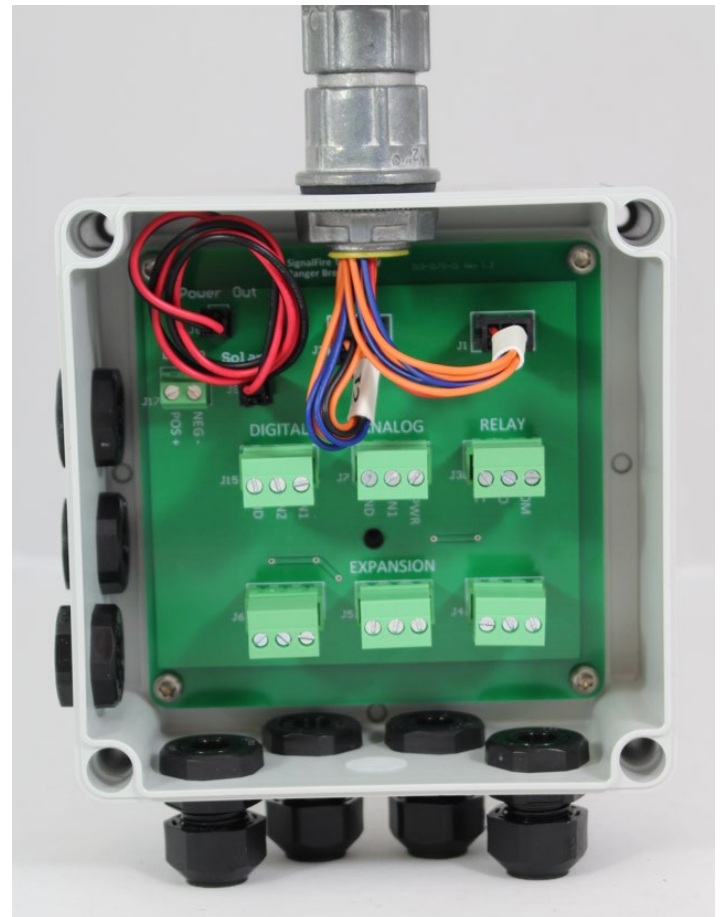


# Ranger Junction Box Manual



The Ranger Junction Box is convenient accessory for connecting the Ranger to multiple sensors.

- Up to seven cable glands (4 pre-installed)
- Pluggable screw terminals for all I/O connections
- Horizontal or vertical pipe mounting bracket
- Color coded labeled 22 AWG leads attach Ranger to Junction box

## Table of Contents

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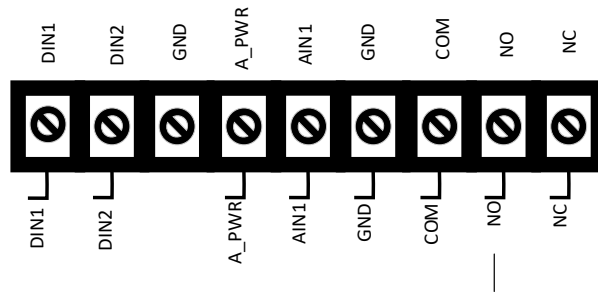
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## Specifications

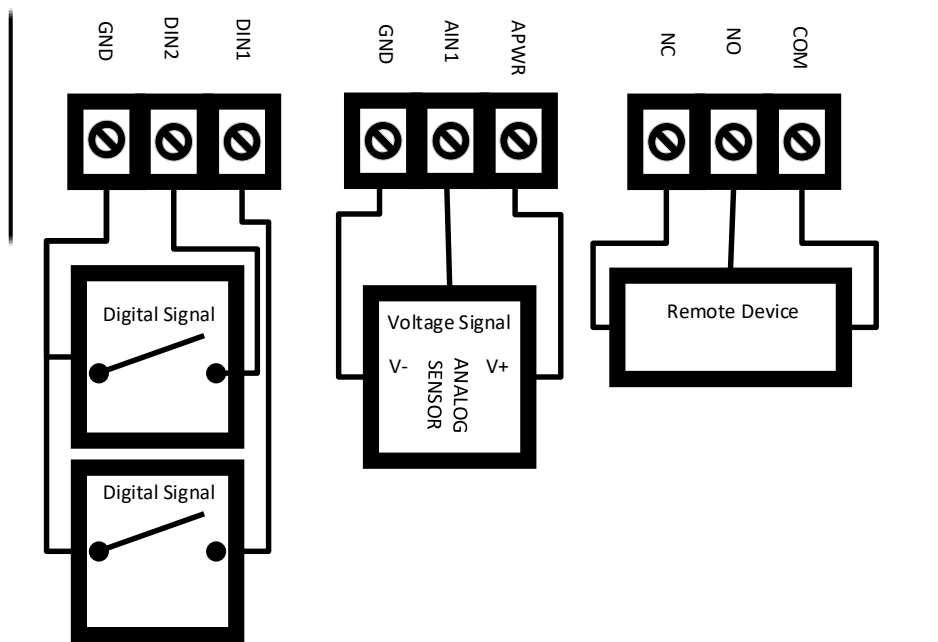
Enclosure Size	5.1" tall × 5.1" wide x 2.9" deep
Power Source	Connectors to land external solar or DC power
Order Code	Ranger_Acc-RangerJBox
Temperature Range	-40°C to +85°C
Enclosure	IP66 rated. Polycarbonate
Screw Terminals	12-24 AWG

