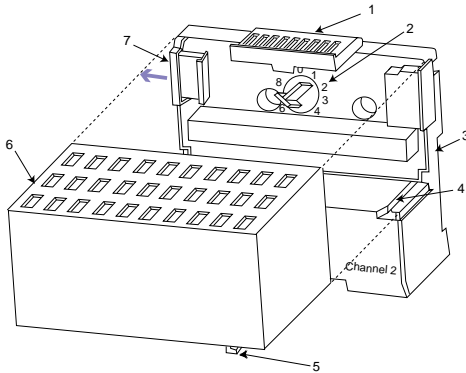




ALLEN-BRADLEY

FLEX I/O™ SCANport™ Module (Cat. No. 1203-FM1) Installation Instructions



Module Installation

Important: This module mounts on a special 1203 terminal base unit and should not be used with any other flex base. You can remove and insert modules under power. However, removal may cause the attached SCANport device(s) to fault.

To mount this module, you need to:

1. Rotate keyswitch (2) on terminal base unit (3) clockwise to position 1 as required for this type of module.
2. Make certain the flexbus connector (7) is pushed all the way to the left to connect with the neighboring terminal base/adaptor.
You cannot install the module unless the connector is fully extended.
3. Make sure that the pins on the bottom of the module are straight so they will align properly with the connector in the terminal base unit.
4. Position the module (6) with its alignment bar (5) aligned with the groove (4) on the terminal base.
5. Press firmly and evenly to seat the module in the terminal base unit. The module is seated when the latching mechanism (1) is locked into the module.
6. Repeat the above steps to install the next module in its terminal base unit.



ATTENTION: The 1203-FM1 may require up to twice the adapter power supply current of standard flex modules. When installing flex modules, you can use a maximum of four 1203-FM1 modules with any flex adapter. As a general rule, each 1203-FM1 requires the power capacity of two of the standard flex modules, so you cannot install as many standard modules as you normally would when using the 1203-FM1. Refer to the following chart to determine the number of 1203 and standard modules that may be installed together in your system.

If you are using this number of standard (1794) modules:	Then, the maximum number of 1203 modules that you can use is:	The number of SCANport connections provided is:
7 or 8	0	0
5 or 6	1	2
3 or 4	2	4
1 or 2	3	6
0	4	8

Wiring

To wire the 1203 base used by this module, connect a SCANport cable from the SCANport device to the desired channel. SCANport cables are available in either Male-to-Male or Male-to-Female configurations. You can connect cables of up to 10 meters (33 feet) between a SCANport device and any SCANport peripheral.

▶ If you use a port expander, you must subtract the cable length between any device and the expander from the maximum cable length used to connect a peripheral.

The following diagram shows a typical network configuration:

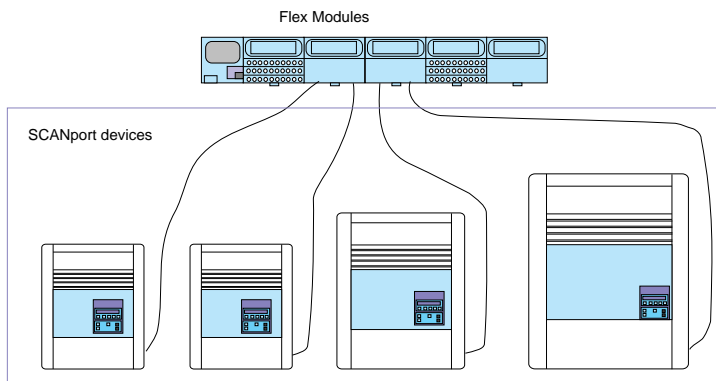
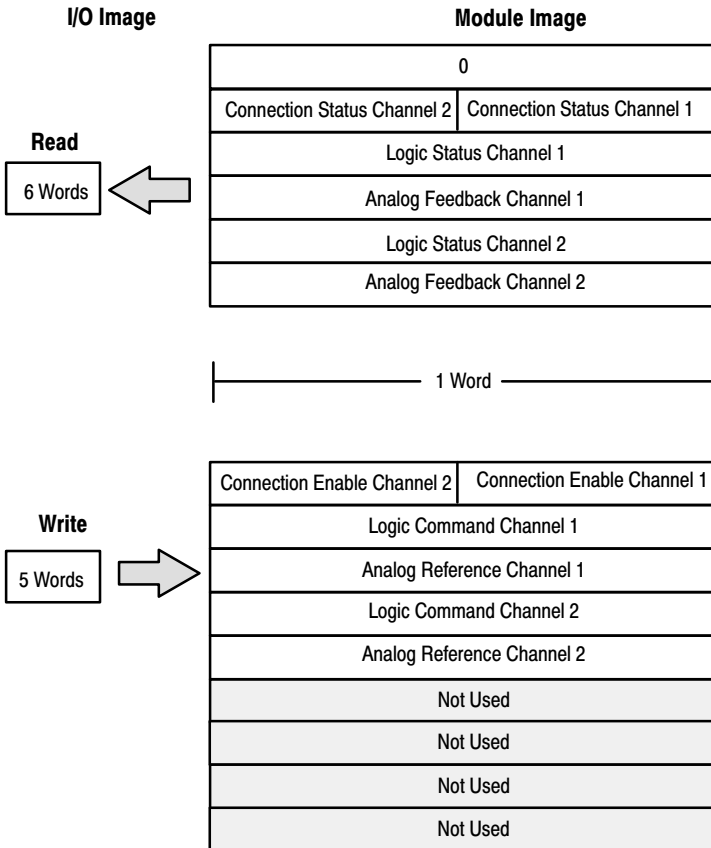


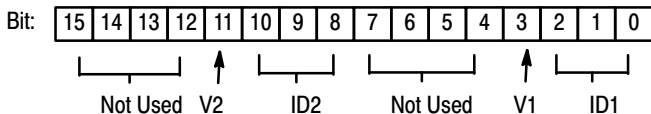
Image Table

The following Flex I/O image table represents the internal data I/O mapping for the Flex I/O to SCANport module.



