Analog Input Module

GT-3xxx

User Manual

Version 1.0

2018 CREVIS Co.,Ltd

DOCUMENT CHANGE SUMMARY				
REV	**PAGE**	**REMARKS**	**DATE**	**EDITOR**
1.0	New Document		18/07/30	JY,Hyun
1.1		Add Product GT-3114, GT-3154, GT-3158, GT-311F, GT-317F, GT-3424, GT-3464, GT-3468, GT-342F, GT-347F GT-3934, GT-3918, GT-3944, GT-3928	19/01/16	JY,Hyun

Table of Contents

1. Important Notes

Solid state equipment has operational characteristics differing from those of electromechanical equipment.

Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls describes some important differences between solid state equipment and hard-wired electromechanical devices.

Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will CREVIS be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, CREVIS cannot assume responsibility or liability for actual use based on the examples and diagrams.

Warning!

If you don't follow the directions, it could cause a personal injury, damage to the equipment or explosion

Do not assemble the products and wire with power applied to the system. Else it may cause an electric arc, which can result into unexpected and potentially dangerous action by field devices. Arching is explosion risk in hazardous locations. Be sure that the area is non-hazardous or remove system power appropriately before assembling or wiring the modules.

Do not touch any terminal blocks or IO modules when system is running. Else it may cause the unit to an electric shock or malfunction.

Keep away from the strange metallic materials not related to the unit and wiring works should be controlled by the electric expert engineer. Else it may cause the unit to a fire, electric shock or malfunction

Caution!

If you disobey the instructions, there may be possibility of personal injury, damage to equipment or explosion. Please follow below Instructions.

Check the rated voltage and terminal array before wiring. Avoid the circumstances over 50℃ of temperature. Avoid placing it directly in the sunlight.

Avoid the place under circumstances over 85% of humidity.

Do not place Modules near by the inflammable material. Else it may cause a fire.

Do not permit any vibration approaching it directly.

Go through module specification carefully, ensure inputs, output connections are made with the specifications. Use standard cables for wiring.

Use Product under pollution degree 2 environment.

1.1. Safety Instruction

1.1.1. Symbols

DANGER 	Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death property damage, or economic loss
IMPORTANT	Identifies information that is critical for successful application and understanding of the product
ATTENTION 	Identifies information about practices or circumstances that can lead to personal injury, property damage, or economic loss. Attentions help you to identity a hazard, avoid a hazard, and recognize the consequences

1.1.2. Safety Notes

DANGER 	The modules are equipped with electronic components that may be destroyed by electrostatic discharge. When handling the modules, ensure that the environment (persons, workplace and packing) is well grounded. Avoid touching conductive components, G-BUS Pin.

1.1.3. Certification

c-UL-us UL Listed Industrial Control Equipment, certified for U.S. and Canada

See UL File E235505

CE Certificate

EN 61000-6-2; Industrial Immunity

EN 61000-6-4; Industrial Emissions

Reach, RoHS (EU, CHINA)

