

---

# **FnIO G – Series :**

## ***GT-228F***

***GT-228F (16 Points, Source Output Terminal, 24Vdc, 0.5A)***

Table of Contents

[Table of Contents.....2](#)

[History.....3](#)

[1.ENVIRONMENT SPECIFICATION.....4](#)

[2.GT-228F \(16 Points, Source Output Terminal\).....5](#)

[2.1.GT-228F Specification.....5](#)

[2.2.GT-228F Wiring Diagram.....6](#)

[2.2.1.Wiring Guide.....7](#)

[2.3.GT-228F LED Indicator.....8](#)

[2.3.1.LED Indicator.....8](#)

[2.3.2.Channel Status LED.....8](#)

[2.4.Mapping data into the image table.....9](#)

[2.5.Parameter Data.....10](#)

History

| Rev  | Pages | Remarks                                         | Date       | Editor        |
|------|-------|-------------------------------------------------|------------|---------------|
| 1.00 |       |                                                 | 2022/05/06 | Joonho, Park  |
| 1.01 | 5     | Change Output Delay Time and Leackage current   | 2022/09/30 | Chiwon, Seo   |
| 1.02 | 6     | Change Diagram, Channel to Point                | 2023/04/03 | Soyeong, Park |
| 1.03 | 4,6,8 | Edit Certification / Change Diagram, Status LED | 2023/08/04 | Suna, Hwang   |
| 1.04 | 1,5   | Edit Module Description, Specification          | 2025/11/27 | Suna, Hwang   |
| 1.05 | 7     | Edit Wiring Guide Image                         | 2026/01/28 | Suna, Hwang   |
| 1.06 | 5     | Edit Specification                              | 2026/06/08 | 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                                      |

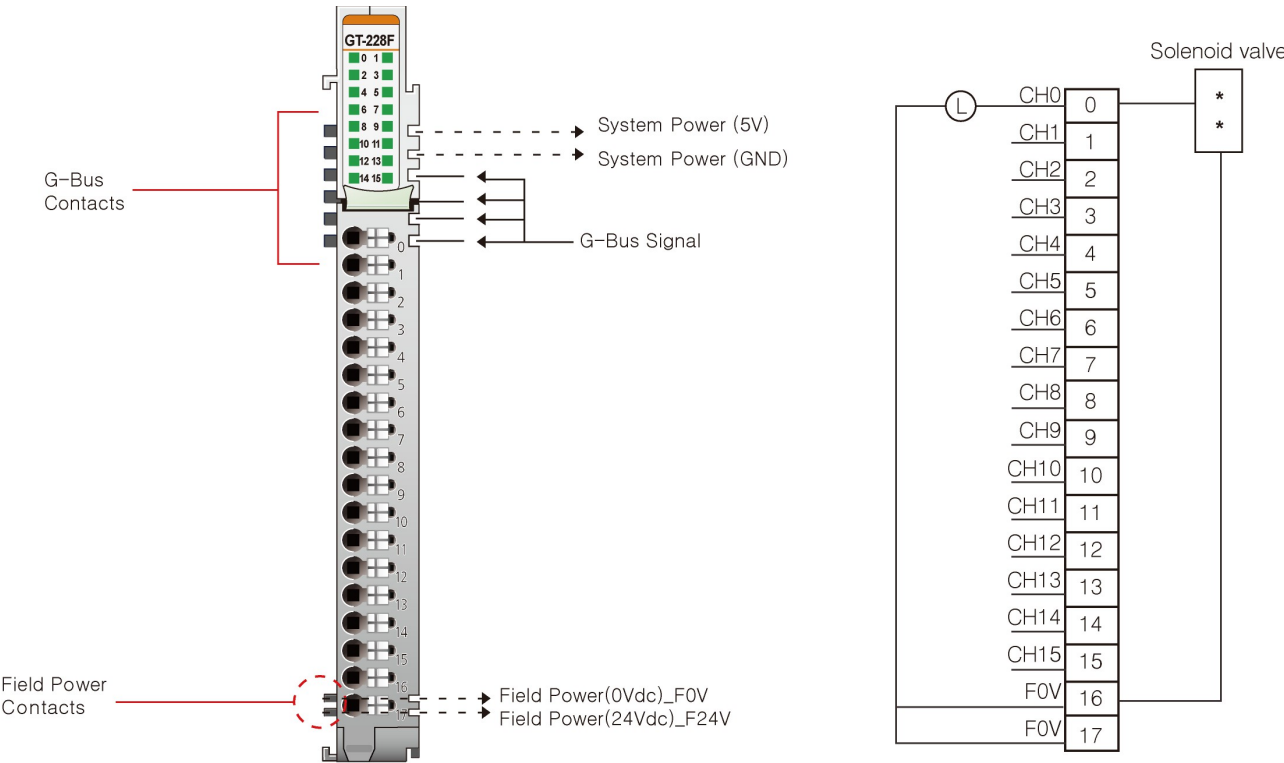
# Specification

## 2. GT-228F (16 Points, Source Output Terminal)

### 2.1. GT-228F Specification

| Items                        | Specification                                                                                 |
|------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Input specification</b>   |                                                                                               |
| Output per module            | 16 points source type                                                                         |
| Indicators                   | 16 green output status                                                                        |
| Output voltage range         | 24Vdc nominal<br>Min. 15Vdc ~ Max. 30Vdc                                                      |
| On-state voltage drop        | 0.3Vdc @ 25°C<br>0.4Vdc @ 60°C                                                                |
| On-state min. current        | Min. 1mA                                                                                      |
| Off-state leakage current    | Max. 2uA                                                                                      |
| Output signal delay          | OFF to ON : Max. 0.1ms<br>ON to OFF : Max. 0.2ms                                              |
| Output current rating        | Max. 0.5A per channel / Max. 8.0A per unit                                                    |
| Protection                   | None                                                                                          |
| Common type                  | 16 points / 2 COM                                                                             |
| <b>General specification</b> |                                                                                               |
| Power dissipation            | Max. 50mA @ 5Vdc                                                                              |
| Isolation                    | I/O to Logic : photocoupler isolation<br>Field power : non-isolation                          |
| UL field power               | Supply voltage : 24Vdc nominal, Class 2                                                       |
| Field power                  | Supply voltage : 24Vdc nominal<br>Voltage range : 15~30Vdc<br>Power dissipation: 30mA @ 24Vdc |
| Single 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 '1. Environment Specification'</b>                                                |

