
FnIO G – Series :

GT-3258

GT-3258 (8 Channels 18pt RTB, Current Input)

0~20mA, 4~20mA, NAMUR NE 43, 16bit

Specification

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History

Rev	Pages	Remarks	Date	Editor
1.00			2025/04/17	Soyeong, Park
1.01	5,9	Add Conversion time (each mode) Add DataValue/Current (Operating/Under,Overrun)	2025/07/29	Soyeong, Park

Specification

1. Environment Specification

Environmental Specification	
Operation Temperature	-40°C ~60°C
UL Temperature	-20°C ~60°C
Non-Operating 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 : 2019
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UKCA, UL

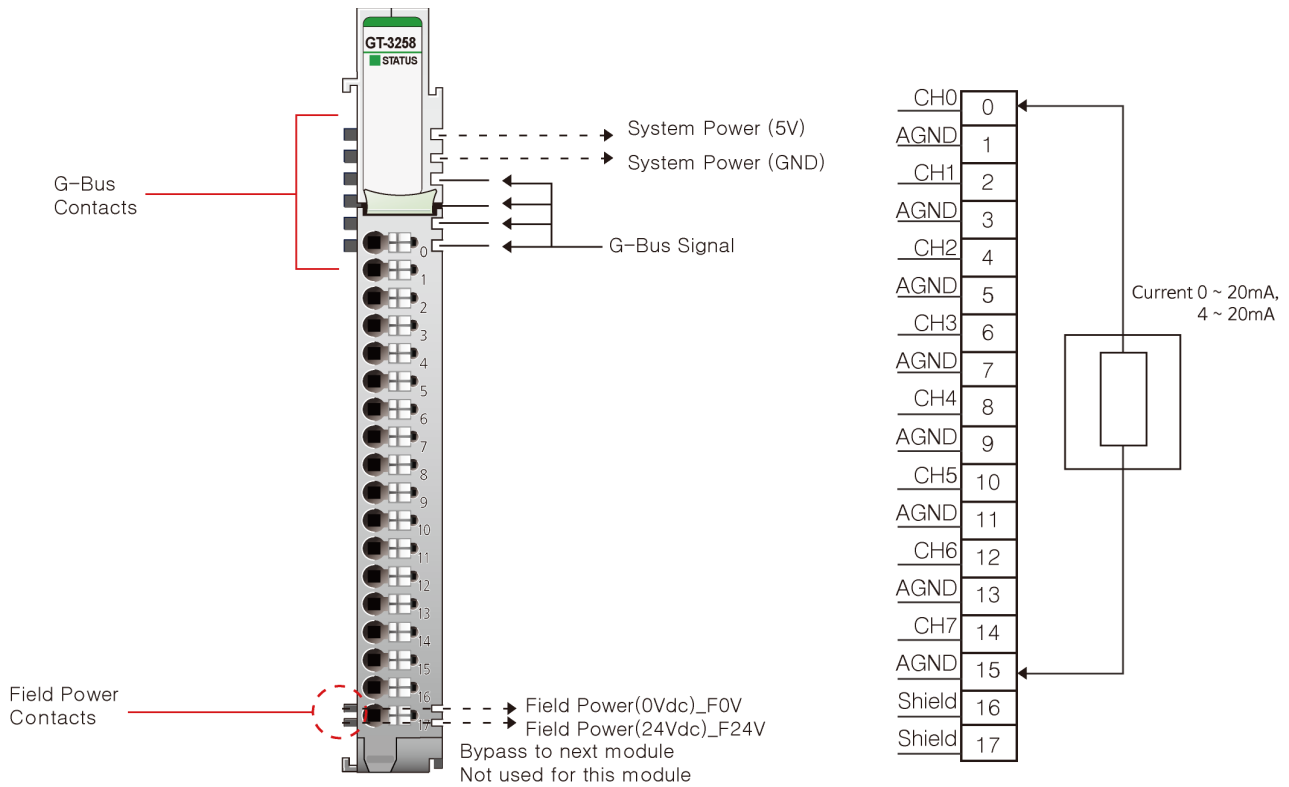
Specification

2. GT-3258 (8 Channels, Current Input, 0~20mA, 4~20mA, NAMUR NE 43, 16bit)

2.1. GT-3258 Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels single ended, non-isolated between channel
Indicators	1 Green G-Bus status
Resolution in Ranges	16 bits (Include Sign) 15 bits : 0.61uA/Bit (0~20mA) 15 bits : 0.49uA/Bit (4~20mA) 15 bits : 1uA/Bit (NAMUR NE 43)
Input Range	0~20mA, 4~20mA, 0~24mA(NAMUR NE 43)
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ -40°C, 60°C