# Base Ranger I/O Junction Box Connections

Junction Box to Ranger terminal Wiring Guide

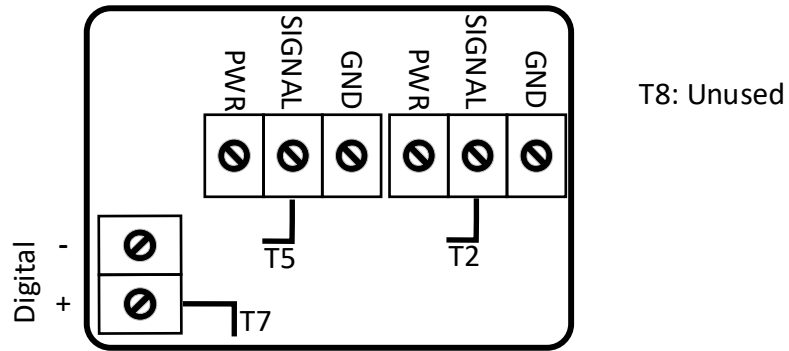


Junction Box Terminal wiring example

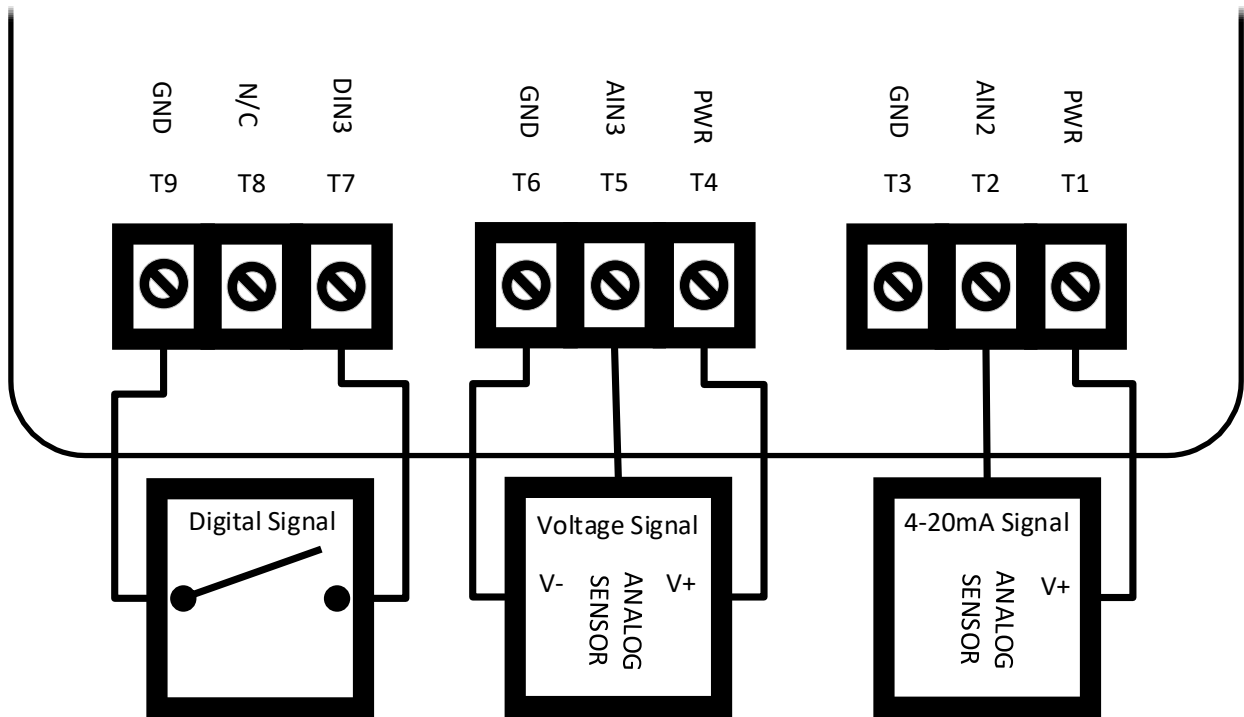


Refer to Ranger manual for detailed I/O descriptions

A2D1 Card Terminal Wiring

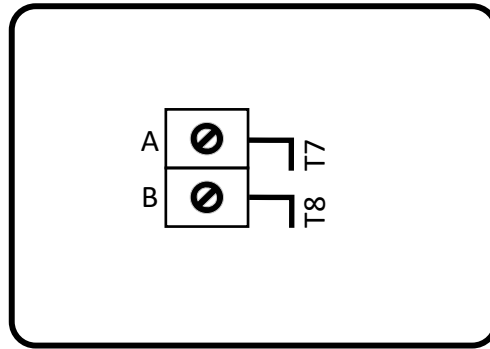


Junction Box Terminals



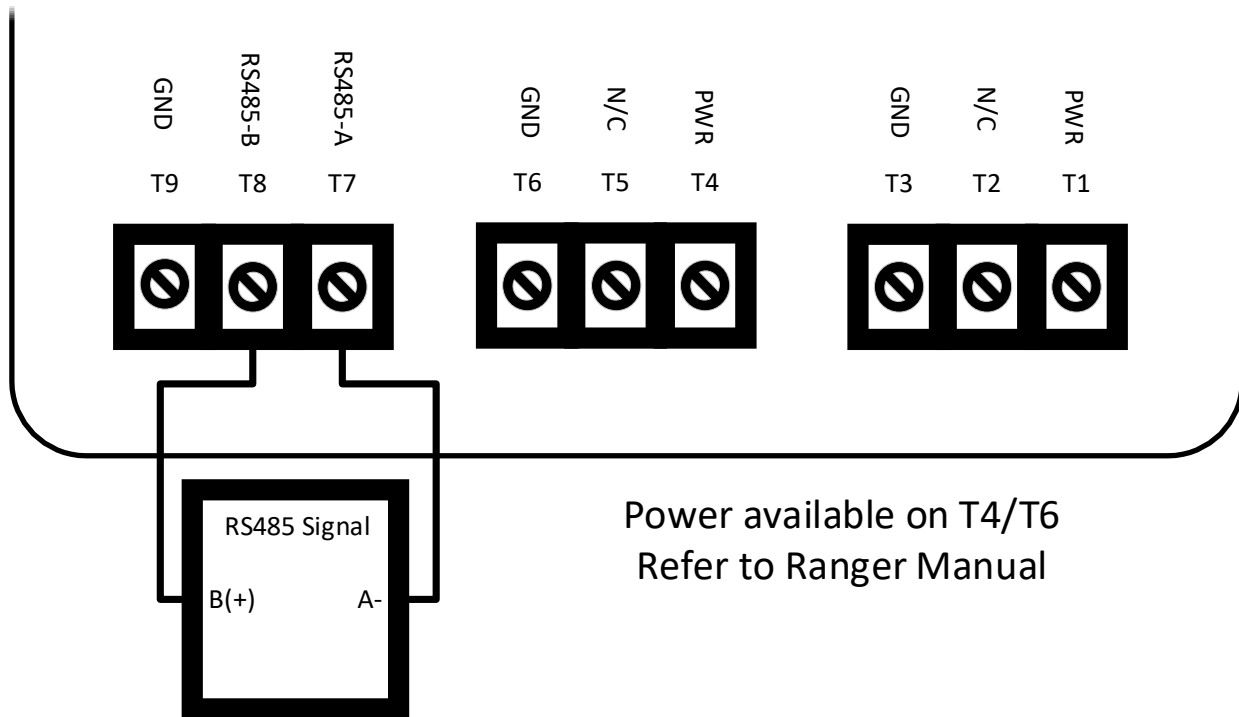
# Modbus RS-485 Expansion Card Wiring

## RS485 Card Terminal Wiring

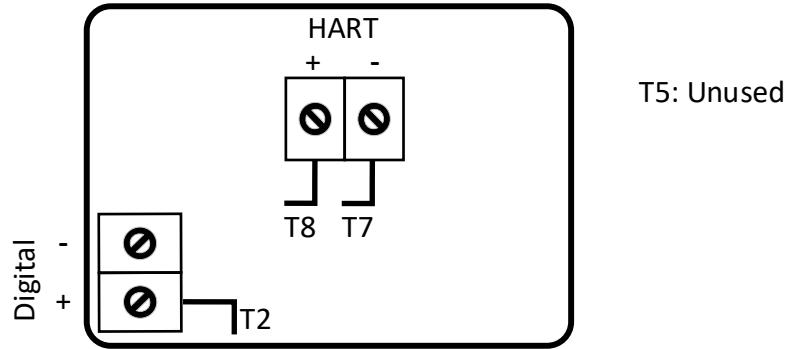


