

# HC900 Remote Termination Panel (RTP) for Digital Inputs/Digital Outputs/Analog Outputs and High capacity Analog Inputs/Analog Outputs/Digital Inputs/Digital Outputs

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### Summary

The Remote Termination Panel (RTP) provides an easy way to connect the HC900 controller to the field wiring. The RTP integrates some of the typical externally connected components, reducing wiring and setup time. It also minimizes the need for multiple wires under a single screw connection by expanding the connectivity of the shared terminals of the I/O modules.

A single DI/DO/AO-RTP and cable is used with the following modules: See page

- 4-point Analog Output 2
- 16-point Contact Digital Input 3
- 16-point DC Digital Input 5
- 16-point AC Digital Input 6
- 16-point DC Digital Output 8
- 8-point AC Digital Output 9
- 8-point Analog Output 12

Dual DI/DO/AO-RTPs and cables are used with the following modules: See page

- 16-point Analog Output 15
- 16-point Analog Input 16
- 32-Point DC Digital Output 19
- 32-Point DC Digital Input 21

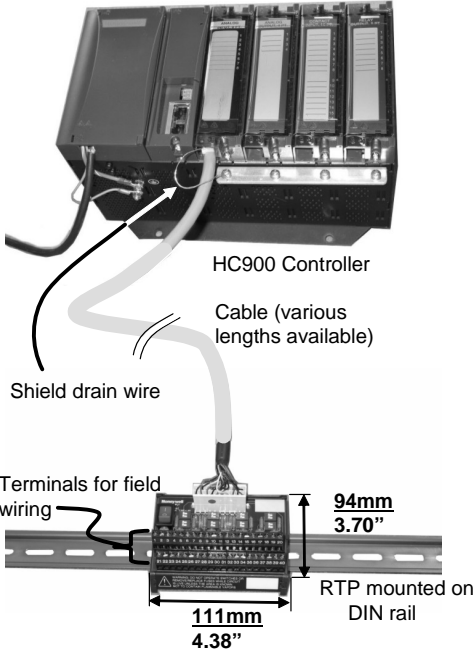
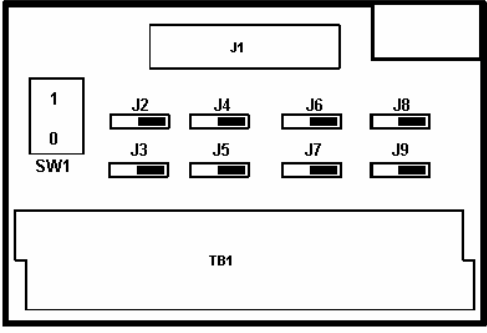


Figure 1 Example installation (high capacity A/AO/DI/DO use a second RTP and cable, not shown)

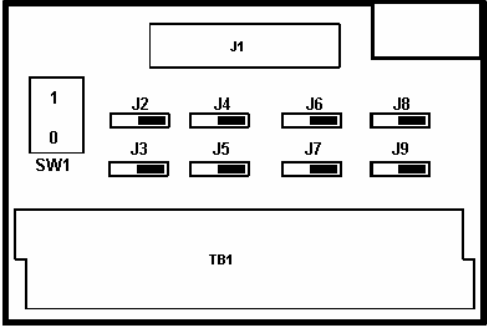
**4 Point Analog Output**

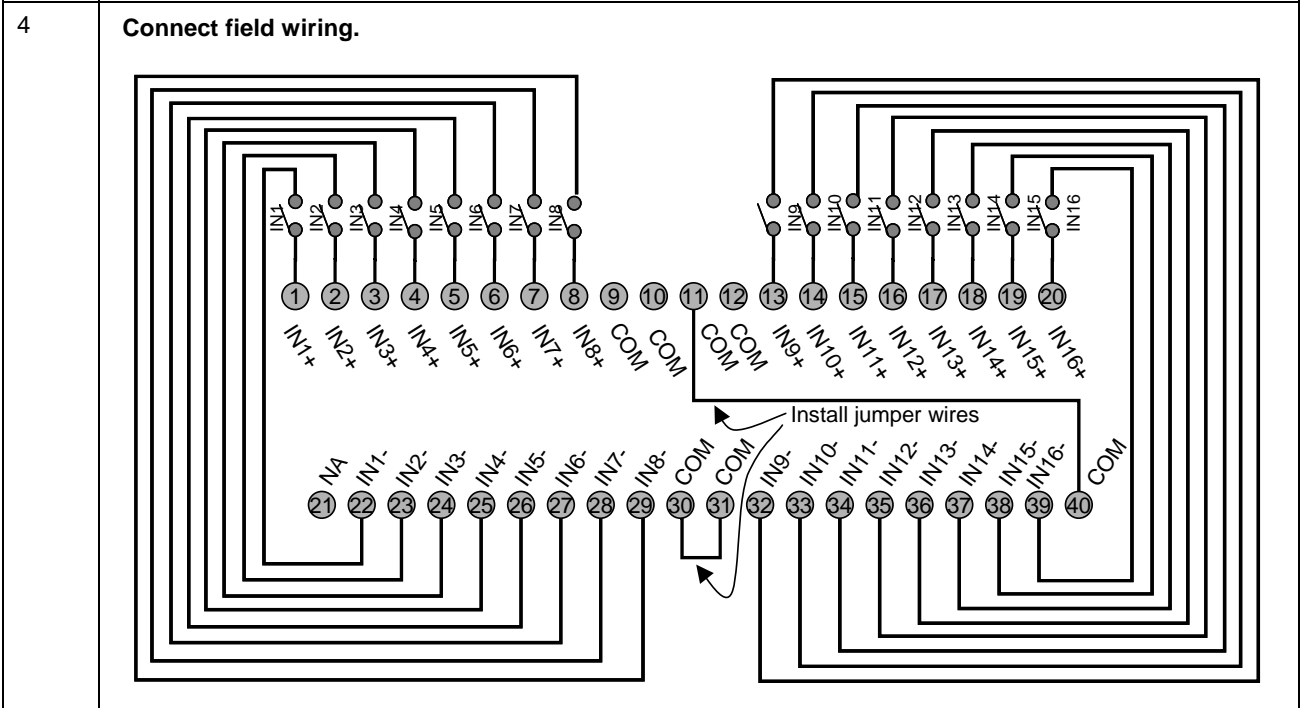
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller (Figure 1).</b></p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal block to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect desired cable to AO module at controller. Choose from:               <ul style="list-style-type: none"> <li>900RTC-L010 Remote Terminal Low Voltage Cable Assembly, 1.0 meters long</li> <li>900RTC-L025 Remote Terminal Low Voltage Cable Assembly, 2.5 meters long</li> <li>900RTC-L050 Remote Terminal Low Voltage Cable Assembly, 5.0 meters long</li> </ul> </li> <li>Install AO module label onto the module connector cover.</li> <li>Connect shield drain wire to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTP to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cable to RTP</li> </ul>
3	<p><b>Set/verify jumper positions as shown for use with an analog output module.</b></p>  <p>SW1 is not used. Module RIUP is not affected by using the RTP.</p> <p>See page 11 for RTP internal schematic.</p>

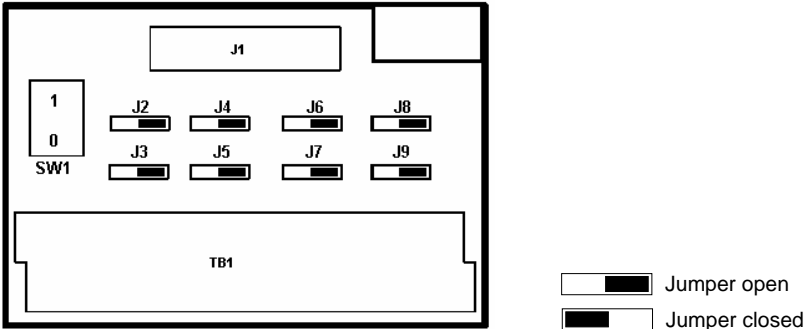
4 Point Analog Output	
Step	Action
4	<p><b>Connect field wiring.</b></p> <p>LOADS ARE 0 to 750 ohm</p>

