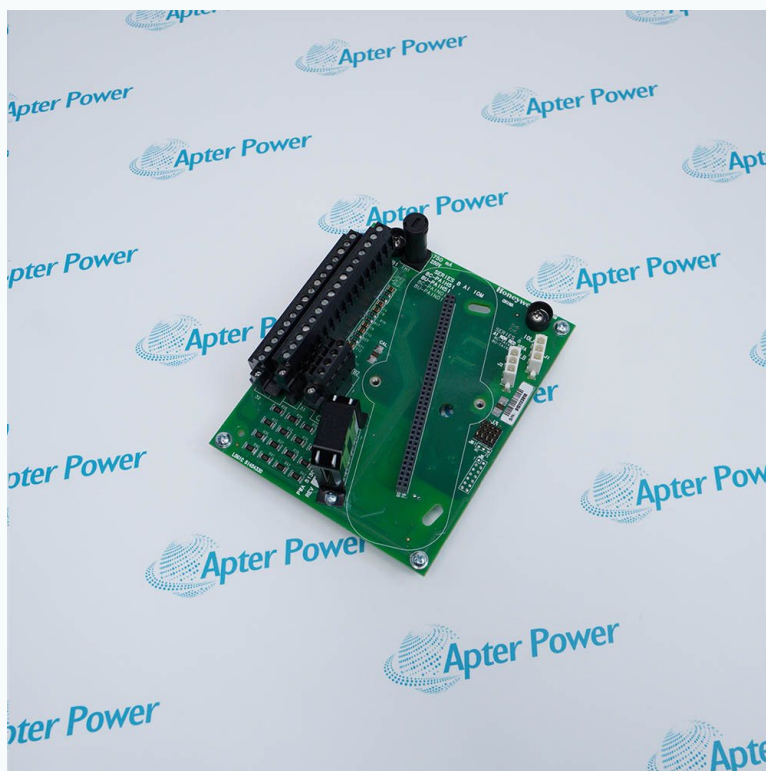


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Datasheet



Series C Analog Input, Non-Redundant IOTA

Official technical pages selected from: Honeywell Series C I/O User's Guide

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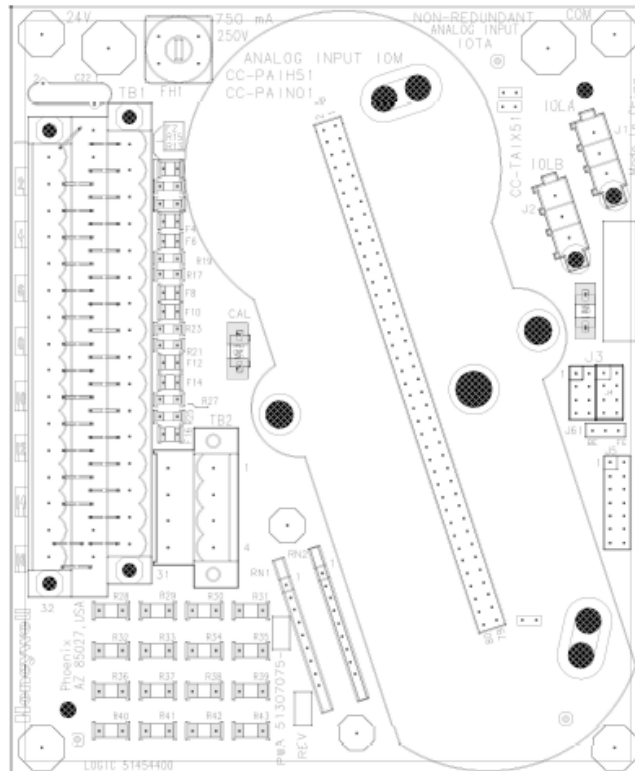
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OFFICIAL MANUFACTURER TECHNICAL CONTENT

Chapter 5 – Series C IOTA Pinouts

Series C HART/non-HART Analog Input 6 inch, non-redundant IOTA is displayed in the following figure.

Figure 5.4 Series C HART/non-HART Analog Input 6 inch, non-redundant IOTA



NOTE

All I/O field terminations accept up to 14 gauge stranded wire.

