F4T/D4T Flex Module
Quick Start Guide
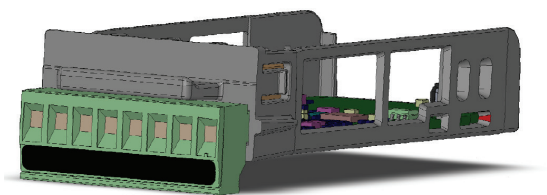
Modbus® RTU Communications
FMCA- [2]AAA-A _ _ _

Powered by Possibility

TOTAL CUSTOMER SATISFACTION
3 Year Warranty

ISO 9001
Registered Company
Winona, Minnesota USA

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Document Overview

The purpose of this Quick Start Guide (QSG) is to acquaint the user with the F4T/D4T communications Flex Modules and associated wiring.

Product Overview

F4T/D4T communications modules provide the necessary connections to various industrial fieldbus networks.

Available F4T/D4T Literature and Resources

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

Document Title and Part Number	Description
F4T Installation and Trouble-shooting User Guide, part number: 0600-0092-0000	Provides detailed specifications and information regarding mounting the F4T base, flex module wiring and troubleshooting.
F4T Setup and Operations User Guide, part number: 0600-0093-0000	Explains how to configure and operate the device for an application using Composer software as well as the user interface (touch screen). Includes detailed descriptions of all device features and parameter settings.
D4T Installation and Trouble-shooting User Guide, part number: 0600-0107-0000	Provides detailed specifications and information regarding mounting the base, flex module wiring and troubleshooting.
D4T Setup and Operations User Guide, part number: 0600-0106-0000	Explains how to configure the datalogger for an application using the user interface and Composer software. Includes detailed descriptions of all data logger features and parameter settings.

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.
5. With the component side of the module facing right (viewing the device from the rear) insert the module in to the slot until it latches.
6. Remove the screw terminal block from the module.
7. Wire field bus to the appropriate terminals. Wiring details are provided below.
8. Reconnect the wired screw terminal block to the module. Be sure to reconnect the terminal block to the correct module.
9. 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 screw terminal block, as displayed in the graphic below.

F M C A - _ A A A - A _ _ _

Wiring

Note:
Wire size and torque for screw terminations:

- 0.0507 to 3.30 mm^2 (30 to 12 AWG) single-wire termination or two 1.31 mm^2 (16 AWG)
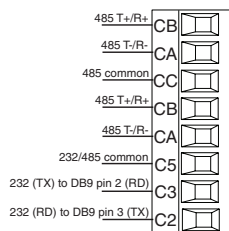- 0.57 Nm (5.0 lb.-in.) torque

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 _ _ _

485 T+/R+ — CB
485 T-/R- — CA
485 common — CC
485 T+/R+ — CB
485 T-/R- — CA
232/485 common — C5
232 (TX) to DB9 pin 2 (RD) — C3
232 (RD) to DB9 pin 3 (TX) — C2

- 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 120 Ω resistor across T+/R+ and T-/R- of last device on network.

- 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	EIA/TIA-485 Name	Watlow Terminal Label	Function
DO	A	CA or CD	T-/R-
D1	B	CB or CE	T+/R+
common	common	CC or CF	common

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

Specifications

- EIA 232/485, Modbus® RTU (see vendor specifications: 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) 494-5656 from 7 a.m. to 5 p.m. Central Standard Time (CST)

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Series EZ-ZONE® Flex Modules

WATLOW Electric Manufacturing Company   ISO 9001 since 1996.   C E
1241 Bundy Blvd.
Winona, MN 55987 USA

Declares that the following products:

Designation:	**Series EZ-ZONE® Flex Modules**
Model Numbers:	FMLA-(LAJ, LCJ, LEJ, MAJ, MCJ, MEJ, YEB[1])A[1]-A[1](A[1],F[1],B[1],G[1])X[1]X[1] FMMA-X[1](A[1],C[1],E,F[1],K)(A[1],C[1],H,J,K)A[1]-A[1](A[1],F[1],B[1],G[1])X[1]X[1] FMHA-(R[1],P[1],C[1],F[1],B[1],J,K,L[1])A[1]A[1]A[1]-A[1](A[1],F[1],B[1],G[1]) X[1]X[1] [1]FMCA-XAAA-A(A,F,B,G)XX; Note: X[1] = Any letter or number
Classification:	FMLA, FMMA and FMHA are Process Control modules, FMCA are Communication modules; Modules are Integrated Controls in either **EZ-ZONE®** CC, F4T or D4T Bases; Modules are IP10 when properly installed.
Rated Voltage and Frequency:	Relay, SSR or No-Arc Control outputs 24 to 240 V~ (ac) 50/60 Hz, Switched DC, Process and communications; low voltage SELV
Rated Power Consumption:	See manual for de-rating at increased temperatures. No-arc relays 15A 1.C, Dual SSR module 1.C 10A each output, Mechanical relay 5A 125 VA, 25 VA at 24 V~ (ac) 1.B, Discreet SSR 1/2A 1.C 20VA, Quad SSR 1.C 1.5A 50 VA, Hex I/O ELV 1.5A, all others SELV limited energy.

Flex Modules are considered components and have no function in and of themselves, it is only when installed in a **Watlow EZ-ZONE® CC, Series F4T or Series D4T** Base enclosure that they have useful function. Modules were tested as parts of these systems for compliance with the following directives.

2014/30/EU Electromagnetic Compatibility Directive

EN 61326-1:2013   **Electrical equipment for measurement, control and laboratory use – EMC requirements (Industrial Immunity, Class B Emissions).**

2014/35/EU Low-Voltage Directive

EN 61010-1:2010   Safety Requirements of electrical equipment for measurement, control and laboratory use.
All options compliant   Part 1: General requirements

EN 60730-1:2011   Automatic electrical controls for household and similar use – Particular requirements for
EN 60730-2-9:2010   temperature sensing controls.
[1]Food Service   Only certain output options comply with 60730 spacing and dielectric requirements, see
Compliant options.   order information for compatible models.

Compliant with 2011/65/EU RoHS2 Directive

Per 2012/19/EU W.E.E.E Directive   Please Recycle Properly.

See the Declarations of Conformity for **Watlow EZ-ZONE®** CC, **Series F4T and Series D4T** models for further details on standards used for compliance.

Joe Millanes
Name of Authorized Representative

Directory of Operations
Title of Authorized Representative

Signature of Authorized Representative

Winona, Minnesota, USA
Place of Issue

April 20, 2016
Date of Issue

How to Reach Us

Your Authorized Watlow Distributor

TOTAL
CUSTOMER
SATISFACTION
3 Year Warranty