
FnIO G – Series :

GT-446F

GT-446F (16 Channels, Voltage Output, 0~10Vdc, 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		Release	2020/04/20	Seokhyun, Jun
1.03	4,6	Change Diagram/Edit Certification, Signal Description	2023/09/04	Soyeong, Park
1.04	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

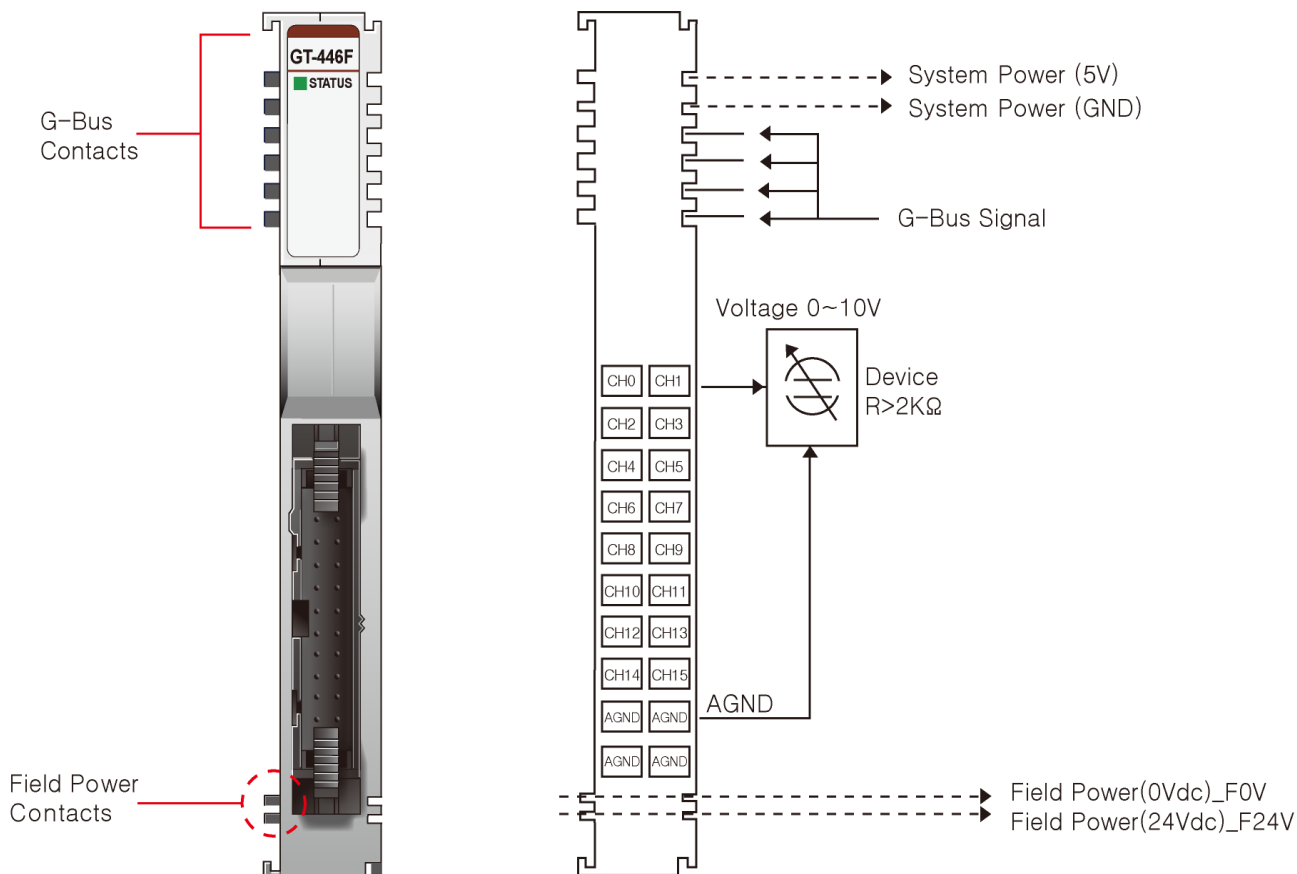
2. GT-446F (16 Channels Voltage Output, 0~10Vdc, 16bit)