16 Point Contact Digital Input	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller (Figure 1).</b></p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect desired cable to 16 point Contact DI module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-L010 Remote Terminal Low Voltage Cable Assembly, 1.0 meters long</li> <li>900RTC-L025 Remote Terminal Low Voltage Cable Assembly, 2.5 meters long</li> <li>900RTC-L050 Remote Terminal Low Voltage Cable Assembly, 5.0 meters long</li> </ul> </li> <li>Install 16 point contact DI module label into the module connector cover.</li> <li>Connect shield drain wire to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTP to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cable to RTP</li> </ul>

# 16 Point Contact Digital Input

Step	Action
3	<p>Set jumper positions as shown for the 16 point contact digital input module.</p>  <p>SW1 is not used. Module RIUP is not affected by using the RTP. See page 11 for RTP internal schematic.</p>

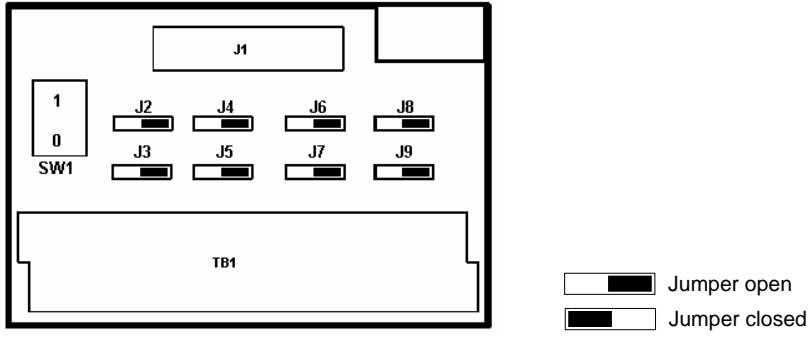


16 Point DC Digital Input	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>ATTENTION: The RTP combines the two groups of 8 inputs into one group of 16.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller (Figure 1).</b></p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect desired cable to 16 point DC DI module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-L010 Remote Terminal Low Voltage Cable Assembly, 1.0 meters long</li> <li>900RTC-L025 Remote Terminal Low Voltage Cable Assembly, 2.5 meters long</li> <li>900RTC-L050 Remote Terminal Low Voltage Cable Assembly, 5.0 meters long</li> </ul> </li> <li>Install 16 point DC DI module label into the module connector cover.</li> <li>Connect shield drain wire to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTP to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cable to RTP</li> </ul>
3	<p><b>Set/verify jumper positions as shown for the 16 point digital input module.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p><b>ATTENTION: SW1 only disconnects the positive terminal, not both sides of the DC power.</b></p> <p>See page 11 for RTP internal schematic.</p>

16 Point DC Digital Input	
Step	Action
4	<p><b>Connect field wiring.</b></p> <p>Note: SDC+ in the wiring figure below refers to power that is disconnected from these screw terminals when switch SW1 is open (0).</p> <p>DC Supply</p> <p>Install jumper wires</p>

16 Point AC Digital Input	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>ATTENTION: The RTP combines the two groups of 8 inputs into one group of 16.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller (Figure 1).</b></p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect desired cable to 16 point AC DI module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-H010 Remote Terminal High Voltage Cable assembly, 1.0 meters long</li> <li>900RTC-H025 Remote Terminal High Voltage Cable assembly, 2.5 meters long</li> <li>900RTC-H050 Remote Terminal High Voltage Cable assembly, 5.0 meters long</li> </ul> </li> <li>Install 16 point AC DI module label into module connector cover.</li> <li>Connect shield drain wire to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTP to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cable to RTP</li> </ul>

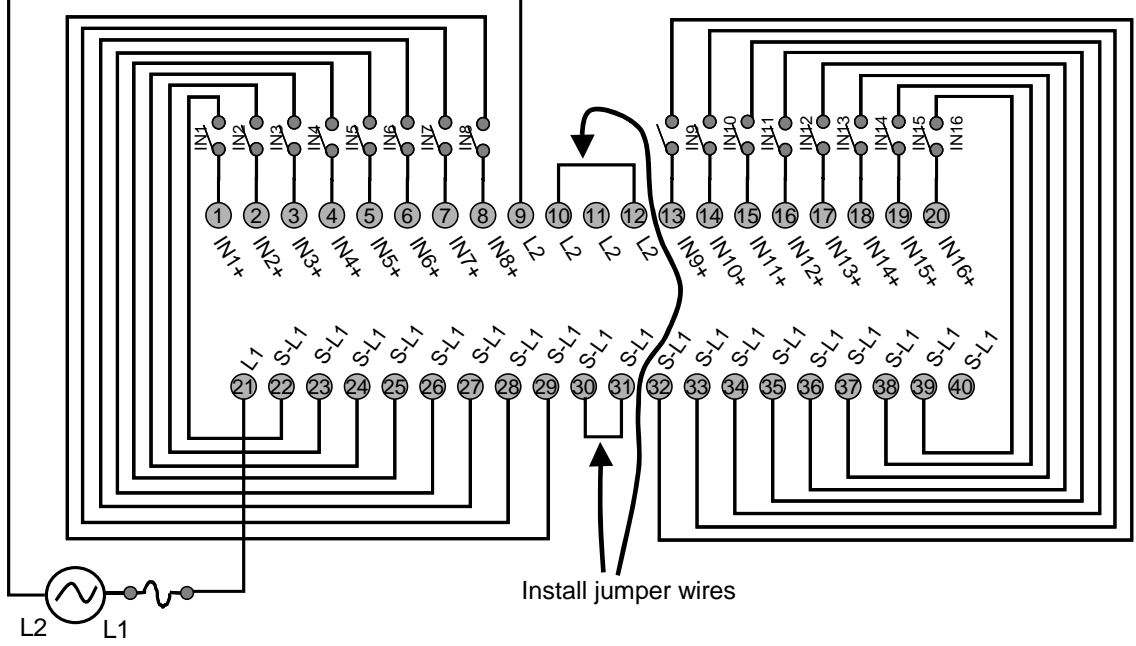
# 16 Point AC Digital Input

Step	Action
3	<p><b>Set/verify jumper positions as shown.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p><b>ATTENTION: SW1 only disconnects L1, not both sides of the AC powerline.</b></p> <p>See page 11 for RTP internal schematic.</p>

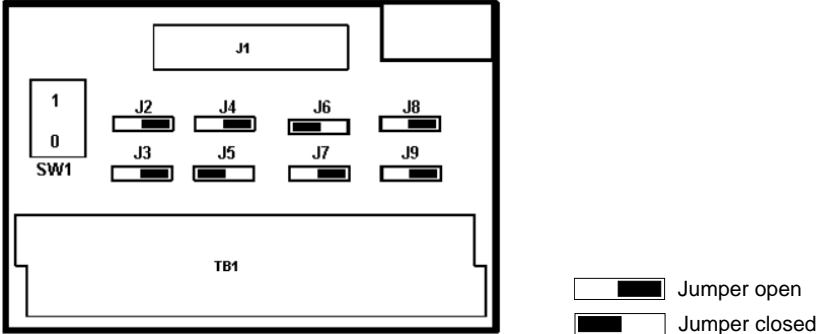
4

**Connect field wiring.**

Note: S-L1 in the wiring figure below refers to power that is disconnected from these screw terminals when switch SW1 is open (0).