Input Impedance	100Ω
Conversion Time	1.0msec / All channel (0~20mA/4~20mA) 1.8msec / All channel (NAMUR NE 43)
Calibration	Not Required
General Specification	
Power Dissipation	Max. 250mA @ 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'

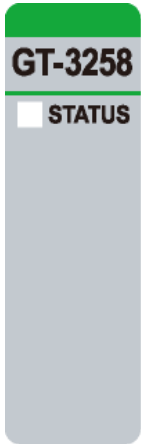
2.2. GT-3258 Wiring Diagram



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

2.3. GT-3258 LED Indicator

2.3.1. LED Indicator



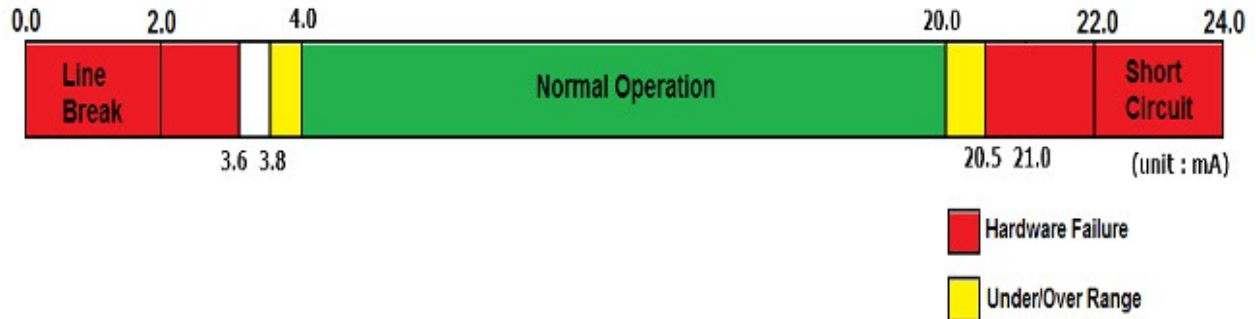
LED No.	LED Function / Description	LED Color
0	Status LED	Green

2.3.2. Channel Status LED

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

2.4. Data Value / Current

2.4.1. NAMUR NE 43 Range



Current	Data(Dec)	Data(Hex)	Diagnostic
0mA	0	0x0000	Line Break
≤2.0mA	2000	0x07D0	
≤3.6mA	3600	0x0E10	Out of Range (Transmitter Hardware Failure) - Under-range
3.8mA	3800	0x0ED8	Saturation (Normal Under Range)
4.0mA	4000	0x0FA0	Normal Operation
20.0mA	20000	0x4E20	
≤20.5mA	20500	0x5014	Saturation (Normal Over Range)
≥20.5mA	20500	0x5208	Out of Range (Transmitter Hardware Failure) -Over-range
≥22.0mA	22000	0x55F0	Short Circuit
24.0mA	24000	0x5DC0	

