
FnIO G – Series :

GT-4158

GT-4158 (8 Channels, Current Output, 0~20mA, 16bit)

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History

Rev	Pages	Remarks	Date	Editor
1.00			2018/03/09	Soyeong, Park
1.01	5	Edit Resolution in Range	2018/06/14	Soyeong, Park
1.02	5	Changed Load Resistance Value	2019/06/21	Soyeong, Park
1.03		Edit conversion time	2020/04/17	Seokhyun, Jun
1.04		Edit Diagram Image	2022/11/25	Park, Soyeong
1.05	4,6	Change Diagram/Edit Certification, Signal Description	2023/09/05	Soyeong, Park
1.06	5	Edit System, Field 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

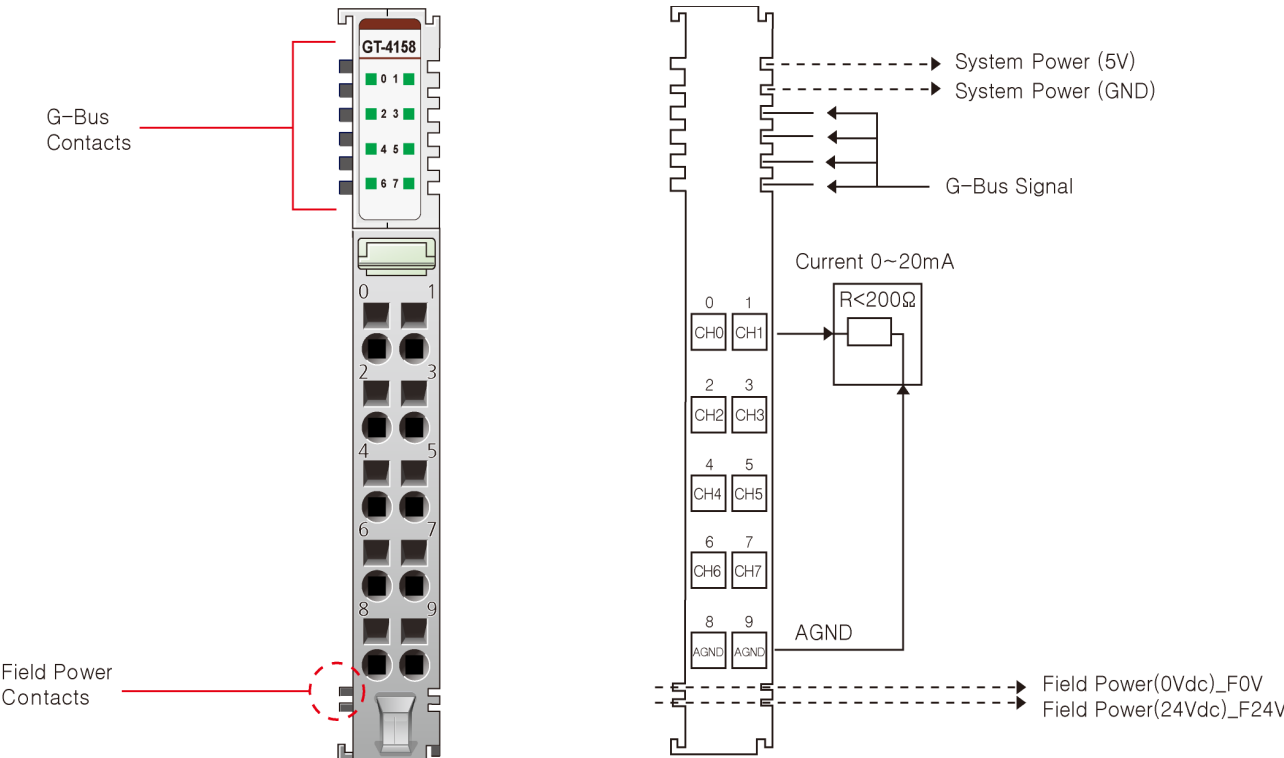
2. GT-4158 (8 Channels Current Output, 0~20mA, 16bit)

