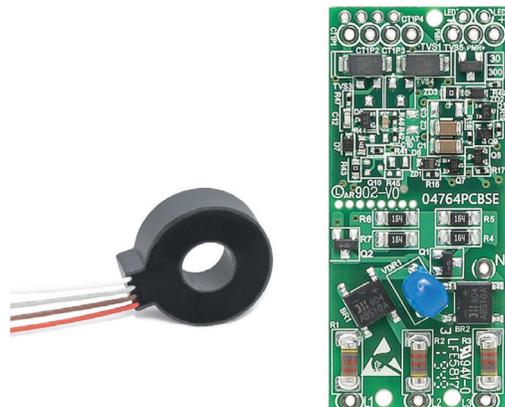


Circuit Protection & Interrupter Subassemblies

Type B System

4 Pole • 30 mA



Description

The Type B System consists of a CT and a PCBA. This system is designed to be integrated into any standard 2-pole or 4-pole VI RCCB to produce a 2-pole or 4-pole 30 mA Type B RCCB. A standard Type A RCCB can therefore be easily upgraded to a full B Type RCCB by integration of the component system. Residual current rating of 300 mA is also available.

Features & Benefits

FEATURES	BENEFITS
Complies with IEC 62423 (EN62423)	System provides 30 mA ac and 60 mA dc residual current detection
Suitable for integration into most 2-pole or 4-pole RCCB products	A standard Type A RCCB can therefore be easily upgraded to a full B Type RCCB by integration of the component system
Powered from any two poles	Provides design flexibility

Applications

- EV Charging Stations
- Inverters
- Solar Power Systems

Ordering Information

CATALOG #	DESCRIPTION
90115	Type B System 30 mA 4-pole (PCBA and CT)
90143	04851ASSM Type B 30 mA 4-pole PCBA Only
90142	04846WIND Type B 4-pole CT Only
90144	PCB Assembly for 300 mA ac / 60 mA dc detection

Note: Type B System 30 mA 4P can be purchased either as a System (PCBA & CT) or individual parts. PCBA and CT. Individual parts will not be sold separately without the corresponding part.

Circuit Protection & Interrupter Subassemblies

Type B System

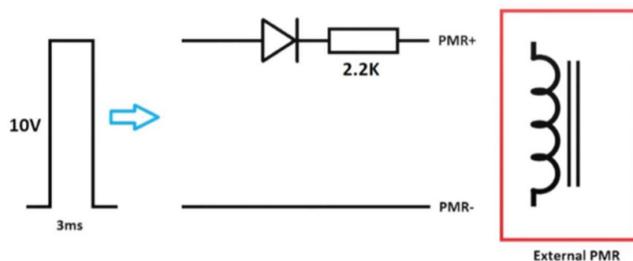
Specifications

Rated Supply Voltage (Un)	240 Vrms
AC Supply Voltage	50 V - 240 V ac
Minimum Operating Voltage	50 Vrms
Rated Frequency	50 Hz
Supply Current	≤ 1.5 mA
Rated Load Current (In)	≤ 63 A
Rated Residual Operating Current (IΔn)	30 mA ac / 60 mA dc
Impulse Withstand	4 kV
Working Temperature	-25 °C to 40 °C
Environmental Operating Conditions Absolute Temperature	-25 °C to +85 °C
Residual Current Operating Frequency Range	dc to 1000 Hz
Rated Non-Operating Residual Current	15 mA DC / 15 mA ac
Rated Response Time	Per Relevant Product Standards
Trip Time Characteristic	General Type
Applicable Standards	IEC 62423, RoHS, REACH
WARD WA7 IC Maximum Operating Temperature	95 °C
Sensor Board Weight	15 g
Fault Signal Output	PMR Current Pulse

Tripping Details

The tripping signal generated from the circuit corresponds to a minimum of 10 V pulse for a minimum of 3 ms through a 2.2k resistor. Any PMR used must trip with these criteria.

Tripping Output



If the Type B circuit is discharging current into the PMR when there is also a large current in the opposite polarity from the VI circuit then the net current may not be sufficient to trip the PMR. This must be taken into consideration when designing the system.

