
FnIO G – Series :

GT-4158

GT-4158 (8 Channels, Current Output, 0~20mA, 16bit)

Table of Contents

| | |
|---|-------------------|
| Table of Contents..... | 2 |
| History..... | 3 |
| 1.ENVIRONMENT SPECIFICATION..... | 4 |
| 2.GT-4158 (8 CHANNELS CURRENT OUTPUT, 0~20mA, 16BIT)..... | 5 |
| 2.1.GT-4158 Specification..... | 5 |
| 2.2.GT-4158 Wiring Diagram..... | 6 |
| 2.3.GT-4158 LED Indicator..... | 7 |
| 2.3.1.LED Indicator..... | 7 |
| 2.3.2.Channel Status LED..... | 7 |
| 2.3.3.Data value / Current..... | 7 |
| 2.4.Mapping data from the image table..... | 8 |
| 2.5.Parameter Data..... | 9 |

History

| REV. | PAGES | REMARKS | DATE | Editor |
|-------------|--------------|--------------------------|---------------|---------------|
| 1.00 | | Preliminary | Mar 09, 2018 | Soyeong, Park |
| 1.01 | 5 | Edit Resolution in Range | June 14, 2018 | Soyeong, Park |
| | | | | |
| | | | | |
| | | | | |

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 Sine Vibration 5 ~ 25Hz : 1.6mm 25 ~ 300Hz : 4g Sweep Rate : 1 Oct/min, 20 cycles Random Vibration 10 ~ 40Hz : 0.0125g ² /Hz 40 ~ 100Hz : 0.0125 → 0.002g ² /Hz 100 ~ 500Hz : 0.002g ² /Hz 500 ~ 2000Hz : 0.002 → 1.3 x 10 ⁻⁴ g ² /Hz Test time : 1hrs 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

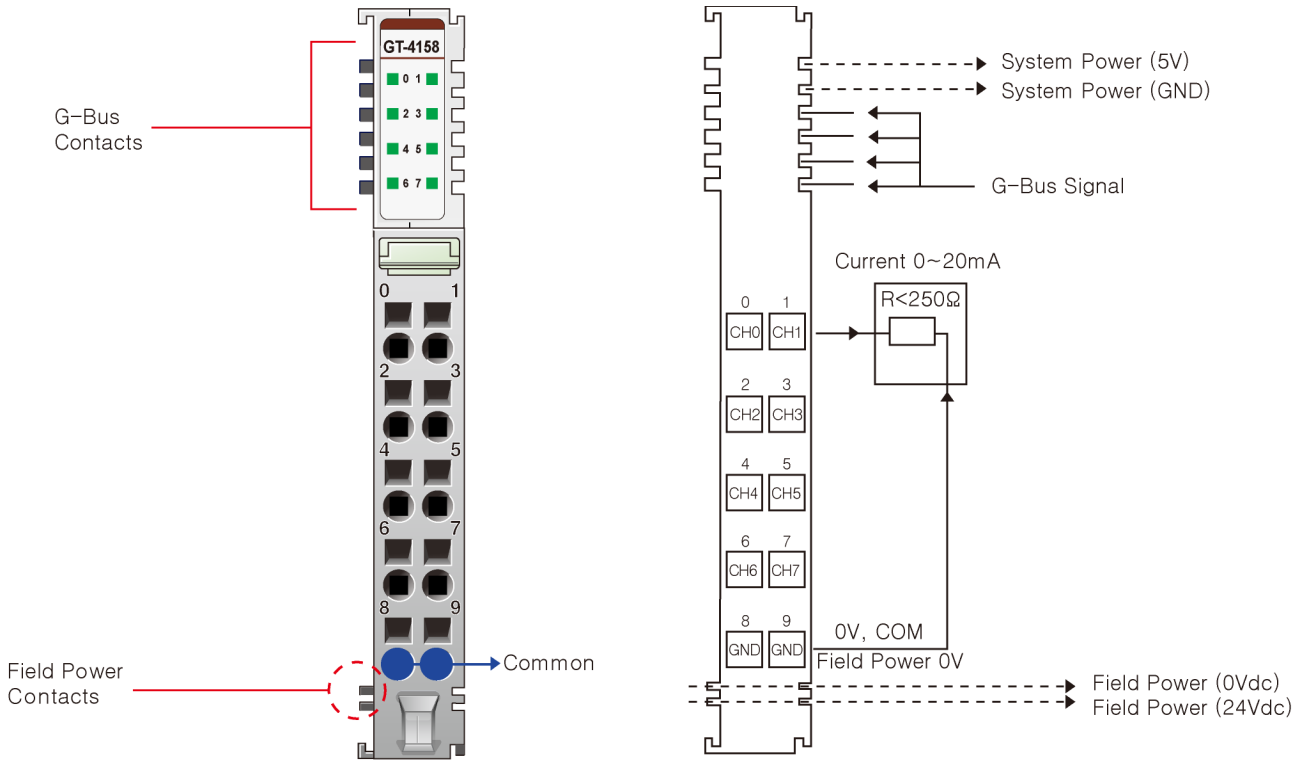
2. GT-4158 (8 CHANNELS CURRENT OUTPUT, 0~20mA, 16BIT)

