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# **FnIO G – Series :**

## ***GT-3C74***

***GT-3C74 (4 Channels, Voltage Input, 0~10Vdc, 0~5Vdc, 1~5Vdc,  
4 Channels, Voltage Output, 0~10Vdc, 12bit)***

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History

Rev	Page	Remarks	Date	Editor
1.00			2021/02/01	Soyeong, Park
1.01	1,4,6-8	Add Voltage Range to description, Data range /Edit Certification,Signal Description /Change Diagram	2023/07/28	Soyeong, Park
1.02	5	Edit System, Field Power Dissipation	2025/05/30	Suna, Hwang

# Specification

## 1. Environment Specification

Environmental Specification	
Operation 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 : 2019
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

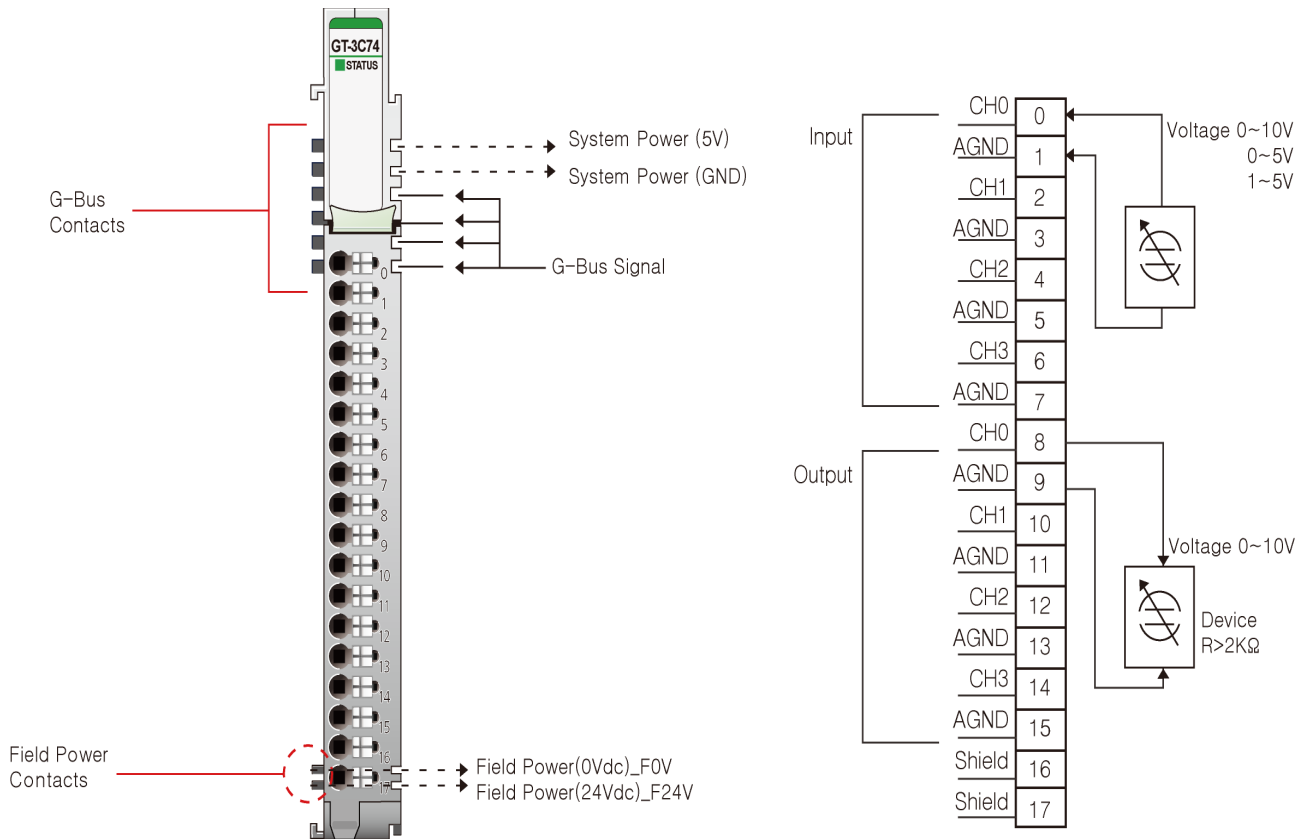
# Specification

## 2. GT-3C74 (4 Channels, Voltage Input, 0~10Vdc, 0~5Vdc, 1~5Vdc, Voltage Output, 0~10Vdc, 12bit)

### 2.1. GT-3C74 Specification

Items	Specification
<b>Input Specification</b>	
Inputs Per Module	4 Channels single ended, non-isolated between channel
Resolution in Ranges	12 bits : 2.44mV/Bit(0~10V) 12 bits : 1.22mV/Bit(0~5V) 12 bits : 0.977mV/Bit(1~5V)
Input Range	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ -40°C, 60°C
Input Impedance	469.5kΩ
<b>Output Specification</b>	
