
FnIO G – Series :

GT-317F

GT-317F (16 Channels 18pt RTB, Current Input)

0~20mA / 4~20mA, 12bit

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History

Rev	Pages	Remarks	Date	Editor
1.00			2017/07/28	Seokhyun, Jun
1.01		Specification Revision	2018/04/12	Soyeong, Park
1.02		Edit conversion time	2020/04/17	Seokhyun, Jun
1.03	5-6	Wiring Diagram & Common Type	2020/10/14	Suna, Hwang
1.04	4,6,8	Change Diagram/Edit Certification/Add Data range	2023/08/01	Soyeong, Park
1.05	5	Edit System Power Dissipation	2025/05/30	Suna, Hwang

Specification

1. ENVIRONMENT SPECIFICATION

Environmental specification	
Operating Temperature	-40°C ~60°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, 4g
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN 61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

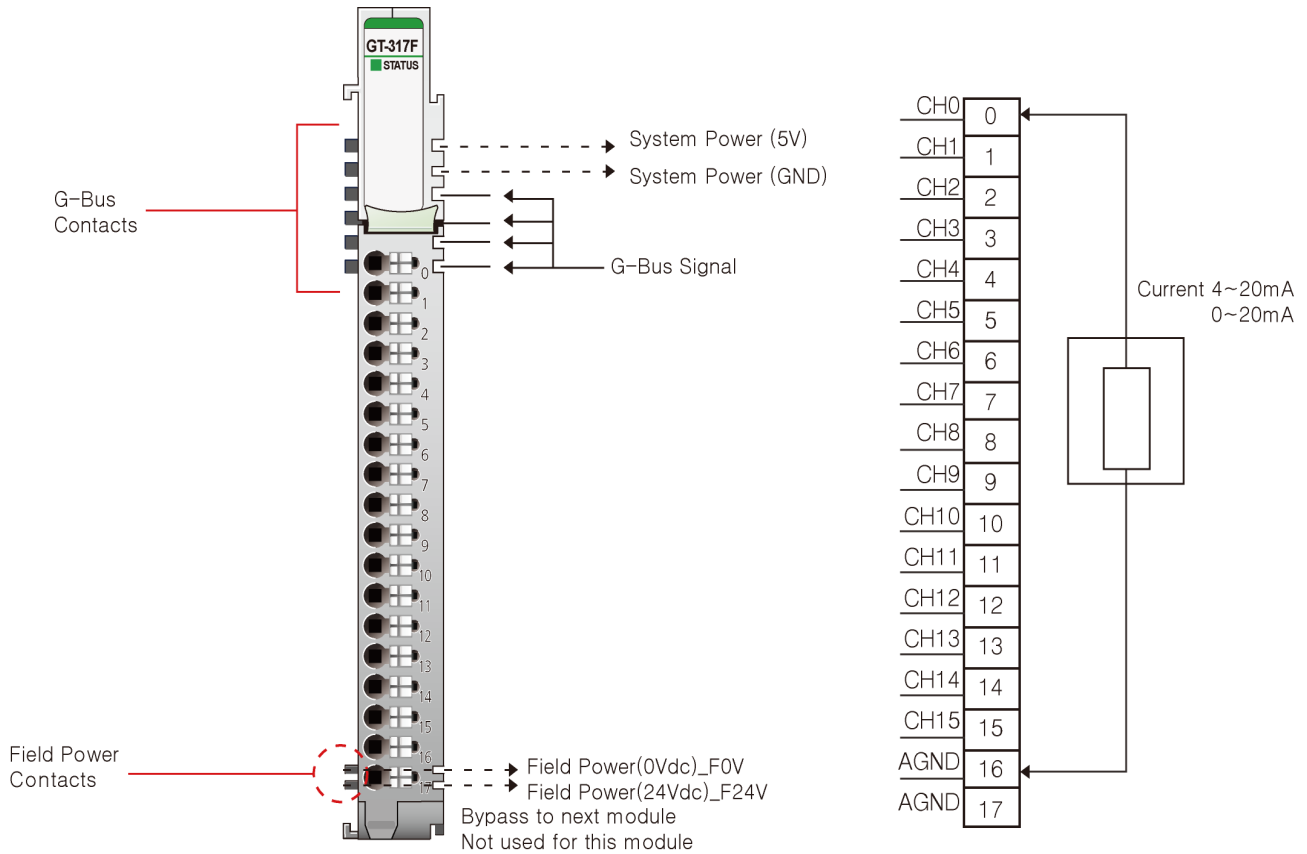
Specification

2. GT-317F(16 Channels Current Input, 0~20mA / 4~20mA, 12bit)

2.1. GT-317F Specification

Items	Specification
Input Specification	
Inputs per module	16 Channels single ended, non-isolated between channel
Indicators	1 Green G-Bus status
Resolution in Ranges	12 bits : 4.88uA/Bit(0~20mA) 12 bits : 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 ±0.3% Full Scale @ -40°C, 60°C
