



## **MicroLogix™ Combo Analog Input Module**

(Catalog Number 1762sc-IF4OF4)

### For Technical Support

USA	440-646-6900
United Kingdom	01908 635230
Australia	1800-809-929
Brazil	(55) 11 3618 8800
Europe	(49) 2104 960 630



1705 132nd Ave NE  
 Bellevue, WA 98005 USA  
 Tel: 425-746-9481  
 Fax: 425-641-9473  
 Email: [spectrum@spectrumcontrols.com](mailto:spectrum@spectrumcontrols.com)  
 Web: [www.spectrumcontrols.com](http://www.spectrumcontrols.com)

MicroLogix is a trademark of Rockwell Automation. Belden is a trademark of Belden, Inc.

Publication 1762sc-IF4OF4 Install Guide – February 2009  
 © 2009 Spectrum Controls, Inc. Printed in the USA.

Publication 0100161-01 Rev. B

### Contents

For More Information .....	2
Description .....	3
Installation .....	4
Remove Power .....	5
Mounting.....	5
Power Requirements .....	7
System Assembly .....	8
Wiring.....	9
I/O Memory Mapping .....	12
Hazardous Location Considerations.....	21
Environnements dangereux.....	22

## For More Information

<i><b>For</b></i>	<i><b>Refer to this Document</b></i>	<i><b>Allen-Bradley Pub. No.</b></i>
An overview of the MicroLogix 1200 system, including information on controllers and expansion I/O.	MicroLogix™ 1200 System Overview	1762-SO001A-US-P
Information on installing, wiring, and operating a MicroLogix 1200 Programmable Controller	MicroLogix 1200 Programmable Controllers User Manual	1762-UM001B-US-P
Installation guide for the MicroLogix 1200 Programmable Controller.	MicroLogix 1200 Programmable Controllers Installation Instructions	1762-IN006C-MU-P
More information on proper wiring and grounding techniques.	Industrial Automation Wiring and Grounding Guidelines	1770-4.1

If you would like a manual, you can download a free electronic version from the internet: [www.spectrumcontrols.com](http://www.spectrumcontrols.com)

Intentionally Left Blank

## Environnements dangereux

Cet équipement est conçu pour être utilisé dans des environnements de Classe 1, Division 2, Groupes A, B, C, D ou non dangereux. La mise en garde suivante s'applique à une utilisation dans des environnements dangereux.

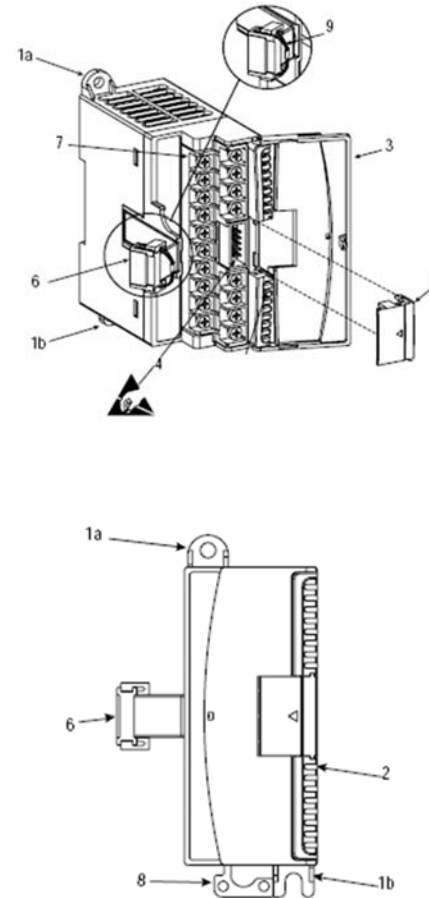
### MISE EN GARDE



### DANGER D'EXPLOSION

- La substitution de composants peut rendre cet équipement impropre à une utilisation en environnement de Classe 1, Division 2.
- Ne pas remplacer de composants ou déconnecter l'équipement sans s'être assuré que l'alimentation est coupée.
- Ne pas connecter ou déconnecter des composants sans s'être assuré que l'alimentation est coupée.
- Ce produit doit être installé dans une armoire.
- Pour les applications de Classe I, Division 2, le connecteur de bus doit être correctement installé et son couvercle enclenché.
- Pour les applications de Classe 1, Division 2, tous les modules doivent être installés en contact direct les uns avec les autres, comme indiqué page 6. Si on utilise le montage sur rail DIN, une butée doit être placée à l'avant de l'automate et après la dernière unité d'E/S 1762.