2.2. GT-228F Wiring Diagram



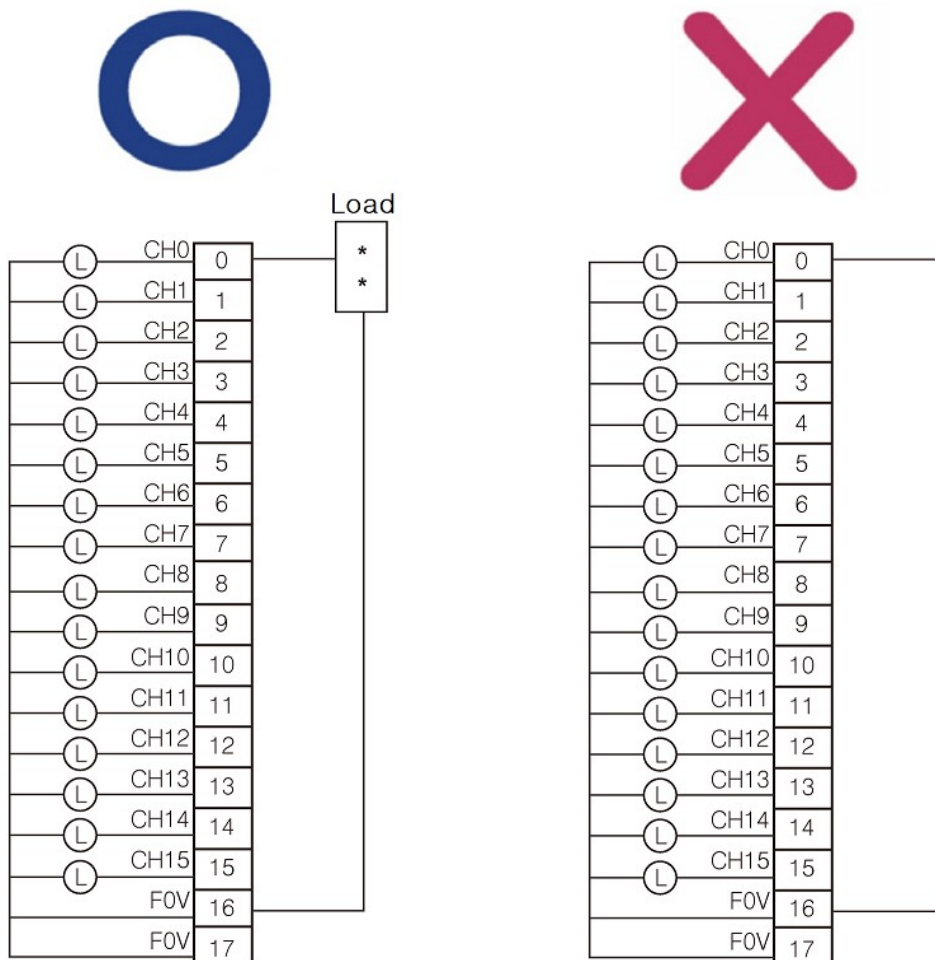
| Pin No. | Signal Description      |
|---------|-------------------------|
| 0       | Output Channel 0        |
| 1       | Output Channel 1        |
| 2       | Output Channel 2        |
| 3       | Output Channel 3        |
| 4       | Output Channel 4        |
| 5       | Output Channel 5      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

### 2.2.1. Wiring Guide

## WARNING !

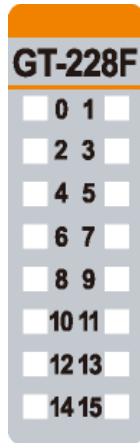
#### Observe the following instructions for wiring

- 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.



## 2.3. GT-228F 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     |
| 8       | OUTPUT Channel 8           | Green     |
| 9       | OUTPUT Channel 9           | Green     |
| 10      | OUTPUT Channel 10          | Green     |
| 11      | OUTPUT Channel 11          | Green     |
| 12      | OUTPUT Channel 12          | Green     |
| 13      | OUTPUT Channel 13          | Green     |
| 14      | OUTPUT Channel 14          | Green     |
| 15      | OUTPUT Channel 15          | Green     |

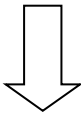
### 2.3.2. Channel Status LED

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

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   |
| Byte1  | D15  | D14  | D13  | D12  | D11  | D10  | D9   | D8   |



● Output Module Data

|     |     |     |     |     |     |    |    |
|-----|-----|-----|-----|-----|-----|----|----|
| D7  | D6  | D5  | D4  | D3  | D2  | D1 | D0 |
| D15 | D14 | D13 | D12 | D11 | D10 | D9 | D8 |

2.5. Parameter Data

- Valid Parameter length: 4 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 Action (ch8~ch15) 0: Fault value, 1:Hold last state |      |      |      |      |      |      |      |
| Byte2  | Fault value (ch0~ch7) 0:Off, 1:On                         |      |      |      |      |      |      |      |
| Byte3  | Fault value (ch8~ch15) 0:Off, 1:On                        |      |      |      |      |      |      |      |