

FnIO G – Series :

GT-3118

GT-3118 (8 Channels, Current Input, 0~20mA / 4~20mA, 12bit)

Specification

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History

REV.	PAGES	REMARKS	DATE	Editor
1.00		Preliminary	Apr 14, 2016	DHLEE
1.01		Environment Specification	June 03, 2016	Jun, Seokhyun

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

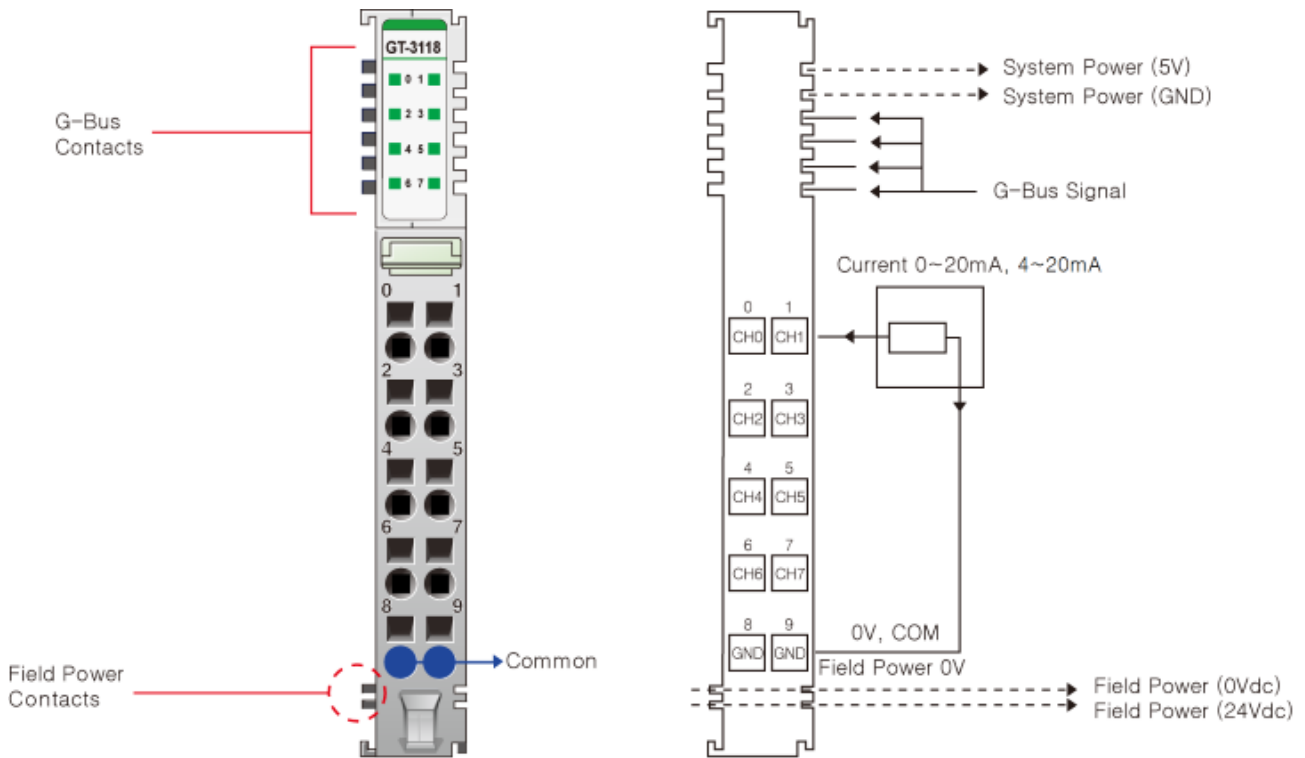
Specification

2. GT-3118 (8 CHANNELS CURRENT INPUT, 0~20mA / 4~20mA, 12BIT)

2.1. GT-3118 Specification

Items	Specification
Input Specification	
Inputs per module	8 Channels single ended, non-isolated between channels
Indicators(Logic side)	8 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	≤ 1msec / All channel (≤ 0.125ms per channel)
Field calibration	Not Required
Common Type	2 Common, Field Power 0V is Common(AGND)
General Specification	
Power dissipation	Max. 30mA @ 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. 30mA@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-3118 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 4	Input Channel 5	5
6	Input Channel 6	Input Channel 7	7
8	Input Channel Common(AGND)	Input Channel Common(AGND)	9