To properly wire your module to the HART/non-HART Analog Input IOTA with terminal block 1 (TB1) and terminal block 2 (TB2), use the following table.

Table 5.6 AI 6 inch HART AI, non-redundant – terminal block 1

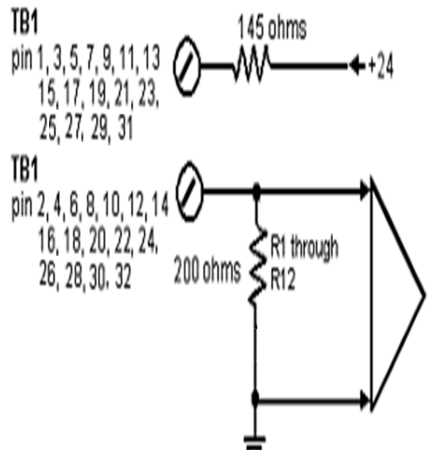
Terminal Block 1 (TB1)		
Channel	Return Screw	Power Screw(24V)
Channel 1	2	1
Channel 2	4	3
Channel 3	6	5
Channel 4	8	7
Channel 5	10	9
Channel 6	12	11

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Chapter 5 – Series C IOTA Pinouts

Terminal Block 1 (TB1)		
Channel	Return Screw	Power Screw(24V)
Channel 7	14	13
Channel 8	16	15
Channel 9	18	17
Channel 10	20	19
Channel 11	22	21
Channel 12	24	23
Channel 13	26	25
Channel 14	28	27
Channel 15	30	29
Channel 16	32	31

Table 5.7 AI 6 inch, HART/non-HART AI, non-redundant terminal block 2

Channels	Signal screw
For channels 1 through 16	Channels 1 through 16 

- [Field wiring and module protection – Analog Input HART module](#)
- [Two-wire transmitter wiring – Analog Input HART module](#)
- [Standard and self-powered two-wire transmitter wiring – Analog Input HART module](#)
- [Self-powered 3-wire transmitter \(system ground\) – Analog Input HART module](#)
- [Analog Input HART module wiring reference table](#)
- [Allowable field wiring resistance – Analog Input HART module](#)
- [IOTA board and connections – Analog Input HART module](#)

5.2.1 Field wiring and module protection - Analog Input HART module

Individual field wiring is protected by an internal protection circuit permitting.

- Short circuit protection of input for field short circuits. Protection suitable for Division 2 non-incendive / Zone 2 non-arcing.
- Each signal can be shorted in the field with no damage to module or board. Other channels on the same IOM will not be affected.

5.2.2 Two-wire transmitter wiring - Analog Input HART module

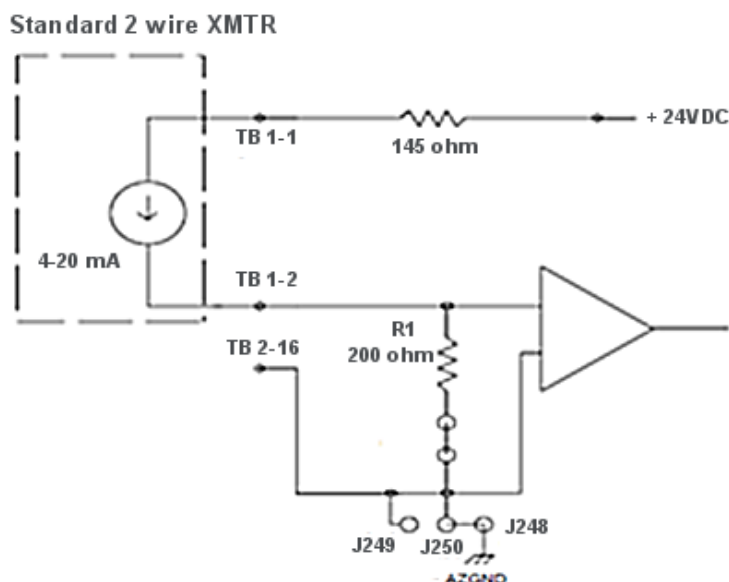
The AI IOM/IOTA is optimized for use with classic two-wire transmitters. All 16 channels can accept inputs from two-wire transmitters without any special wiring or jumper options.