Input Impedance	121.5Ω
Conversion Time	1.2msec / All channel
Field calibration	Not Required
General Specification	
Power dissipation	Max. 215mA @ 5Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : Not Connected
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Not used Field power bypass to next expansion module
Single Wiring	I/O Cable Max. 0.823mm ² (AWG 18)
Weight	63g
Module Size	12mm x 109mm x 70mm
Environment Condition	Refer to 'Environment Specification'

2.2. GT-317F Wiring Diagram



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

2.3. GT-317F LED Indicator

2.3.1. LED Indicator



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

2.3.2. Channel Status LED

Status	LED	To indicate
G-Bus Status	Off	Disconnection
	Green	Connection

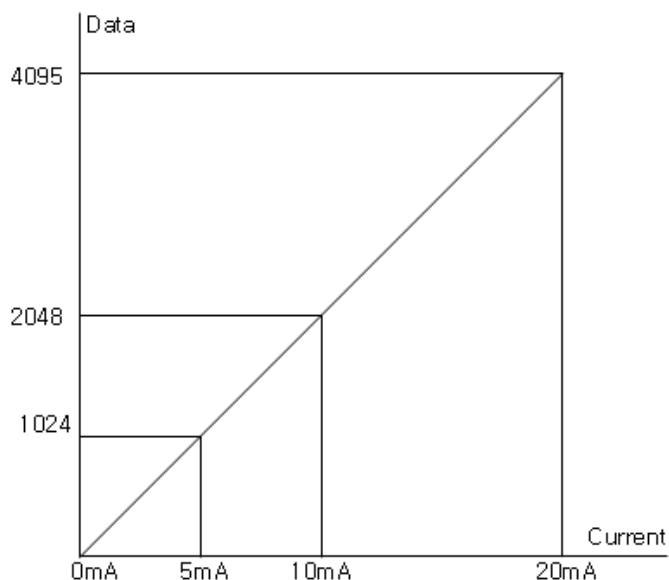
Specification

2.4. Data value / Current

2.4.1. Operating Range

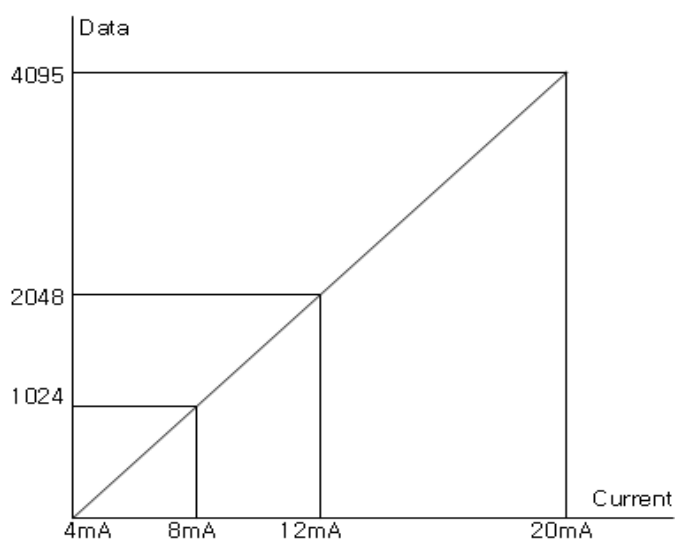
Current Range : 0~20mA

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



2.4.2. Underrun / Overrun Range

Current	Current Range : 0~20mA		Current Range : 4~20mA	
	<0.0mA	>21.0mA	<3.0mA	>21.0mA
Data(Hex)	-	H7FFF	H8000	H7FFF

