

# **FnIO G – Series :**

## ***GT-447F***

***GT-447F (16 Channels 18pt RTB, Voltage Output)***

***0~10V, 12bit***

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# Specification

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## History

REV.	PAGES	REMARKS	DATE	Editor
1.00		New Document	Nov, 27, 2017	Seokhyun, Jun

# Specification

## 1. ENVIRONMENT SPECIFICATION

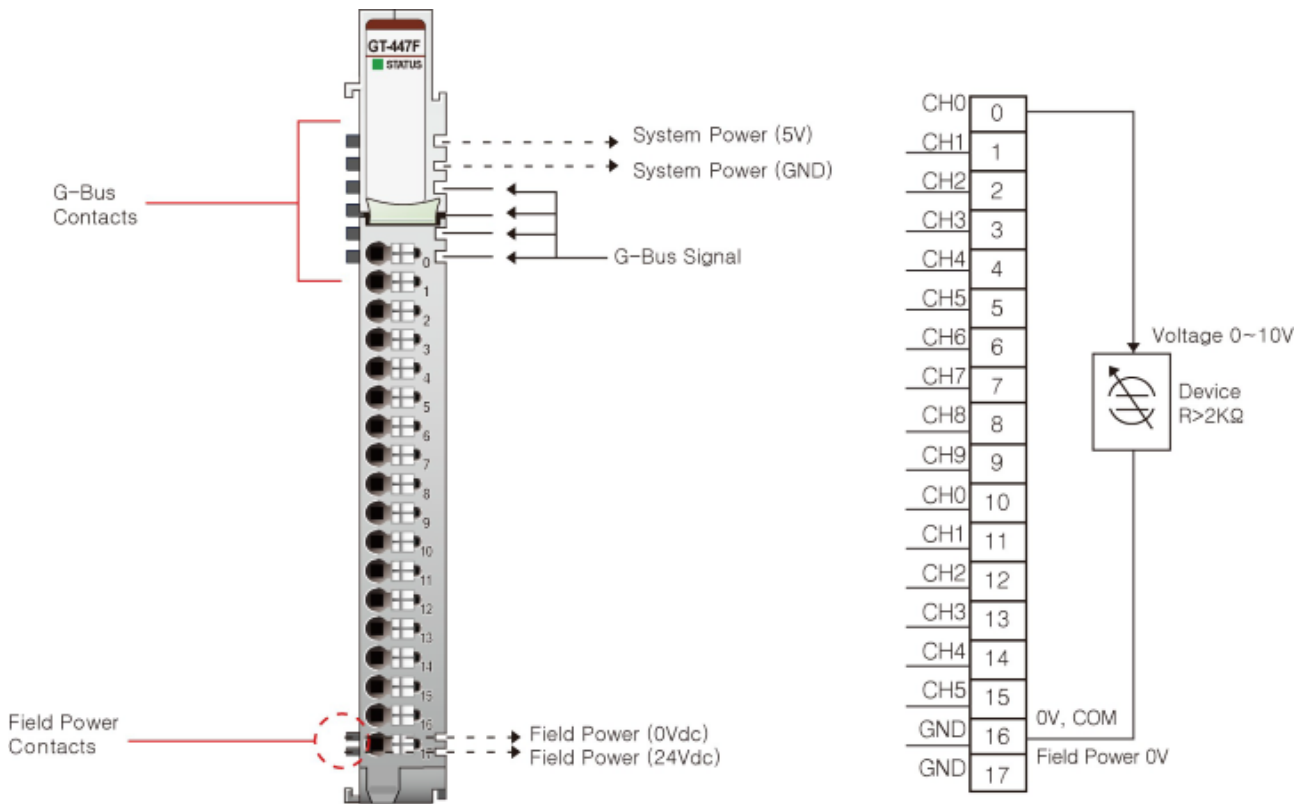
<b>Environment specification</b>	
Operating Temperature	-40°C~60°C
UL Temperature	-20°C~60°C
Storage Temperature	-40°C~85°C
Relative Humidity	5% ~ 90% non-condensing
Mounting	DIN rail
<b>General specification</b>	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 Sine Vibration 5 ~ 25Hz : 1.6mm 25 ~ 300Hz : 4g Sweep Rate : 1 Oct/min, 20 cycles Random Vibration 10 ~ 40Hz : 0.0125g <sup>2</sup> /Hz 40 ~ 100Hz : 0.0125 → 0.002g <sup>2</sup> /Hz 100 ~ 500Hz : 0.002g <sup>2</sup> /Hz 500 ~ 2000Hz : 0.002 → 1.3 x 10 <sup>-4</sup> g <sup>2</sup> /Hz Test time : 1 hrs for each test
EMC Resistance	EN 61000-6-2 : 2005 EN 61000-6-4 : 2007+A1:2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