## Description



Item	Description
1a	upper panel mounting tab
1b	lower panel mounting tab
2	I/O diagnostic LEDs
3	module door with terminal identification label
4	bus connector with male pins
5	bus connector cover
6	flat ribbon cable with bus connector (female pins)
7	terminal block
8	DIN rail latch
9	pull loop

## Installation

1762 I/O is suitable for use in an industrial environment when installed in accordance with these instructions. Specifically, this equipment is intended for use in clean, dry environments (Pollution degree 2<sup>(1)</sup>) and to circuits not exceeding Over Voltage Category II<sup>(2)</sup> (IEC 60664-1).<sup>(3)</sup>

### Prevent Electrostatic Discharge



Electrostatic discharge can damage integrated circuits or semiconductors if you touch bus connector pins. Follow these guidelines when you handle the module:

- Touch a grounded object to discharge static potential.
- Wear an approved wrist-strap grounding device.
- Do not touch the bus connector or connector pins.
- Do not touch circuit components inside the module.
- If available, use a static-safe work station.
- When not in use, keep the module in its static-shield box.

(1) Pollution Degree 2 is an environment where, normally, only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation shall be expected.

(2) Over Voltage Category II is the load level section of the electrical distribution system. At this level transient voltages are controlled and do not exceed the impulse voltage capability of the product's insulation.

(3) Pollution Degree 2 and Over Voltage Category II are International Electrotechnical Commission (IEC) designations.

## Hazardous Location Considerations

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D or non-hazardous locations only. The following WARNING statement applies to use in hazardous locations.



### EXPLOSION HAZARD

- Substitution of components may impair suitability for Class I, Division 2.
- Do not replace components or disconnect equipment or change the current switch selection switch position unless power has been switched off.
- Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.
- This product must be installed in an enclosure.
- In Class I, Division 2 applications, the bus connector must be fully seated and the bus connector cover must be snapped in place.
- In Class I, Division 2 applications, all modules must be mounted in direct contact with each other as shown on page 6. If DIN rail mounting is used, an end stop must be installed ahead of the controller and after the last 1762 I/O module.
- All wiring must comply with N.E.C. article 501-4(b).

## Output Specifications

Specification	Description
Accuracy - Voltage Outputs	System accuracy at 25° C: $\pm 20$ mV maximum System accuracy at -20-60°C: $\pm 50$ mV maximum
Accuracy - Current Outputs	System accuracy at 25° C: $\pm 50$ uA maximum System accuracy at -20-60°C: $\pm 75$ uA maximum
<b>Output Resolution</b>	
Voltage Output	370 $\mu$ V per bit average when using RAW format in $\pm 10$ V range and 0-10V range 185 $\mu$ V per bit average when using RAW format in 0-5 or 1-5V ranges
Current Output	380nA per bit when using RAW format for all current ranges
Differential Nonlinearity	1 LSB (see resolution for LSB size)
Output Ripple	<15mV ripple for voltage or current
Output Impedance	Current: >1Megohm, Voltage: <1 ohm (MRD)
Output Load	Current: 0 ohm min, 500 ohm max, Voltage: $\geq 1$ k ohm at 10V output (10 mA), includes wire resistance.
Maximum Output Inductive and Capacitive Load	0.1mH 1 $\mu$ F
Output Settling Time	<1ms to 63% of full scale
Output Channel glitch	Current mode = $< \pm 1$ V for 20ms at maximum load Voltage mode = $< \pm 0.4$ V for 20ms and $< \pm 1$ V for 1.5ms with 1k ohm load
Output Protection	$\pm 24$ V @25° C for 1 minute on any channel, with any range and value
Output Short Ckt Protection	Yes, continuous. (IEC 1131-2 requirement) with any range and value

## Remove Power



Remove power before removing or installing this module. When you remove or install a module with power applied, an electrical arc may occur. An electrical arc can cause personal injury or property damage by:

- sending an erroneous signal to your system's field devices, causing unintended machine motion
- causing an explosion in a hazardous environment
- causing permanent damage to the module's circuitry

Electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance.

