2500C-8-RL-FC Relay Output Module

DESCRIPTION

The 2500C-8-RL-FC Module provides 8 isolated form C relay outputs. This module is designed for high current application such as switching motor starters. Because this is a dry contact output there is no leakage current. Front panel LEDs provide visual indication for output and fuse status.

FEATURES

- Single wide module
- 8 individually isolated channels
- Each channel is individually fused
- Form C relays
- No leakage current
- Channel On/Off Status Indication
- Blown fuse indication/reporting for each channel (See Blown Fuse Reporting Note 1)
- 24VCD User Supplied Power Monitored (See Note 2: 24VDC Power Monitoring)
- Uses CTI's 2500C-32F Connector

Output Specifications

<table>
<thead>
<tr>
<th>Outputs per module</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Logon CP Mode Default Shipping Configuration</td>
<td>8X /8Y</td>
</tr>
<tr>
<td>Module Logon C Mode</td>
<td>8Y</td>
</tr>
<tr>
<td>Output Voltage Range</td>
<td>15-250VAC 15-30VDC</td>
</tr>
<tr>
<td>Maximum Output current</td>
<td>Resistive: 15VAC - 240VAC: 4A  Resistive: 15VDC - 30VDC: 4A  Pilot Load/Inductive: 1.5A @250VAC  Pilot Load/Inductive: 1.5A @30VDC</td>
</tr>
<tr>
<td>Switching rate</td>
<td>0.5/ ops/sec (rated load)</td>
</tr>
<tr>
<td>Type of output</td>
<td>Form C individually fused</td>
</tr>
<tr>
<td>Contact Life</td>
<td>@full rated current, 4A = 400K cycles</td>
</tr>
<tr>
<td>User Power Supply (required)</td>
<td>24VDC ±10%  70mA(all outputs ON)</td>
</tr>
<tr>
<td>User Power Supply Fusing</td>
<td>1 Amp Littlefuse # 3701000410</td>
</tr>
<tr>
<td>Output Channel Fusing</td>
<td>8 fuses</td>
</tr>
<tr>
<td>Output Fuses: 8 Field Replaceable Fuses</td>
<td>5.0 amp, 250V  Type Littlefuse #215005  Shurter Inc #0001.2511</td>
</tr>
</tbody>
</table>

Module Size

- Single wide module
- 2500C-32F
- 1.22 watts
- IEC 1000-4-2 Level 4
- 1500 VDC Channel to Backplane  1000 VDC Channel to Channel
- 223.84mm x 109.86mm x 34.93mm, 0.234kg
- 0ºC to 60ºC (32ºF to 140ºF)
- -40ºC to 85ºC (-40ºF to 185ºF)
- 5% to 95% (non-condensing)
- UL , ULC, UL Class 1, Div 2, CE

Note 1: Blown Fuse Reporting: Blown Fuse Reporting is valid for voltage ranges down to 35VDC. Below 35VAC/VDC the module will not be able to detect or report the Blown Fuse condition.

Note 2: The module monitors the User Supplied 24VDC used to power the relays. All 8 Blown Fuse Indicators will FLASH if there is no 24VDC present or if the fuse for the 24VDC Power is blown. All the 8X values for Blown Fuse Reporting will be TRUE to the User Application for monitoring and alarming.
Module Logon Selection Jumpers. CP or Classic Plus mode. CP or Classic Plus mode is the default shipping configuration. In CP mode the module logs in as an 8X/8Y for blown fuse reporting. In C or Classic Mode the module logs in as a 8Y and does not provide blown fuse reporting. This allows customers to modify the module logon based on their application requirements. JP2 is available only on 901C Rev boards or higher.

**Note:** All 8 Channels are individually fused. The module logs on as an 8x/8Y module. The x addresses are for the Blown Fuse Reporting.

**Blown Fuse Operation Overview..**
Blown Fuse detection works when the Output Channel is wired and the output is turned on. If the fuse is blown the LED will turn ON and the associated X address will equal 1. If the Output Channel is turned off the LED indicator will turn OFF and the associated Blown Fuse Bit will equal 0. The module does not Latch the Blown Fuse Input so the user application should trap for the reported Blown Fuse Bit while the Output is turned ON. This will allow logging and notification of the blown fuse event to your HMI stations and other reporting devices.

