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# **FnIO G – Series :**

## ***GT-2438***

***GT-2438 (8 Points, Sink Output With Diagnostics, 24Vdc/2A)***

# Specification

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# Specification

## History

Rev	Pages	Remarks	Date	Editor
1.00			2022/05/04	Joonho, Park
1.01	5	Modify Image	2022/07/15	Chiwon, Seo
1.02	8	LED Status	2022/07/27	Chiwon, Seo
1.03	5	Change Output Delay Time and Leackage current	2022/09/30	Chiwon, Seo
1.04	6	Change Diagram, Signal Description	2023/04/03	Soyeong, Park
1.05	7	Bus Fault LED changed	2023/05/19	Chiwon, Seo
1.06	4,6,8,9	Edit Certification / Change Diagram, Status LED / Add Diagnostic further explanation	2023/08/08	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, UKCA

# Specification

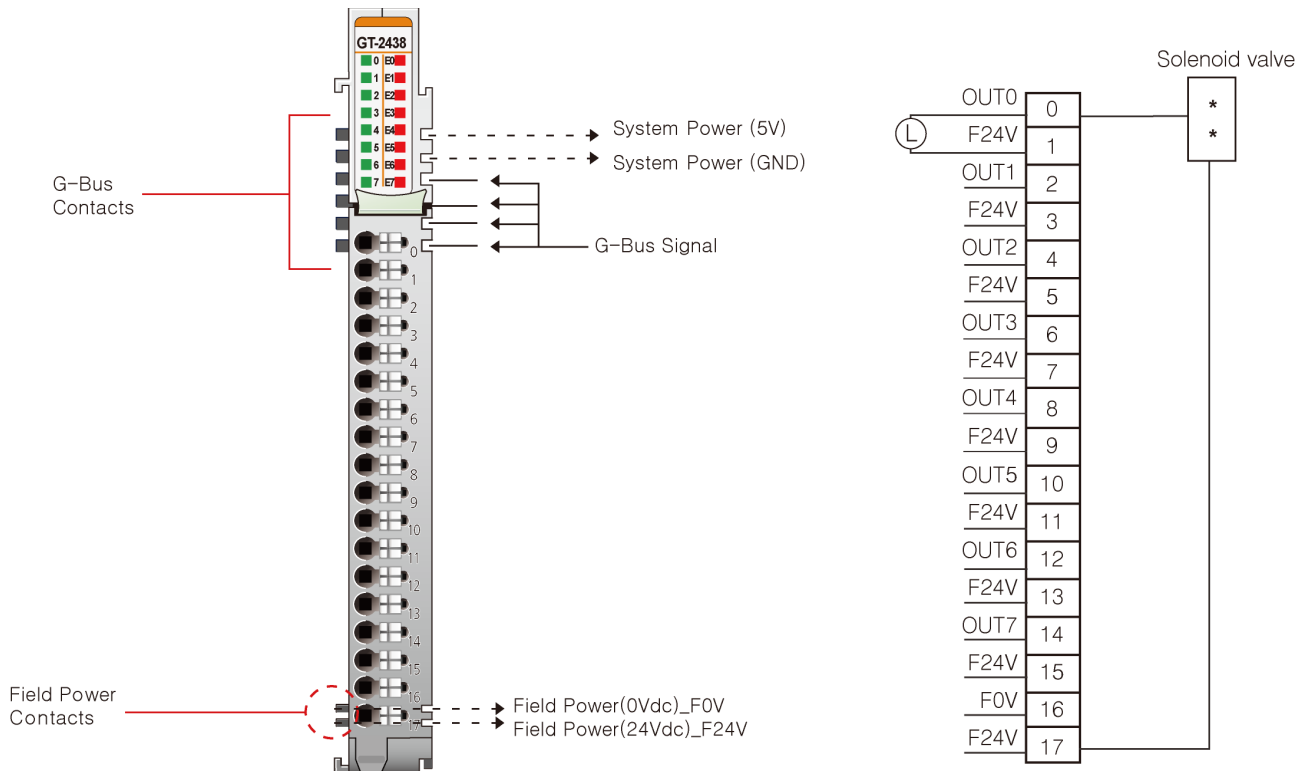
## 2. GT-2438 (8 Points, Sink Output with Diagnostics)

### 2.1. GT-2438 Specification

Items	Specification
<b>Input specification</b>	
Output per module	8 points sink type
Indicators	8 green output status, 8 red diagnostic state
Output voltage range	24Vdc nominal 15Vdc ~ 30Vdc
On-state voltage drop	3.0Vdc @ 2A / 0.5Vdc @ 0.3A
On-state min. current	Min. 1mA
Off-state leakage current	Max. 2uA
Output signal delay	OFF to ON : Max. 0.4ms @ 2A / OFF to ON : Max. 0.2ms @ 0.3A ON to OFF : Max. 0.4ms @ 2A / ON to OFF : Max. 0.4ms @ 0.3A
Output current rating	Refer to Specification of NA -GT9xxx: Max. 2.0A per channel / Max. 10A per unit. -GL9xxx: Max. 2.0A per channel / Max. 8A per unit.
Protection(1)	None
Common type	8 points / 10 COM
<b>General specification</b>	
Power dissipation	Max. 50mA @ 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 Voltage range : 15~30Vdc Power dissipation: 35mA @ 24Vdc
Single Wiring	I/O Cable Max. 0.823mm <sup>2</sup> (AWG 18)
Weight	63g
Module size	12mm x 109mm x 70mm
<b>Environment condition</b>	<b>Refer to '1. Environment Specification'</b>

(1) Check the 2.2.1 Wiring Guide.