## Mounting

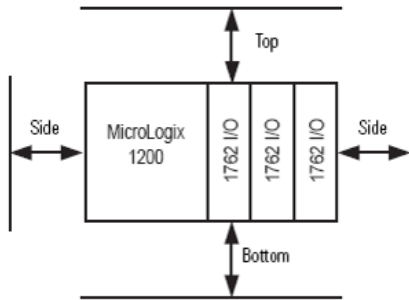
The 1762sc-IF4OF4 is to be used with the MicroLogix™ 1100, 1200 or 1400 processor.



Do not remove protective debris strip until after the module and all other equipment near the module is mounted and wiring is complete. Once wiring is complete and the module is free of debris, carefully remove protective debris strip. Failure to remove strip before operating can cause overheating.

## Minimum Spacing

Maintain spacing from enclosure walls, wireways, adjacent equipment, etc. Allow 50.8 mm (2 in.) of space on all sides for adequate ventilation, as shown



**NOTE**

1762 expansion I/O may be mounted horizontally only.



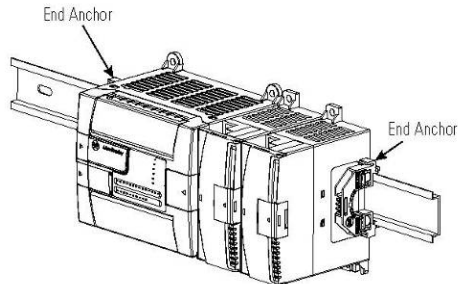
During panel or DIN rail mounting of all devices, be sure that all debris (metal chips, wire strands, etc.) is kept from falling into the module. Debris that falls into the module could cause damage when power is applied to the module.

## DIN Rail Mounting

The module can be mounted using the following DIN rails: 35 x 7.5 mm (EN 50 022 - 35 x 7.5) or 35 x 15 mm (EN 50 022 - 35 x 15).

Before mounting the module on a DIN rail, close the DIN rail latch. Press the DIN rail mounting area of the module against the DIN rail. The latch will momentarily open and lock into place.

Use DIN rail end anchors (Allen-Bradley part number 1492-EA35 or 1492-EAH35) for environments with vibration or shock concerns.



Specification	Description		
Current Inputs	System accuracy at 25° C (4 and 17 Hz filters): ± 20 uA maximum for 0-20 mA inputs ± 20 uA maximum for 4-20 mA inputs		
	System accuracy at -20-60°C (4 and 17 Hz filters): ± 50 uA maximum for 0-20 mA inputs ± 50 uA maximum for 4-20 mA inputs		
Input Repeatability (at 25°C)	4Hz Filter	17Hz Filter	62 and 470Hz Filters typical values <sup>2</sup>
Thermocouples)			
Type J	± 0.3 °C	±0.3 °C	Not Recommended
Type K	± 0.4 °C	±0.4 °C	Not Recommended
Type N	± 0.3 °C	±0.3 °C	Not Recommended
Type E	± 0.3 °C	±0.3 °C	Not Recommended
Voltage Inputs	± 1 mV	± 2 mV	± 4 mV
Current Inputs	± 2 µA	± 2 µA	± 6 µA
Input Effective Resolution (25°C) <sup>3</sup>			
±10V	0.48 mV		
0-20mA	1 µA		
Input CMRR	For 4 Hz and 17 Hz Filters: 75 dB from DC up to 10kHz with the culprit amplitude up to the input voltage range.		
Input NMRR	4 Hz Filter	74dB minimum at 50 and 60 Hz	
	17 Hz Filter	65dB minimum at 50 and 60 Hz	
	62 Hz Filter	First notch at 31Hz, typically 30dB	
	470 Hz Filter	First notch at 237 Hz, typically 35dB	
Input Bias/Leakage Current	±15µA steady state (±500uA peak max, <200µS duration) over specified voltage span for input range. Applicable for voltage and TC input configurations only.		
Input Impedance - Current	249.9 (±1%) ohms for current inputs		
Input CrossTalk	70dB rejection from 0 to 10 kHz for 4 and 17 Hz filters.		
Input Cable Impedance	25 ohms maximum for specified accuracy in voltage, TC modes.		
Input voltage range and protection in voltage mode	The input voltage on any input pin must be within ±13VDC of the output return lines for normal operation. The input lines can withstand up to ±28VDC continuous without damage, but the leakage bias/leakage current will increase, and input value is undefined.		
Input Protection in current mode	Max Current input is limited due to input impedance is 42 mA max, approximately 10.5 VDC.		

