**Installation and Wiring**

To install the flex module:

1. Turn off power to the device.
2. This module must be installed in slot 6. If replacing a module, remove the old module.
3. Affix slot number “6” labels (provided) to the module and to the removable screw terminal block.
4. With the component side of the module facing right (viewing the device from the rear) insert the module into the slot until it latches.
5. Remove the screw terminal block from the module.
6. Wire field bus to the appropriate terminals. Wiring details are provided below.
7. Reconnect the wired screw terminal block to the module. Be sure to reconnect the terminal block to the correct module.
8. Restore power to the device.

**Note:**

If the flex module is a replacement with the same part number the F4T/D4T will use it immediately when powered up. Otherwise, use Composer software to configure the F4T/D4T to expect and use the module.

**Module Characteristics**

**Description and Identification**

Many of the modules appear to look alike at first glance, therefore, it is always recommended that the module part number be verified prior to plugging it into any of the available slots in a base. Each module is identified with a part number located on the back side of the assembly next to the screw terminal block, as displayed in the graphic below.

---

**Wiring**

**Note:**

Wire size and torque for screw terminations:

- 0.0507 to 3.30 mm² (30 to 12 AWG) single-wire termination or two 1.31 mm² (16 AWG)
- 0.57 Nm (5.0 lb.-in.) torque

**Note:**

To prevent damage to the device, do not connect wires to unused terminals.

**Note:**

Modules IP10 when properly installed in base enclosure.
**Wiring (cont.)**

* EIA-232/485 Modbus RTU

**FMCA - [2] A A A - A _ _ _**

- Wire T-/R- to the A terminal of the EIA-485 port.
- Wire T+/R+ to the B terminal of the EIA-485 port.
- Wire common to the common terminal of the EIA-485 port.
- Do not route network wires with power wires.
- Connect network wires in daisy-chain fashion when connecting multiple devices in a network.
- A termination resistor may be required. Place a 120Ω resistor across T+/R+ and T-/R- of last device on network.
- * Terminations are optional and may not be required with all devices.*
- Do not wire to both the EIA-485 and the EIA-232 pins at the same time.
- Two EIA-485 terminals of T/R are provided to assist in daisy-chain wiring.
- Do not connect more than one F4T/D4T on an EIA-232 network.
- **Maximum number of devices on a Modbus network is 247.**
- **Maximum EIA-232 network length: 15 meters (50 feet)**
- **Maximum EIA-485 network length: 1,200 meters (4,000 feet)**
- **1/8th unit load on EIA-485 bus.**

---

**Modbus-IDA Terminal**

<table>
<thead>
<tr>
<th>Modbus-IDA Terminal</th>
<th>EIA-TIA-485 Name</th>
<th>Watlow Terminal Label</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0</td>
<td>A</td>
<td>CA or CD</td>
<td>T-/R-</td>
</tr>
<tr>
<td>D1</td>
<td>B</td>
<td>CB or CE</td>
<td>T+/R+</td>
</tr>
<tr>
<td>common</td>
<td>common</td>
<td>CC or CF</td>
<td>common</td>
</tr>
</tbody>
</table>

*Note: This communications card must be inserted in slot 6.*

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**Series EZ-ZONE® Flex Modules**

**WATLOW Electric Manufacturing Company**

ISO 9001 since 1996.

Declares that the following products:

- Winona, MN 55987 USA
- Watlow Electric Manufacturing Company
- ISO 9001 since 1996.

- Series EZ-ZONE® Flex Modules
- FMCA

Classified as: EIA-232/485 Modbus RTU

- Series EZ-ZONE® Flex Modules
- FMCA

- EIA/TIA-485 device on network.
- T+/R+ and T-/R- of last wire common to the terminal of the EIA-485 port.
- A termination resistor when connecting multiple devices in a network.
- Do not route network wires with power wires.
- Do not connect more than one F4T/D4T on an EIA-232 network.
- Maximum number of devices on a Modbus network is 247.
- Maximum EIA-232 network length: 15 meters (50 feet)
- Maximum EIA-485 network length: 1,200 meters (4,000 feet)
- 1/8th unit load on EIA-485 bus.

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**Specifications**

- EIA 232/485, Modbus® RTU (see vendor specifications: [http://www.modbus.org](http://www.modbus.org))

**Warranty**

F4T/D4T Flex modules are manufactured by ISO 9001 registered processes and are backed by a three-year warranty to the first purchaser for use, providing that the modules have not been misapplied.

**Technical Assistance**

To get assistance from Watlow:

- Contact a local representative: see last page
- E-mail: wintechsupport@watlow.com
- Call: +1 (507) 494-5669 from 7 a.m. to 5 p.m. Central Standard Time (CST)

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