Output Per Module	4 Channels single ended, non-isolated between channel
Resolution in range	12bit : 2.44mV/bit
Output Voltage 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
<b>Signal Common Specification</b>	
Diagnostic	Diagnostic Field Power Off : LED Blinking
Conversion Time	1msec / All channel
Calibration	Not Required
Common Type	8 Common, Field Power 0V is Common(AGND)
<b>General Specification</b>	
Power Dissipation	Max. 35mA @ 5Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : Non-Isolation
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Supply Voltage : 24Vdc nominal Supply Voltage : 18~30Vdc Power Dissipation : Max. 35mA@24Vdc
Wiring	I/O Cable Max. 0.823mm <sup>2</sup> (AWG 18)
Weight	64g
Module Size	12mm x 109mm x 70mm
<b>Environment Condition</b>	<b>Refer to 'Environment Specification'</b>

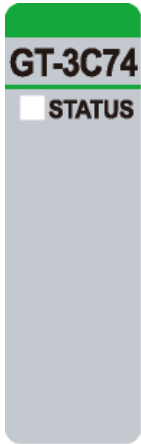
## 2.2. GT-3C74 Wiring Diagram



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

2.3. GT-3C74 LED Indicator

2.3.1. LED Indicator



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

2.3.2. Channel Status LED

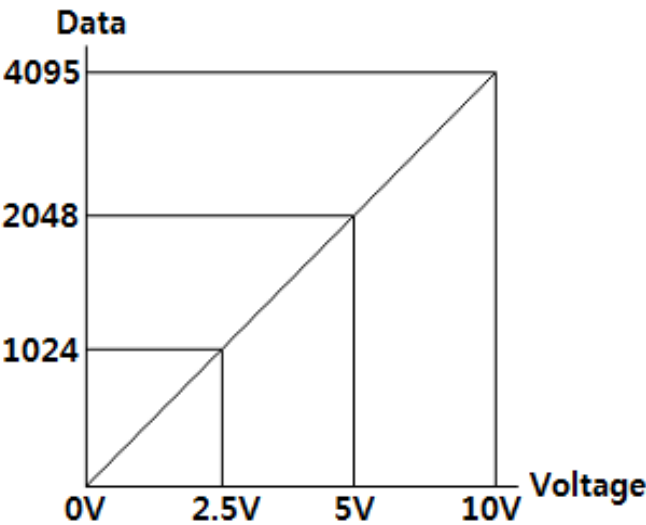
Status	LED	To indicate
G-Bus Status	Off	Disconnection
	Green	Connection
Field Power Error	Status Channel Repeat the Green and Off	Field power is unconnected.

