

FnIO G – Series :

GT-3114

GT-3114 (4 Channels, Current Input, 0~20mA / 4~20mA, 12bit)

Specification

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Specification

History

REV.	PAGES	REMARKS	DATE	Editor
1.00		Preliminary	July 28, 2017	Seokhyun, Jun

Specification

1. ENVIRONMENT SPECIFICATION

Environment specification	
Operating Temperature	-40°C~70°C
UL Temperature	-20°C~60°C
Storage Temperature	-40°C~85°C
Relative Humidity	5% ~ 90% non-condensing
Mounting	DIN rail
General specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 Sine Vibration 5 ~ 25Hz : 1.6mm 25 ~ 300Hz : 4g Sweep Rate : 1 Oct/min, 20 cycles Random Vibration 10 ~ 40Hz : 0.0125g ² /Hz 40 ~ 100Hz : 0.0125 → 0.002g ² /Hz 100 ~ 500Hz : 0.002g ² /Hz 500 ~ 2000Hz : 0.002 → 1.3 x 10 ⁻⁴ g ² /Hz Test time : 1 hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN 61000-6-4/A11 : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

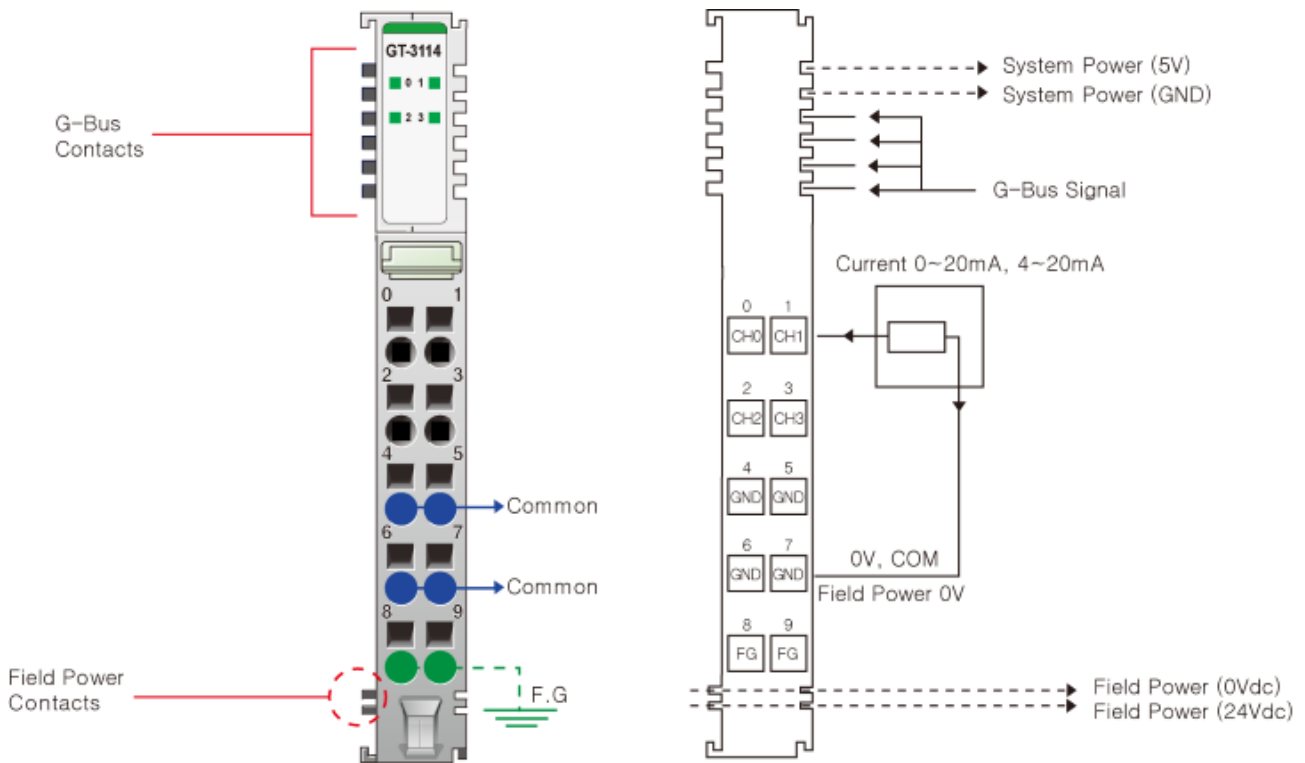
Specification

2. GT-3114 (4 CHANNELS CURRENT INPUT, 0~20mA / 4~20mA, 12BIT)

2.1. GT-3114 Specification

Items	Specification
Input Specification	
Inputs per module	4 Channels single ended, non-isolated between channels
Indicators(Logic side)	4 Green Input status
Resolution in Ranges	12 bits : 4.88uA/Bit(0~20mA), 3.91uA/Bit(4~20mA)
Input Range	0~20mA, 4~20mA
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 70°C
Input Impedance	121.5Ω
Diagnostic	Diagnostic Field Power Off : LED Blinking Field Power On : LED Off < 0.5% (Maximum Input Value) Field Power On : LED On > 0.5% (Maximum Input Value) Maximum Range Over : LED Off > 21mA Minimum Range Over : LED Off < 3mA (4 ~ 20mA)
Conversion Time	800usec / All channel
Field calibration	Not Required
Common Type	4 Common, Field Power 0V is Common(AGND)
General Specification	
Power dissipation	Max. 25mA @ 5.0Vdc
Isolation	I/O to Logic : Isolation Field power : Non-Isolation
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18 ~ 32Vdc Power Dissipation : Max. 25mA@24Vdc
Wiring	I/O Cable Max. 2.0mm ² (AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	Refer to 'Environment Specification'