Install jumper wires

16 Point DC Digital Output	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>ATTENTION: 16 point DC Digital Output is rated at 8A per module and 1A per output. Limited to 4A per group of 8.</b></p> <p><b>ATTENTION: The RTP combines the two groups of 8 outputs into one group of 16.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller (Figure 1).</b></p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect desired cable to 16 point DC DO module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-L010 Remote Terminal Low Voltage Cable Assembly, 1.0 meters long</li> <li>900RTC-L025 Remote Terminal Low Voltage Cable Assembly, 2.5 meters long</li> <li>900RTC-L050 Remote Terminal Low Voltage Cable Assembly, 5.0 meters long</li> </ul> </li> <li>Install 16 point DC DO label into the module connector cover.</li> <li>Connect shield drain wire to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTP to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cable to RTP</li> </ul>
3	<p><b>Set/verify jumper positions as shown.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p><b>ATTENTION: SW1 only disconnects the positive terminal, not both sides of the DC power.</b></p> <p>See page 11 for RTP internal schematic.</p>

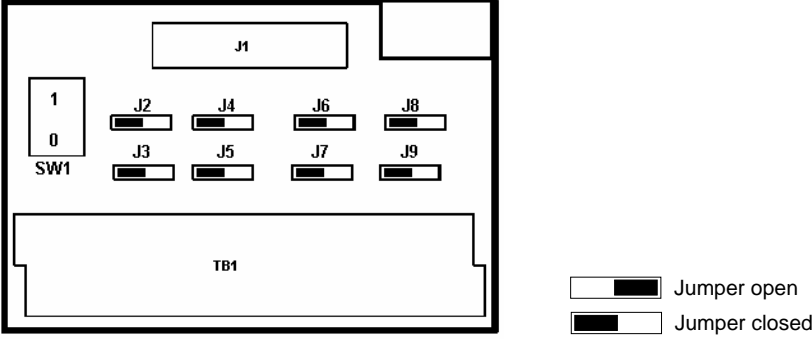


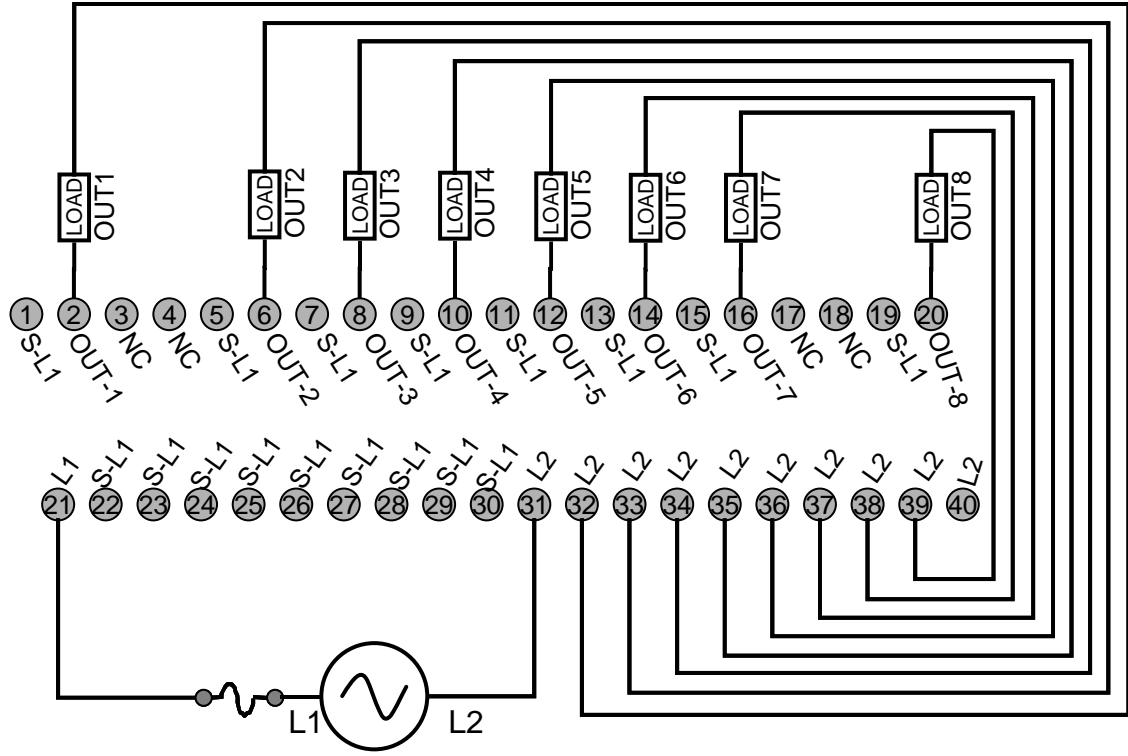
16 Point DC Digital Output	
Step	Action
4	<p><b>Connect field wiring.</b></p> <p>Note: SDC+ in the wiring figure below refers to power that is disconnected from these screw terminals when switch SW1 is open (0).</p> <p>DC Supply</p> <p>Note: DC Outputs provide electronic overload protection in the module, but adding a fuse (see picture) protects the wiring.</p>

8 Point AC Digital Output	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>ATTENTION: 8 point AC Output is limited to maximum of 2A per output for any VAC, 6A per RTP for 240VAC, 8A per RTP for 120VAC.</b></p> <p><b>ATTENTION: The RTP combines the 8 isolated outputs into one group of 8.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller (Figure 1).</b></p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect desired cable to 8 point AC DO module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-H010 Remote Terminal High Voltage Cable assembly, 1.0 meters long</li> <li>900RTC-H025 Remote Terminal High Voltage Cable assembly, 2.5 meters long</li> <li>900RTC-H050 Remote Terminal High Voltage Cable assembly, 5.0 meters long</li> </ul> </li> <li>Install 8 point AC DO label into the module connector cover.</li> <li>Connect shield drain wire to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>

## 8 Point AC Digital Output

Step	Action
2	<p><b>Mount RTP to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cable to RTP.</li> </ul>