Status Led

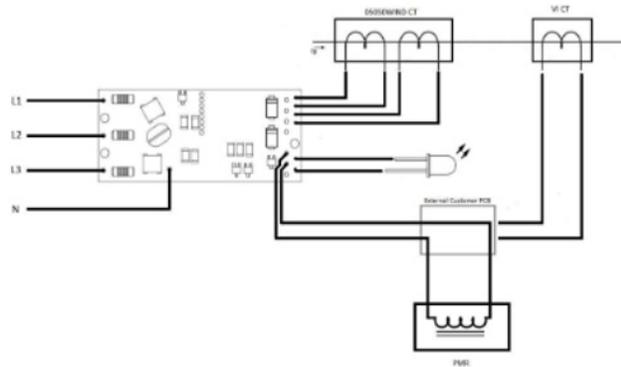
A status LED indicating Type-B System operation can be connected directly to the LED+ and LED pins. There are no additional components necessary as an internal 15 V dc supply voltage is fed through an integrated 330k resistor.

Circuit Protection & Interrupter Subassemblies

Type B System

Wiring Diagrams

SYSTEM CONNECTION



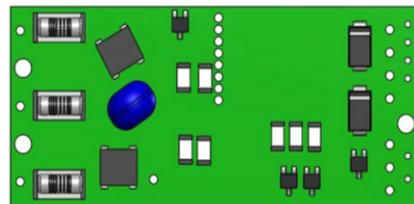
PIN OUT	
L1, L2, L3	240 V AC to Neutral
N	Neutral
PMR+	Permanent Magnet Relay+
PMR-	Permanent Magnet Relay-

04851ASSM WIRING



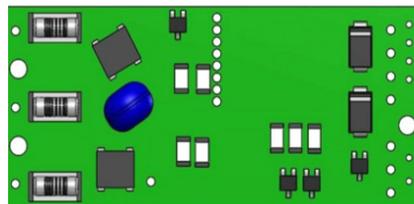
PCB CONNECTIONS	PCB DESIGNATION	NOTES
Power Supply	L1, L2, L3, N	Recommended supply wire connections to product to be rated ≥ 600 V Live connections can be made in any order of phase.
PMR	PMR+, PMR-	Connect to VI circuit PMR. Correct polarity of connections PMR+ and PMR- is required to trip PMR. Important Note: VI circuit will now be referenced to the supply voltage.
CT Connections	CT1P1, CT1P2, CT1P3, CT1P3	CT wires can be connected in two orientations.
LED	LED+, LED-	LED Connection points for power on indication. LED- and PMR- are the same circuit node.

CT CONNECTION OPTION 1



CT1P1 HOLE	CT1P2 HOLE	CT1P3 HOLE	CT1P4 HOLE
Red	Brown	Grey	White

CT CONNECTION OPTION 2



CT1P1 HOLE	CT1P2 HOLE	CT1P3 HOLE	CT1P4 HOLE
White	Grey	Brown	Red

Note: Two CT connection hole footprint alternatives are available for use on PCBA; 2.54 mm and 2.0 mm pitch.

Circuit Protection & Interrupter Subassemblies

Type B System

Handling Instructions

ESD Caution

PCBA contains ESD (electrostatic discharge) sensitive devices. Damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

Standards Conformity & Certifications

Product Safety Certifications

Products tested, compliant and certified to the following standards that states the requirements for electrical products to ensure they are safe for consumers to use.

CERTIFICATION BODY MARK	CERTIFICATION BODY NAME	CERTIFICATION DESCRIPTION	STANDARDS COVERED BY THE CERTIFICATION
	IEC	Conformity with the European safety, health, and environmental protection requirements for AC and DC fault current detection.	IEC 62423

Environmental Compliance

Products comply to the following environmental standard requirements for electrical products to ensure they are safe for consumers to use.

-	STANDARD NAME	STANDARD DESCRIPTION	STANDARD NUMBER
	RoHS	Conformity with the European Restriction of Hazardous Substances in electrical and electronic products.	European Union RoHS 2 Directive 2011/65/EU
	REACH	Conformity with the Registration, Evaluation, Authorization and Restriction of Chemicals regulation to ensure safe use of chemicals.	European Directive 1907/2006

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