

FnIO M – Series :

M4314

M4314 (4 Channels , Current Output, 4~20mA, 550ohm, 12bit)

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History

REV.	PAGES	REMARKS	DATE	Editor
1.00		Preliminary	2022/8/30	Soyeong, Park
1.01	4, 7	Certificate Update and LED spec modified	2023/06/05	CW SEO

1. ENVIRONMENT SPECIFICATION

Environmental specification	
Operating Temperature	-25℃~60℃
UL Temperature	-25℃~60℃
Storage Temperature	-40℃~85℃
Relative Humidity	5% ~ 90% non-condensing
Mounting	DIN rail
General specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	IEC 60068-2-6, 4g
Industrial Emissions	EN 61000-6-4/A11 : 2011
Industrial Immunity	EN 61000-6-2 : 2019
Installation Position	Vertical and horizontal installation is available.
Product Certifications	UL, ATEX, CE, UKCA

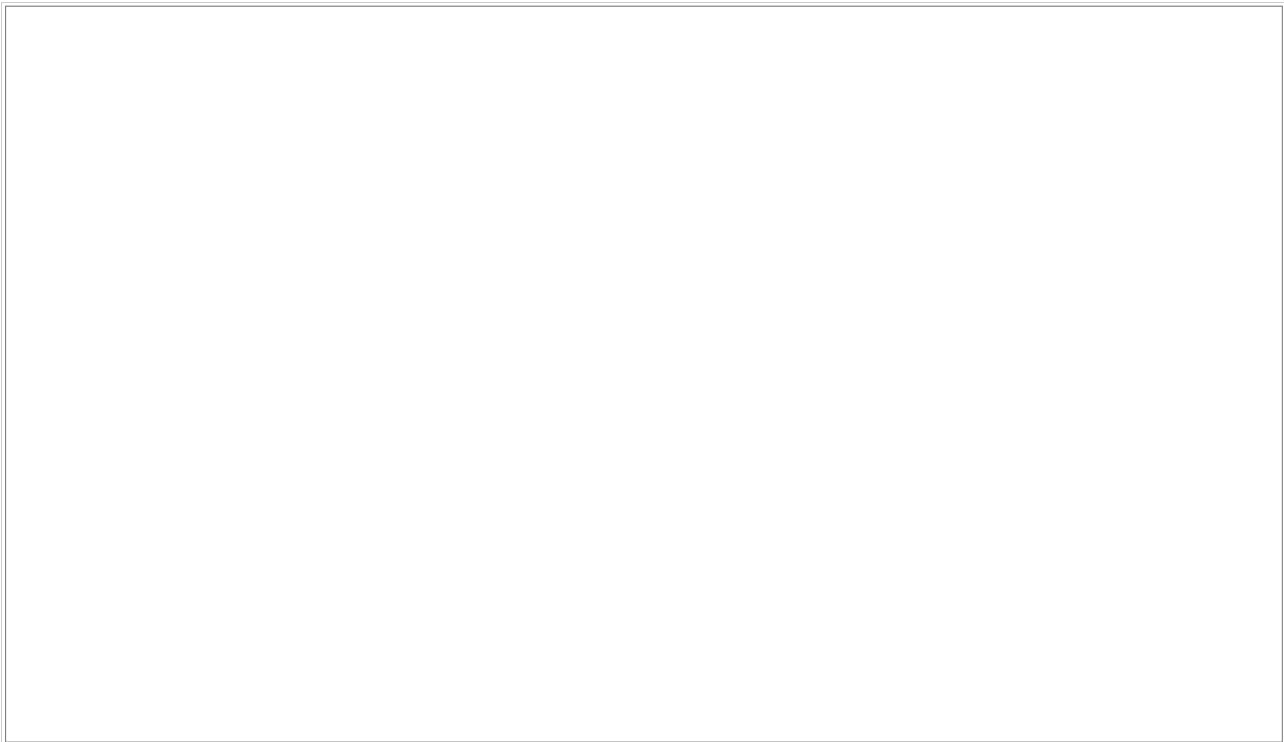
2. M4314 (4 Channels Current Output, 4~20mA, 12Bit)

