FnIO G – Series :

GT-442F

GT-442F (16 Channels, Voltage Output, 0~10V, 12bit)

Table of Contents

History

REV.	PAGES	REMARKS	DATE	Editor
1.00	9	New Document	July 26, 2016	Lee, Geonwoong

1. ENVIRONMENT SPECIFICATION

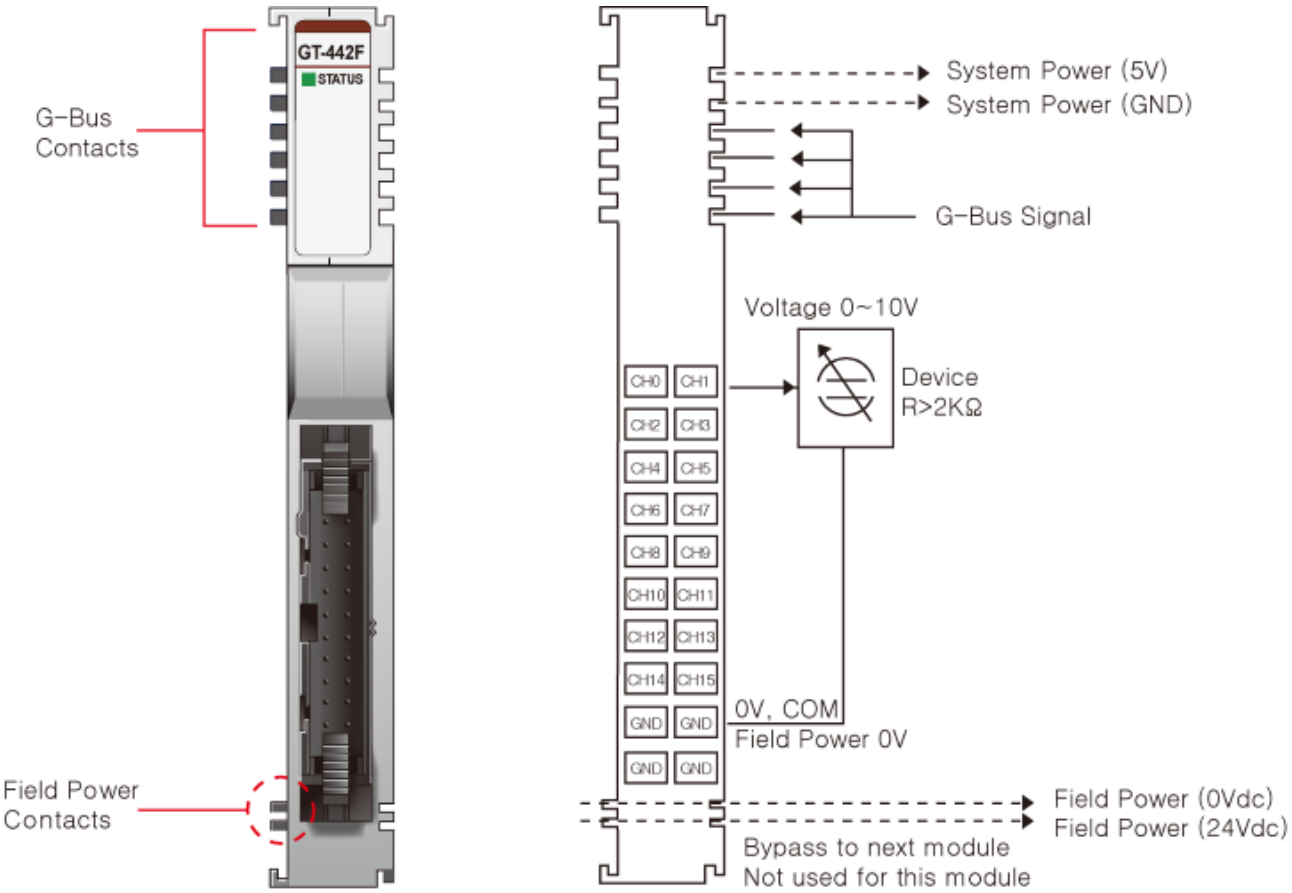
Environmentalspecification	
Operating Temperature	-40℃~60℃
UL Temperature	-20℃~60℃
Storage Temperature	-40℃~85℃
Relative Humidity	5% ~ 90% non-condensing
Mounting	DIN rail
General specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 Sine Vibration 5 ~ 25Hz : 1.6mm 25 ~ 300Hz : 4g Sweep Rate : 1 Oct/min, 20 cycles Random Vibration 10 ~ 40Hz : 0.0125g^2/Hz 40 ~ 100Hz : 0.0125 → 0.002g^2/Hz 100 ~ 500Hz : 0.002g^2/Hz 500 ~ 2000Hz : 0.002 → 1.3 x 10-$^4g^2$/Hz Test time : 1hrs for each test
Industrial Emissions	EN 61000-6-4/A11 : 2011
Industrial Immunity	EN 61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

