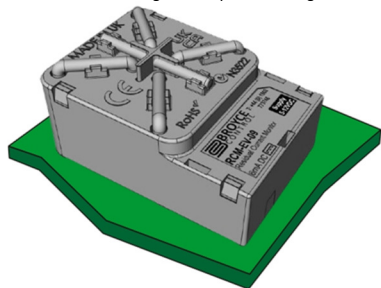
- There are no visual indicators or user adjustments. As soon as power is applied the device will begin monitoring for leakage current.

Troubleshooting.

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

MOUNTING & PCB FOOTPRINT

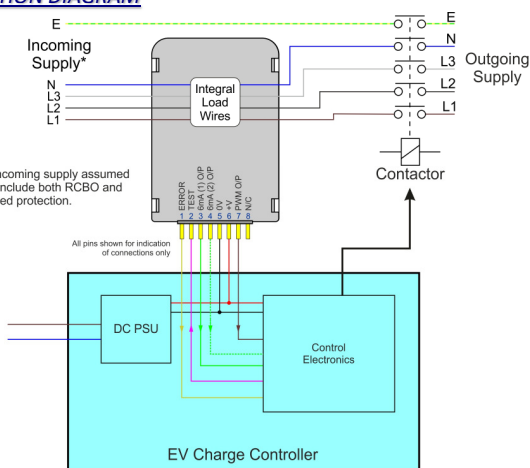
The RCM-EV-09 is designed solely for mounting on a PCB.



Viewed from underside of PCB

CONNECTION DIAGRAM

Typical connection example for a 3-phase EV supply



TECHNICAL SPECIFICATION

Auxiliary supply:	
Rated voltage U_s (5, 6):	5 - 12V DC (90 - 110% of U_s)
Power consumption (max.):	0.6W
Monitored circuit:	
Rated current I_n :	32A ¹
Rated voltage U_n :	230/400V AC
Rated frequency:	50/60Hz
Trip and time delay characteristics:	
Sensitivity/Trip level $I_{\Delta n}$:	6mA DC (fixed)
Residual non-operating current:	0.5 x $I_{\Delta n}$
Reset level:	2.5mA DC
<i>Unit resets automatically when current drops below this level</i>	
Max. operating time for suddenly applied residual current (as per IEC 62955)	
Smooth DC:	6mA 60mA 0.2A
10s 0.3s 0.1s	
Accuracy:	±10%
Inputs/Outputs:	
Connection type:	2 x 4-way pin header
TEST input (2):	Active low (internally pulled to +V)
Test input pulse width:	0.04 - 1.2s
ERROR output (1):	Open collector
6mA "X6" output (3), (4):	(Max. rating 45V DC, 100mA)
PWM output (7):	Internally pulled to 3.3V
PWM Function:	Output proportional to smooth DC residual current
PWM Frequency:	8kHz ±200Hz
PWM Duty cycle change:	3.3%/mA i.e. 20% duty cycle @ $I_{\Delta dc} = \pm 6mA$
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
Dielectric strength:	4kV rms (between primary conductors and LV pin header)
Altitude:	Up to 2000m above sea level
Ingress protection rating:	IP20
Housing:	Grey flame retardant Lexan UL94 V0
Weight:	≈ 45g
Mounting:	PCB
Approvals:	Conforms to: IEC 62955
	CE, UKCA, and RoHS Compliant.

Numbers in brackets refer to pin numbers on the connector

¹Temperature of integrated primary conductors should not exceed 105°C.

SOLDERING PROCESS

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

Note:
The detachable insulator plug (see drawing below) must be removed prior to soldering.
These products **are not** suitable for re-flow soldering.

DIMENSIONS & CONNECTOR PIN-OUT