<sup>2</sup> These filters do not reject 50/ 60 Hz. Repeatability for these filters is strongly dependent on how much 50/60Hz noise is in the system.

<sup>3</sup> Effective resolution is based on using a 4Hz filter, the proportional counts data format, and represents the noise free data with a steady input over time, or a statistical equivalent of the same.

Specification	Description
Hazardous Environment Class	Class I, Division 2, Hazardous Location, Groups A, B, C, D (ISA 12.12.01, C-UL under CSA C22.2 No. 213) Operating Temperature Code T4a
Radiated and Conducted Emissions	IEC61000-6-4 FCC Part 15B Class A
Electrical /EMC:	The module has passed testing at the following levels:
ESD Immunity (IEC61000-4-2)	4 kV contact, 8 kV air
Radiated Immunity (IEC61000-4-3)	10 V/m, 80 to 1000 MHz, 80% amplitude modulation, 900 MHz & 1890 MHz 100% amplitude modulation
Fast Transient Burst (IEC61000-4-4)	4 kV
Surge Immunity (IEC61000-4-5)	2 kV Line - Line, 4 kV Line - Gnd
Conducted Immunity (IEC61000-4-6)	10V, 0.15 to 80 MHz

### Input Specifications

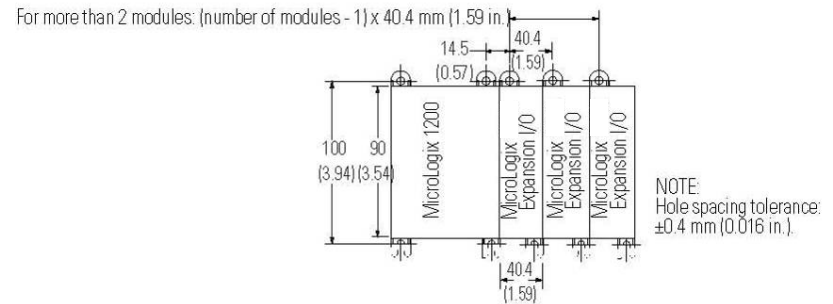
Specification	Description
Calibrated Accuracy	For all specified input accuracy ranges, the accuracy for the fastest two filters will be the specified accuracy plus the repeatability for the particular filter chosen.
Thermocouple Inputs	Linearization per ITS-90 System accuracy at 25°C (4 and 17 Hz filters): Type J (-180°C to 1200°C): ±1.0 degrees C maximum Type K (-200°C to 1370°C): ±2.0 degrees C maximum Type E (-200°C to 1000°C): ±1.0 degrees C maximum Type T (-190°C to 400°C): ±2.0 degrees C maximum  System accuracy at -20-60 C (4 and 17 Hz filters): Type J (-180°C to 1200°C): ±5.0 degrees C maximum Type K (-200°C to 1370°C): ±6.0 degrees C maximum Type E (-200°C to 1000°C): ±4.5 degrees C maximum Type T (-190°C to 400°C): ±4.0 degrees C maximum  The above limits do not include the cold junction compensation or thermocouple sensor errors.
CJC Profile accuracy	± 4.0 degrees C maximum Temperature correlation to target terminal
CJC accuracy (sensor and measurement)	± 1.0 degrees C maximum Reading/Conversion of the sensor -20 to 80C input values
CJC Resolution	± 0.5 degrees C maximum for -20-80C input values
Voltage Inputs	System accuracy at 25° C (4 and 17 Hz filters): ± 3 mV maximum for 0-5V inputs ± 3 mV maximum for 1-5V inputs ± 10 mV maximum for 0-10V inputs ± 10 mV maximum for ±10V inputs  System accuracy at -20-60° C (4 and 17 Hz filters): ± 6 mV maximum for 0-5V inputs ± 6 mV maximum for 1-5V inputs ± 20 mV maximum for 0-10V inputs ± 20 mV maximum for ±10V inputs

