

# **FnIO G – Series :**

## ***GT-44B4***

***GT-44B4 (4 Channels, Voltage Output, 0~10V, 0~5V, 16bit,  
Channel-to-Channel Isolation Blocks, 2ch/block)***

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## Table of Contents

|   |                   |
|---|-------------------|
| <a href="#">Table of Contents.....</a>  | <a href="#">2</a> |
| <a href="#">History.....</a>  | <a href="#">3</a> |
| <a href="#">1.ENVIRONMENT SPECIFICATION.....</a>  | <a href="#">4</a> |
| <a href="#">2.GT-44B4 (4 Channels Voltage Output, 0~10V, 0~5V, 16bit, Channel-to-Channel Isolation Block, 2ch/block).....</a> | <a href="#">5</a> |
| <a href="#">2.1.GT-44B4 Specification.....</a>  | <a href="#">5</a> |
| <a href="#">2.2.GT-44B4 Wiring Diagram.....</a>   | <a href="#">6</a> |
| <a href="#">2.3.GT-44B4 LED Indicator.....</a>  | <a href="#">7</a> |
| <a href="#">2.3.1.LED Indicator.....</a>  | <a href="#">7</a> |
| <a href="#">2.3.2.Channel Status LED.....</a>   | <a href="#">7</a> |
| <a href="#">2.4.Data value / Voltage.....</a>   | <a href="#">8</a> |
| <a href="#">2.5.Mapping data from the image table.....</a>  | <a href="#">9</a> |
| <a href="#">2.6.Parameter Data.....</a>   | <a href="#">9</a> |

History

| Rev  | Pages | Remarks | Date       | Editor        |
|------|-------|---------|------------|---------------|
| 1.00 |       |         | 2023/08/29 | Hongseok, Kim |
|      |       |         |            |               |
|      |       |         |            |               |
|      |       |         |            |               |
|      |       |         |            |               |
|      |       |         |            |               |

# Specification

## 1. ENVIRONMENT SPECIFICATION

| Environmental specification |   |
|-----------------------------|---|
| 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  |
| General specification       |   |
| Shock Operating             | IEC 60068-2-27                                    |
| Vibration Resistance        | Based on IEC 60068-2-6, 4g                        |
| Industrial Emissions        | EN 61000-6-4/A11 : 2011                           |
| Industrial Immunity         | EN 61000-6-2 : 2005                               |
| Installation Position       | Vertical and horizontal installation is available |
| Product Certifications      | CE, UL  |