T3: Unused  
T5: Unused

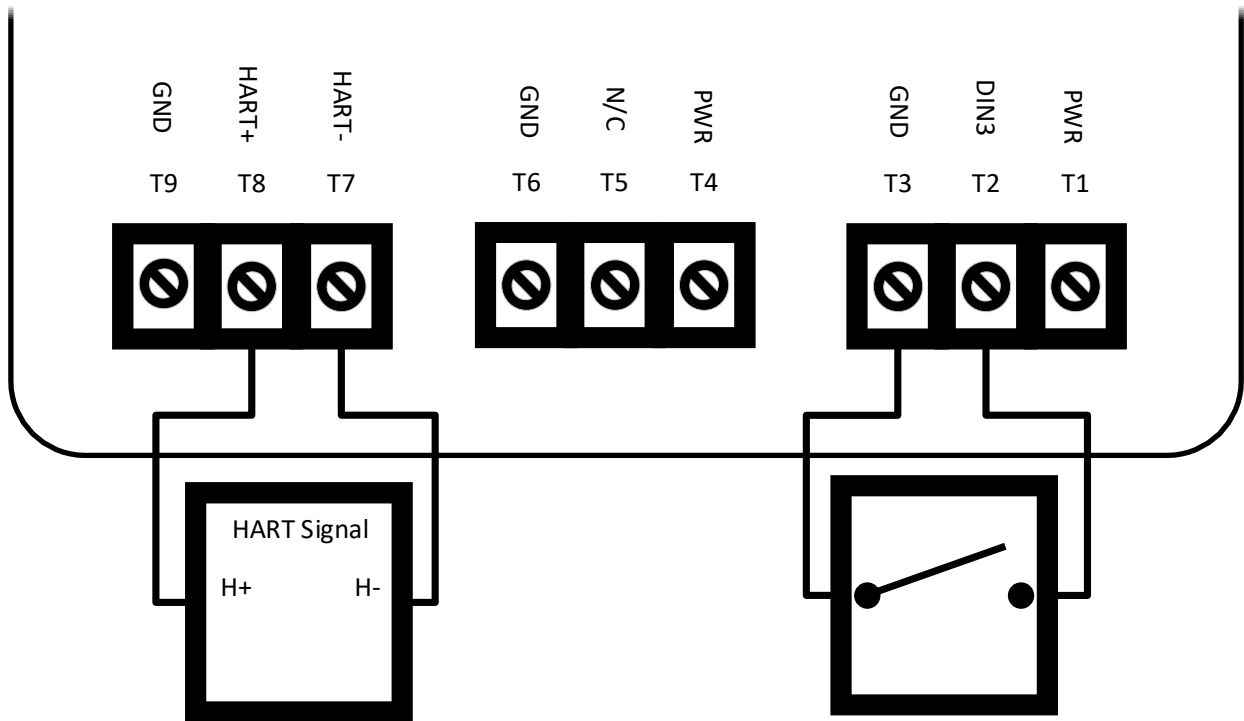
## Junction Box Terminals



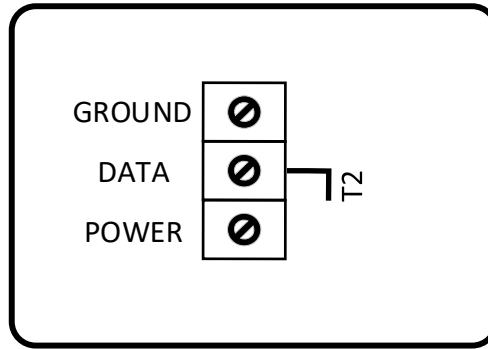
HART Card Terminal Wiring



Junction Box Terminals

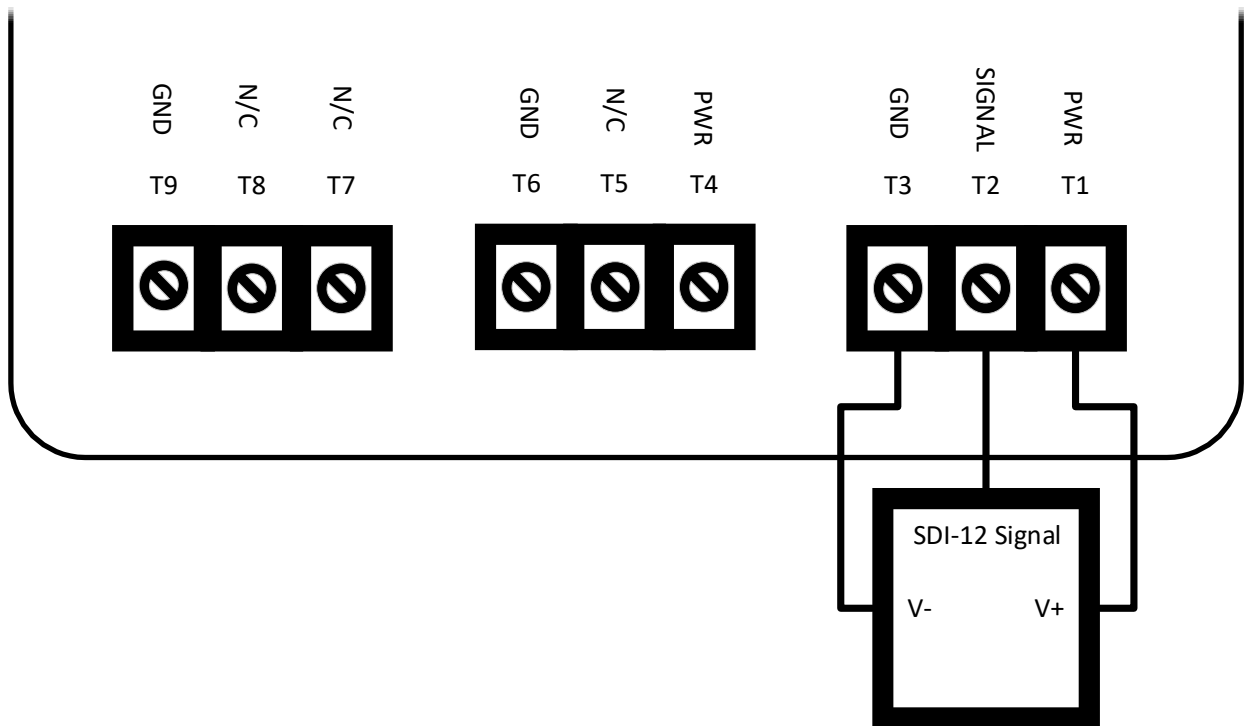


SDI-12 Card Terminal Wiring

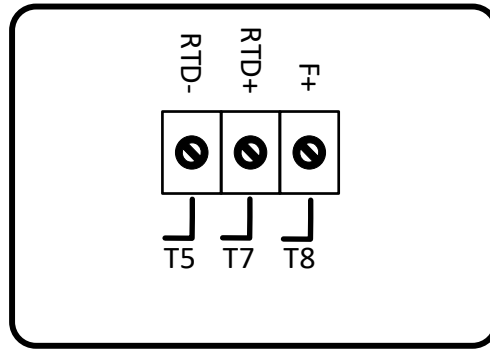


T5: Unused  
T7: Unused  
T8: Unused

Junction Box Terminals

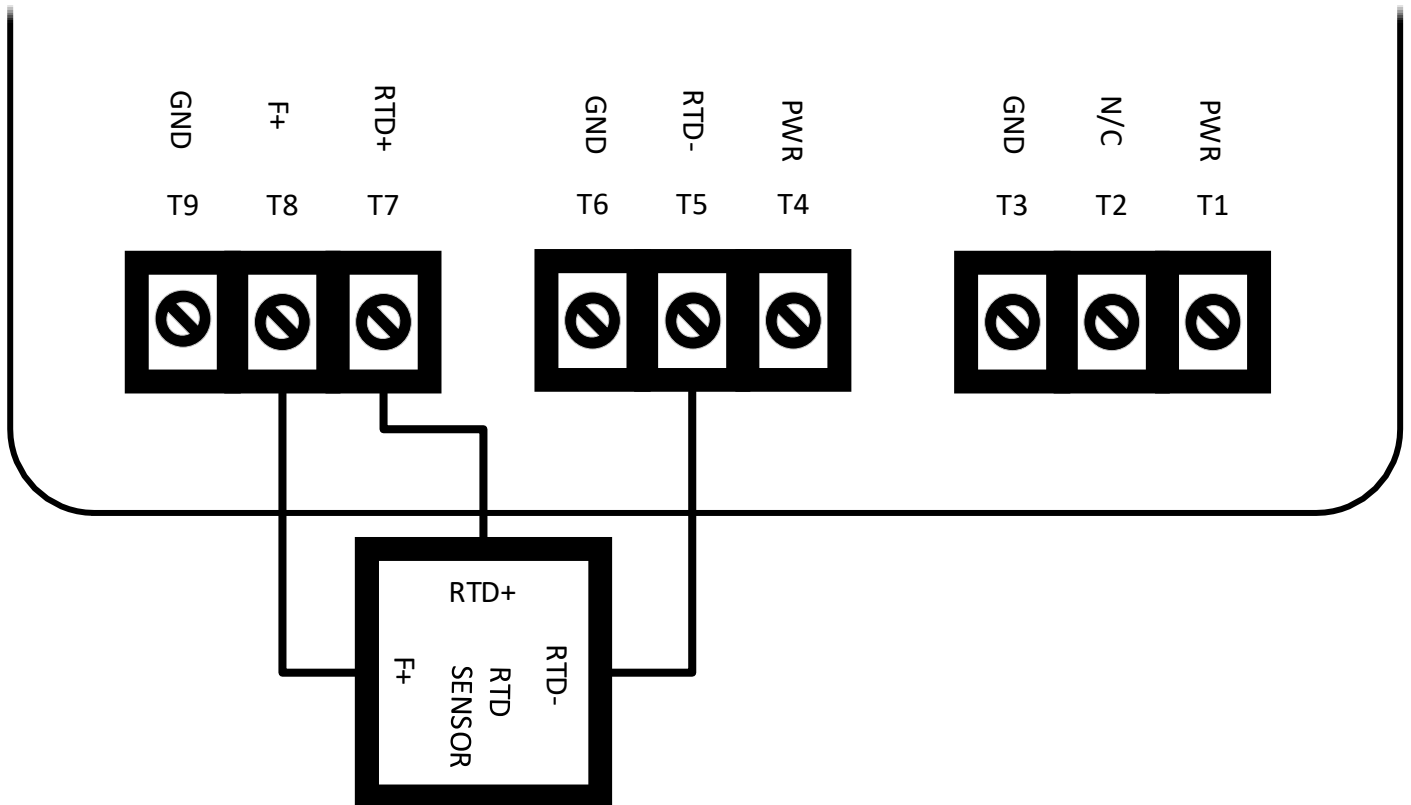


RTD Card Terminal Wiring