2.3. GT-3118 LED Indicator

Specification

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
4	INPUT Channel 4	Green
5	INPUT Channel 5	Green
6	INPUT Channel 6	Green
7	INPUT Channel 7	Green

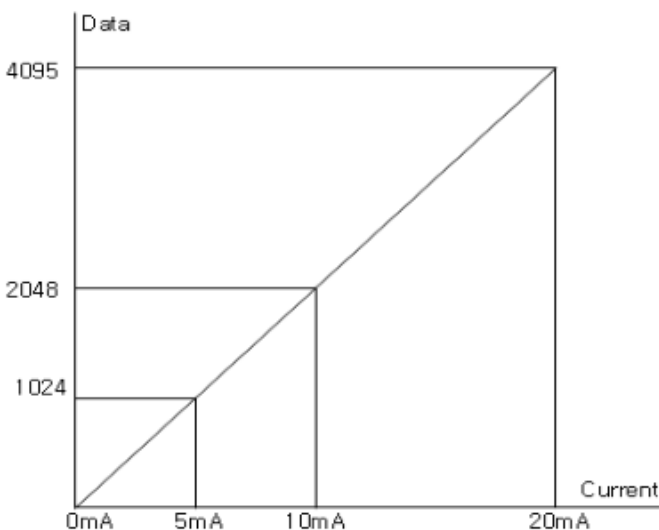
2.3.2. Channel Status LED

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

2.3.3. Data value / Current

Current Range : 0~20mA

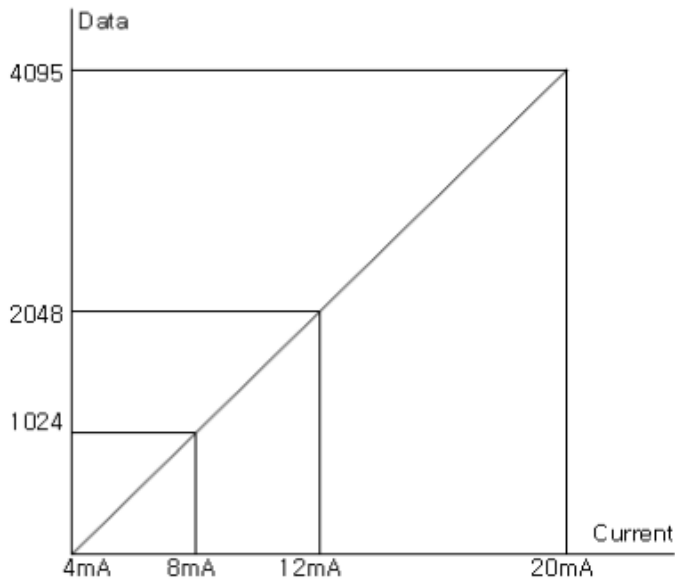
Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Specification

Current Range : 4~20mA

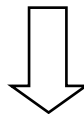
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



2.4. Mapping data into the image table

- **Input Module Data**

	Analog Input Ch0
	Analog Input Ch1
	Analog Input Ch2
	Analog Input Ch3
	Analog Input Ch4
	Analog Input Ch5
	Analog Input Ch6
	Analog Input Ch7



- **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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							

2.5. Parameter Data

- Valid Parameter length: 10 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	Current Range for Channel 4 (H00: 0~20mA, H01: 4~20mA)							
Byte 5	Current Range for Channel 5 (H00: 0~20mA, H01: 4~20mA)							
Byte 6	Current Range for Channel 6 (H00: 0~20mA, H01: 4~20mA)							
Byte 7	Current Range for Channel 7 (H00: 0~20mA, H01: 4~20mA)							
Byte 8	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 9	Not used(=00)							