**NOTE**

For environments with extreme vibration and shock concerns, use the panel mounting method described below, instead of DIN rail mounting.

### Panel Mounting

Use the dimensional template shown below to mount the module. The preferred mounting method is to use two M4 or #8 panhead screws per module. M3.5 or #6 panhead screws may also be used, but a washer may be needed to ensure a good mechanical contact. Mounting screws are required on every module.



### Power Requirements

The maximum number of IF4OF4 modules that can be installed in a system depends on the maximum bus current draw of the module and the maximum bus current provided by the PLC. The IF4OF4 module has the following power requirements.

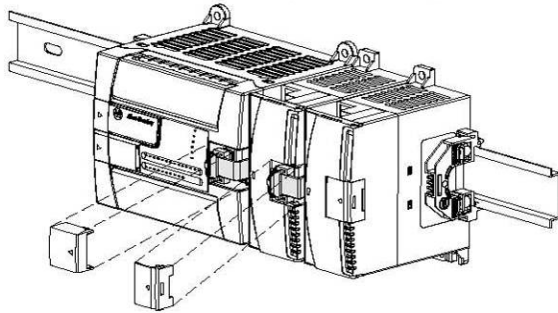
5 VDC	24 VDC
30 mA	3.0 W Max (125mA max at 24V)

Use the table below to determine the maximum number of IF4OF4 modules that can be installed in a MicroLogix system.

Controller	Max 5V Bus Current (mA)	Max 24V Bus Current (mA)	Max # of IF4OF4 Modules
ML1100	800	700	4
ML1200 (24pt.)	400	350	3
ML1200 (40pt.)	600	500	4
ML1400	1500	1500	7

## System Assembly

The expansion I/O module is attached to the controller or another I/O module by means of a ribbon cable *after* mounting as shown below.



### NOTE

Use the pull loop on the connector to disconnect modules.  
Do not pull on the ribbon cable.

### ATTENTION



#### EXPLOSION HAZARD

- In Class I, Division 2 applications, the bus connector must be fully seated and the bus connector cover must be snapped in place.
- In Class I, Division 2 applications, all modules must be mounted in direct contact with each other as shown on page 6. If DIN rail mounting is used, an end stop must be installed ahead of the controller and after the last 1762 I/O module.

