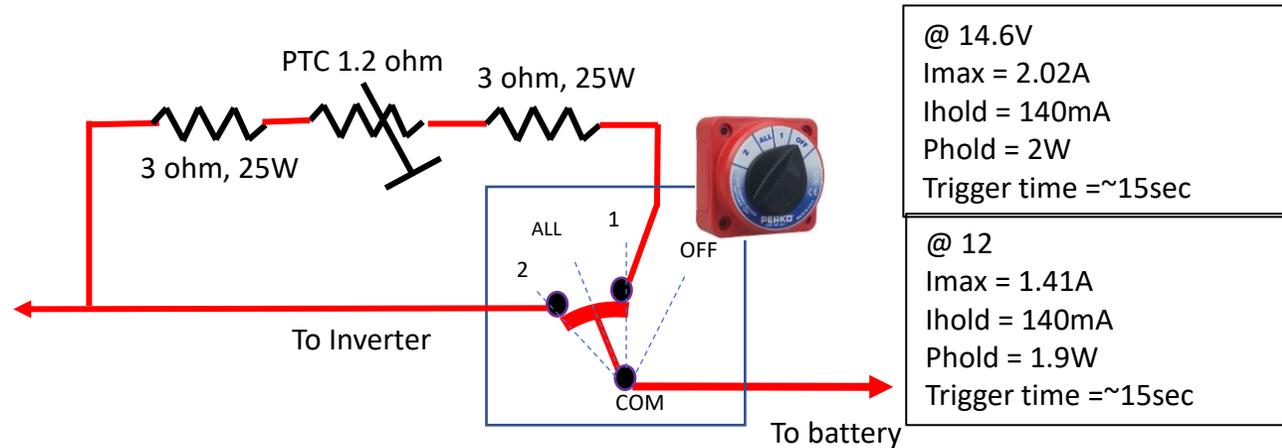


Inverter Disconnect with pre-charge

This circuit is designed as an inverter disconnect that allows the user to pre-charge the inverter capacitors before fully turning on the system.

12V SYSTEM



@ 14.6V
 $I_{max} = 2.02A$
 $I_{hold} = 140mA$
 $P_{hold} = 2W$
 Trigger time $\approx 15sec$

@ 12
 $I_{max} = 1.41A$
 $I_{hold} = 140mA$
 $P_{hold} = 1.9W$
 Trigger time $\approx 15sec$

Operation:

Turn ON

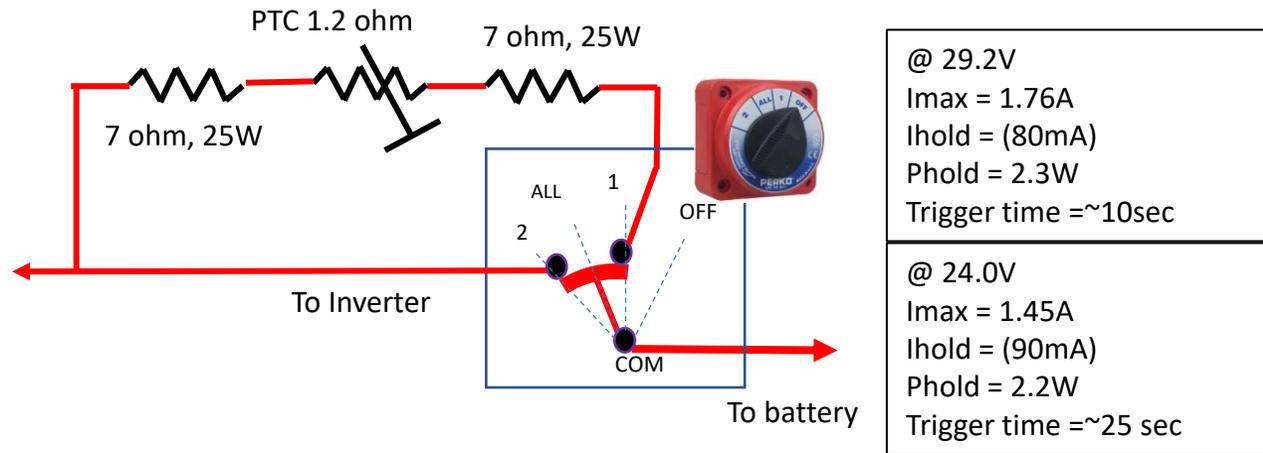
1. Ensure inverter is off
2. Turn switch to position '1' for ~ 1 second
3. Turn switch to position 'All' or '2'
4. Turn on inverter

PTC specs

Bulk Part Number	Max. voltage	*1 Resistance Value at +25 °C	*2 Max. Current	*3 Hold Current		*4 Trip current		Dimensions (mm)		
Taping Part Number				+105°C	+85°C	-10°C	-40°C	D	H	d
PTGLCSAS1R2K3B51B0	D.C. 51V	1.2ohm \pm 10%	5.0A	315mA	449mA	1168mA	1270mA	11.5	16.5	0.6
PTGLCSAS1R2K3B51A0										

Note: The PTC resistor is a safety. If the user leaves the inverter on and the switch in position 1, the PTC will significantly reduce the current after several seconds.