2.1. GT-4158 Specification

| Items | Specification |
|------------------------------|--|
| Output Specification | |
| Outputs per module | 8 Channels single ended |
| Indicators(Logic side) | 8 Green Output status |
| Resolution in Ranges | 16 bit (Include Sign) 15 bits : 0.61uA/bit |
| Output Range | 0~20mA |
| 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 100Ω, Max. 250Ω |
| Dignostic | Field Power Off : LED Blinking Field Power On : No Output LED Off Field Power On : Output LED ON |
| Conversion Time | Max. 250usec / All channel |
| Calibration | Not Required |
| Common Type | 2 Common, Field Power 0V is Common(AGND) |
| General Specification | |
| Power dissipation | Max. 30mA @ 5.0Vdc |
| Isolation | I/O to Logic : Photocoupler isolation Field power : Non-Isolation |
| Field Power | Supply Voltage : 24Vdc nominal Voltage Range : 18~32Vdc Power Dissipation : Max. 130mA @ 24Vdc |
| Wiring | I/O Cable Max. 2.0mm ² (AWG 14) |
| Weight | 58g |
| Module Size | 12mm x 99mm x 70mm |
| Environment Condition | Refer to 'Environment Specification' |

Specification

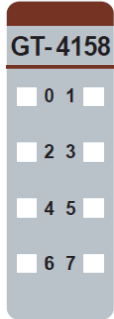
2.2. GT-4158 Wiring Diagram



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

2.3. GT-4158 LED Indicator

2.3.1. LED Indicator



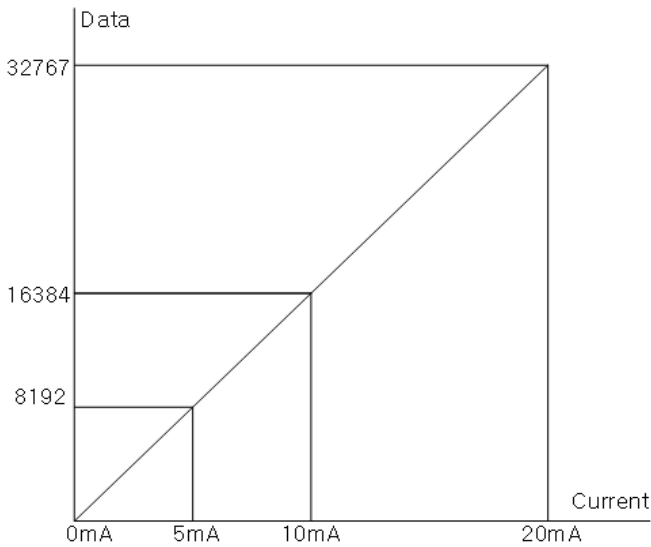
| LED No. | LED Function / Description | LED Color |
|---------|----------------------------|-----------|
| 0 | Output Channel 0 | Green |
| 1 | Output Channel 1 | Green |
| 2 | Output Channel 2 | Green |
| 3 | Output Channel 3 | Green |
| 4 | Output Channel 4 | Green |
| 5 | Output Channel 5 | Green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

2.3.2. Channel Status LED

| Status | LED | To indicate |
|-------------------|---|-----------------------------|
| Normal Operation | No Output Channel Off Output Channel Green | No Output Output |
| Field Power Error | All Channel Repeat the Green and Off | Field power is unconnected. |

2.3.3. Data value / Current

| Current | 0.0mA | 5.0mA | 10.0mA | 20.0mA |
|-----------|-------|-------|--------|--------|
| Data(Hex) | H0000 | H2000 | H4000 | H7FFF |

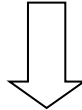


Specification

2.4. Mapping data from the image table

- **Output Image Value**

| Bit No | Bit7 | Bit6 | Bit5 | Bit4 | Bit3 | Bit2 | Bit1 | Bit0 |
|---------|-----------------------------|------|------|------|------|------|------|------|
| Byte 0 | Analog Output Ch0 Low byte | | | | | | | |
| Byte 1 | Analog Output Ch0 High byte | | | | | | | |
| Byte 2 | Analog Output Ch1 Low byte | | | | | | | |
| Byte 3 | Analog Output Ch1 High byte | | | | | | | |
| Byte 4 | Analog Output Ch2 Low byte | | | | | | | |
| Byte 5 | Analog Output Ch2 High byte | | | | | | | |
| Byte 6 | Analog Output Ch3 Low byte | | | | | | | |
| Byte 7 | Analog Output Ch3 High byte | | | | | | | |
| Byte 8 | Analog Output Ch4 Low byte | | | | | | | |
| Byte 9 | Analog Output Ch4 High byte | | | | | | | |
| Byte 10 | Analog Output Ch5 Low byte | | | | | | | |
| Byte 11 | Analog Output Ch5 High byte | | | | | | | |
| Byte 12 | Analog Output Ch6 Low byte | | | | | | | |
| Byte 13 | Analog Output Ch6 High byte | | | | | | | |
| Byte 14 | Analog Output Ch7 Low byte | | | | | | | |
| Byte 15 | Analog Output Ch7 High byte | | | | | | | |



- **Output Module Data -16byte Output Data**

| |
|-------------------|
| Analog Output Ch0 |
| Analog Output Ch1 |
| Analog Output Ch2 |
| Analog Output Ch3 |
| Analog Output Ch4 |
| Analog Output Ch5 |
| Analog Output Ch6 |
| Analog Output Ch7 |

Specification

2.5. 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 | Fault Action for channel 7 | | Fault Action for channel 6 | | Fault Action for channel 5 | | Fault Action for channel 4 | |
| | 00: Fault Value 01: Hold last state 10: Low Limit 11:High Limit | | | | | | | |
| Byte2 | Fault Value Low Byte | | | | | | | |
| Byte3 | Fault Value High Byte | | | | | | | |