

FnIO G – Series :

GT-3154

GT-3154 (4 Channels, Current Input, 0~20mA / 4~20mA, 16bit)

Specification

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History

REV.	PAGES	REMARKS	DATE	Editor
1.00		Preliminary	Mar 09, 2018	Soyeong, Park
1,01	5	Power Dissipation	May 17, 2018	Hongseok Kim
1,02	5, 7	Edit Channel Status LED, Resolution in Range	June 14, 2018	Soyeong, Park
1.03		Edit conversion time	Apr 17, 2020	Seokhyun, Jun

Specification

1. ENVIRONMENT SPECIFICATION

Environmental specification	
Operating Temperature	-40°C~70°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 : 2008 / 15g, 11ms
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL, FCC

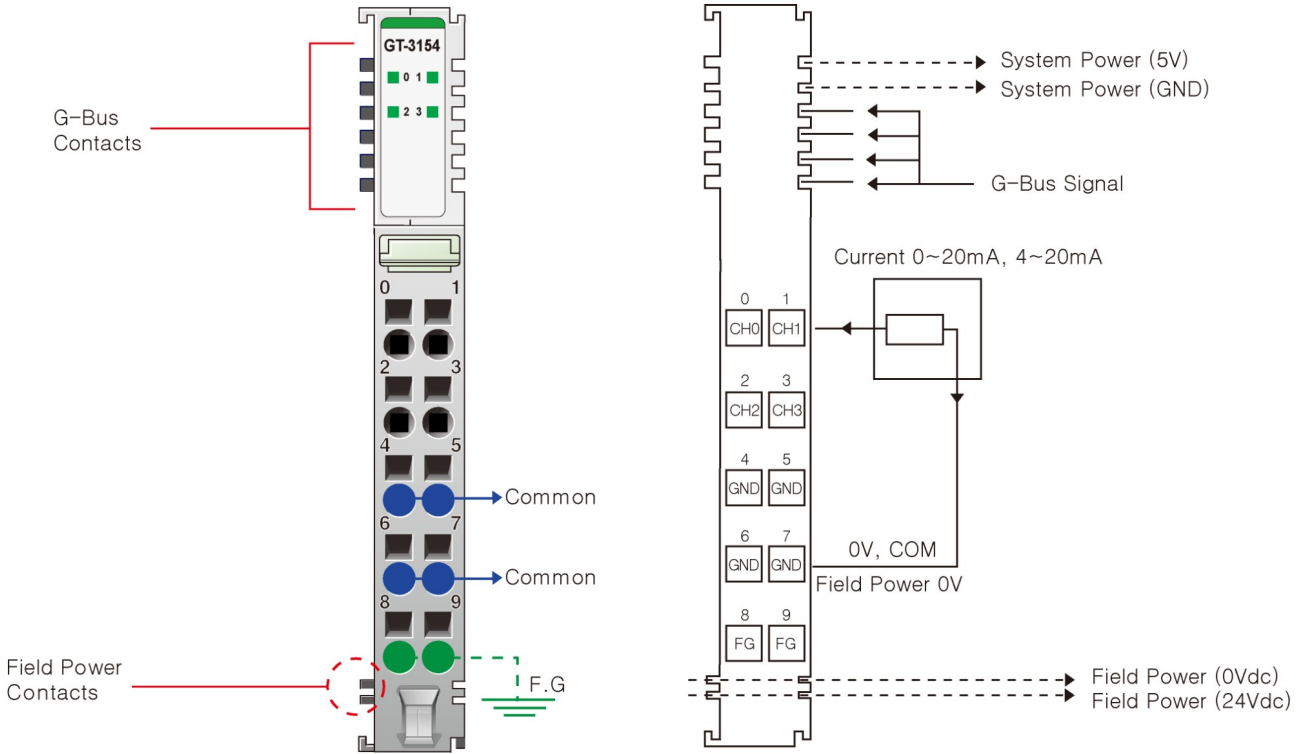
Specification

2. GT-3154 (4 CHANNELS CURRENT INPUT, 0~20mA / 4~20mA, 16BIT)

2.1. GT-3154 Specification

Items	Specification
Input Specification	
Inputs per module	4 Channels single ended, non-isolated between channel
Indicators(Logic side)	4 Green Input status
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.61uA/Bit(0~20mA), 0.49uA/Bit(4~20mA)
Input Range	0~20mA, 4~20mA
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 70°C
Input Impedance	121.5Ω
Diagnostic	Diagnostic Field Power Off : LED Blinking Field Power On : LED Off < 0.5% (Maximum Input Value) Field Power On : LED On > 0.5% (Maximum Input Value) Minimum Range Over : LED Off < 3mA (4 ~ 20mA)
Conversion Time	0.7msec / All channel
Field calibration	Not Required
Common Type	4 Common, Field Power 0V is Common(AGND)
General Specification	
Power dissipation	Max. 25mA @ 5Vdc
Isolation	I/O to Logic : Isolation Field power : Non-Isolation
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18 ~ 30Vdc Power Dissipation : Max. 20mA@24Vdc
Wiring	I/O Cable Max. 2.0mm ² (AWG 14)
Torque	0.8Nm(7lb-in)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	Refer to 'Environment Specification'