**Channel ON/OFF Status LED**
LED is illuminated BLUE when the output is turned ON.

**Blown Fuse LED**
The Blown Fuse LED is illuminated when the Module detects a Blown Fuse.

**User Supplied 24VDC Power Supply Fuse**
1 Amp Littlefuse # 37011000410

**Note:** On REV 001 and above if this fuse is blown or if there is no 24VDC present on pins A14 and A16 all 8 Channel Blown Fuse Indicators will illuminate and flash. Also all 8 channel blown fuse reporting addresses will report a “1”.
# 2500C-8-RL-FC Discrete Output Module

## 2500C-8-RL-FC Wiring Connector

<table>
<thead>
<tr>
<th>Channel</th>
<th>NC/A</th>
<th>User Supply</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A1</td>
<td>B1</td>
<td>Channel 1</td>
</tr>
<tr>
<td>Not used</td>
<td>A2</td>
<td>B2</td>
<td>NO Channel 1</td>
</tr>
<tr>
<td>2</td>
<td>A3</td>
<td>B3</td>
<td>Common Channel 2</td>
</tr>
<tr>
<td>Not used</td>
<td>A4</td>
<td>B4</td>
<td>NO Channel 2</td>
</tr>
<tr>
<td>3</td>
<td>A5</td>
<td>B5</td>
<td>Common Channel 3</td>
</tr>
<tr>
<td>Not used</td>
<td>A6</td>
<td>B6</td>
<td>NO Channel 3</td>
</tr>
<tr>
<td>4</td>
<td>A7</td>
<td>B7</td>
<td>Common Channel 4</td>
</tr>
<tr>
<td>Not used</td>
<td>A8</td>
<td>B8</td>
<td>NO Channel 4</td>
</tr>
<tr>
<td>5</td>
<td>A9</td>
<td>B9</td>
<td>Common Channel 5</td>
</tr>
<tr>
<td>Not used</td>
<td>A10</td>
<td>B10</td>
<td>NO Channel 5</td>
</tr>
<tr>
<td>6</td>
<td>A11</td>
<td>B11</td>
<td>Common Channel 6</td>
</tr>
<tr>
<td>Not used</td>
<td>A12</td>
<td>B12</td>
<td>NO Channel 6</td>
</tr>
<tr>
<td>7</td>
<td>A13</td>
<td>B13</td>
<td>Common Channel 7</td>
</tr>
<tr>
<td>User Supply</td>
<td>24V</td>
<td>A14</td>
<td>B14 NO Channel 7</td>
</tr>
<tr>
<td>8</td>
<td>A15</td>
<td>B15</td>
<td>Common Channel 8</td>
</tr>
<tr>
<td>User Supply</td>
<td>Return</td>
<td>A16</td>
<td>B16 NO Channel 8</td>
</tr>
</tbody>
</table>

## 2500C-32F Specifications

<table>
<thead>
<tr>
<th>Connector Style</th>
<th>Removable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Wiring Connections</td>
<td>32 point</td>
</tr>
<tr>
<td>Wire Gauge (Use Copper Conductors Only)</td>
<td>14 to 22AWG</td>
</tr>
<tr>
<td>Screw Torque Value</td>
<td>5.22 lb-in</td>
</tr>
<tr>
<td>Current Rating</td>
<td>6A @ 300VAC</td>
</tr>
<tr>
<td>Insulation Stripping Length</td>
<td>0.24&quot; / 6mm</td>
</tr>
</tbody>
</table>

## Connector Material

- **Body:** Polycarbonate UL 94V0
- **Screw:** M3 Zinc plated Steel
- **Cage Clamp:** Nickel Plated Brass
- **Socket Contact Spring:** Tin Plated Bronze
- **Retaining Screw:** M3 Zinc Plated Steel

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**Note:**
The 2500C-8-RL-FC Relay Output Module uses CTI Wiring Connector 2500C-32F. Please see the wiring connector specification table below. This connector is ordered separately from the module.

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**Typical Internal Circuit**

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Note:
The information below was obtained from the Relay Manufacturer for the relays (Part# G6B-2114P-US ) used in the 2500C-8-RL-FC Relay Output Module. The graphs below indicate the Maximum Switching Capacity and the Durability of the relays depending on the application Voltage and Current. If more information is needed please contact CTI Sales and Support.

CAUTION – Non-Hazardous Areas/Hazardous Areas

| WARNING – EXPLOSION HAZARD. DO NOT REMOVE OR REPLACE WHILE CIRCUIT IS LIVE UNLESS THE AREA IS FREE OF IGNITIBLE CONCENTRATIONS. |
| AVERTISSEMENT – RISQUE D’EXPLOSION. NE PAS RETIRER NI REMPLACER PENDANT QUE LE CIRCUIT EST SOUS TENSION À MOINS QUE L’EMPLACEMENT NE SOIT EXEMPT DE CONCENTRATIONS INFLAMMABLES. |
| WARNING – EXPLOSION HAZARD. DO NOT REMOVE OR REPLACE FUSE WHEN ENERGIZED. |
| AVERTISSEMENT – RISQUE D’EXPLOSION. NE PAS RETIRER NI REMPLACER UN FUSIBLE SI L’APPAREIL EST SOUS TENSION. |

Turn off power to the system before replacing fuses either in power supplies or IO modules. Refer to Product Bulletin or Installation and Operation Guide for specific information on the correct fuse for replacement. If there are any questions please contact CTI support. Fuses should only be replaced by qualified technicians.