2.4. Data Value / Voltage

2.4.1. Operating Range

Voltage Range : 0~10V

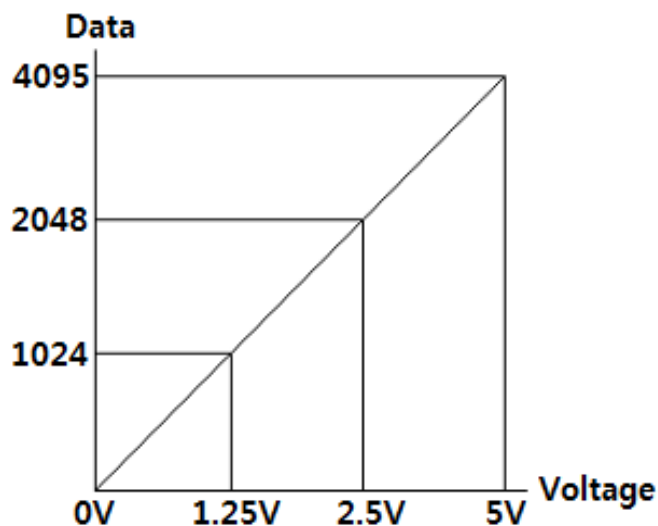
Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



# Specification

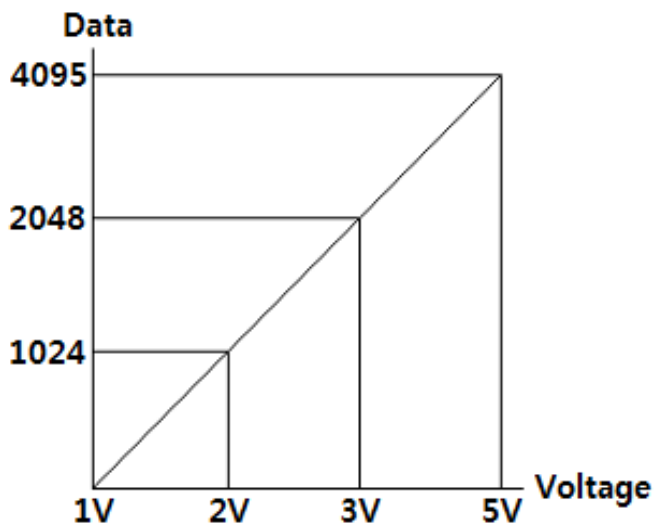
## Voltage Range : 0~5V

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



## Voltage Range : 1~5V

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



### 2.4.2. Underrun / Overrun Range

Voltage	Voltage Range : 0~10V		Voltage Range : 0~5V		Voltage Range : 1~5V	
	<0.0V	>10.0V	<0.0V	>6.0V	<1.0V	>6.0V
Data(Hex)	-	-	-	H7FFF	H8000	H7FFF

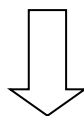


# Specification

## 2.5. Mapping Data into the Image Table

### ● Input Module Data

	Analog Input Ch0
	Analog Input Ch1
	Analog Input Ch2
	Analog Input Ch3

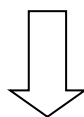


### ● Input Image Value

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Analog Input Ch0 Low byte							
Byte1	Analog Input Ch0 High byte							
Byte2	Analog Input Ch1 Low byte							
Byte3	Analog Input Ch1 High byte							
Byte4	Analog Input Ch2 Low byte							
Byte5	Analog Input Ch2 High byte							
Byte6	Analog Input Ch3 Low byte							
Byte7	Analog Input Ch3 High byte							

### ● 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							



### ● Output Module Data

	Analog Output Ch0
	Analog Output Ch1
	Analog Output Ch2
	Analog Output Ch3

2.6. Parameter Data

- Valid Parameter length : 6Bytes
- Parameter Data

	Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
AI	Byte0	Voltage Range for Channel 3		Voltage Range for Channel 2		Voltage Range for Channel 1		Voltage Range for Channel 0	
		00 : 0~10Vdc   01 : 0~5Vdc   10 : 1~5Vdc							
	Byte1	Filter Time ( H00 : Default Filter(20) / H01 : Fastest ~ / H3E : Slowest )							
AO	Byte2	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							
	Byte3	Reserved							
	Byte4	Fault Value Low Byte							
	Byte5	Fault Value High Byte							