Current = (Data(Dec) * 0.001) mA

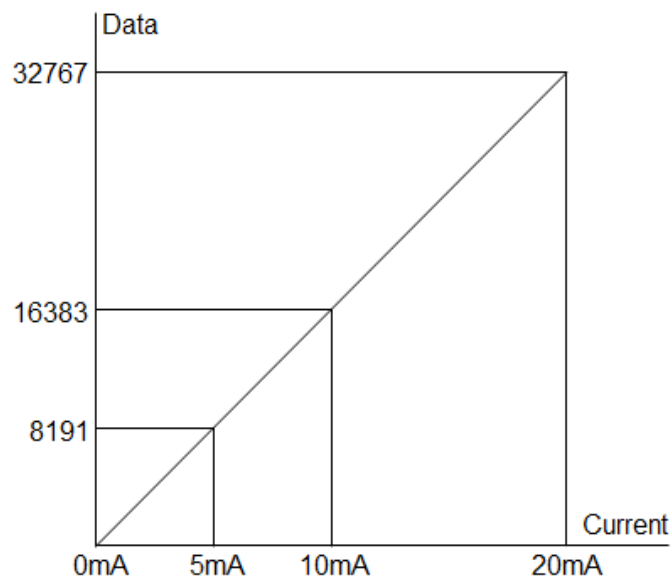
Ex) 10mA = (10000 * 0.001) mA

Specification

2.4.2. Operating Range

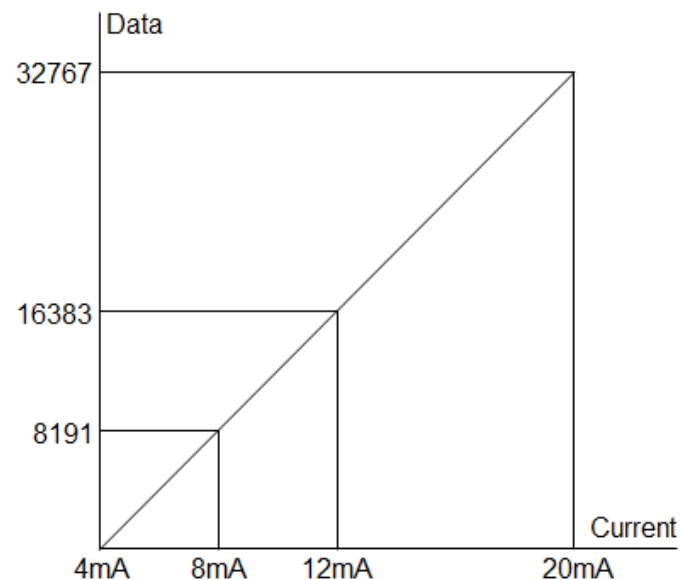
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



Current Range : 4~20mA

Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



2.4.3. Underrun / Overrun Range

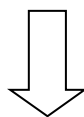
Current	Current Range : 0~20mA		Current Range : 4~20mA	
	<0.0mA	>21.0mA	<3.0mA	>21.0mA
Data(Hex)	-	H7FFF	H8000	H7FFF

Specification

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



● Input Image Value

Diagnostic Status (4bit)

Bit No	Bit7 / Bit3	Bit6 / Bit2	Bit5 / Bit1	Bit4 / Bit0
Diagnostic Data	Short circuit	Line break	Over-range	Under-range

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	Diagnostic Status - Channel 1				Diagnostic Status - Channel 0			
Byte17	Diagnostic Status - Channel 3				Diagnostic Status - Channel 2			
Byte18	Diagnostic Status - Channel 5				Diagnostic Status - Channel 4			
Byte19	Diagnostic Status - Channel 7				Diagnostic Status - Channel 6			

2.6. Parameter Data

- Valid Parameter length: 10 Bytes
- Parameter Data

Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte0	Ch#0 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : NAMUR NE 43)							
Byte1	Ch#1 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : NAMUR NE 43)							
Byte2	Ch#2 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : NAMUR NE 43)							
Byte3	Ch#3 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : NAMUR NE 43)							
Byte4	Ch#4 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : NAMUR NE 43)							
Byte5	Ch#5 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : NAMUR NE 43)							
Byte6	Ch#6 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : NAMUR NE 43)							
Byte7	Ch#7 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : NAMUR NE 43)							
Byte8	Filter Time(H00 : Default Filter(20), H01 : Fastest ~ H3E : Slowest, HFF : Filter OFF)							
Byte9	Reserved							