T2: Unused

Junction Box Terminals





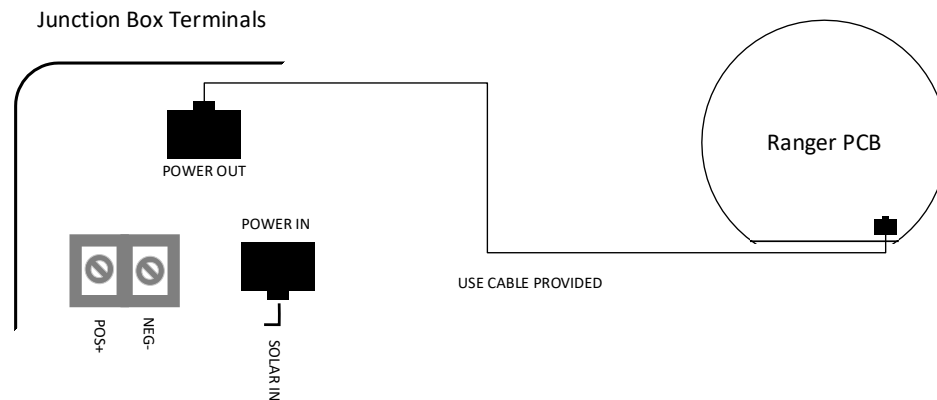
## Battery & Solar Wiring

### Lithium Battery Pack (4DPak)

The internal lithium battery pack is the default power source for the ranger, simply route the Junction Box wires around the battery.

### HC-Solar System

SignalFire offers a solar system that consists of a bracket containing a solar panel and integrated battery and solar charger assembly. The solar system may be