## 2.2. GT-2438 Wiring Diagram



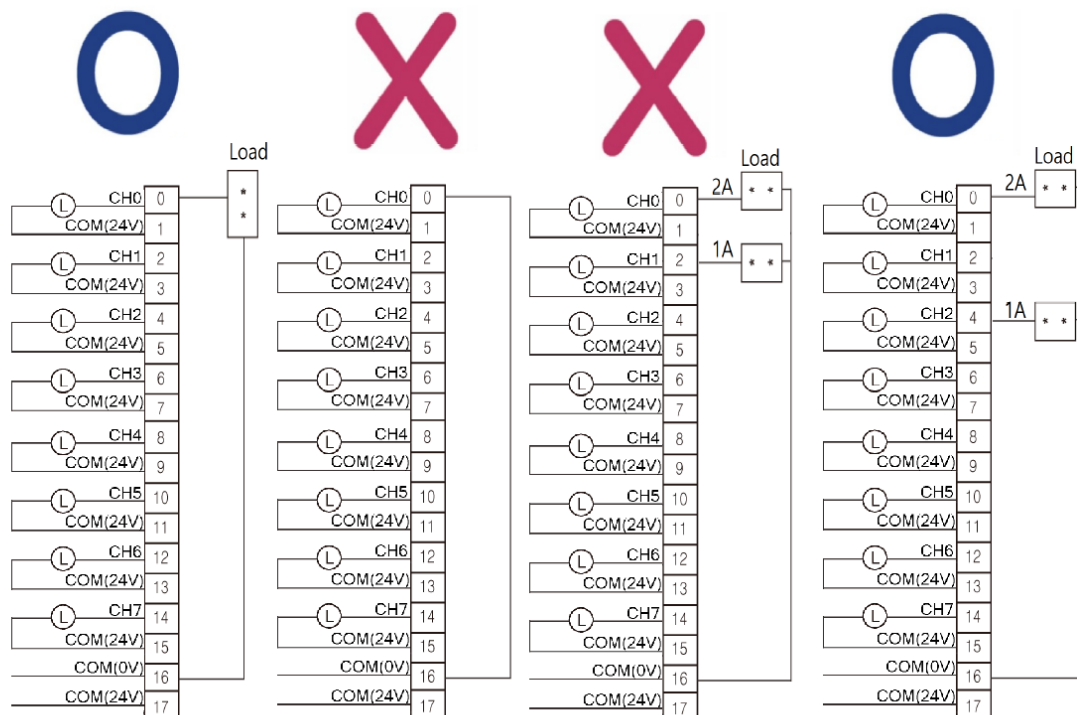
Pin No.	Signal Description
0	Output Channel 0
1	Common (Field Power 24V)
2	Output Channel 1
3	Common (Field Power 24V)
4	Output Channel 2
5	Common (Field Power 24V)
6	Output Channel 3
7	Common (Field Power 24V)
8	Output Channel 4
9	Common (Field Power 24V)
10	Output Channel 5
11	Common (Field Power 24V)
12	Output Channel 6
13	Common (Field Power 24V)
14	Output Channel 7
15	Common (Field Power 24V)
16	Field Power 0V
17	Common (Field Power 24V)

### 2.2.1. Wiring Guide

## WARNING !

### Observe the following instructions for wiring

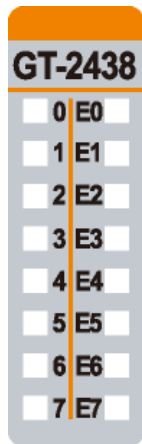
- Observe the maximum output current of the I/O Module. Parts may be damaged.
- Do not connect the input and GND pins without any load. Parts may be damaged.
- If you are using current above 1.0A, Do not use next one channel.



# Specification

## 2.3. GT-2438 LED Indicator

### 2.3.1. LED Indicator



LED No.	LED Function / Description	LED Color
0	OUTPUT Channel 0	Green
1	OUTPUT Channel 1	Green
2	OUTPUT Channel 2	Green
3	OUTPUT Channel 3	Green
4	OUTPUT Channel 4	Green
5	OUTPUT Channel 5	Green
6	OUTPUT Channel 6	Green
7	OUTPUT Channel 7	Green
E0	Channel 0 Diagnostic	Red
E1	Channel 1 Diagnostic	Red
E2	Channel 2 Diagnostic	Red
E3	Channel 3 Diagnostic	Red
E4	Channel 4 Diagnostic	Red
E5	Channel 5 Diagnostic	Red
E6	Channel 6 Diagnostic	Red
E7	Channel 7 Diagnostic	Red

### 2.3.2. Channel Status LED

- LED No. 0~7

Status	LED	To indicate
No Signal	Off	No Output Signal
On Signal	Green	Output Signal detected

- LED No. E0~E7

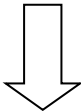
Status	LED	To indicate
Bus Fault	Red(ALL)	G-Bus Fault
Channel Fault	Red	Field Power Off



2.4. Mapping data into the image table

● Output Image Value

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	D7	D6	D5	D4	D3	D2	D1	D0

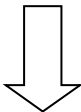


● Output Module Data

D7	D6	D5	D4	D3	D2	D1	D0
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● Input Module Data

D7	D6	D5	D4	D3	D2	D1	D0
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● Input Image Value

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	D7	D6	D5	D4	D3	D2	D1	D0
	Diagnostic error status for Output signal							

\* D0~7 : Diagnostic error status for Output Channel 0~7  
- 0 : Normal Operation  
- 1 : Field Power Off  
(All bits '1' : G-Bus Fault)

2.5. Parameter Data

- Valid Parameter length: 2 Bytes
- Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Fault Action (ch0~ch7) 0: Fault value, 1:Hold last state							
Byte1	Fault value (ch0~ch7) 0:Off, 1:On							