## Specifications

### General Specifications

Specification	Description																				
<b>Isolation Withstand</b>																					
Channel to Rack	707 VDC for 1 minute (withstand voltage) Optical & magnetic																				
Input Channel to Channel	No isolation between channels other than specified in Input voltage range and protection.																				
Output channel to channel	Return lines are connected together. No isolation between channels.																				
Output Channel to Input Channel Crosstalk	The input channel(s) must maintain repeatability specification while the output channel(s) step change from minimum to maximum full scale, or from maximum to minimum.																				
<b>Power Requirements</b>																					
Internal rack +5V	30 mA maximum																				
Internal rack +24V	3.0W Max (125mA max at 24V)																				
Heat Dissipation	3.0W total Max																				
Maximum number of modules on the bus	Distance rating of 6. Maximum number of modules by controller type:																				
	<table border="1"> <thead> <tr> <th>Controller</th> <th>Max 5V Bus Current</th> <th>Max 24V Bus Current</th> <th>Max # of Modules</th> </tr> </thead> <tbody> <tr> <td>ML1100</td> <td>800</td> <td>700</td> <td>4</td> </tr> <tr> <td>ML1200 (24pt.)</td> <td>400</td> <td>350</td> <td>3</td> </tr> <tr> <td>ML1200 (40pt.)</td> <td>600</td> <td>500</td> <td>4</td> </tr> <tr> <td>ML1400</td> <td>1500</td> <td>1500</td> <td>7</td> </tr> </tbody> </table>	Controller	Max 5V Bus Current	Max 24V Bus Current	Max # of Modules	ML1100	800	700	4	ML1200 (24pt.)	400	350	3	ML1200 (40pt.)	600	500	4	ML1400	1500	1500	7
Controller	Max 5V Bus Current	Max 24V Bus Current	Max # of Modules																		
ML1100	800	700	4																		
ML1200 (24pt.)	400	350	3																		
ML1200 (40pt.)	600	500	4																		
ML1400	1500	1500	7																		
Fusing	None																				
Wire Size	Up to two wires of size #14-#22 AWG (solid) or #16- #22 AWG (stranded)																				
Wire Type	To ensure proper operation and high immunity to electrical noise, always use Belden 8761 (shielded, twisted pair) or equivalent wire for voltage and current sensors or shielded, twisted pair thermocouple extension lead wire specified by the thermocouple manufacturer for the thermocouple type you are using. Using the incorrect thermocouple extension wire type or not following the correct polarity convention will cause invalid readings.																				
Dimensions	90 mm (height) x 87 mm (depth) x 40 mm (width)height including mounting tabs is 110 mm. 3.54 in. (height) x 3.43 in (depth) x 1.58 in (width)height including mounting tabs is 4.33 in.																				
Storage Temperature	-40°C to +85°C (-40°F to 185°F)																				
Operating Temperature	-20°C to 60°C (-4°F to +140°F)																				
Operating Humidity	5% to 95% non-condensing																				
Vibration	Operating: 10 to 500 Hz, 5G, 0.030 in. max peak-to-peak																				
Shock	Operating: 30G																				
Weight, unpackaged	0.187 kg (0.412 lb)																				
Weight, packaged	0.281 kg (0.619 lb)																				
<b>Module Identification</b>																					
Vendor I.D.	58																				
Product Type	10																				
Product Code	22																				
<b>Certifications</b>																					
Agency Certification	C-UL listed (under CSA C22.2 No. 142) UL 508 listed CE compliant for all applicable directives																				



This table describes the channel specific configuration registers that are individually selectable for channels 6 and 7.

To Select		Make these bit settings							
		7	6	5	4	3	2	1	0
Filter Frequency (Ignored if Display CJC)	17 Hz							0	0
	4 Hz							0	1
	62 Hz							1	0
	470 Hz							1	1
Data Format	Engineering Units X1					0	0		
	Engineering Units X10					0	1		
	Raw/Proportional Data					1	0		
	Scaled for PID					1	1		
Input Type	4 to 20 mA	0	0	0	0				
	0 to 20 mA	0	0	0	1				
	-10 to 10 V	0	0	1	0				
	0 to 10 V	0	0	1	1				
	1 to 5 V	0	1	0	0				
	0 to 5 V	0	1	0	1				
	Type J TC	0	1	1	0				
	Type K TC	0	1	1	1				
	Type E TC	1	0	0	0				
	Type T TC	1	0	0	1				
	Display CJC channel temp	1	0	1	0				
	Reserved	1	0	1	1				
	Reserved	1	1	0	0				
	Reserved	1	1	0	1				
	Reserved	1	1	1	0				
Channel Disabled	1	1	1	1					