2. GT-442F (16 CHANNELS VOLTAGE OUTPUT, 0~10V, 12BIT)

2.1. GT-442F Specification

Items	Specification
Output Specification	
Outputs per module	16 Channels single ended
Indicators(Logic side)	1 Green G-Bus status
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℃ ±0.3% Full Scale @ -40℃, 70℃
Load Resistance	Min. 2KΩ
Conversion Time	All Channel<400us
Diagnostic	Diagnostic Field Power Off : LED Blinking
Calibration	Not Required
Common Type	4 Common, Field Power 0V is Common(AGND)
General Specification	
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. 120mA @ 24Vdc, Load(2K)
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'**

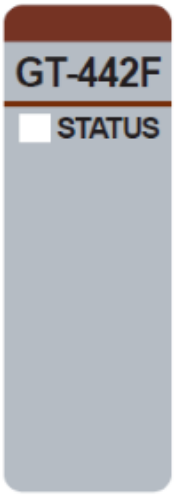
2.2. GT-442FWiring Diagram



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	Analog Output Channel 8	Analog Output Channel 9	9
10	Analog Output Channel 10	Analog Output Channel 11	11
12	Analog Output Channel 12	Analog Output Channel 13	13
14	Analog Output Channel 14	Analog Output Channel 15	15
16	Output Channel Common(AGND)	Output Channel Common(AGND)	17
18	Output Channel Common(AGND)	Output Channel Common(AGND)	19

2.3. GT-442F LED Indicator

2.3.1. LED Indicator



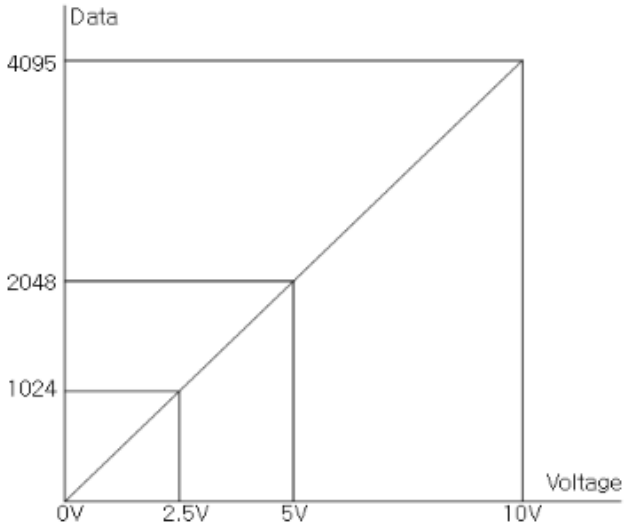
LED No.	LED Function / Description	LED Color
0	Status LED	Green

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

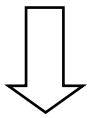
Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



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

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			