

# **FnIO G – Series :**

## ***GT-349F***

***GT-349F (16 Channels 18PT RTB, Voltage Input)***

***0~10Vdc / 0~5Vdc / 1~5Vdc, 16bit***

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**History**

<b>REV.</b>	<b>PAGES</b>	<b>REMARKS</b>	<b>DATE</b>	<b>Editor</b>
1.00	12	Preliminary	Mar 09, 2018	Soyeong, Park
1.01	5	Specification Revision	Apr 12, 2018	Soyeong, Park
1.02	5	Edit Resolution in Range	June 14, 2018	Soyeong, Park

# Specification

## 1. ENVIRONMENT SPECIFICATION

<b>Environmental 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 : 1hrs 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

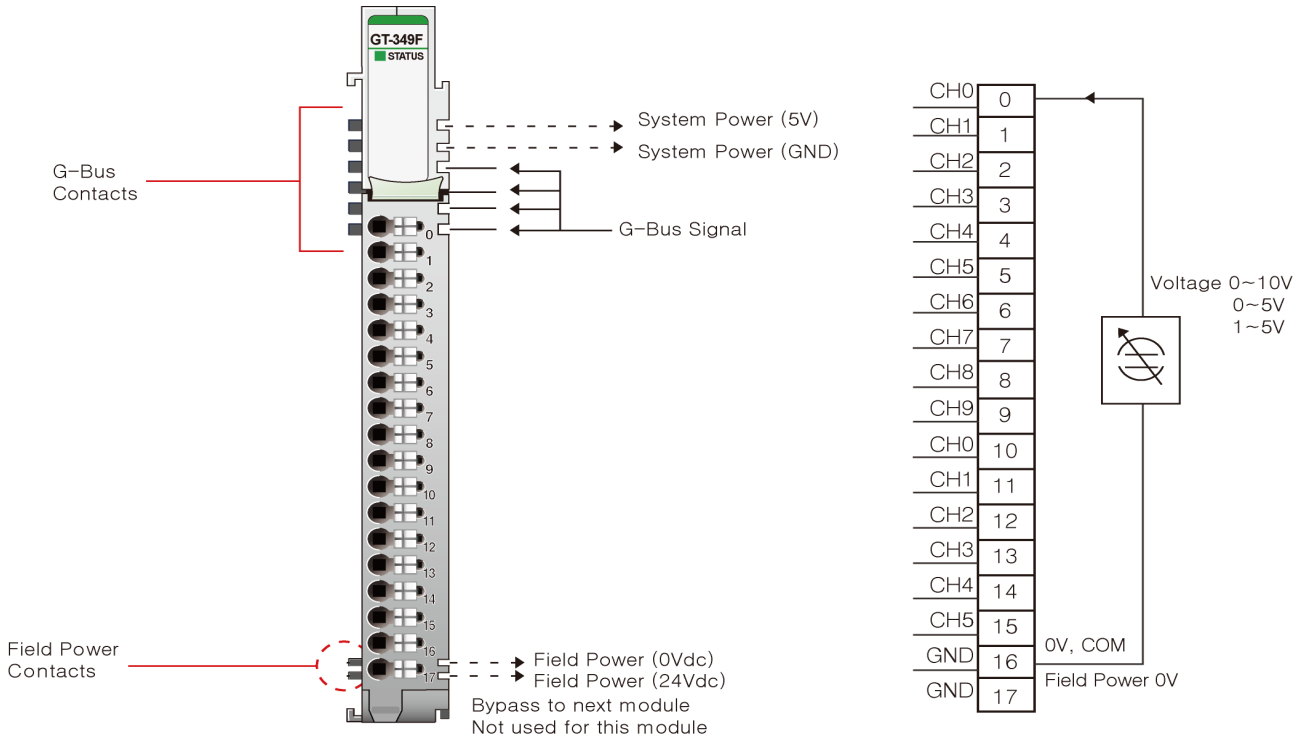
# Specification

## 2. GT-349F (16 CHANNELS VOLTAGE INPUT, 0~10Vdc/0~5Vdc/1~5Vdc, 16BIT)

### 2.1. GT-349F Specification

Items	Specification
<b>Input Specification</b>	
Inputs per module	16 Channels single ended, non-isolated between channels
Indicators(Logic side )	1 Green G-Bus status LED
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.31mV/bit(0~10V) , 0.15mV/bit(0~5V), 0.12mV/bit(1~5Vdc)
Input Current Range	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16bits Integer (2's complement)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C~60°C
Input Impedance	500kΩ
Conversion Time	All Channel<1.3ms
Calibration	Not Required
Common Type	2 Common, Field Power 0V is Common(AGND)
<b>General specification</b>	
Power dissipation	Max. 210mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : Not Connected
Field Power	Not used Field power bypass to next expansion module
Wiring	I/O Cable Max. 0.75mm <sup>2</sup> (AWG 18)
Weight	63g
Module Size	12mm x 109mm x 70mm
<b>Environment Condition</b>	<b>Refer to 'Environment Specification'</b>

