

ABB MEASUREMENT & ANALYTICS | DATA SHEET

Combo digital module

XSeries, RMC, and XIO



Overview

The 2100543 TFIO module is a configurable 8-point digital I/O module. Each point can be configured to be either an input and/or output. All points are always inputs; however, if the output is activated the input will be held steady state. The module also maintains a 16-bit accumulator for each input; thus allowing any point to be used as a pulse accumulator.

Point specifications

Electrical for each point

- Open circuit voltage
- Short circuit leakage current
- Input capacitance
- Maximum allowable voltage range on input
- 5VDC (Internally pulled up to 5VDC)
- -430uA typical
- 1000pF typical
- -0.5VDC to 26.5VDC

Digital input

- Dry Contact or voltage type
- Minimum contact resistance to activate input 15 KΩ
- Maximum voltage to activate the input: 2.0V, referenced to GND terminal
- Minimum voltage to deactivate the input: 3.0V, referenced to GND terminal

Digital output

- Open Drain FET
- RDS(ON): 0.060Ω Typical.
- Maximum continuous sink current: 2A @ 24VDC

Pulse input

- Maximum input frequency: 2850Hz @ 50% duty cycle
- Minimum high or low period: 175uS

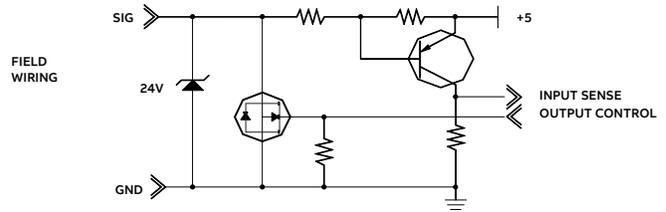
TFIO digital input/digital output module pin designation				
	J1	J2	J3	J4
1	POINT 1 SIG	POINT 3 SIG	POINT 5 SIG	POINT 7 SIG
2	POINT 1 GND	POINT 3 GND	POINT 5 GND	POINT 7 GND
3	POINT 2 SIG	POINT 4 SIG	POINT 6 SIG	POINT 8 SIG
4	POINT 2 GND	POINT 4 GND	POINT 6 GND	POINT 8 GND

Wiring requirements

When digital outputs are used to sink current, the sum total sink current for all points and modules should not exceed 5A total. If more than 5A are required, separate ground wires from module output ground to power source ground terminal (bus bar) are required. Failure to do so may cause erratic system operation. Sufficient gauge wire should be used to handle total load current.

Use shielded pair or twisted pair conductors to reduce the possibility of erroneous transitions on the inputs in high EMI/RFI environments. (Ground the shield at field device).

Typical point schematic

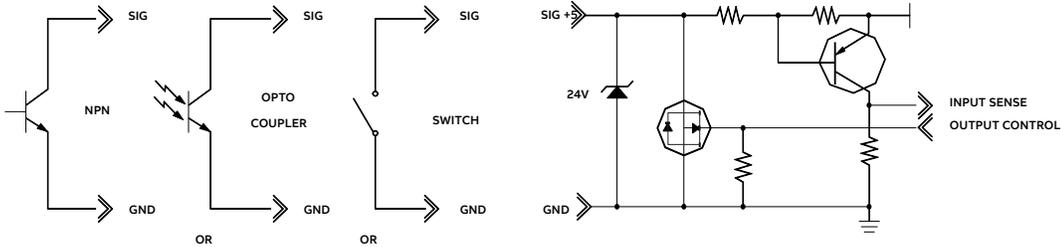


Hot Pluggable

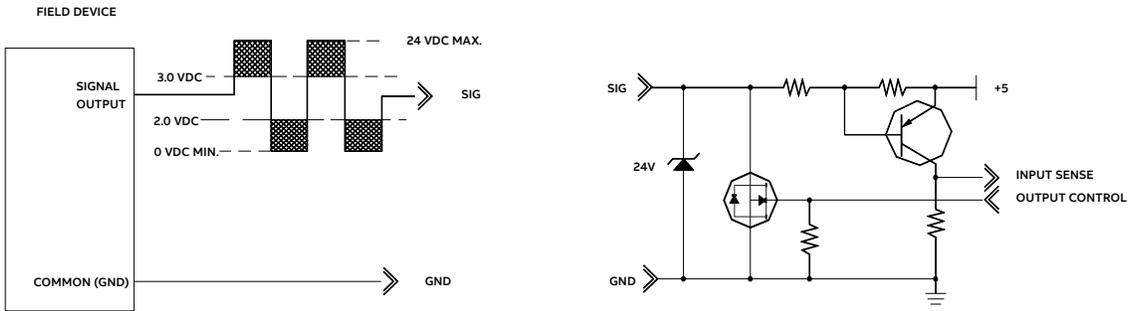
This module is hot-pluggable and can be inserted, replaced or removed during the normal operation of the device with no restart required. The system will detect the changes in the TFIO bus and reflect the state of the modules that can be verified on PCCU. User should take power precaution measurements when execution this action.

Example connections

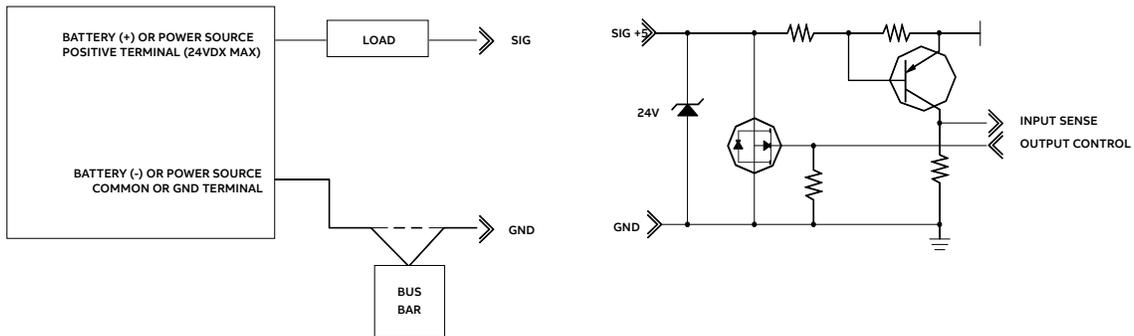
POINT CONNECTIONS



TYPICAL VOLTAGE INPUT FIELD



TYPICAL OUTPUT FIELD WIRING



For further information on this and other TFIO modules refer to the User Manual.



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