## Wiring

### Grounding the Module #

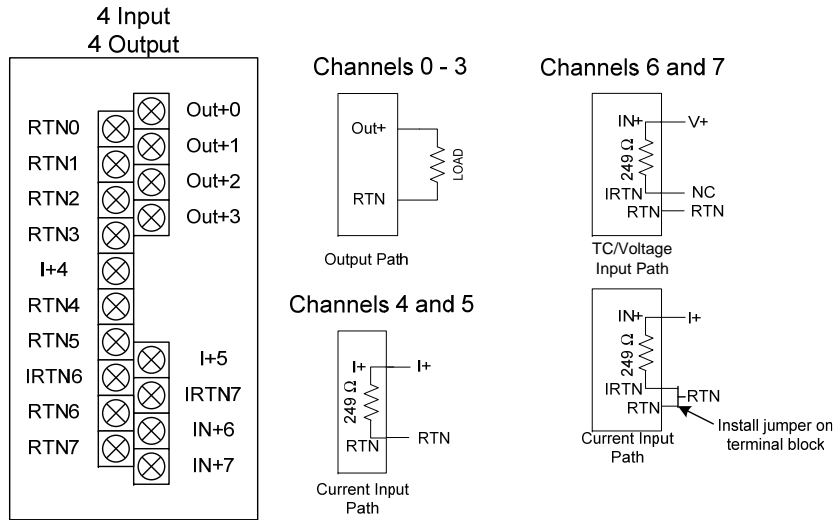
Grounding for this product is provided by the MicroLogix™ 1100, 1200 or 1400 CPU via the bus ribbon cable. Refer to *Industrial Automation Wiring and Grounding Guidelines*, Allen-Bradley publication 1770-4.1, for additional information.

### System Wiring Guidelines

Consider the following when wiring your system:

- The analog common (COM) is not connected to earth ground inside the module. All terminals are electrically isolated from the system.
- Output channel returns are common
- Input channel to channel isolation is limited to  $\pm 13$  VDC from the output return voltage.
- Use Belden™ 8761, or equivalent, shielded wire.
- Under normal conditions, the drain wire (shield) should be connected to the metal mounting panel (earth ground) as close to the module as possible. Keep the shield connection to earth ground as short as possible.
- To ensure optimum accuracy for voltage type inputs, limit overall cable impedance by keeping all analog cables as short as possible. Locate the I/O system as close to your voltage type sensors or actuators as possible.
- The 1762sc-IF4OF4 module does not provide loop power for analog inputs. Use a power supply that matches the input transmitter specifications.
- Digital and analog power must be supplied by an Isolated Secondary Limited Energy Low Voltage source.
- Use supply wires for 20° C above surrounding ambient.

## Terminal Block Layout



**NOTE**

Grounding the cable shield at the module end only usually provides sufficient noise immunity. However, for best cable shield performance, earth ground the shield at both ends, using a 0.01μF capacitor at one end to block AC power ground currents, if necessary.

## Labeling the Terminals

A write-on label is provided with the module. Remove the label from the door, mark the identification of each terminal with permanent ink, and slide the label back into the door.

To Select		Make these bit settings							
		7	6	5	4	3	2	1	0
Input Type	4 to 20 mA			0	0				
	0 to 20 mA			0	1				
	Reserved			1	0				
	Channel Disabled			1	1				
Open Circuit (For Module) <sup>1</sup>	Upscale		0						
	Zero		1						
Temperature Scale (For Module) <sup>1</sup>	Deg C		0						
	Deg F		1						

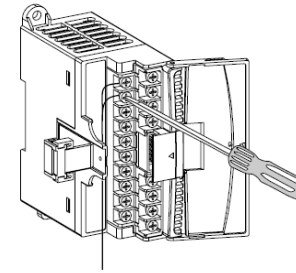
<sup>1</sup> This is a module wide setting which is only recognized within the configuration for Channel 4. The corresponding bit in Channel 5 is ignored.

This table describes the channel specific configuration registers that are individually selectable for output channels 0 through 3.