24V SYSTEM



Operation:

Turn ON

1. Ensure inverter is off
2. Turn switch to position '1' for ~ 1 second
3. Turn switch to position 'All' or '2'
4. Turn on inverter

PTC specs

Bulk Part Number	Max. voltage	*1 Resistance Value at +25 °C	*2 Max. Current	*3 Hold Current		*4 Trip current		Dimensions (mm)		
Taping Part Number				+105°C	+85°C	-10°C	-40°C	D	H	d
PTGLCSAS1R2K3B51B0	D.C. 51V	1.2ohm \pm 10%	5.0A	315mA	449mA	1168mA	1270mA	11.5	16.5	0.6
PTGLCSAS1R2K3B51A0										

Note: The PTC resistor is a safety. If the user leaves the inverter on and the switch in position 1, the PTC will significantly reduce the current after several seconds.

Assembly

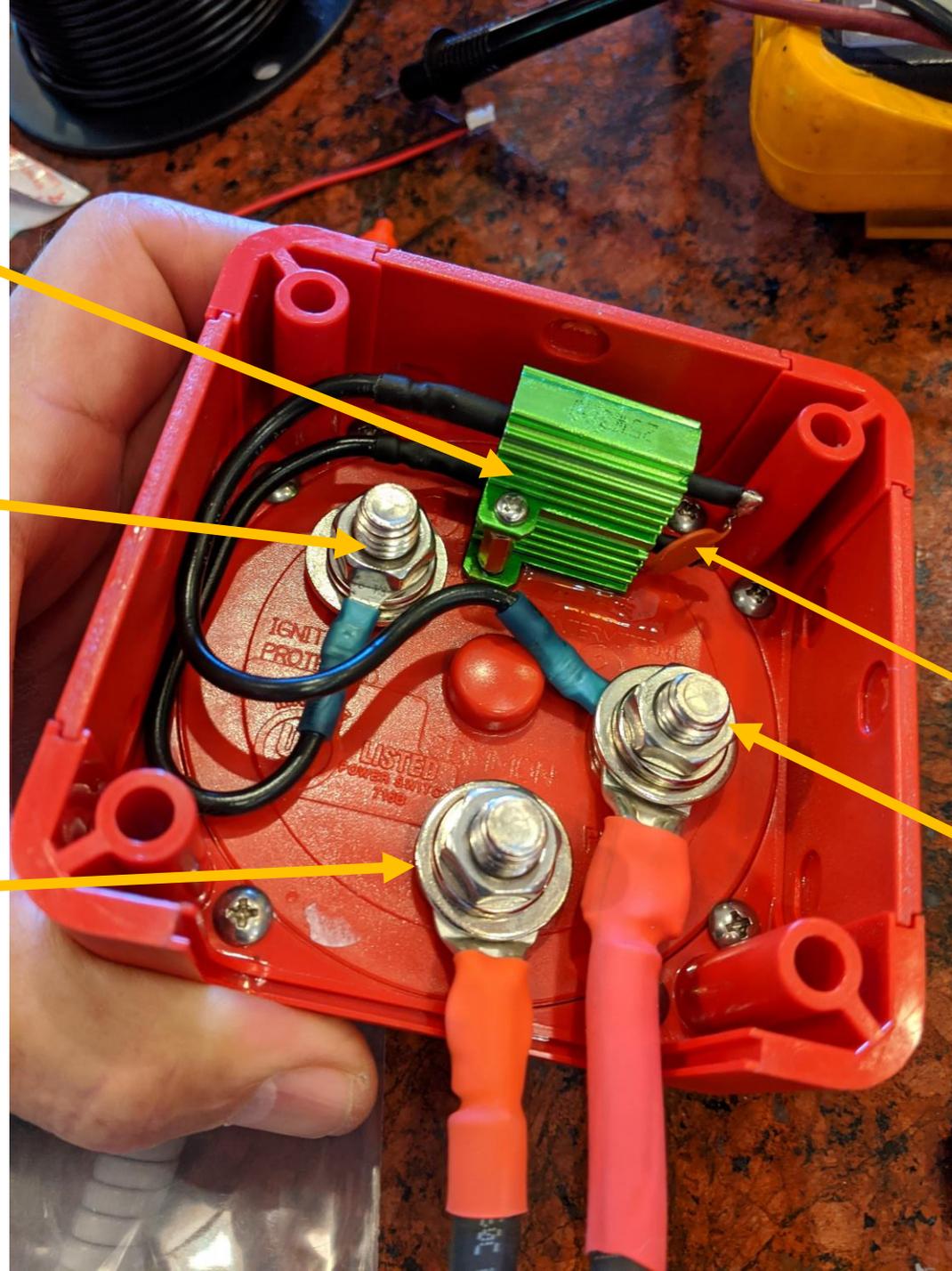
Two 25W resistors
Stacked and glued

Post 1

Common

PTC resistor

Post 2



Label to help instruct the user



Parts

Perko Switch:

<https://www.ebay.com/p/1122213842>

Or

<https://www.ebay.com/itm/Perko-8511DP-Compact-Battery-Switch-7411/362536682888>

PTC Resistor: 1.2ohm, 5 Amp.

<https://www.mouser.com/ProductDetail/murata/ptglcsas1r2k3b51a0/>

3 ohm 25W resistor (12 V System)

<https://www.ebay.com/itm/25W-3ohm-Wirewound-Power-Resistor-Aluminum-Hosing-Chasis-Mount/401838767539>

7 ohm 25W resistor (24 V System)

<https://www.ebay.com/itm/US-Stock-2x-7-ohm-7R-25W-Watt-Aluminum-Housed-Metal-Case-Wirewound-Resistors/401396173511>