5.2.3 Standard and self-powered two-wire transmitter wiring - Analog Input HART module

The HART/non-HART AI IOM/IOTA is optimized for use with classic two-wire transmitters. All 16 channels can accept inputs from two-wire transmitters. It is recommended to use channels 13 through 16, since these channels have a dedicated ground screw (although it is possible to use channels 1 through 12).

Following figure illustrates an example jumper configuration for channel 1 of non-redundant 9 inch IOTA.

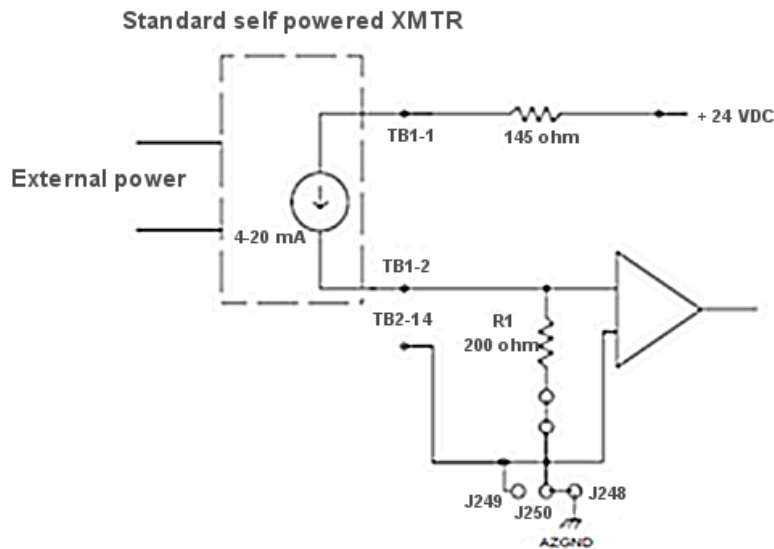
Figure 5.5 Non-redundant Analog Input 6 inch, standard 2-wire transmitter wiring



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Chapter 5 – Series C IOTA Pinouts

Figure 5.6 Non-redundant Analog Input 6 inch, self-powered 2-wire transmitter wiring

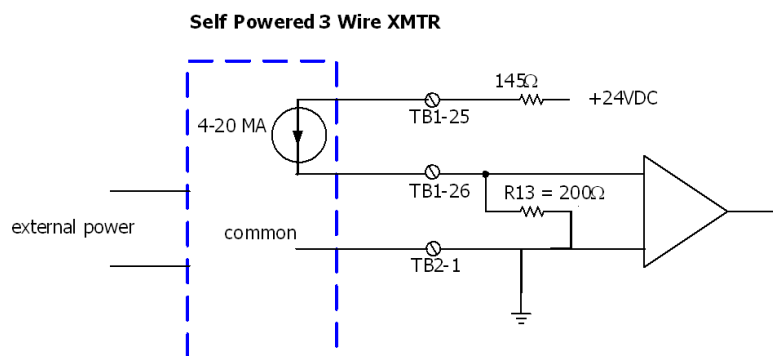


5.2.4 Self-powered 3-wire transmitter (system ground) - Analog Input HART module

It is recommended to use channels 13 through 16, since these channels have 3 screws per channel (although it is possible to use channels 1 through 12).

For the following example:

- Channel 13 is used
- The three wires are terminated to TB1-25, TB1-26 and TB2-1



OFFICIAL MANUFACTURER TECHNICAL CONTENT

Chapter 5 - Series C IOTA Pinouts

NOTE

TB1: This is done through a 145 ohm resistor inline with a Positive Temperature Coefficient (PTC) device that acts like a fuse (but never needs replacement). Thus, these field terminals can be permanently shorted to ground without damage. This is an improvement over Process Manager due to the inclusion of the PTC device.

5.2.5 Analog Input HART module wiring reference table

The following table summarizes the possible Analog Input wiring connections.