To Select		Make these bit settings							
		7	6	5	4	3	2	1	0
Output Type	4 to 20 mA						0	0	0
	0 to 20 mA						0	0	1
	-10 to 10 V						0	1	0
	0 to 10 V						0	1	1
	1 to 5 V						1	0	0
	0 to 5 V						1	0	1
	Reserved						1	1	0
	Channel Disabled						1	1	1
Data Format	Scaled for PID				0	0			
	Engineering Units				0	1			
	Percent Range				1	0			
	Raw/Proportional Data				1	1			
Unused		0	0	0					

This section details the channel specific configuration registers that are individually selectable for channels 4 and 5

To Select		Make these bit settings							
		7	6	5	4	3	2	1	0
Filter Frequency (Ignored if Display C/JC)	17 Hz							0	0
	4 Hz							0	1
	62 Hz							1	0
	470 Hz							1	1
Data Format	Engineering Units X1					0	0		
	Engineering Units X10					0	1		
	Raw/Proportional Data					1	0		
	Scaled for PID					1	1		



### Wiring the Finger-Safe Terminal Block



**ATTENTION** Be careful when stripping wires. Wire fragments that fall into a module could cause damage when power is applied. Once wiring is complete, ensure the module is free of all metal fragments.

When wiring the terminal block, keep the finger-safe cover in place.

1. Route the wire under the terminal pressure plate. You can use the stripped end of the wire or a spade lug. The terminals will accept a 6.35 mm (0.25 in.) spade lug.
2. Tighten the terminal screw making sure the pressure plate secures the wire. Recommended torque when tightening terminal screws is 0.904 Nm (8 in-lbs).
3. After wiring is complete, remove the debris shield.

**NOTE**

If you need to remove the finger-safe cover, insert a screw driver into one of the square wiring holes and gently pry the cover off. If you wire the terminal block with the finger-safe cover removed, you will not be able to put it back on the terminal block because the wires will be in the way

## Wire Size and Terminal Screw Torque

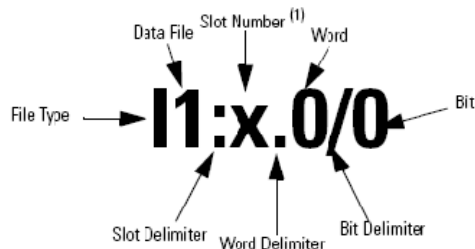
Each terminal accepts up to two wires with the following restrictions:

Wire Type		Wire Size	Terminal Screw Torque
Solid	Cu-90°C (194°F)	#14 to #22 AWG	0.904 Nm (8 in-lbs)
Stranded	Cu-90°C (194°F)	#16 to #22 AWG	0.904 Nm (8 in-lbs)

## I/O Memory Mapping

### Addressing

The addressing scheme for 1762 Expansion I/O is shown below.



- (1) I/O located on the controller (embedded I/O) is slot 0. I/O added to the controller (expansion I/O) begins with slot 1.

## Input Data File

For each module, slot x, words 0 through 3 contain module status information. Words 4 through 7 contain analog input data for channels 4 through 7 respectively. The table below shows the layout for the input data file.

### Input Data File

Register	Function
<b>Input File (Module Data)</b>	
Ie.0	General Status Word 0
Ie.1	Output Status Word 1
Ie.2	Input Status Word 2
Ie.3	Raw CJC Temperature
Ie.4	Channel 4 Data Word
Ie.5	Channel 5 Data Word
Ie.6	Channel 6 Data Word
Ie.7	Channel 7 Data Word

## Configuration Data File

The configuration data file is not used. Instead the output data file is used to configure the module.

## Output Data File

The output data file is used to configure the 1762sc-IF4OF4 module. Take care when making changes to the configuration (i.e. output data file) while in run mode. Illegal configurations could fault the controller.

The table below shows the layout for the output data file. Note that words 4 through 7 are used to define the module configuration.

### Output Data File

Register	Function
<b>Output File (Used for Module Configuration)</b>	
O:e.0	Channel 0 Data Word
O:e.1	Channel 1 Data Word
O:e.2	Channel 2 Data Word
O:e.3	Channel 3 Data Word
O:e.4	Low byte: Channel 0 Configuration Register (Output) High byte: Channel 1 Configuration Register (Output)
O:e.5	Low byte: Channel 2 Configuration Register (Output) High byte: Channel 3 Configuration Register (Output)
O:e.6	Low byte: Channel 4 Configuration Register (Input) High byte: Channel 5 Configuration Register (Input)
O:e.7	Low byte: Channel 6 Configuration Register (Input) High byte: Channel 7 Configuration Register (Input)