2.1. GT-4158 Specification

Items	Specification
Output Specification	
Outputs per module	8 Channels single ended, non-isolated between channel
Indicators(Logic side)	8 Green Output status
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.61uA/bit
Output Range	0~20mA
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ -40°C, 60°C
Load Resistance	Max. 200Ω
Diagnostic	Field Power Off : LED Blinking
Conversion Time	0.2msec / All channel
Calibration	Not Required
Common Type	2 Common, Field Power 0V is Common(AGND)
General Specification	
Power dissipation	Max. 35mA @ 5Vdc
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 nominal Voltage Range : 18~30Vdc Power Dissipation : Max. 135mA @ 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-4158 Wiring Diagram

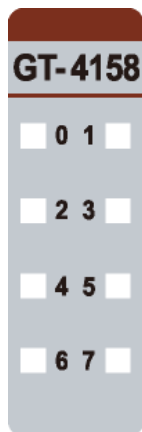
Specification



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

2.3. GT-4158 LED Indicator

2.3.1. LED Indicator



LED No.	LED Function / Description	LED Color
0	Output Channel 0	Green
1	Output Channel 1	Green
2	Output Channel 2	Green
3	Output Channel 3	Green
4	Output Channel 4	Green
5	Output Channel 5	Green
6	Output Channel 6	Green
7	Output Channel 7	Green

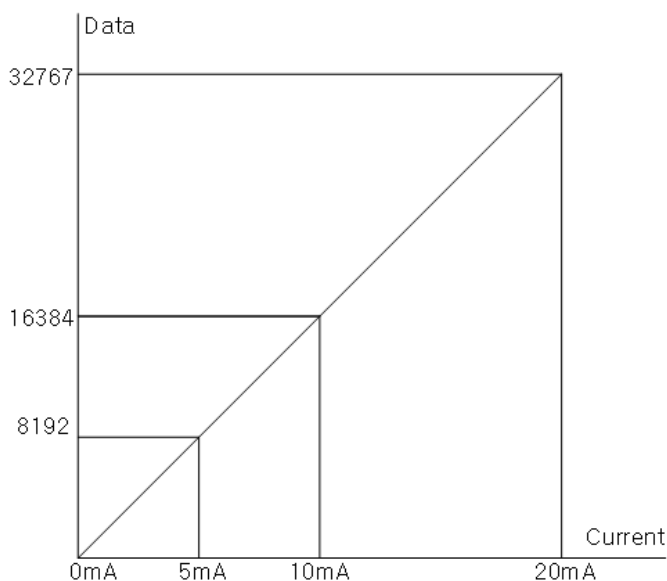
2.3.2. Channel Status LED

Status	LED	To indicate
Normal Operation	Off	No Output Value
	Green	Output Value
Field Power Error	All Channel Repeat Green and Off	Field Power is unconnected.

2.4. Data Value / Current

Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H2000	H4000	H7FFF

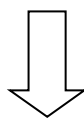


Specification

2.5. Mapping data from the image table

● Output Image Value

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Analog Output Ch0 Low byte							
Byte1	Analog Output Ch0 High byte							
Byte2	Analog Output Ch1 Low byte							
Byte3	Analog Output Ch1 High byte							
Byte4	Analog Output Ch2 Low byte							
Byte5	Analog Output Ch2 High byte							
Byte6	Analog Output Ch3 Low byte							
Byte7	Analog Output Ch3 High byte							
Byte8	Analog Output Ch4 Low byte							
Byte9	Analog Output Ch4 High byte							
Byte10	Analog Output Ch5 Low byte							
Byte11	Analog Output Ch5 High byte							
Byte12	Analog Output Ch6 Low byte							
Byte13	Analog Output Ch6 High byte							
Byte14	Analog Output Ch7 Low byte							
Byte15	Analog Output Ch7 High byte							



● Output Module Data

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

2.6. 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	Fault Action for channel 7		Fault Action for channel 6		Fault Action for channel 5		Fault Action for channel 4	
	00: Fault Value 01: Hold last state 10: Low Limit 11:High Limit							
Byte2	Fault Value Low Byte							
Byte3	Fault Value High Byte							