

# **FnIO G – Series :**

## ***GT-3428***

***GT-3428 (8 Channels, Voltage Input, 0~10Vdc / 0~5Vdc / 1~5Vdc, 12bit)***

# Specification

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# Specification

## History

REV.	PAGES	REMARKS	DATE	Editor
1.00		Preliminary	Apr 14, 2016	DHLEE
1.01		Environment Specification	June 03, 2016	Jun, Seokhyun
1.02	10	Added Voltage Range 1~5V	June 15, 2016	Jun, Seokhyun

# Specification

## 1. ENVIRONMENT SPECIFICATION

<b>Environment specification</b>	
Operating Temperature	-40°C~70°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 Burst/ESD	EN 61000-6-2 : 2005 EN 61000-6-4/A11 : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

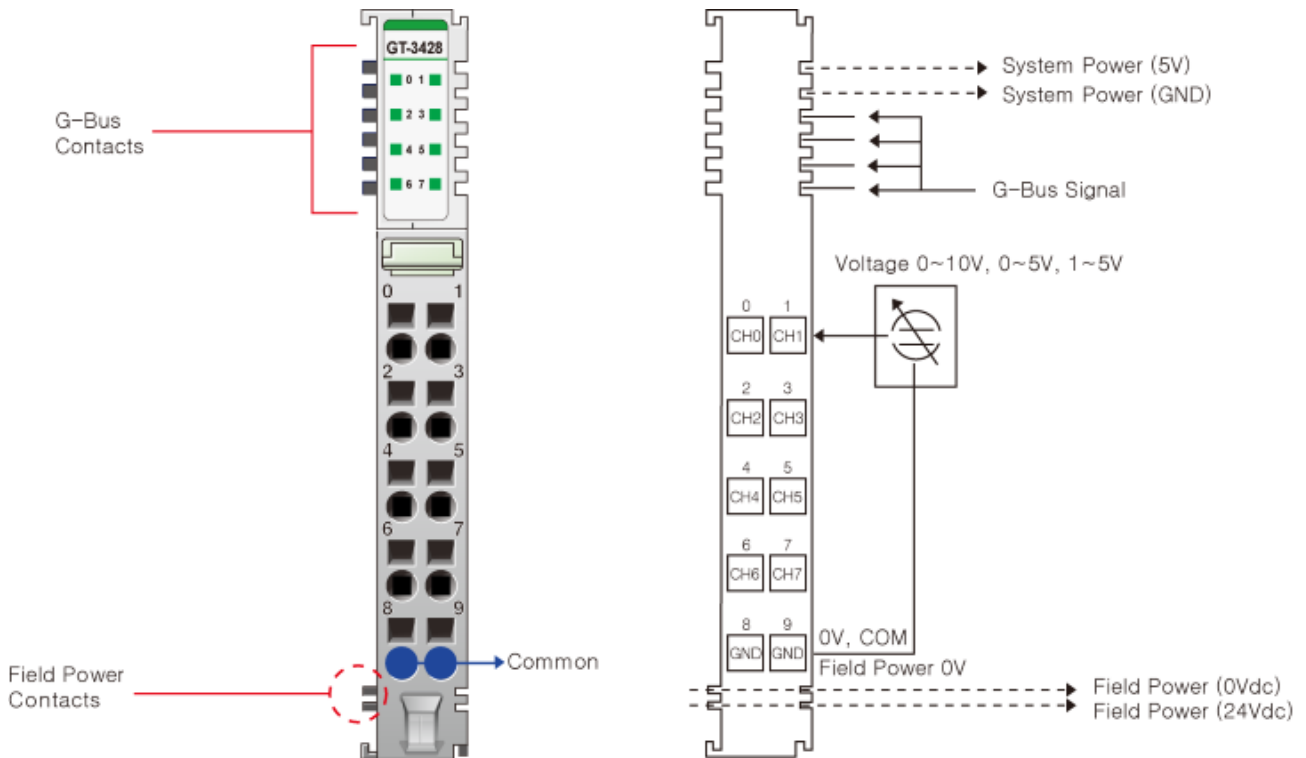
# Specification

## 2. GT-3428 (8CHANNELS VOLTAGE INPUT, 0~10Vdc / 0~5Vdc / 1~5Vdc, 12BIT)

### 2.1. GT-3428 Specification

Items	Specification
<b>Input Specification</b>	
Inputs per module	8 Channels single ended, non-isolated between channels
Indicators(Logic side )	8 Green Input status
Resolution in Ranges	12 bits : 2.44mV/Bit(0~10V) , 1.22mV/Bit(0~5V)
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, 70°C
Input Impedance	500kΩ
Diagnostic	Diagnostic Field Power Off : LED Blinking Field Power On : LED Off < 0.5% (Maximum Input Value) Field Power On : LED On > 0.5% (Maximum Input Value)
Conversion Time	≤1msec / All channel (≤ 0.125ms per channel)
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. 30mA@24Vdc
Wiring	I/O Cable Max. 2.0mm <sup>2</sup> (AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
<b>Environment Condition</b>	<b>Refer to 'Environment Specification'</b>

