WirthCo Engineering, Inc.

Engineering Specifications

Document Ref. No.: RDS-BI150-15

Model No.: 20092

Product Name : 12V Battery Isolator | MCU Code: 20092 | Date: 2006-Nov-12

1	**Electrical Parameters**				Unit
1-1	Battery Voltage (Main & Auxiliary) :		12		Vdc
1-2	Maximum Operating Current :		150		Adc
1-3	Continuous Operating Current :		125		Adc
1-4	Idle current consumption by the Battery Isolator		30	Max.	mAdc
2	**Battery Isolator Control Characteristics**				
2-1	Power LED FLASH condition and Engine not running when	1) Main battery voltage is between	7.5~13.4	±0.25	Vdc
		and 2) Auxiliary battery voltage is less than	3.0	±0.25	Vdc
2-2	Power LED ON condition and Engine not running when	1) Main battery voltage is between	7.5~13.4	±0.25	Vdc
		and 2) Auxiliary battery voltage is over	3.0	±0.25	Vdc
2-3	Isolator Turn on condition (Engine running) when	1) Main battery voltage is over	13.4	±0.25	Vdc
		and 2) Auxiliary battery voltage is over	3.0	±0.25	Vdc
2-4	Isolator Turn off condition (Engine not running) when	1) Main battery voltage is below and waiting for 60 seconds (within 60 second, the over-current Protection is still active.)	13.0	±0.25	Vdc
2-5	Override Turn on condition(Engine not running) when	1) Main & Auxiliary batteries are over	3.0	±0.25	Vdc
		and 2) At least one of the batteries is over	7.5	±0.25	Vdc
		and 3) Pressing button and hold for 1 second			
2-6	Override Turn off condition when	1) Main battery voltage is over	13.4	±0.25	Vdc
		or 2) Override charging is time out	3.0	±0.15	minutes
		or 3) Override button is pressed again			
2-7	Over current protection				
2-7-1	Over current protection active at both charging mode when	1) The charging current is over and waiting for 3 seconds	150	±25	Adc
2-7-2	If over-current occur, they can be reset by pressing the button (for both charge mode)				
2-7-3	Over current protection auto-reset at engine running charge mode when the main battery voltage is ***below***		13.0	±0.25	Vdc
2-7-4	Over current protection auto-reset at override charge mode when the main battery voltage is ***over***		13.3	±0.25	Vdc

3 LED Indication

		LED Color	Power RED	Charge Blue	override GREEN
	At Normal Status :				
3-1	Isolator Power LED OFF (Vmain & Vauxiliary are less than 3Vdc)		OFF	OFF	OFF
3-2	Isolator Power LED FLASH		FLASH	OFF	OFF
3-3	Isolator Power LED ON		ON	OFF	OFF
3-4	Engine running charging		ON	ON	OFF
3-5	Override charging		ON	OFF	ON
	At Abnormal Status :				
3-6	Over-Current protection active at engine running charge mode		ON	FLASH	OFF
3-7	Over-Current protection active at override charge mode		ON	OFF	FLASH

4 Input / Output Connections

4-1	Input Terminal :	M6 Tin-plated copper studs positive input battery terminal
4-2	Output Terminal :	M6 Tin-plated copper studs positive output battery terminal
4-3	Negative Wire:	1015 18AWG 105*C Black color with Ring terminal (external length : 420mm)

5 Physical Parameters

5-1	Enclosure material :	ABS Plastic
5-2	Enclosure Dimension :	113 (W) x 103 (L) x 46 (H) mm (measured without output lead)

6 Environmental Characteristics

6-1	Operating temperature :	0 to 50 ^{o}C
6-2	Storage temperature :	-10 to 70 ^{o}C
6-3	Operating Humidility range :	0 to 80%

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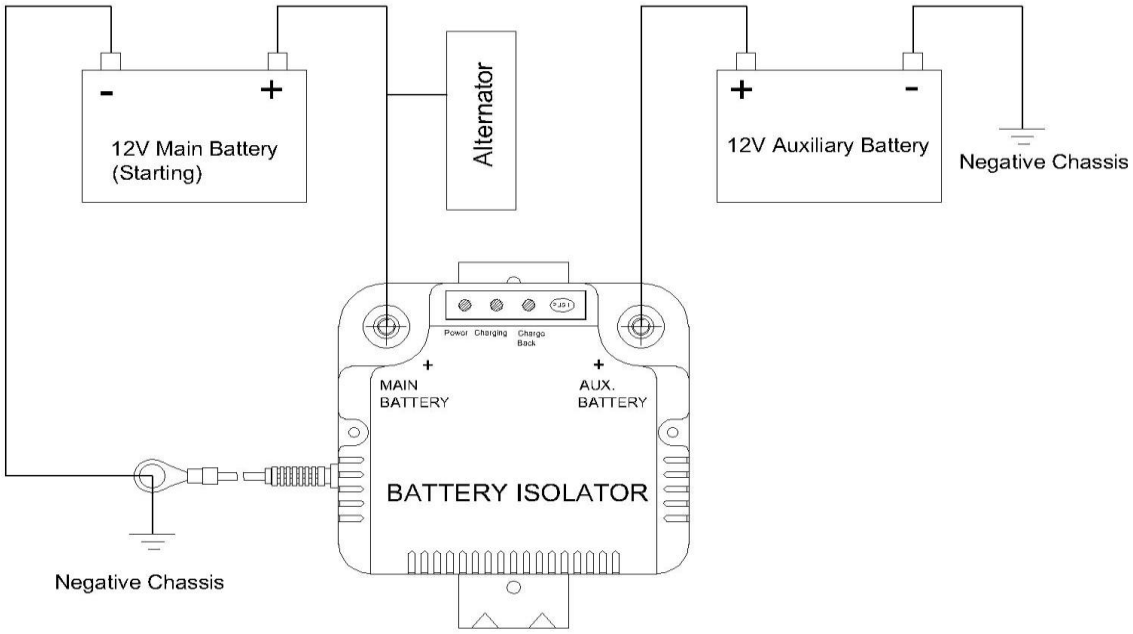
7 Wiring Diagram



Connection Procedures :
Please connect the isolator terminal as below sequence.

1) Connect input terminal of the isolator to the main battery positive(+) terminal.
2) Connect output terminal of the isolator to the auxiliary battery positive(+) terminal.
3) Connect negative wire of the isolator to the main battery negative(-) terminal and auxiliary battery negative(-) terminal

Remark :

(The connection wires recommended to use 14mm^2 diameter core or above single wire
and the length should not be more than 3 Meter.)