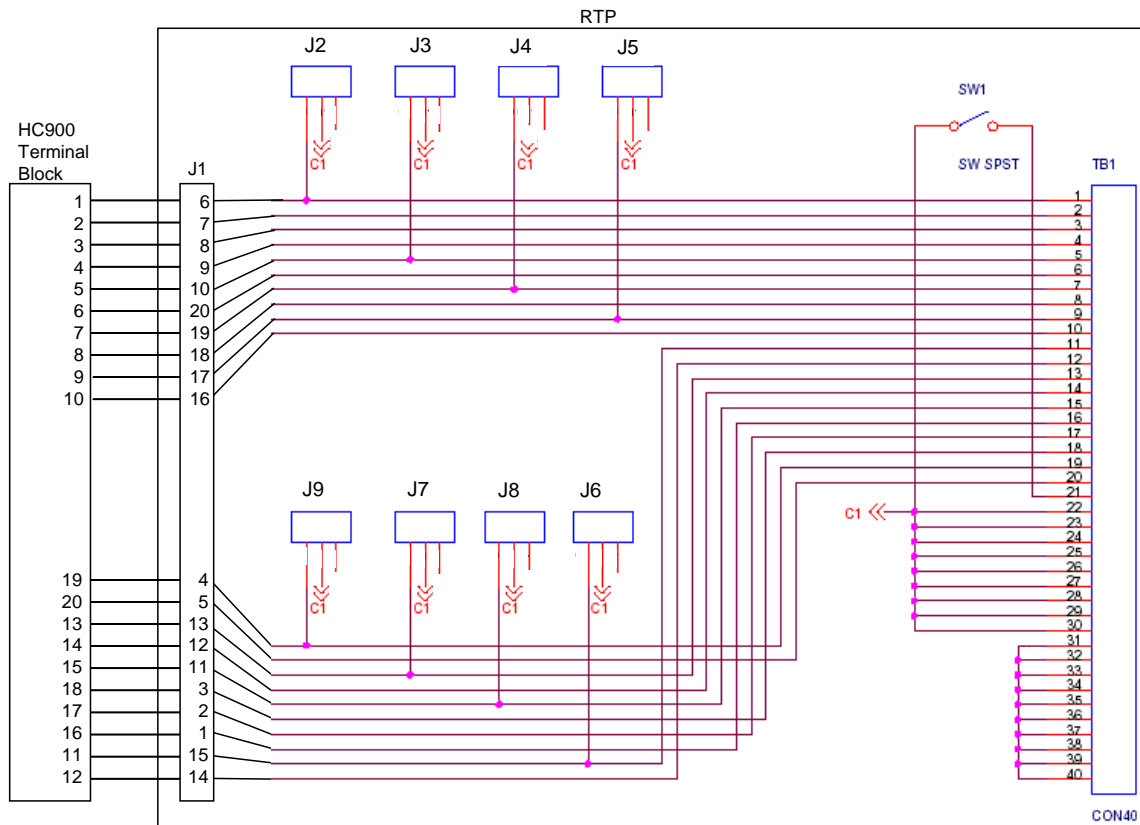
3	<p><b>Set/verify jumper positions as shown.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p><b>ATTENTION: SW1 only disconnects L1, not both sides of the AC powerline.</b></p> <p>See page 11 for RTP internal schematic.</p>
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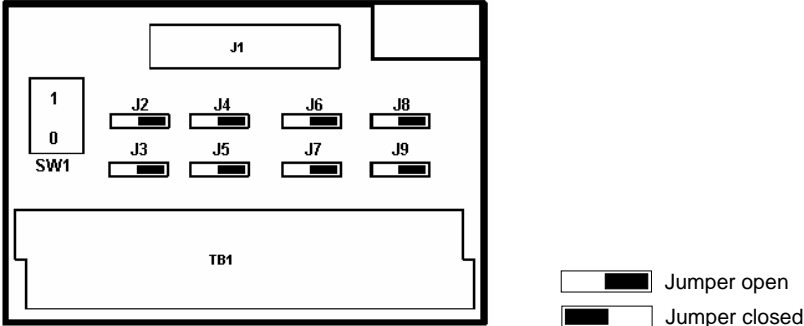
4	<p><b>Connect field wiring.</b></p> <p><b>CAUTION: S-L1 terminals in the wiring figure below are live when switch SW1 is on (1).</b></p>  <p>Note: AC Outputs are individually fused in the module, but adding a fuse here protects the wiring.</p>
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**RTP Cable wire positions and colors (Applies to 4 AO, 16 DI, 16 DO, 8 DO)**

Twisted Pair Number	HC900 Module TB Position	RTP J1 Plug Connector	Color
1	1	6	Black
	2	7	Red
2	4	9	Black
	5	10	White
3	6	20	Black
	7	19	Green
4	9	17	Black
	10	16	Blue
5	11	15	Black
	12	14	Yellow
6	14	12	Black
	15	11	Brown
7	16	1	Black
	17	2	Orange
8	19	4	Red
	20	5	White
9	3	8	Red
	8	18	Green
10	13	13	Red
	18	3	Blue

**RTP Internal schematic (Applies to 4 AO, 16 DI, 16 DO, 8 DO)**



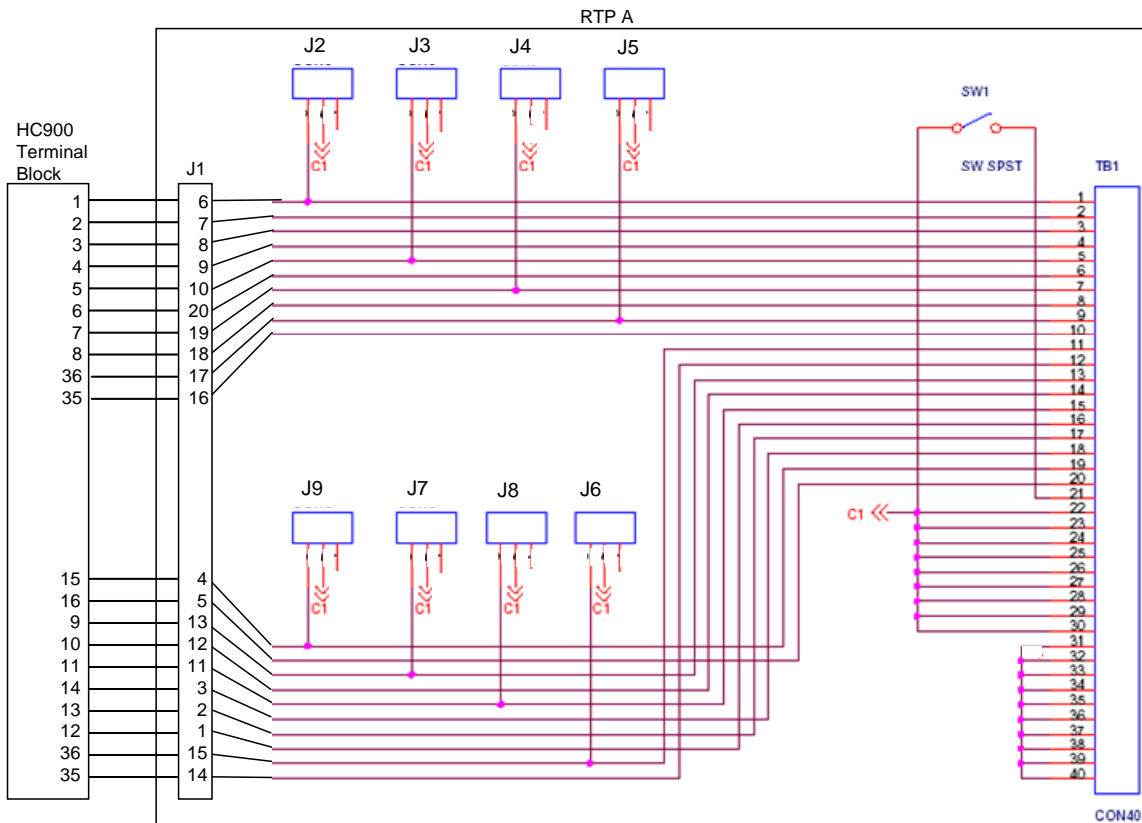
8 Point Analog Output	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller</b> (Figure 1).</p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect terminal block end of desired cable assembly to 8 point Analog Output module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-B810 Remote Terminal Cable assembly, 1.0 meters long</li> <li>900RTC-B825 Remote Terminal Cable assembly, 2.5 meters long</li> <li>900RTC-B850 Remote Terminal Cable assembly, 5.0 meters long</li> </ul> </li> <li>Install 8 point Analog Output label into the module connector cover.</li> <li>Connect the shield drain wire to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTP to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cable to RTP.</li> </ul>
3	<p><b>Set/verify jumper positions on each RTP as shown.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p><b>ATTENTION: SW1</b> opens the + side of the External 24V Power so that RIUP of module is possible.</p> <p>See page 14 for RTP internal schematic.</p>