## 2.2. GT-3428 Wiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
0	Input Channel 0	Input Channel 1	1
2	Input Channel 2	Input Channel 3	3
4	Input Channel 4	Input Channel 5	5
6	Input Channel 6	Input Channel 7	7
8	Input Channel Common(AGND)	Input Channel Common(AGND)	9

## 2.3. GT-3428 LED Indicator

### 2.3.1. LED Indicator



LED No.	LED Function / Description	LED Color
0	INPUT Channel 0	Green
1	INPUT Channel 1	Green
2	INPUT Channel 2	Green
3	INPUT Channel 3	Green
4	INPUT Channel 4	Green
5	INPUT Channel 5	Green
6	INPUT Channel 6	Green
7	INPUT Channel 7	Green

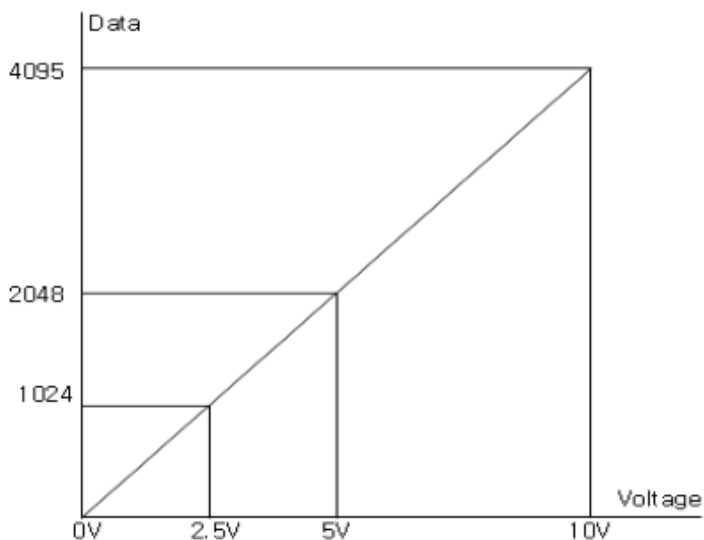
### 2.3.2. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF [LED On > 0.5% (Maximum Input Value)] - Channel Green	Normal Operation
Field Power Error	All Channel Repeat the Green and OFF	Field Power is unconnected

### 2.3.3. Data value / Voltage

Voltage Range : 0~10Vdc

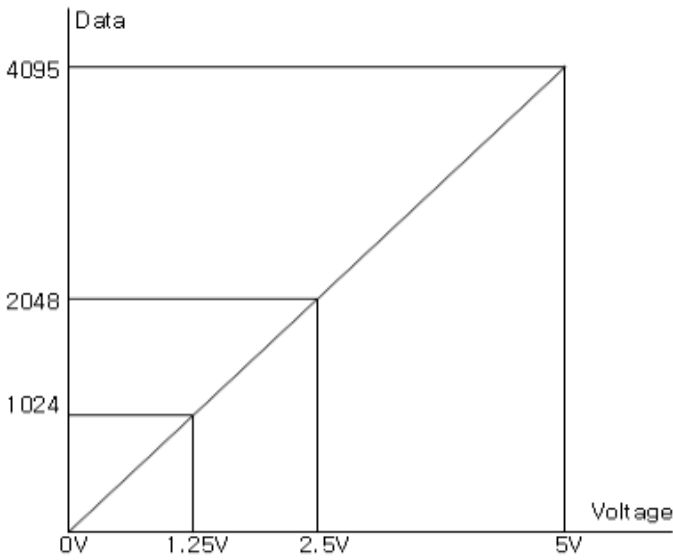
Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



# Specification

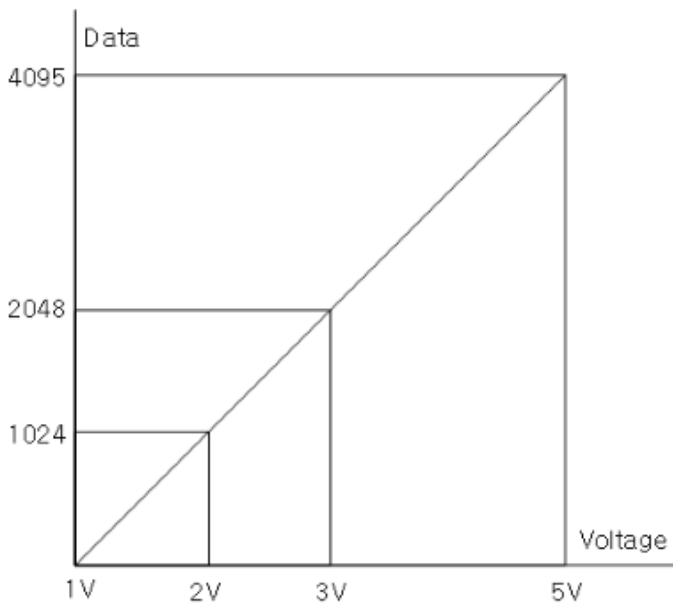
## Voltage Range : 0~5Vdc

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



## Voltage Range : 1~5Vdc

Voltage	1.0V	2.0V	3.0V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF

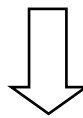




## 2.4. Mapping data into the image table

- **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



- **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							

## 2.5. Parameter Data

- Valid Parameter length: 10 Bytes
- Parameter Data

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