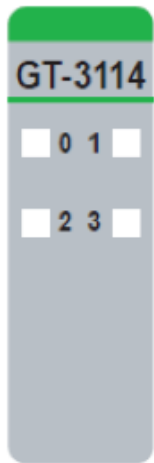
2.2. GT-3114 Wiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
0	Input Channel 0	Input Channel 1	1
2	Input Channel 2	Input Channel 3	3
4	Input Channel Common(AGND)	Input Channel Common(AGND)	5
6	Input Channel Common(AGND)	Input Channel Common(AGND)	7
8	Field Ground	Field Ground	9

2.3. GT-3114 LED Indicator

2.3.1. LED Indicator



LED No.	LED Function / Description	LED Color
0	INPUT Channel 0	Green
1	INPUT Channel 1	Green
2	INPUT Channel 2	Green
3	INPUT Channel 3	Green

2.3.2. Channel Status LED

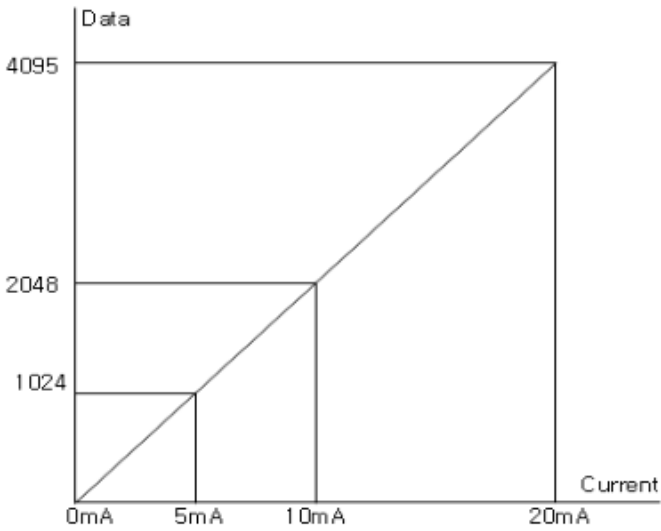
Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF [LED On > 0.5% (Maximum Input Value)] - Channel Green	Normal Operation
Overrun/Underrun	[LED Off > 21mA (Maximum Range Over) - Channel OFF [LED Off < 3mA (Minimum Range Over , 4 ~ 20mA)] - Channel OFF	Over range Check
Field Power Error	All Channel Repeat the Green and OFF	Field Power is unconnected

Specification

2.3.3. Data value / Current

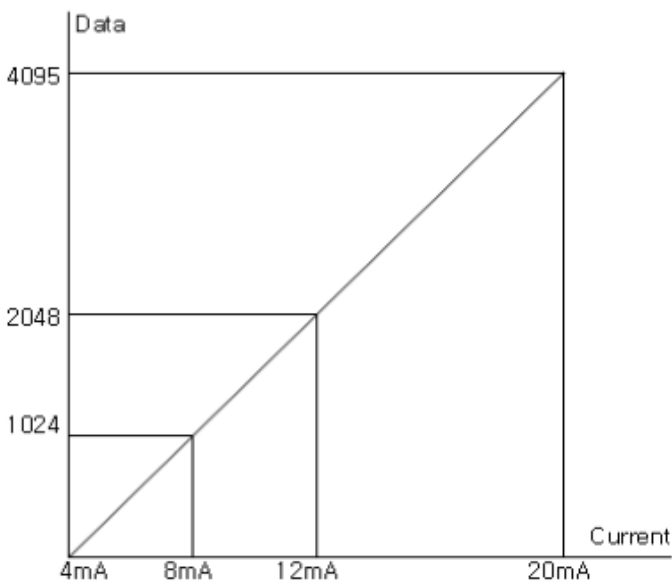
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Current Range : 4~20mA

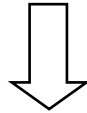
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



2.4. Mapping data into the image table

- **Input Module Data**

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3



- **Input Image Value**

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

2.5. Parameter Data

- **Valid Parameter length: 6 Bytes**
- **Parameter Data**

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Current Range for Channel 0 (H00: 0~20mA, H01: 4~20mA)							
Byte 1	Current Range for Channel 1 (H00: 0~20mA, H01: 4~20mA)							
Byte 2	Current Range for Channel 2 (H00: 0~20mA, H01: 4~20mA)							
Byte 3	Current Range for Channel 3 (H00: 0~20mA, H01: 4~20mA)							
Byte 4	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 5	Not used(=00)							