2.2. GT-3154 Wiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
0	Input Channel 0	Input Channel 1	1
2	Input Channel 2	Input Channel 3	3
4	Input Channel Common(AGND)	Input Channel Common(AGND)	5
6	Input Channel Common(AGND)	Input Channel Common(AGND)	7
8	F.G	F.G	9

2.3. GT-3154 LED Indicator

2.3.1. LED Indicator



LED No.	LED Function / Description	LED Color
0	INPUT Channel 0	Green
1	INPUT Channel 1	Green
2	INPUT Channel 2	Green
3	INPUT Channel 3	Green

2.3.2. Channel Status LED

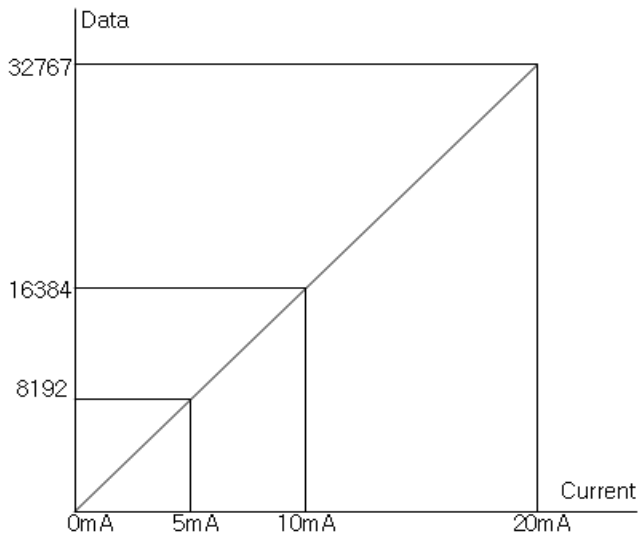
Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF [LED On > 0.5% (Maximum Input Value)] - Channel Green	Normal Operation
Overrun/Underrun	[LED Off < 3mA (Minimum Range Over , 4 ~ 20mA)] - Channel OFF	range Check
Field Power Error	All Channel Repeat the Green and OFF	Field Power is unconnected

Specification

2.3.3. Data value / Current

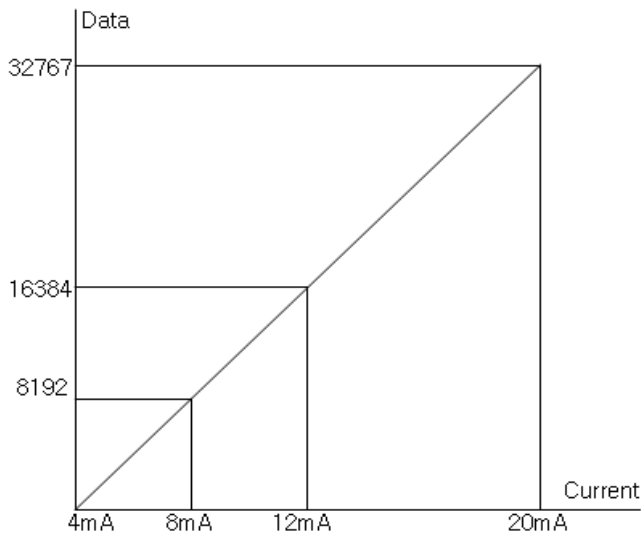
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



Current Range : 4~20mA

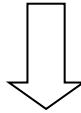
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



2.4. Mapping data into the image table

- **Input Module Data**

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3



- **Input Image Value**

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Analog Input Ch0 Low byte							
Byte 1	Analog Input Ch0 High byte							
Byte 2	Analog Input Ch1 Low byte							
Byte 3	Analog Input Ch1 High byte							
Byte 4	Analog Input Ch2 Low byte							
Byte 5	Analog Input Ch2 High byte							
Byte 6	Analog Input Ch3 Low byte							
Byte 7	Analog Input Ch3 High byte							

2.5. Parameter Data

- **Valid Parameter length: 6 Bytes**
- **Parameter Data**

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Current Range for Channel 0 (H00: 0~20mA, H01: 4~20mA)							
Byte 1	Current Range for Channel 1 (H00: 0~20mA, H01: 4~20mA)							
Byte 2	Current Range for Channel 2 (H00: 0~20mA, H01: 4~20mA)							
Byte 3	Current Range for Channel 3 (H00: 0~20mA, H01: 4~20mA)							
Byte 4	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E: Slowest)							
Byte 5	Not used(=00)							