2.1. GT-446F Specification

Items	Specification
Output Specification	
Outputs per module	16 Channels single ended, non-isolated between channel
Indicators(Logic side)	1 Green G-Bus status
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.31mV/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
Diagnostic	Diagnostic Field Power Off : LED Blinking
Conversion Time	0.4msec / All channel
Calibration	Not Required
Common Type	4 Common, Field Power 0V is Common(AGND)
General Specification	
Power dissipation	Max. 35mA @ 5Vdc
Isolation	I/O to Logic : Isolation Field power : Non-Isolation
UL Field Power	Supply voltage : 24Vdc nominal, Class2
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~26.4Vdc Power Dissipation : Max. 105mA @ 24Vdc, Load(2K)
Wiring	According to the Herose connector specification Module Connector :HIF3BA-20PA-2.54DSA
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	Refer to 'Environment Specification'

Specification

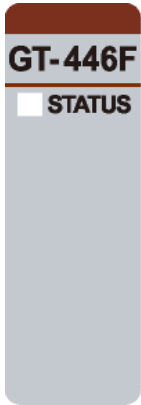
2.2. GT-446FWiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
1	Analog Output Channel 0	Analog Output Channel 1	2
3	Analog Output Channel 2	Analog Output Channel 3	4
5	Analog Output Channel 4	Analog Output Channel 5	6
7	Analog Output Channel 6	Analog Output Channel 7	8
9	Analog Output Channel 8	Analog Output Channel 9	10
11	Analog Output Channel 10	Analog Output Channel 11	12
13	Analog Output Channel 12	Analog Output Channel 13	14
15	Analog Output Channel 14	Analog Output Channel 15	16
17	Output Channel Common(AGND)	Output Channel Common(AGND)	18
19	Output Channel Common(AGND)	Output Channel Common(AGND)	20

2.3. GT-446F LED Indicator

2.3.1. LED Indicator



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

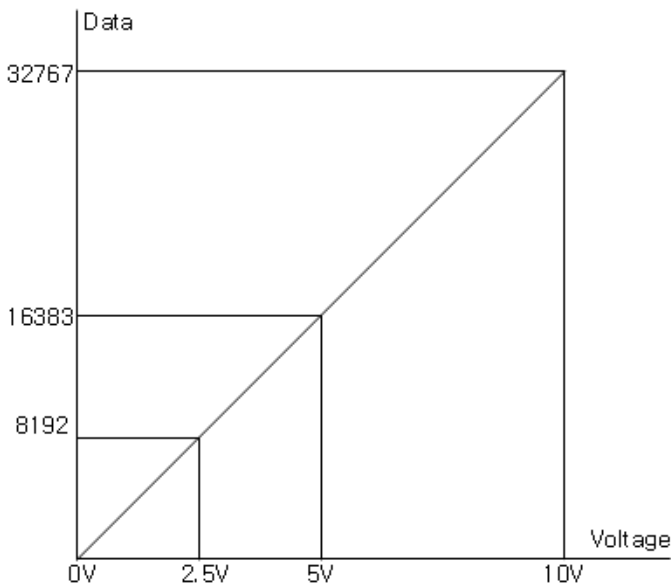
2.3.2. Channel Status LED

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

2.4. Data Value / Voltage

Voltage Range : 0~10V

Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF

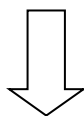


Specification

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
Byte16								Analog Output Ch8 Low byte
Byte17								Analog Output Ch8 High byte
Byte18								Analog Output Ch9 Low byte
Byte19								Analog Output Ch9 High byte
Byte20								Analog Output Ch10 Low byte
Byte21								Analog Output Ch10 High byte
Byte22								Analog Output Ch11 Low byte
Byte23								Analog Output Ch11 High byte
Byte24								Analog Output Ch12 Low byte
Byte25								Analog Output Ch12 High byte
Byte26								Analog Output Ch13 Low byte
Byte27								Analog Output Ch13 High byte
Byte28								Analog Output Ch14 Low byte
Byte29								Analog Output Ch14 High byte
Byte30								Analog Output Ch15 Low byte
Byte31								Analog Output Ch15 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
	Analog Output Ch8
	Analog Output Ch9
	Analog Output Ch10
	Analog Output Ch11
	Analog Output Ch12
	Analog Output Ch13
	Analog Output Ch14
	Analog Output Ch15

Specification

2.6. 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	Fault Value High Byte							