2.1. M4314 Specification

Items	Specification
Output Specification	
Outputs per module	4 Channels single ended
Indicators(Logic side)	1 Green Output status
Resolution in Ranges	12 bits : 3.91uA/Bit
Output Range	4~20mA
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ -25°C, 60°C
Load Resistance	<550Ω. >250Ω
Diagnostic	Field Power Off : Led Blinking Field Power On : Led ON
Conversion Time	Max. 200usec / All channel
Calibration	Not Required
Common Type	10 Common, Field Power 0V is Common(AGND)
General specification	
Power dissipation	Max. 30mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : Non-Isolation
UL Field Power	Supply voltage : 24Vdc nominal, Class 2
Field Power	Supply voltage : 24Vdc Norminal Voltage range : 18V ~ 28.8Vdc Power dissipation : 80mA @ 24Vdc
Single Wire	0.205mm ² - 1.3mm ² (24-16 AWG)
Torque	0.8Nm(7 lb-in)
Weight	70g
Module Size	12mm x 110mm x 75mm
Hot Swap	Possible
Environment Condition	Refer to '1. Environment Specification'

* Class 2, adjacent to voltage rating (30Vmax)

2.2. M4314 Wiring Diagram



Pin No.	Signal Description
0	Output Channel 0
1	Common(AGND)
2	Common(AGND)
3	Common(AGND)
4	Output Channel 1
5	Common(AGND)
6	Common(AGND)
7	Common(AGND)
8	Output Channel 2
9	Common(AGND)
10	Common(AGND)
11	Common(AGND)
12	Output Channel 3
13	Common(AGND)
14	Common(AGND)
15	Common(AGND)
16	Common(AGND)
17	Common(AGND)

Series No	Through Air	Over Surface	CTI
RTB18C	1.5mm	1.5mm	175≤CTI≤400

Spacings : The following minimum spacing in inches (millimeters) shall be maintained between uninsulated live parts of opposite polarity; and between an uninsulated live part and a grounded Part including any mounting surface or exposed metal part.

2.3. M4314 LED Indicator

2.3.1. LED Indicator



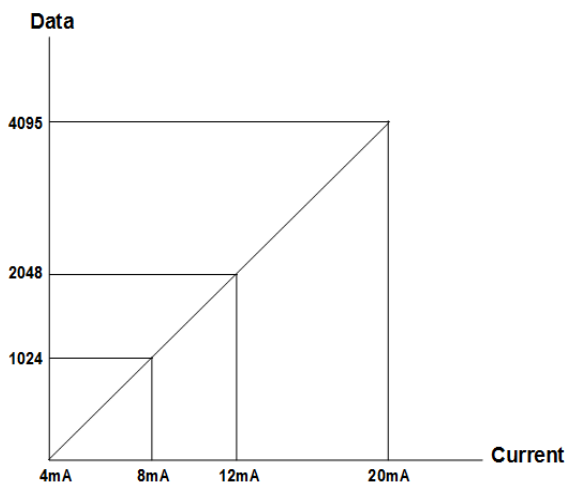
LED No.	LED Function / Description	LED Color
STATUS	Status LED	Green

2.3.2. Channel Status LED

Status	LED	To indicate
M-Bus Status	Off Green	Disconnection Connection
Field Power Error	LED Blinking	Field power is unconnected.

2.3.3. Data value / Current

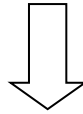
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



2.4. Mapping data from the image table

- Output Image Value

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Analog Output Ch0 Low byte							
Byte 1	Analog Output Ch0 High byte							
Byte 2	Analog Output Ch1 Low byte							
Byte 3	Analog Output Ch1 High byte							
Byte 4	Analog Output Ch2 Low byte							
Byte 5	Analog Output Ch2 High byte							
Byte 6	Analog Output Ch3 Low byte							
Byte 7	Analog Output Ch3 High byte							



- Output Module Data -8byte Output Data

Analog Output Ch0
Analog Output Ch1
Analog Output Ch2
Analog Output Ch3

2.5. Parameter Data

- Valid Parameter length: 4 Bytes
- Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Fault Action for channel 3		Fault Action for channel 2		Fault Action for channel 1		Fault Action for channel 0	
	00: Fault Value 01: Hold last state 10: Low Limit 11:High Limit							
Byte1	Not used							
Byte2	Fault Value Low Byte							
Byte3	Not used				Fault Value High Byte			