
FnIO G-Series

GT-4154

GT-4154 (4 Channels, Current Output, 0~20mA, 16bits)

Specification

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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
1.02	6	Changed Wiring Diagram	Apr, 23, 2019	Soyeong, Park
1.03		Field power specification	June, 21, 2019	Seokhyun, Jun

1. Environment Specification

Environmental specification	
Operating Temperature	-40℃~70℃
UL Temperature	-20℃~60℃
Storage Temperature	-40℃~85℃
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

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2. GT-4154 (4 Channels, Current Output, 0~20mA, 16bits)

2.1. GT-4154 Specification

Items	Specification
Output Specification	
Outputs per module	4 Channels single ended
Indicators(Logic side)	4 Green Output Status LEDs
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.61uA/bit
Output Range	0~20mA
Data Format	16bits Integer (2's complement)
Module Error	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ -40°C, 70°C
Load Resistance	Max. 250Ω *
Dignostic	Field Power Off : LED Blinking Field Power On : No Output LED Off Field Power On : Output LED ON
Conversion Time	Max. 150usec / All Channel
Calibration	Not Required
Common Type	4 Channels / 4 Common
General Specification	
Power Dissipation	Max. 30mA @ 5Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : Non-Isolation
Field Power	Supply Voltage : 24Vdc nominal Voltage Range * : 18 ~ 32Vdc Power Dissipation : Max. 80mA @ 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'

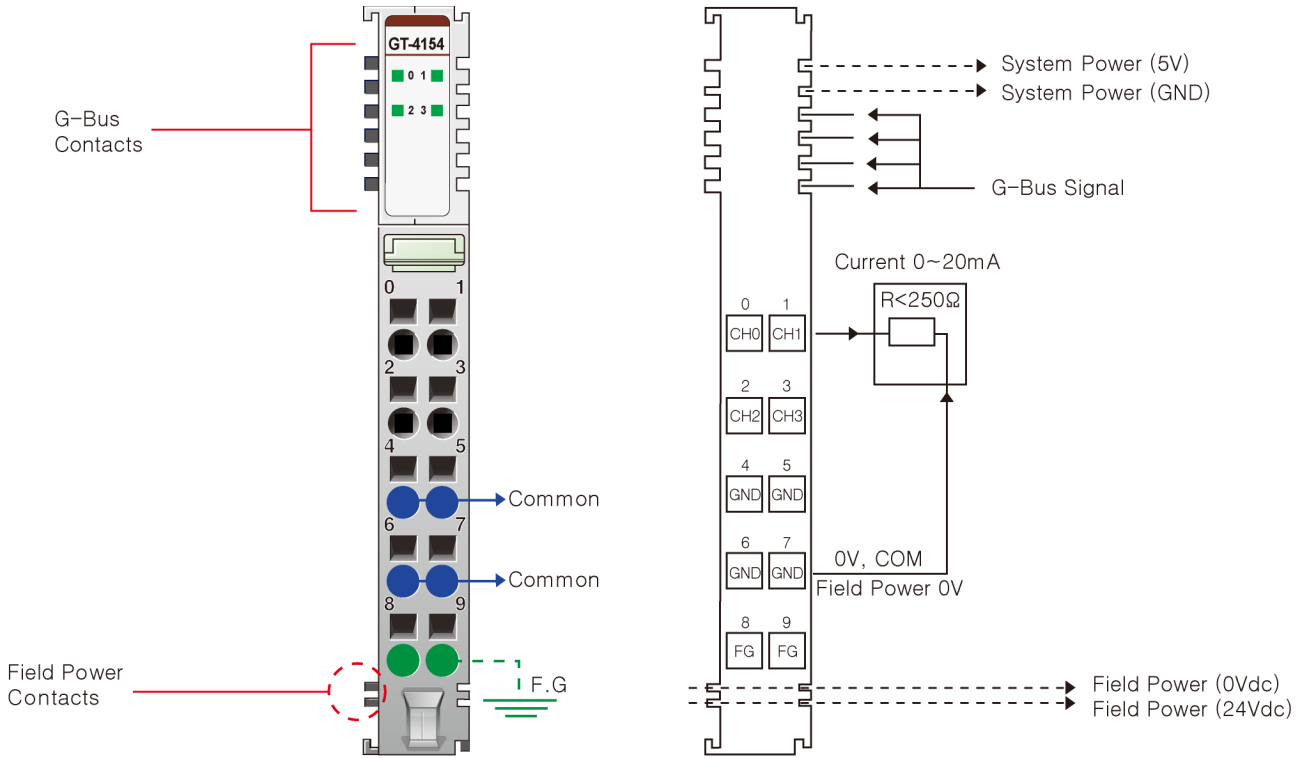
* Operating temperature

-40 ~ 70°C temperature range specification can be guaranteed under the following conditions.

- Load Resistance : Min 100Ω, Max 250Ω
- Field Power Voltage Range : Max 26.4V
- Otherwise, temperature specification can be guaranteed with -40 ~ 60°C.

Specification

2.2. GT-4154 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	Output Channel Common(AGND)	Output Channel Common(AGND)	5
6	Output Channel Common(AGND)	Output Channel Common(AGND)	7
8	F.G	F.G	9

2.3. GT-4154 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

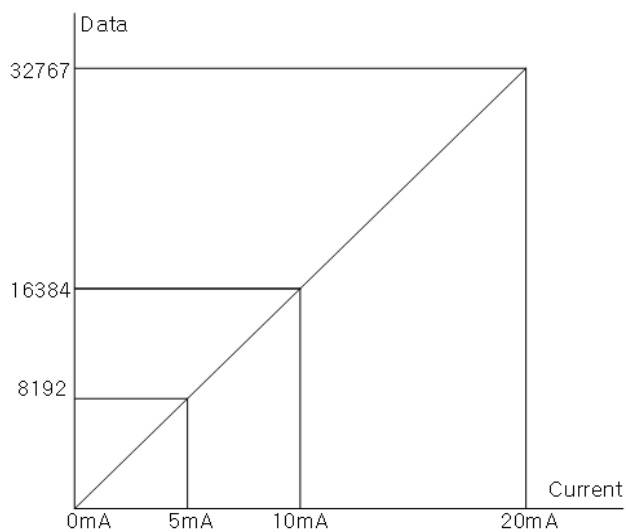
2.3.2. Channel Status LED

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

2.4. Data Value / Current

Current Range : 0~20mA

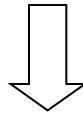
Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H2000	H4000	H7FFF



2.5. 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							



- **Output Module Data -8byte 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	Not used							
Byte2	Fault Value Low Byte							
Byte3	Fault Value High Byte							