



553110B

Residual Current Monitor – 6mA DC (Single Output)
ΔEVA 01-HP

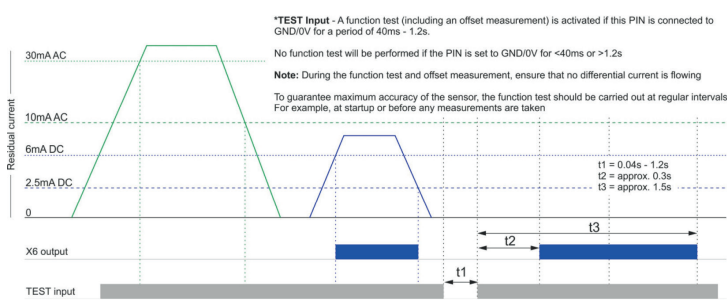
- Designed for Mode 3 Electric Vehicle charging systems (as per IEC 62955)
- Fixed 6mA DC trip level
- 3000A surge withstand capability
- Suitable for single phase or three phase loads rated up to 32A
- Built-in current sensor with 13.5mm dia. aperture
- Designed for direct mounting to PCB and secured in place using 4 solderable pins



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- 2 x 4-way male pin header connector exiting on the underside of housing
- Operates from 5 - 12V DC
- “Test” input
- 2 Open collector outputs – “6mA” and “Error”
- PWM output for monitoring purposes
- Auto-resets when fault removed

FUNCTION DIAGRAM



INSTALLATION

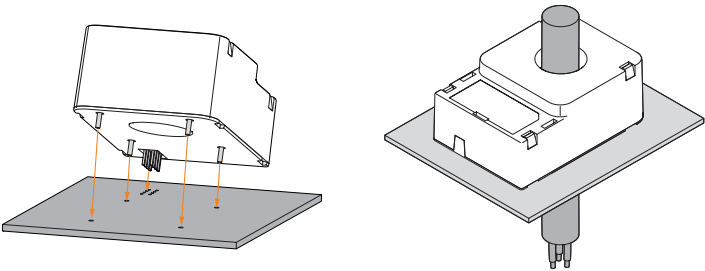
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- Installation work must be carried out by qualified personnel.
- BEFORE INSTALLATION, ISOLATE ALL SUPPLIES.
 - DO NOT install the unit in close proximity to equipment generating high magnetic fields.
 - Ensure the conductors that pass through the 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.

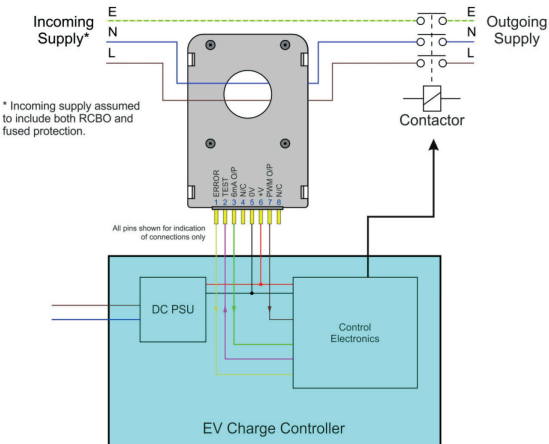
MOUNTING OPTIONS

The recommended mounting of the ΔEVA 01-HP 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 (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)	6mA	60mA	0.2A
Smooth DC	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 output (3)	(Max. rating 45V DC, 100mA)		
PWM output (7)	Internally pulled to 3.3V (10KΩ pull-up)		
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 @ IΔdc = ±6mA		
Environmental/Other			
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 62955 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 (mm) & CONNECTOR PIN-OUT