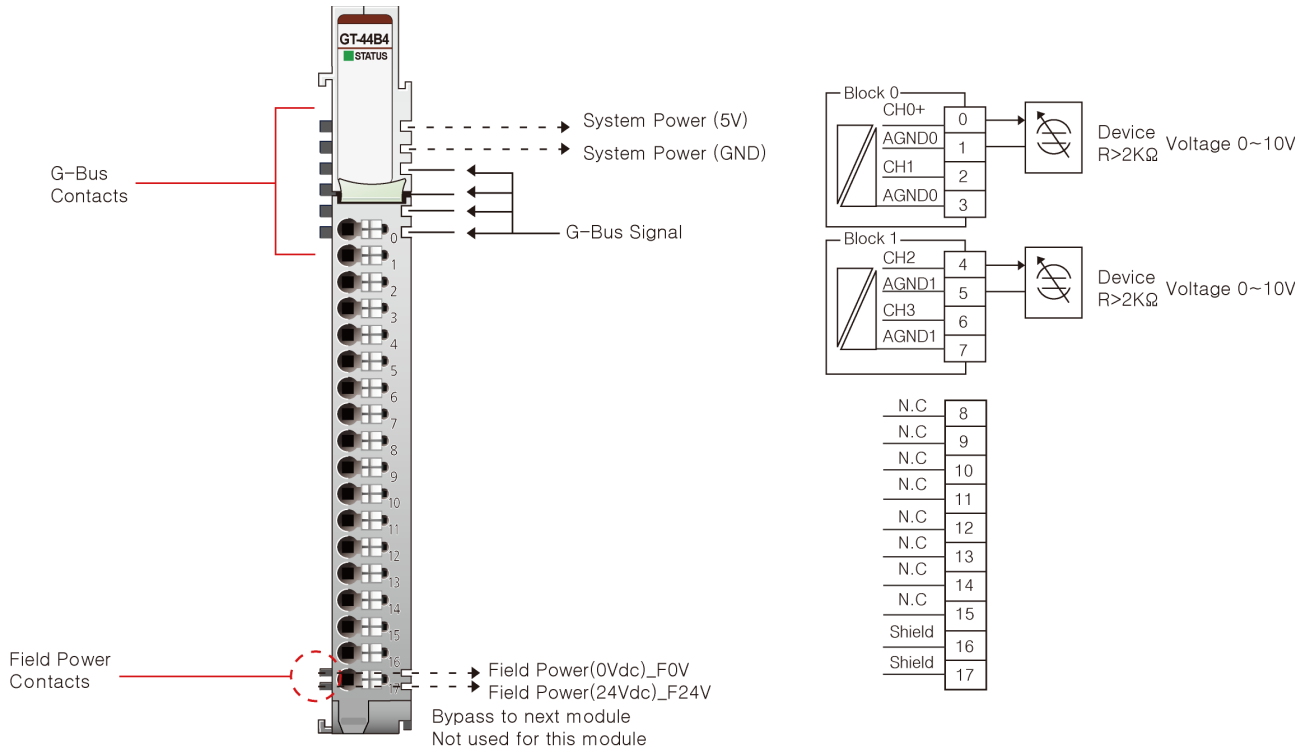
# Specification

## 2. GT-44B4 (4 Channels Voltage Output, 0~10V, 0~5V, 16bit, Channel-to-Channel Isolation Block, 2ch/block)

### 2.1. GT-44B4 Specification

| Items                        | Specification   |
|------------------------------|---|
| <b>Output Specification</b>  |   |
| Outputs per module           | 4 Channels single ended, isolated between block   |
| Indicators(Logic side )      | 1 Green G-Bus status  |
| Resolution in Ranges         | 16 bit (Include Sign)<br>15 bits : 0.31mV/Bit(0~10V)<br>15 bits : 0.15mV/Bit(0~5V)                    |
| Output Range                 | 0 ~ 10Vdc, 0~5Vdc   |
| Data Format                  | 16bits Integer (2' compliment)  |
| Module Error                 | ±0.1% Full Scale @ 25°C<br>±0.3% Full Scale @ -40°C, 60°C   |
| Load Resistance              | Min. 2KΩ  |
| Diagnostic                   | Field Power Off: LED Blinking   |
| Conversion Time              | 0.6msec / All channel   |
| Calibration                  | Not Required  |
| Common Type                  | 2 Common/block  |
| <b>General Specification</b> |   |
| Power dissipation            | Max. 35mA @ 5Vdc  |
| Isolation                    | I/O to Logic : Isolation<br>Field power to Logic : Isolation<br>Block to Block : Isolation            |
| UL Field Power               | Supply voltage : 24Vdc nominal, Class2  |
| Field Power                  | Supply Voltage : 24Vdc nominal<br>Voltage Range : 18~28.8Vdc<br>Power Dissipation : Max. 60mA @ 24Vdc |
| Wiring                       | I/O Cable Max. 0.823mm <sup>2</sup> (AWG 18)  |
| Weight                       | 66g   |
| Module Size                  | 12mm x 109mm x 70mm   |
| <b>Environment Condition</b> | <b>Refer to 'Environment Specification'</b>   |

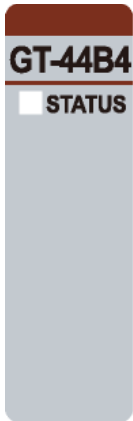
## 2.2. GT-44B4 Wiring Diagram



| Pin No.                  | Signal Description      | Signal Description | Pin No. |
|--------------------------|-------------------------|--------------------|---------|
| <b>Isolation Block#0</b> |                         |                    |         |
| 1                        | Analog Output Channel 0 | AGND0              | 2       |
| 3                        | Analog Output Channel 1 | AGND0              | 4       |
| <b>Isolation Block#1</b> |                         |                    |         |
| 5                        | Analog Output Channel 2 | AGND1              | 6       |
| 7                        | Analog Output Channel 3 | AGND1              | 8       |
| <b>N.C</b>               |                         |                    |         |
| 9                        | N.C                     | N.C                | 10      |
| 11                       | N.C                     | N.C                | 12      |
| 13                       | N.C                     | N.C                | 14      |
| 15                       | N.C                     | N.C                | 16      |
| <b>Shield</b>            |                         |                    |         |
| 17                       | Shield                  | Shield             | 18      |