Connection Status Word Definition

Connection Status Channel 2 | Connection Status Channel 1



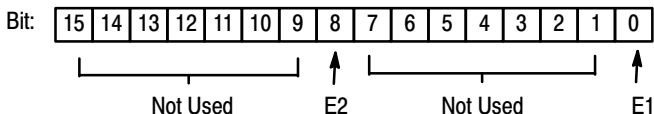
	Description
V1	SCANport channel 1 valid data bit. When high (1), the Logic Status and Analog Feedback values are valid and can be used. When low (0), the values should not be used.
ID1	SCANport channel 1 connected peripheral port ID number. This three bit field contains the port number that channel 1 is connected to on the SCANport device. It should contain a value between 1 and 7. If this field is 7, then the channel is not connected to the SCANport device, or the SCANport device may not be powered.
V2	SCANport channel 2 valid data bit. When high (1), the Logic Status and Analog Feedback values are valid and can be used. When low (0), the values should not be used.
ID2	SCANport channel 2 connected peripheral port ID number. This three bit field contains the port number that channel 2 is connected to on the SCANport device. It should contain a value between 1 and 7. If this field is 7, then the channel is not connected to the SCANport device, or the SCANport device may not be powered.

Logic Status/Analog Feedback Definition

The Logic Status and Analog Feedback values are defined within the product manuals of the connected SCANport device(s).

Connection Enable Word Definition

Connection Enable Channel 2 | Connection Enable Channel 1



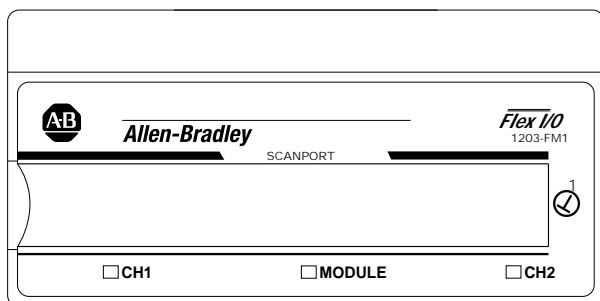
	Description
E1	SCANport channel 1 enable bit. When set to 1, the module will attempt to connect to the SCANport device. When reset to 0, the module stops communicating with the connected SCANport device. This usually causes the device to fault.
E2	SCANport channel 2 enable bit. When set to 1, the module will attempt to connect to the SCANport device. When reset to 0, the module stops communicating with the connected SCANport device. This usually causes the device to fault.

Logic Command/Analog Reference Definition

The Logic Command and Analog Reference values are defined within the product manuals of the connected SCANport device(s).

LED Indicators

The status LEDs are located on the module's top label.



The status LEDs provide the following information:

LED	State	Description
Module Status		
Off	Not powered	The module is not receiving power.
Green	On-line, operational	I/O signals are operational between the module and the flex adapter.
Red	Communications to the flex adapter is not operational	I/O signals are not operational between the module and the flex adapter.

Channel 1 or Channel 2 Status

Off	No module power	The module is not receiving power.
Flashing green	Channel not enabled	The enable bit for the channel has not been set.
Solid green	Channel operational	I/O signals are operational between the module and the SCANport device.
Flashing red	Channel communication problem	The module cannot maintain or establish communications with the SCANport device. You need to: <ul style="list-style-type: none"> • Check the configuration. • Remove the SCANport cable. • Re-insert the SCANport cable into the channel to reset the condition.
Solid red	Channel connection or power problem. Module hardware problem.	The SCANport connection is not operational or the SCANport device is not powered.

Specifications

Category	Description
Input voltage rating	5V supplied from Flexbus
Indicators	3 bi-color LEDs
Flexbus current	160mA maximum (refer to Attention on page 2)
Power consumption	0.8W
Keyswitch position	1
Dimensions	45.7H x 94.0W x 53.3D in millimeters (1.8H x 3.7W x 2.1D in inches)
Environmental conditions	
Temperature	
Operating	0 to +55°C (32 to 131°F)
Non-operating	-40 to +85°C (-40 to 185°F)
Humidity	
Operating	5 to 80% non-condensing
Non-operating	5 to 95% non-condensing
Shock	
Operating	30g peak acceleration, 11(±1)ms pulse width
Non-operating	50g peak acceleration, 11(±1)ms pulse width
Vibration	5g @ 10-500Hz per IEC 68-2-6
Regulatory agencies	As specified by product label

European Union Directive Compliance

If this product has the CE mark it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

EMC Directive

This product is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) and the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2EMC – Generic Emission Standard, Part 2 – Industrial Environment
- EN 50082-2EMC – Generic Immunity Standard, Part 2 – Industrial Environment

This product is intended for use in an industrial environment.

Low Voltage Directive

This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131-2 Programmable Controllers, Part 2 – Equipment Requirements and Tests.

For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the following Allen-Bradley publications:

- Industrial Automation Wiring and Grounding Guidelines For Noise Immunity, publication 1770-4.1
- Guidelines for Handling Lithium Batteries, publication AG-5.4
- Automation Systems Catalog, publication B111



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