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

Specifications .................................................................................................................................................. 2
Base I/O Junction Box Connections ........................................................................................................... 3
2AI/1DI Expansion Card Wiring ................................................................................................................. 4
Modbus RS-485 Expansion Card Wiring ...................................................................................................... 5
HART Expansion Card Wiring .................................................................................................................... 6
SDI-12 Expansion Card Wiring ................................................................................................................... 7
Battery & Solar Wiring .................................................................................................................................. 8
DC-DC Wiring .............................................................................................................................................. 9
  Technical Support and Contact Information ............................................................................................. 10
Revision History .......................................................................................................................................... 10

Specifications

<table>
<thead>
<tr>
<th>Enclosure Size</th>
<th>5.1” tall × 5.1” wide × 2.9” deep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>Connectors to land external solar or DC power</td>
</tr>
<tr>
<td>Order Code</td>
<td>Ranger_Acc-RangerJBox</td>
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<tr>
<td>Temperature Range</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Enclosure</td>
<td>IP66 rated. Polycarbonate</td>
</tr>
<tr>
<td>Screw Terminals</td>
<td>12-24 AWG</td>
</tr>
</tbody>
</table>
Base Ranger I/O Junction Box Connections

Junction Box to Ranger terminal Wiring Guide

Wires from Junction Box

Junction Box Terminal wiring example

Refer to Ranger manual for detailed I/O descriptions
2AI/1DI Expansion Card Wiring

A2D1 Card Terminal Wiring

T8: Unused

Junction Box Terminals

Digital Signal
Voltage Signal
4-20mA Signal
Modbus RS-485 Expansion Card Wiring

RS485 Card Terminal Wiring

Junction Box Terminals

Power available on T4/T6
Refer to Ranger Manual
HART Expansion Card Wiring

HART Card Terminal Wiring

Junction Box Terminals

T5: Unused

HART Signal
H+                H-
PWR
GND
N/C
PWR
GND
DIN3
HART+
HART-
GND
SDI-12 Expansion Card Wiring

SDI-12 Card Terminal Wiring

- **POWER**
- **GROUND**
- **DATA**

- T5: Unused
- T7: Unused
- T8: Unused

Junction Box Terminals

- **V−**
- **V+**
**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 Wiring**

**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

Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Changes/Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>3/28/2022</td>
<td>Initial release</td>
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</table>