## 2. GT-447F (16 CHANNELS VOLTAGE OUTPUT, 0~10V, 12BIT)

### 2.1. GT-447F Specification

Items	Specification
<b>Output Specification</b>	
Outputs per module	16 Channels single ended
Indicators(Logic side )	1 Green G-Bus status LED
Resolution in Ranges	12 bits : 2.44mV/Bit
Output Range	0 ~ 10Vdc
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ -40°C, 60°C
Load Resistance	Min. 2KΩ
Conversion Time	Max. 450usec (All channel)
Diagnostic	Field Power Off : LED Blinking
Calibration	Not Required
Common Type	2 Common, Field Power 0V is Common(AGND)
<b>General Specification</b>	
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. 150mA @ 24Vdc, Load(2K)
Wiring	I/O Cable Max. 2.0mm <sup>2</sup> (AWG 14)
Weight	63g
Module Size	12mm x 109mm x 70mm
<b>Environment Condition</b>	<b>Refer to 'Environment Specification'</b>

## 2.2. GT-447F Wiring Diagram



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

## 2.3. GT-447F LED Indicator

### 2.3.1. LED Indicator



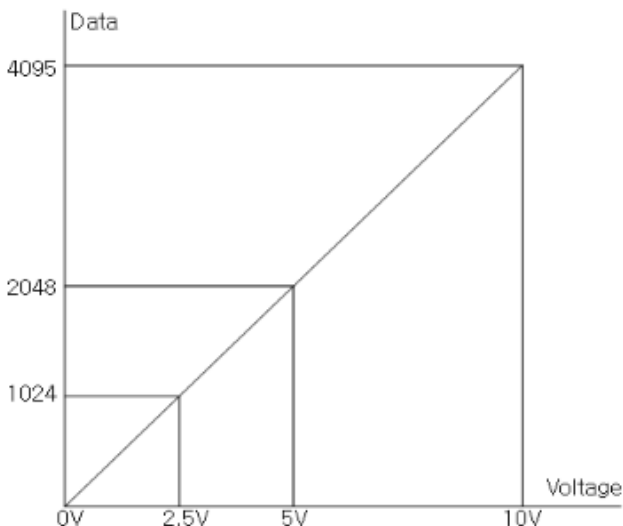
LED No.	LED Function / Description	LED Color
0	Status LED	Green

### 2.3.2. Channel Status LED

Status	LED	To indicate
G-Bus Status	Off Green	Disconnection Connection
Field Power Error	Status Channel Repeat the Green and Off	Field power is unconnected.

### 2.3.3. Data value / Voltage

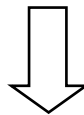
Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



## 2.4. Mapping data from the image table

- **Output Image Value**

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0								Analog Output Ch0 Low byte
Byte 1								Analog Output Ch0 High byte
Byte 2								Analog Output Ch1 Low byte
Byte 3								Analog Output Ch1 High byte
Byte 4								Analog Output Ch2 Low byte
Byte 5								Analog Output Ch2 High byte
Byte 6								Analog Output Ch3 Low byte
Byte 7								Analog Output Ch3 High byte
Byte 8								Analog Output Ch4 Low byte
Byte 9								Analog Output Ch4 High byte
Byte 10								Analog Output Ch5 Low byte
Byte 11								Analog Output Ch5 High byte
Byte 12								Analog Output Ch6 Low byte
Byte 13								Analog Output Ch6 High byte
Byte 14								Analog Output Ch7 Low byte
Byte 15								Analog Output Ch7 High byte
Byte 16								Analog Output Ch8 Low byte
Byte 17								Analog Output Ch8 High byte
Byte 18								Analog Output Ch9 Low byte
Byte 19								Analog Output Ch9 High byte
Byte 20								Analog Output Ch10 Low byte
Byte 21								Analog Output Ch10 High byte
Byte 22								Analog Output Ch11 Low byte
Byte 23								Analog Output Ch11 High byte
Byte 24								Analog Output Ch12 Low byte
Byte 25								Analog Output Ch12 High byte
Byte 26								Analog Output Ch13 Low byte
Byte 27								Analog Output Ch13 High byte
Byte 28								Analog Output Ch14 Low byte
Byte 29								Analog Output Ch14 High byte
Byte 30								Analog Output Ch15 Low byte
Byte 31								Analog Output Ch15 High byte



- **Output Module Data -32byte Output 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
	Analog Output Ch8
	Analog Output Ch9



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Analog Output Ch10
Analog Output Ch11
Analog Output Ch12
Analog Output Ch13
Analog Output Ch14
Analog Output Ch15

## 2.5. Parameter Data

- Valid Parameter length: 6 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 Action for channel 11		Fault Action for channel 10		Fault Action for channel 9		Fault Action for channel 8	
	00: Fault Value 01: Hold last state 10: Low Limit 11:High Limit							
Byte3	Fault Action for channel 15		Fault Action for channel 14		Fault Action for channel 13		Fault Action for channel 12	
	00: Fault Value 01: Hold last state 10: Low Limit 11:High Limit							
Byte4	Fault Value Low Byte							
Byte5	Not used				Fault Value High Byte			