Table 5.8 Summary - Analog Input wiring connections

Input style	Connection characteristics
Standard 2-wire transmitter	- Can use any of the 16 channels. - No custom wiring required.
Standard self-powered transmitter	- Can use any of the 16 channels. - No custom wiring required.
Self-powered transmitter with loop power(system ground)	- Can use any of the 16 channels. - Custom wiring is required for channels 1-12: you must find a screw terminal at ground for one leg of the transmitter.
Self-powered 3-wire transmitter (system ground)	- Can use any of the 16 channels. - Custom wiring is required for channels 1-12: you must find a screw terminal at ground for one leg of the transmitter.

5.2.6 Allowable field wiring resistance - Analog Input HART module

The maximum allowable field wiring resistance between the transmitter and the IOTA connection terminal is dependent upon the voltage requirement of the transmitter. The formula for calculating the max wiring resistance for the Analog Input is given by the following equation.

$$R_{max} = [(13.0 - V_{tx}) / (0.022)]$$

where: V_{tx} = Voltage required at the transmitter terminal

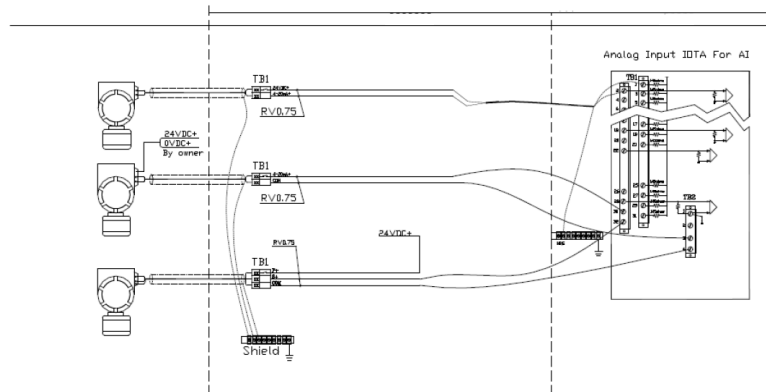
5.2.7 IOTA board and connections - Analog Input HART module

Series C Analog Input 6 inch, non-redundant IOTA and field wiring connection is displayed in the following image.

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Chapter 5 – Series C IOTA Pinouts

Figure 5.7 Series C Analog Input 6 inch, non-redundant IOTA and field wiring connection



OFFICIAL MANUFACTURER TECHNICAL CONTENT

Chapter 16 – Series C I/O Maintenance

Part name	Part number	Description		
IOTA				
Non-Redundant. IOTA	CC- TAIX01	Analog Input, non-redundant, coated		
	51308363-175			
	Cx-TAIX51	Analog Input, non-redundant, coated		
	51306979-175			
Redundant. IOTA	CC- TAIX11	Analog Input, redundant, coated		
	51308365-175			
Terminal plug-in assembly				
16-terminal block plug-in assembly	51506273-216	2 per IOTA		
4-terminal block plug-in assembly	51506269-204	1 per IOTA		
Fuses				
Description	Part number	Quantity	Reference designator	Function
Fuse 750 mA, 5x20, fast acting	51190582-175	1 per non-red. IOTA	F1	The fuse covers the IOM and the power feeds to the field wiring. A blown fuse interrupts power to these.
		2 per red. IOTA	F1	F1 covers upper IOM
			F2	F2 covers lower IOM If one fuse is blown power is interrupted to the IOM, but field wiring continues to receive power from other fuse.
ANALOG OUPUT				
Series C AO IOM	CC- PAOH01	Series C HART Analog Output Module		
	CC-PAOX01	Series C non-HART Analog Output Module		
	CC-PAON01	Series C non-HART Analog Output Module		
	CC-PAOH51	Series C HART Analog Output Module		
IOTA				
AO	CC-TAOX01	Analog Output, non-redundant, coated		
Non-Redundant. IOTA	51308351-175			
	Cx-TAOX51	Analog Output, non-redundant, coated		
	51306983-175			
AO Redundant. IOTA	CC- TAOX11	Analog Output, redundant, coated		
	51308353-175			
	Cx-TAOX61	Analog Output, redundant, coated		
	51306981-175			
Terminal plug-in assembly				
16-pin terminal plug-in assembly	51506273-216	2 per non-redundant IOTA 2 per redundant IOTA		
Fuses				
Description	Part number	Quantity	Reference designator	Function



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