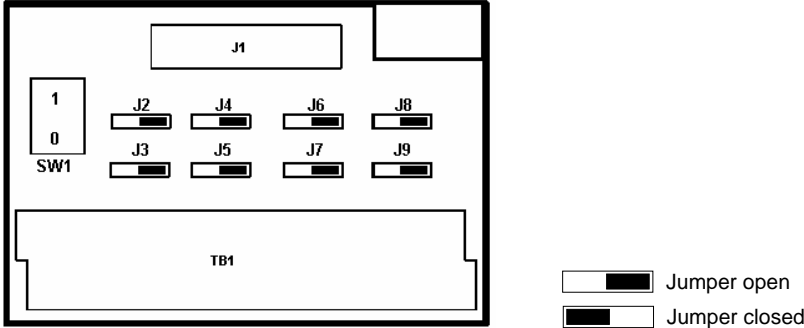
## 8 Point Analog Output

Step	Action
4	<p><b>Connect field wiring.</b></p> <p>RTP A for Inputs 1 to 8</p> <p>LOADS ARE 0 to 750 ohm</p> <p>ETC.</p> <p>External 24VDC supply</p> <p>EXT +24V</p> <p>EXT 24V RTN</p> <p>Install 24V wires as shown: 22 to 10 22 to 12 24VRTN to 9 24VRTN to 11</p>

**RTP A Cable wire positions and colors (for cable assembly drawing, applies to 8 AO)**

Twisted Pair Number of Cable A	HC900 Module TB Position	RTP A J1 Plug Connector	Color
1	1	6	Black
	2	7	Red
2	4	9	Black
	5	10	White
3	6	20	Black
	7	19	Green
4	36	17	Black
	35	16	Blue
5	36	15	Black
	35	14	Yellow
6	10	12	Black
	11	11	Brown
7	12	1	Black
	13	2	Orange
8	15	4	Red
	16	5	White
9	3	8	Red
	8	18	Green
10	9	13	Red
	14	3	Blue



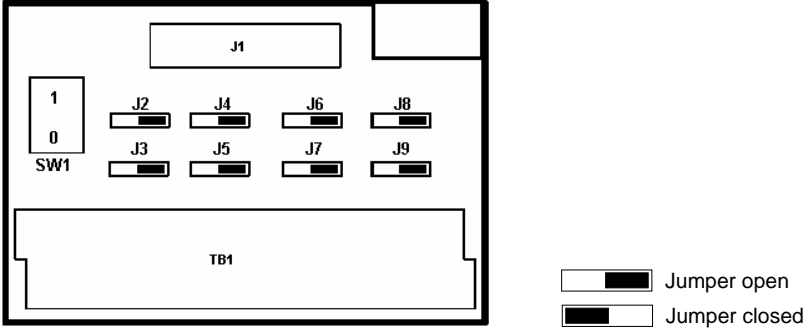
16 Point Analog Output	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller</b> (Figure 1).</p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect terminal block end of desired cable assembly to 16 point Analog Output module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-3210 Remote Terminal Cable assembly, 1.0 meters long</li> <li>900RTC-3225 Remote Terminal Cable assembly, 2.5 meters long</li> <li>900RTC-3250 Remote Terminal Cable assembly, 5.0 meters long</li> </ul> </li> <li>Install 16 point Analog Output label into the module connector cover.</li> <li>Connect both shield drain wires to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTPs to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cables to RTPs. Cables are marked "RTP A" and "RTP B." In step 4, RTP A will be wired to Inputs 1-10, RTP B to Inputs 9-16. You can write on the RTPs' labels to distinguish them.</li> <li>Note: Inputs 9 and 10 are wired between both RTPs.</li> </ul>
3	<p><b>Set/verify jumper positions on each RTP as shown.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p><b>ATTENTION:</b> SW1 opens the + side of the External 24V Power so that RIUP of module is possible.</p> <p>See page 14 for RTP internal schematic.</p>

16 Point Analog Output	
Step	Action
4	<p><b>Connect field wiring.</b></p> <p>LOADS ARE 0 to 750 ohm ETC.</p> <p>RTP A for Outputs 1 to 8, 9+ and 10+</p> <p>RTP B for Outputs 11 to 16, 9- and 10-</p> <p>External 24VDC supply</p> <p>EXT +24V EXT 24V RTN</p> <p>Install 24V wires as shown: 22 to 10 22 to 12 24VRTN to 9 24VRTN to 11</p>

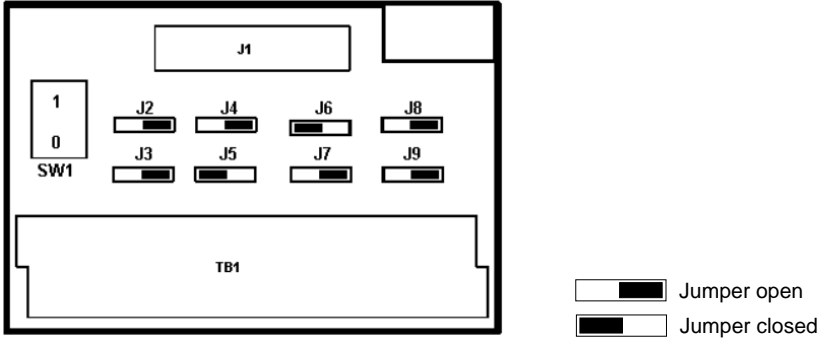
16 Point Analog Input	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>ATTENTION: The RTP labeled “DI, DO, AO RTP ASSY” with jumpers J2-J9 is the correct one for 16 point AI.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller (Figure 1).</b></p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect terminal block end of desired cable assembly to 16 point Analog Input module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-3210 Remote Terminal Cable assembly, 1.0 meters long</li> <li>900RTC-3225 Remote Terminal Cable assembly, 2.5 meters long</li> <li>900RTC-3250 Remote Terminal Cable assembly, 5.0 meters long</li> </ul> </li> <li>Install 16 point Analog Input label into the module connector cover.</li> <li>Connect both shield drain wires to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>



## 16 Point Analog Input

Step	Action
2	<p><b>Mount RTPs to DIN rail.</b></p> <ul style="list-style-type: none"><li>• Latch to rail. See page 25.</li><li>• Connect cables to RTPs. Cables are marked “RTP A” and “RTP B.” In step 4, RTP A will be wired to Inputs 1-10, RTP B to Inputs 9-16. You can write on the RTPs’ labels to distinguish them.</li><li>• Note: Inputs 9 and 10 are wired between both RTPs.</li></ul>
3	<p><b>Set/verify jumper positions on each RTP as shown.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p><b>ATTENTION: SW1 opens current loop on the ground side so that RIUP of module is possible, but voltage is still present on the positive side at RTP and module terminals.</b></p> <p>See page 23 for RTP internal schematic.</p>