connected to the Ranger Junction Box "Solar In" plug. This will require routing the provided red and black power cable from the Junction Box "Power Out" plug to the Ranger PCB "Battery" Connector.

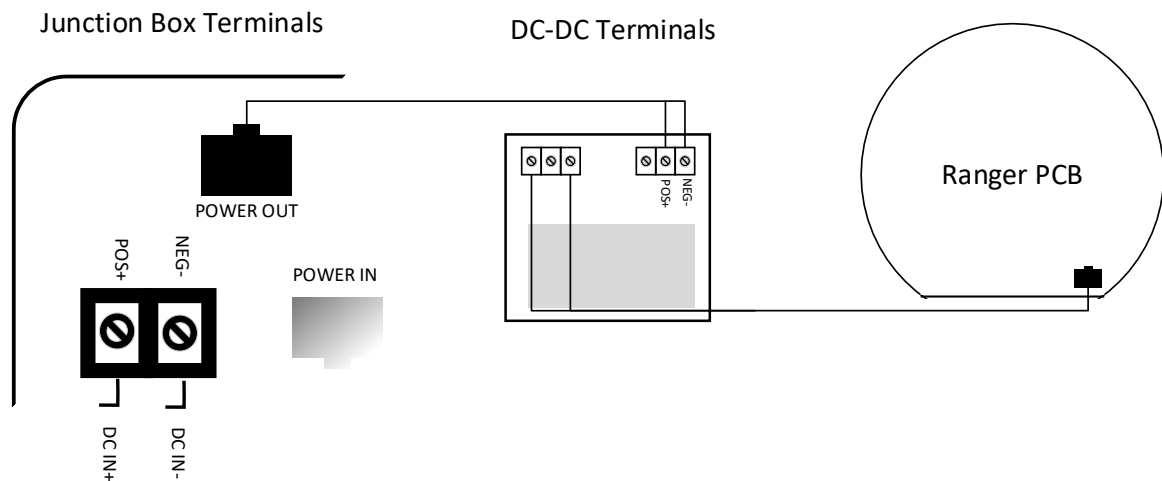


## DC-DC converter

In situations where DC power is available, the Ranger can be ordered with an internal DC-DC converter that accepts 9-36VDC from an external source. The DC-DC converter is installed in the battery compartment of the Ranger and has a pigtail cable to connect to the Ranger PCB. First, remove one connector from the supplied red and black power cable and strip the ends. Second Connect the stripped ends to the DC Converter in the Ranger body. Third, Plug the power cable into the Junction Box. Check that the DC converter is plugged into the Ranger PCB battery connector, and finally connect your DC power source to the "POS+" and "NEG-" screw terminals on the Junction Box to power on the system.

### WARNING:

**IF USING DC POWER DO NOT CONNECT JUNCTION BOX POWER OUT DIRECTLY TO RANGER PCB**



## Technical Support and Contact Information

SignalFire Telemetry  
140 Locke Dr., Suite B  
Marlborough, MA 01749  
(978) 212-2868  
[support@signal-fire.com](mailto:support@signal-fire.com)

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### *Revision History*

Revision	Date	Changes/Updates
1.0	3/28/2022	Initial release
1.1	8/10/2023	Add RTD card