2.3. GT-44B4 LED Indicator

2.3.1. LED Indicator



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

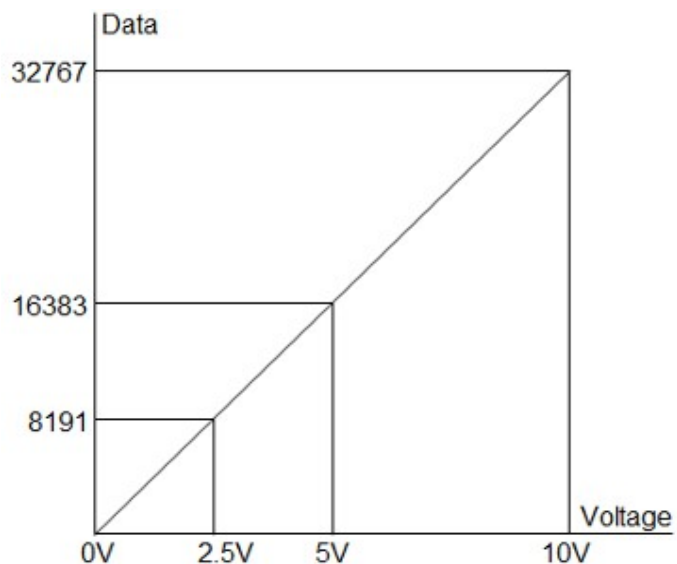
2.3.2. Channel Status LED

| 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

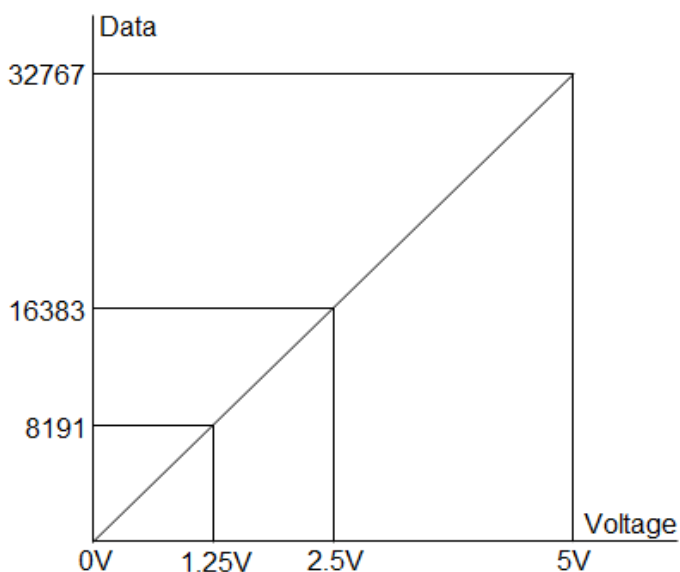
Voltage Range : 0~10Vdc

| 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 |

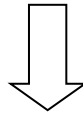




## 2.5. Mapping data from the image table

- 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 -16byte Output Data

|                   |  |  |  |  |  |  |  |
|-------------------|--|--|--|--|--|--|--|
| Analog Output Ch0 |  |  |  |  |  |  |  |
| Analog Output Ch1 |  |  |  |  |  |  |  |
| Analog Output Ch2 |  |  |  |  |  |  |  |
| Analog Output Ch3 |  |  |  |  |  |  |  |

## 2.6. Parameter Data

- Valid Parameter length: 4 Bytes
- Parameter Data

| Bit No | Bit7   | Bit6                  | Bit5                       | Bit4 | Bit3                       | Bit2 | Bit1                       | Bit0 |
|--------|--|-----------------------|----------------------------|------|----------------------------|------|----------------------------|------|
| Byte0  | 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 |                       |                            |      |                            |      |                            |      |
| Byte1  | Reserved   |                       |                            |      |                            |      |                            |      |
| Byte2  | Fault Value Low Byte   |                       |                            |      |                            |      |                            |      |
| Byte3  | Voltage Range *  | Fault Value High Byte |                            |      |                            |      |                            |      |

\* Voltage Range : Voltage Output Range for Module (0 : 0~10Vdc, 1 : 0~5Vdc)