16 Point Analog Input	
Step	Action
4	<p><b>Connect field wiring. Refer to the appropriate figure for your type of analog input.</b></p> <p>RTP A for inputs 1 to 10</p> <p style="text-align: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">1</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">2</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">7</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">8</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">9</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">11</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">12</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">13</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">14</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">15</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">16</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">17</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">18</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">19</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">20</span>  IN1+ IN2+ IN1- IN2- IN3+ IN4+ IN3- IN4- IN10+ IN9+ IN5+ IN6+ IN5- IN6- IN7+ IN8+ IN7- IN8- </p> <p>RTP B for inputs 9 to 16</p> <p style="text-align: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">21</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">22</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">23</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">24</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">25</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">26</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">27</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">28</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">29</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">30</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">31</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">32</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">33</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">34</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">35</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">36</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">37</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">38</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">39</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">40</span>  <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">1</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">2</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">7</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">8</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">9</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">11</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">12</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">13</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">14</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">15</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">16</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">17</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">18</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">19</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">20</span>  IN9- IN10- IN11+ IN12+ IN11- IN12- IN13+ IN14+ IN13- IN14- IN15+ IN16+ IN15- IN16- </p> <p style="text-align: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">21</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">22</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">23</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">24</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">25</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">26</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">27</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">28</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">29</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">30</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">31</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">32</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">33</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">34</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">35</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">36</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">37</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">38</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">39</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">40</span> </p> <p>Notice that Inputs 9 and 10 are connected across RTP A and RTP B.</p> <p style="text-align: center;"><b>Figure 2 Voltage input connections</b></p>
	<p>Not shown: recommended external current loop fuses.  Additionally, on RTP A connect the following terminals: 3-22, 4-23, 7-24, 8-25, 15-26, 16-27, 19-29, 20-30  On RTP B connect the following terminals: 1-22, 2-23, 5-24, 6-25, 13-26, 14-27, 17-28, 18-29</p> <p style="text-align: center;"><b>Figure 3 Current (mA) connections with 2-wire transmitter</b></p>

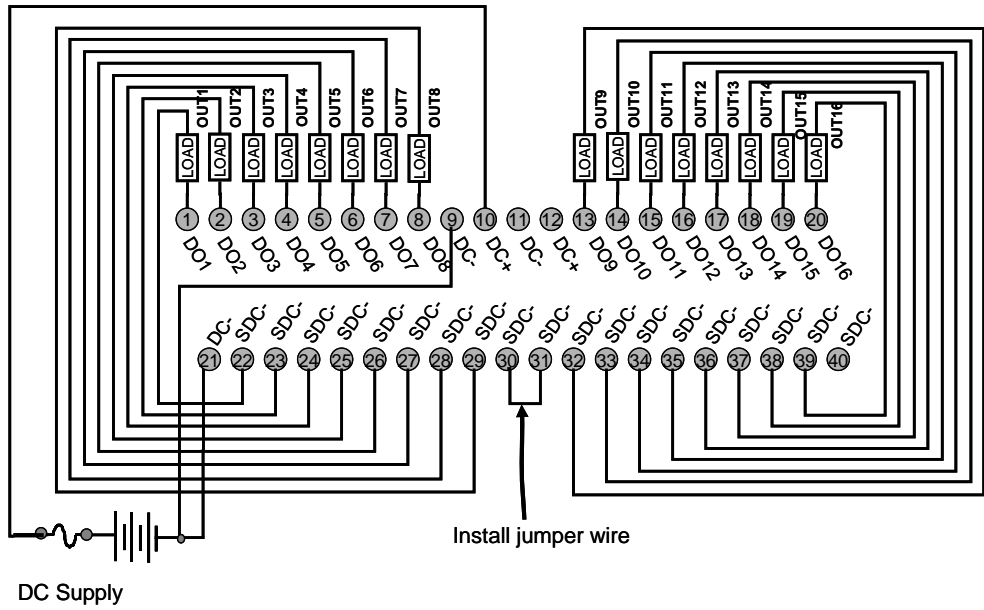
32 Point DC Digital Output	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>ATTENTION: 32 point DC Digital Output is limited to 6A per RTP and 0.5A per output.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller (Figure 1).</b></p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect terminal block end of desired cable assembly to 32 point Digital Output module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-3210 Remote Terminal Cable assembly, 1.0 meters long</li> <li>900RTC-3225 Remote Terminal Cable assembly, 2.5 meters long</li> <li>900RTC-3250 Remote Terminal Cable assembly, 5.0 meters long</li> </ul> </li> <li>Install 32 point DC DO label into the module connector cover.</li> <li>Connect both shield drain wires to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTPs to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cables to RTPs. Cables are marked "RTP A" and "RTP B." In step 4, RTP A will be wired to outputs 1-16, RTP B to outputs 17-32. You can write on the RTPs' labels to distinguish them.</li> </ul>
3	<p><b>Set/verify jumper positions on each RTP as shown.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p><b>ATTENTION: SW1 opens current loop on the ground side so that RIUP of module is possible, but voltage is still present on the positive side at RTP and module terminals.</b></p> <p>See page 23 for RTP internal schematic.</p>

# 32 Point DC Digital Output

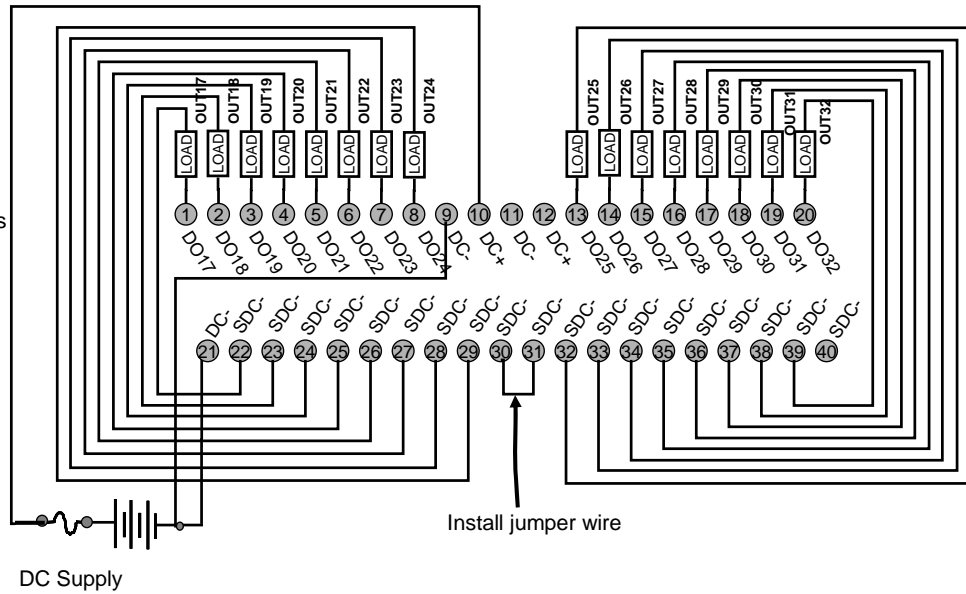
Step	Action
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4	<b>Connect field wiring.</b>
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RTP A for outputs 1 to 16

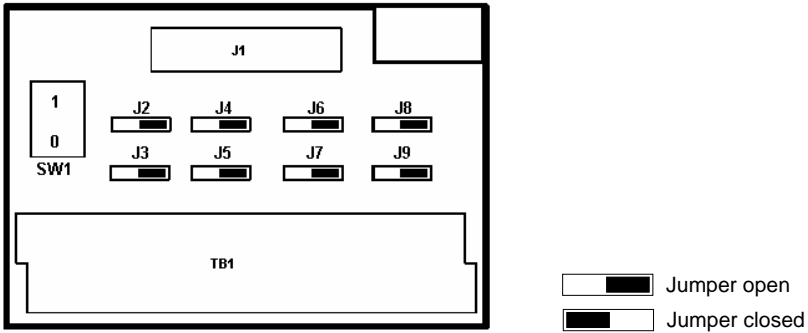


RTP B for outputs 17 to 32



Note: SDC- refers to the switched negative side of the DC supply.

Note: Terminals 9 and 11 (DC-) are connected through the RTP cable. Same for terminals 10 and 12 (DC+).