2.5. 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
Analog Input Ch8
Analog Input Ch9
Analog Input Ch10
Analog Input Ch11
Analog Input Ch12
Analog Input Ch13
Analog Input Ch14
Analog Input Ch15



● Input Image Value

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Analog Input Ch0 Low byte							
Byte1	Analog Input Ch0 High byte							
Byte2	Analog Input Ch1 Low byte							
Byte3	Analog Input Ch1 High byte							
Byte4	Analog Input Ch2 Low byte							
Byte5	Analog Input Ch2 High byte							
Byte6	Analog Input Ch3 Low byte							
Byte7	Analog Input Ch3 High byte							
Byte8	Analog Input Ch4 Low byte							
Byte9	Analog Input Ch4 High byte							
Byte10	Analog Input Ch5 Low byte							
Byte11	Analog Input Ch5 High byte							
Byte12	Analog Input Ch6 Low byte							
Byte13	Analog Input Ch6 High byte							
Byte14	Analog Input Ch7 Low byte							
Byte15	Analog Input Ch7 High byte							
Byte16	Analog Input Ch8 Low byte							
Byte17	Analog Input Ch8 High byte							
Byte18	Analog Input Ch9 Low byte							
Byte19	Analog Input Ch9 High byte							
Byte20	Analog Input Ch10 Low byte							
Byte21	Analog Input Ch10 High byte							
Byte22	Analog Input Ch11 Low byte							
Byte23	Analog Input Ch11 High byte							
Byte24	Analog Input Ch12 Low byte							
Byte25	Analog Input Ch12 High byte							
Byte26	Analog Input Ch13 Low byte							
Byte27	Analog Input Ch13 High byte							
Byte28	Analog Input Ch14 Low byte							
Byte29	Analog Input Ch14 High byte							
Byte30	Analog Input Ch15 Low byte							
Byte31	Analog Input Ch15 High byte							

2.6. Parameter Data

- Valid Parameter length: 18 Bytes
- Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Current Range for Channel 0 (H00: 0~20mA, H01: 4~20mA)							
Byte1	Current Range for Channel 1 (H00: 0~20mA, H01: 4~20mA)							
Byte2	Current Range for Channel 2 (H00: 0~20mA, H01: 4~20mA)							
Byte3	Current Range for Channel 3 (H00: 0~20mA, H01: 4~20mA)							
Byte4	Current Range for Channel 4 (H00: 0~20mA, H01: 4~20mA)							
Byte5	Current Range for Channel 5 (H00: 0~20mA, H01: 4~20mA)							
Byte6	Current Range for Channel 6 (H00: 0~20mA, H01: 4~20mA)							
Byte7	Current Range for Channel 7 (H00: 0~20mA, H01: 4~20mA)							
Byte8	Current Range for Channel 8 (H00: 0~20mA, H01: 4~20mA)							
Byte9	Current Range for Channel 9 (H00: 0~20mA, H01: 4~20mA)							
Byte10	Current Range for Channel 10 (H00: 0~20mA, H01: 4~20mA)							
Byte11	Current Range for Channel 11 (H00: 0~20mA, H01: 4~20mA)							
Byte12	Current Range for Channel 12 (H00: 0~20mA, H01: 4~20mA)							
Byte13	Current Range for Channel 13 (H00: 0~20mA, H01: 4~20mA)							
Byte14	Current Range for Channel 14 (H00: 0~20mA, H01: 4~20mA)							
Byte15	Current Range for Channel 15 (H00: 0~20mA, H01: 4~20mA)							
Byte16	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E: Slowest)							
Byte17	Reserved							