Document Overview

The purpose of this Quick Start Guide (QSG) is to acquaint the user with the F4T communications Flex Modules and associated wiring.

Product Overview

F4T communications modules provide the necessary connections to various industrial fieldbus networks.

Available F4T Literature and Resources

All of the user documents listed below can be found on the Watlow website: http://www.watlow.com/F4T.cfm. The Watlow Support Tools DVD can be acquired by contacting Watlow customer service (507-494-5300).

<table>
<thead>
<tr>
<th>Document Title and Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F4T Installation and Troubleshooting User Guide, part number: 0600-0092-0000</td>
<td>Provides detailed specifications and information regarding mounting the F4T base, flex module wiring and troubleshooting.</td>
</tr>
<tr>
<td>F4T Setup and Operations User Guide, part number: 0600-0093-0000</td>
<td>Explains how to configure the controller for an application with Composer software and how to operate the controller via its touchscreen interface. Includes detailed descriptions of all controller features and parameter settings as well as application examples.</td>
</tr>
<tr>
<td>F4T Specification Sheet</td>
<td>Describes F4T hardware options, features, benefits and technical specifications.</td>
</tr>
<tr>
<td>Watlow Support Tools DVD, part number: 0601-0001-0000</td>
<td>Contains all product related user documents and software (Composer), video tutorials, application notes and more.</td>
</tr>
</tbody>
</table>

Installation and Wiring

To install the flex module:
1. Turn off power to the controller.
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 controller 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 controller.

Note:
If the flex module is a replacement with the same part number the controller uses it immediately when powered up. Otherwise, use Composer software to configure the F4T 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 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 controller, do not connect wires to unused terminals.

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

- **EIA-232/485 Modbus® RTU**

<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>DO</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.*

FMCAs - [2] A A A - A _ _ _

- 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 controller on an EIA-232 network.
- Maximum number of controllers on a Modbus network is 247.
- Maximum EIA-232 network length: 1,500 meters (50 feet)
- Maximum EIA-485 network length: 1,200 meters (4,000 feet)
- 1/8th unit load on EIA-485 bus.

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

Warranty
F4T 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) 494-5656 from 7 a.m. to 5 p.m. Central Standard Time (CST)

This F4T Quick Start Guide (QSG) is copyrighted by Watlow Electric Manufacturing Company, © March 2015 with all rights reserved.