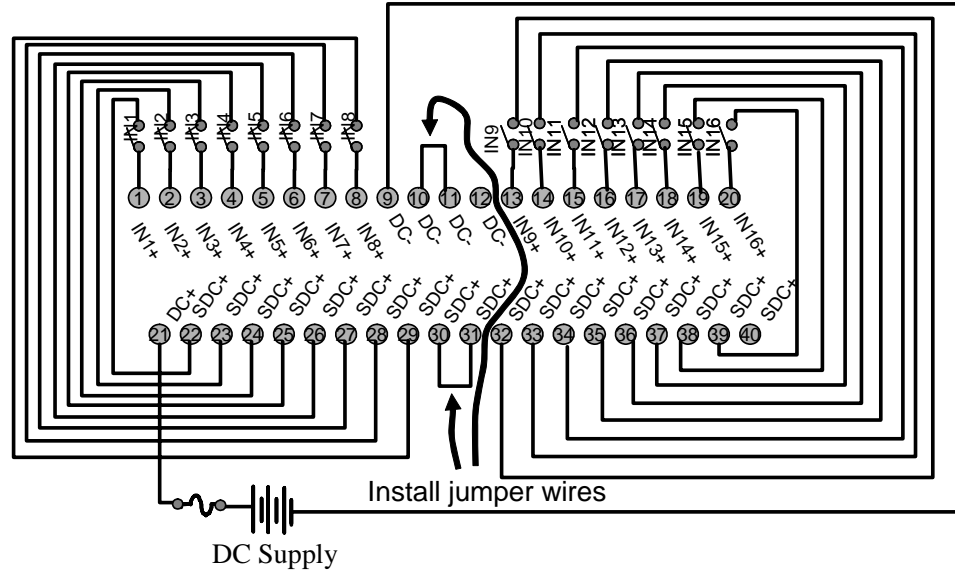
32 Point DC Digital Input	
Step	Action
1	<p><b>ATTENTION: RTP and cables are intended for permanent installation within their own enclosure.</b></p> <p><b>Mount RTP cable assembly to HC900 Controller</b> (Figure 1).</p> <ul style="list-style-type: none"> <li>Remove appropriate key tabs from terminal board to allow mating with the module. See HC900 Hybrid Controller Installation and User guide 51-52-25-107 for details.</li> <li>Connect terminal block end of desired cable assembly to 32 point Digital Input module at controller. Choose from: <ul style="list-style-type: none"> <li>900RTC-3210 Remote Terminal Cable assembly, 1.0 meters long</li> <li>900RTC-3225 Remote Terminal Cable assembly, 2.5 meters long</li> <li>900RTC-3250 Remote Terminal Cable assembly, 5.0 meters long</li> </ul> </li> <li>Install 32 point DC DI label into the module connector cover.</li> <li>Connect both shield drain wires to the grounding bars at the base of the HC900 rack. All field-wiring shields must be grounded as described in the shield grounding section of the HC900 Hybrid Controller Installation and User guide 51-52-25-107.</li> </ul>
2	<p><b>Mount RTPs to DIN rail.</b></p> <ul style="list-style-type: none"> <li>Latch to rail. See page 25.</li> <li>Connect cables to RTPs. Cables are marked "RTP A" and "RTP B." In step 4, RTP A will be wired to Inputs 1-16, RTP B to Inputs 17-32. You can write on the RTPs' labels to distinguish them.</li> </ul>
3	<p><b>Set/verify jumper positions on each RTP as shown.</b></p>  <p>Module Removal / Insertion Under Power (RIUP) is supported by turning off Switch SW1 to allow removal of the module from the rack without causing an arc. Please reference the HC900 Hybrid Controller Installation and User guide (51-52-25-107) for more details.</p> <p>See page 23 for RTP internal schematic.</p>

### 32 Point DC Digital Input

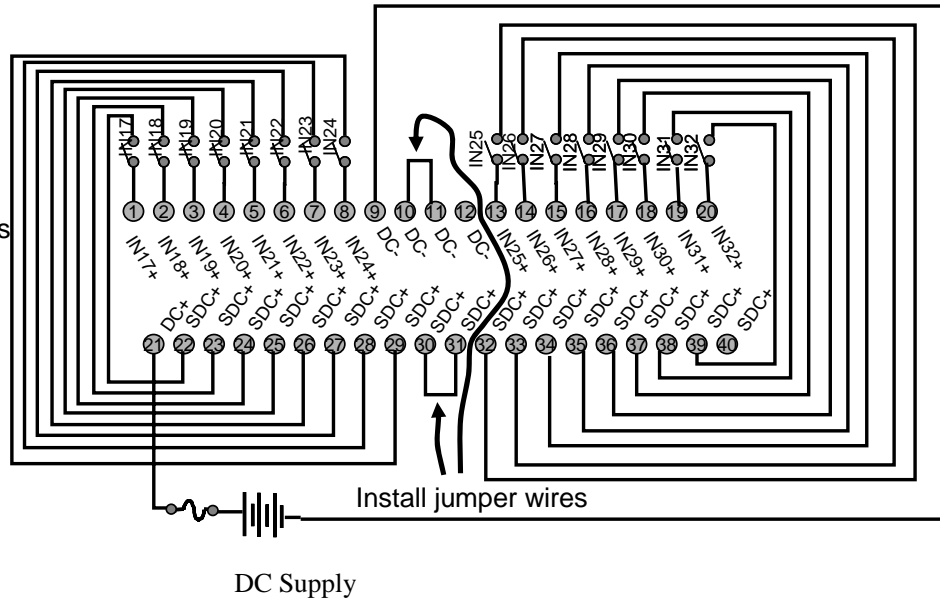
Step	Action
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4 **Connect field wiring.**

RTP A for inputs 1 to 16



RTP B for inputs 17 to 32

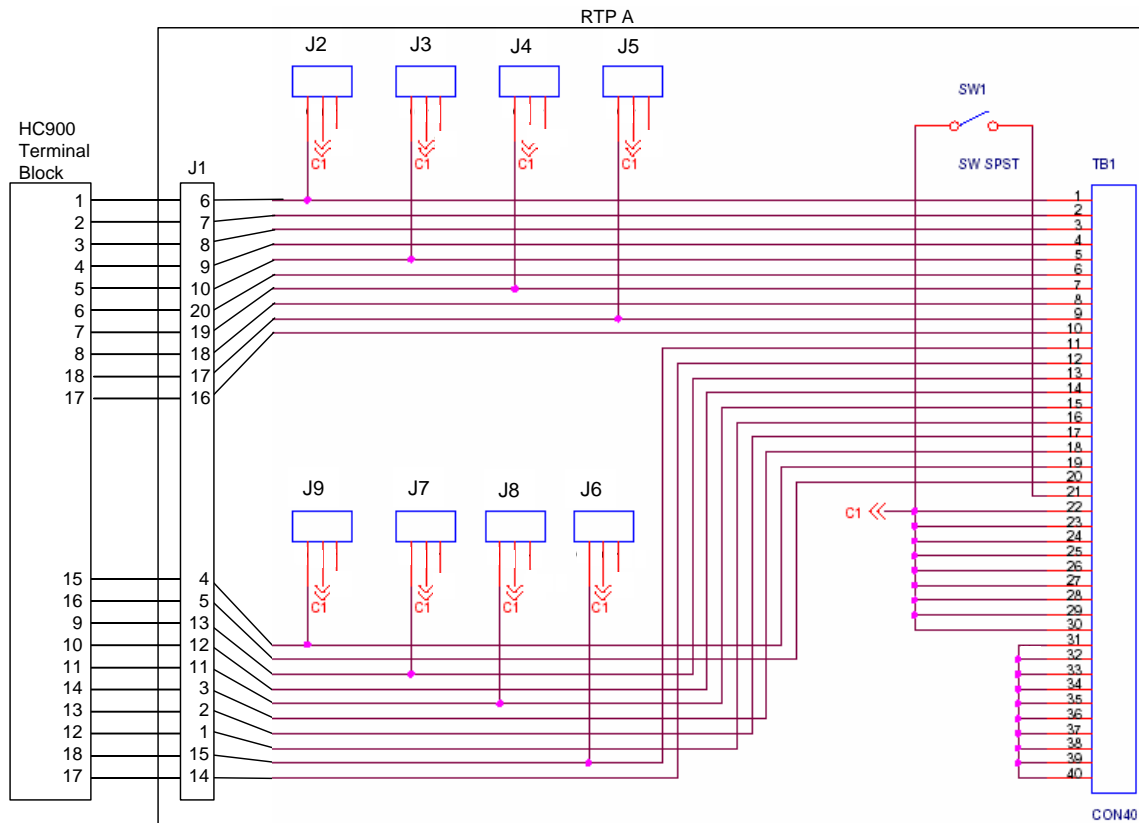


Note: SDC+ refers to switched positive side of the DC supply.