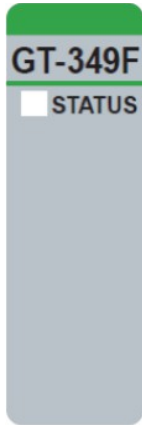
## 2.2. GT-349F Wiring Diagram



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

## 2.3. GT-349F LED Indicator

### 2.3.1. LED Indicator



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

### 2.3.2. Channel Status LED

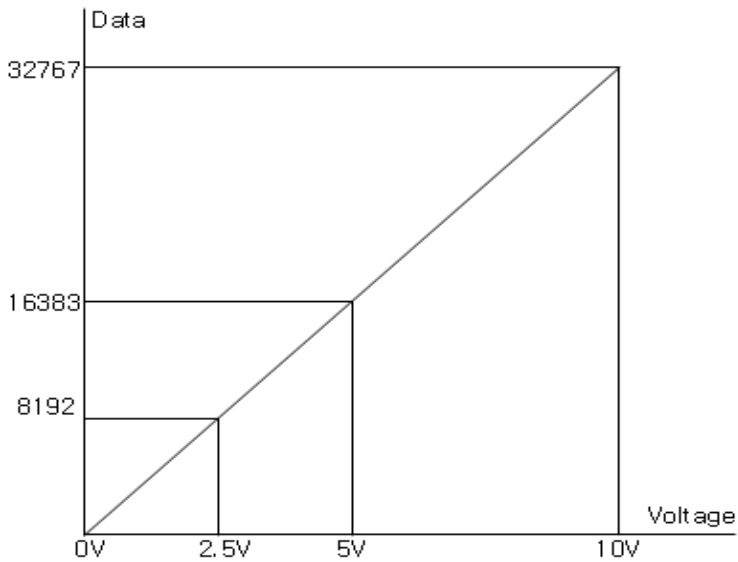
Status	LED	To indicate
G-Bus Status	Off Green	Disconnection Connection

# Specification

### 2.3.3. Data value / Voltage

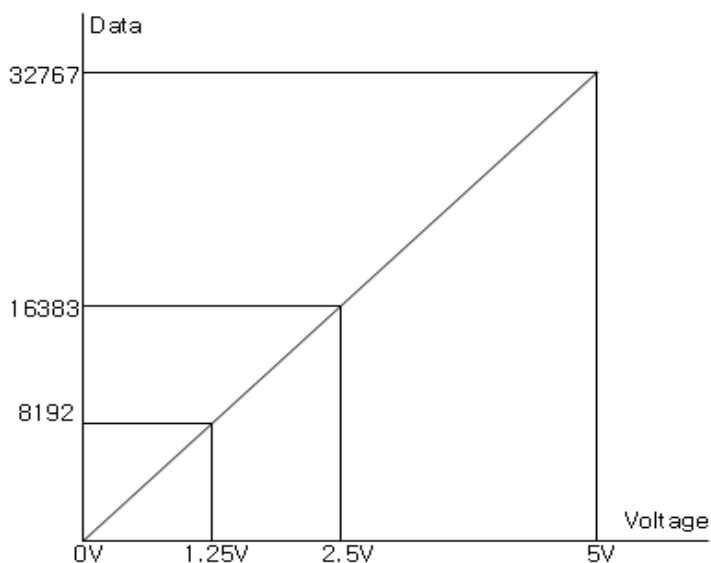
#### Voltage Range : 0~10Vdc

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



#### Voltage Range : 0~5Vdc

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF

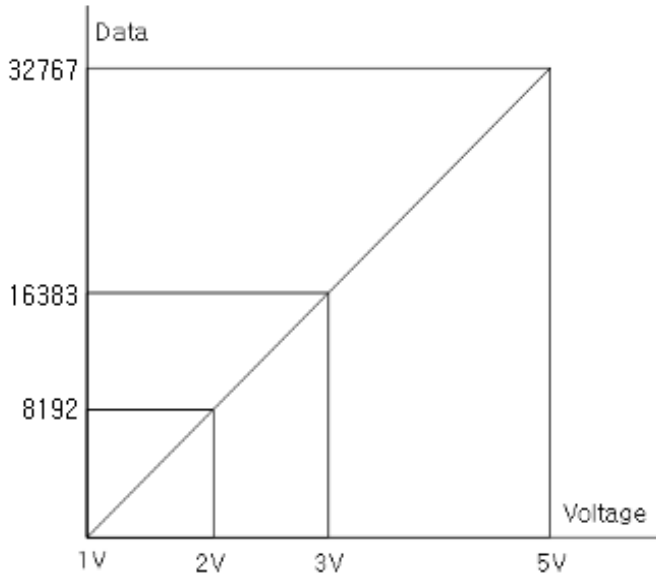




# Specification

### Voltage Range : 1~5Vdc

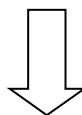
Voltage	1.0V	2.0V	3.0V	5.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



## 2.4. 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
Analog Input Ch8
Analog Input Ch9
Analog Input Ch10
Analog Input Ch11
Analog Input Ch12
Analog Input Ch13
Analog Input Ch14
Analog Input Ch15



# Specification

● **Input Image Value**

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

## 2.5. Parameter Data

- **Valid Parameter length: 18 Bytes**
- **Parameter Data**

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Voltage Range for Channel 0 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 1	Voltage Range for Channel 1 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 2	Voltage Range for Channel 2 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 3	Voltage Range for Channel 3 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 4	Voltage Range for Channel 4 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 5	Voltage Range for Channel 5 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 6	Voltage Range for Channel 6 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 7	Voltage Range for Channel 7 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 8	Voltage Range for Channel 8 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 9	Voltage Range for Channel 9 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 10	Voltage Range for Channel 10 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 11	Voltage Range for Channel 11 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 12	Voltage Range for Channel 12 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 13	Voltage Range for Channel 13 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 14	Voltage Range for Channel 14 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 15	Voltage Range for Channel 15 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte 16	Filter Time ( H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest )							
Byte 17	Not used(=00)							