Note: Terminals 9 and 11 (DC-) are connected through the RTP cable. Same for terminals 10 and 12 (DC-).

**RTP A Cable wire positions and colors (for cable assembly drawing, applies to 16 AI, 32 DI, 32 DO)**

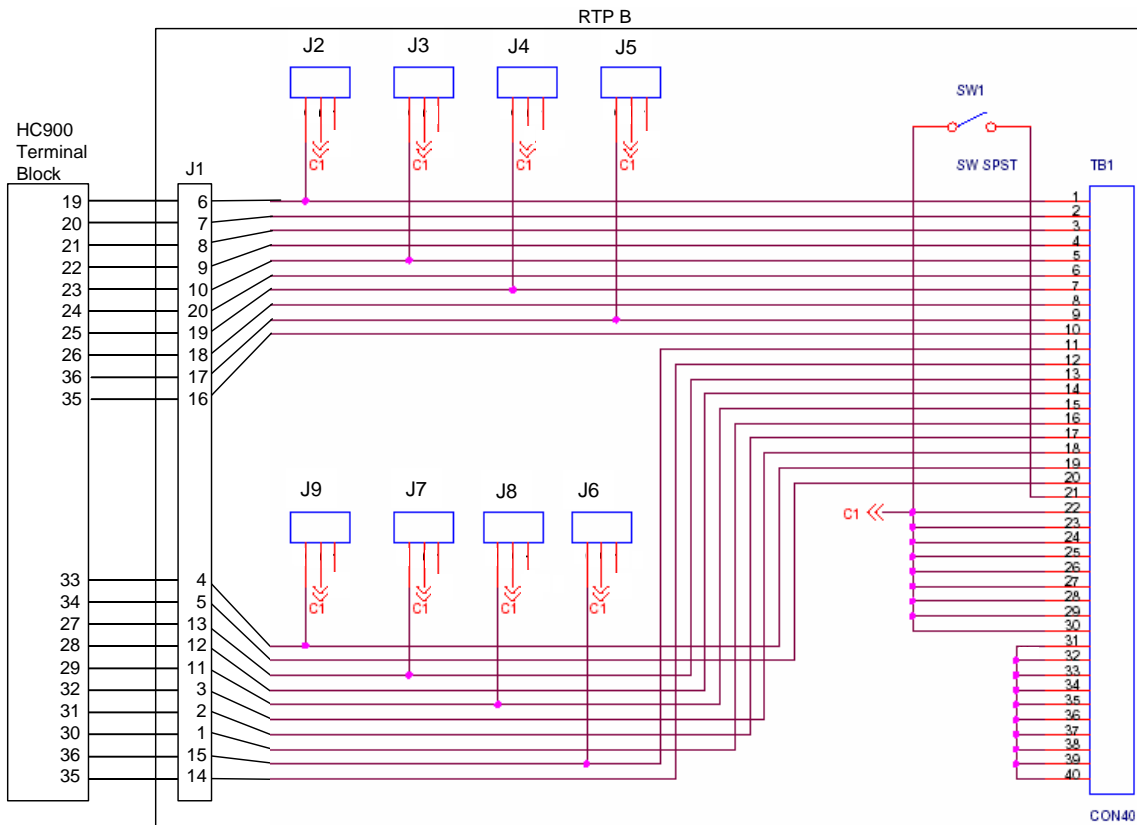
Twisted Pair Number of Cable A	HC900 Module TB Position	RTP A J1 Plug Connector	Color
1	1	6	Black
	2	7	Red
2	4	9	Black
	5	10	White
3	6	20	Black
	7	19	Green
4	18	17	Black
	17	16	Blue
5	18	15	Black
	17	14	Yellow
6	10	12	Black
	11	11	Brown
7	12	1	Black
	13	2	Orange
8	15	4	Red
	16	5	White
9	3	8	Red
	8	18	Green
10	9	13	Red
	14	3	Blue



(cont'd)

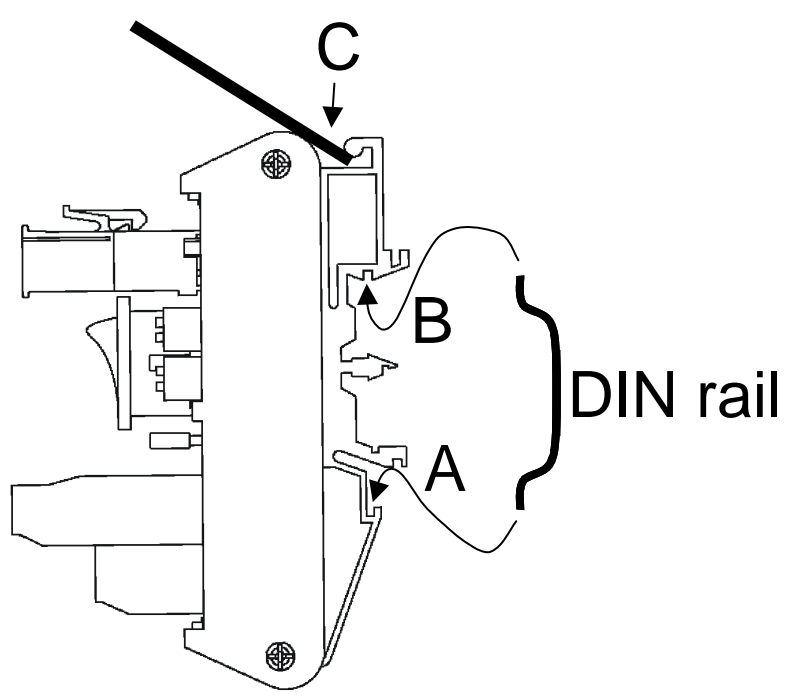
**RTP B Cable wire positions and colors (for cable assembly drawing, applies to 16 AI, 32 DI, 32 DO)**

Twisted Pair Number of Cable B	HC900 Module TB Position	RTP B J1 Plug Connector	Color
1	19	6	Black
	20	7	Red
2	22	9	Black
	23	10	White
3	24	20	Black
	25	19	Green
4	36	17	Black
	35	16	Blue
5	36	15	Black
	35	14	Yellow
6	28	12	Black
	29	11	Brown
7	30	1	Black
	31	2	Orange
8	33	4	Red
	34	5	White
9	21	8	Red
	26	18	Green
10	27	13	Red
	32	3	Blue





### Latch/Unlatch RTP to rail

Step	Action
1	Mounting screws must be installed at each end of the mounting rail, with additional screws approx. every 8"(203mm) to prevent twisting of the rail.
2	Insert one side of DIN rail at A. 
3	Insert other side of DIN rail at B, and push B over the rail to snap into place.
4	To remove, using slot screwdriver to lift C up gently (plastic is fragile) to disengage at B. Lift up and over rail, then disengage at A.

### Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.** Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application