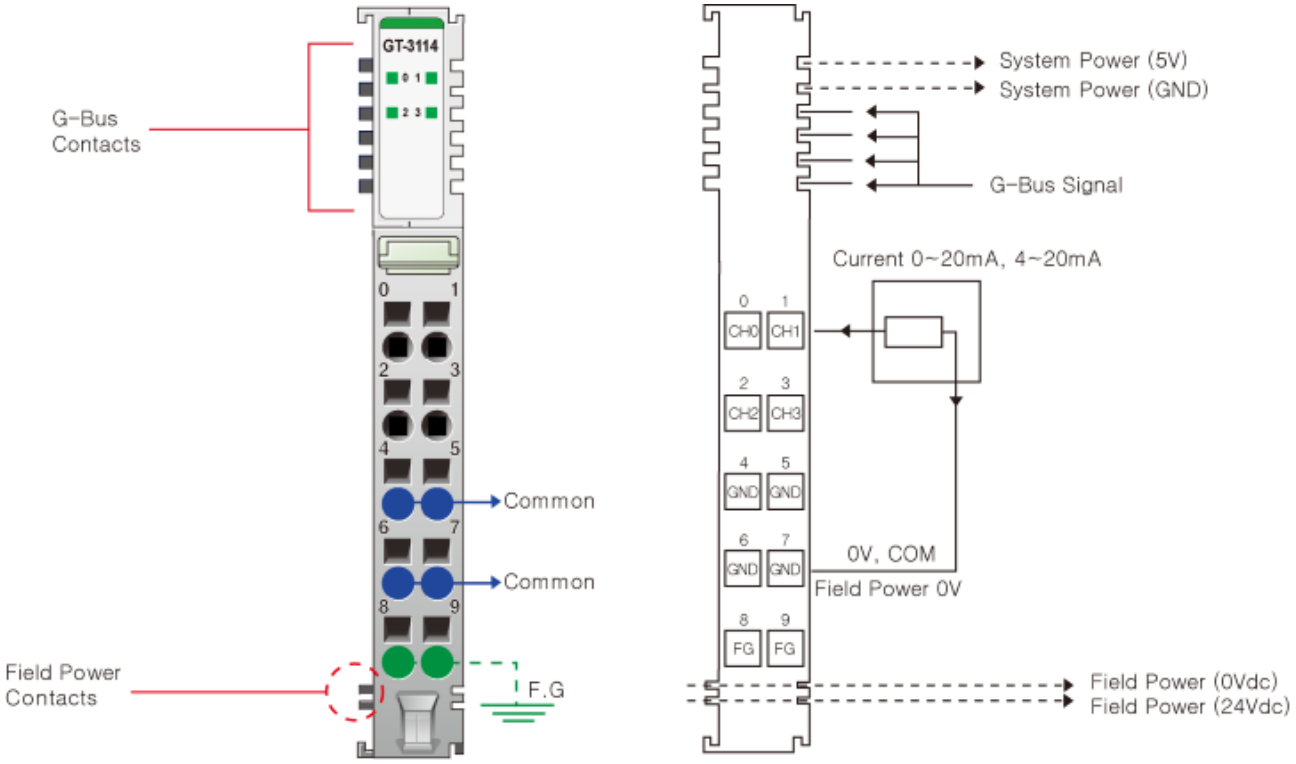
2. Analog Input Module List

GT-Number	Description	ID
GT-3114	Analog input, 4 Channels, 0~20mA, 4~20mA, 12Bits, 10RTB	3114
GT-3154	Analog input, 4 Channels, 0~20mA, 4~20mA, 16Bits, 10RTB	3154
GT-3118	Analog input, 8 Channels, 0~20mA, 4~20mA, 12Bits, 10RTB	3118
GT-3158	Analog input, 8 Channels, 0~20mA, 4~20mA, 16Bits, 10RTB	3158
GT-311F	Analog input, 16 Channels, 0~20mA, 4~20mA, 12Bits, 20P Connector	311F
GT-317F	Analog input, 16 Channels, 0~20mA, 4~20mA, 16Bits, 20P Connector	317F
GT-3424	Analog Input, 4 Channels, 0~10, 0~5, 1~5 Vdc, 12Bits, 10RTB	3424
GT-3464	Analog Input, 4 Channels, 0~10, 0~5, 1~5 Vdc, 16Bits, 10RTB	3464
GT-3428	Analog Input, 8 Channels, 0~10, 0~5, 1~5 Vdc, 12Bits, 10RTB	3428
GT-3468	Analog Input, 8 Channels, 0~10, 0~5, 1~5 Vdc, 16Bits, 10RTB	3468
GT-342F	Analog Input, 16 Channels, 0~10, 0~5, 1~5 Vdc, 12Bits, 20P Connector	342F
GT-347F	Analog Input, 16 Channels, 0~10, 0~5, 1~5 Vdc, 12Bits, 18RTB	347F
GT-3901	3Phase, AC Measurement, Lx-Ly 500Vac/1A	3901
GT-3914	Differential type, 4 Channels,0~20, 4~20, +/- 20mA, 12Bits, 10RTB	3914
GT-3934	Differential type, 4 Channels,0~20, 4~20, +/- 20mA, 16Bits, 10RTB	3934
GT-3918	Differential type, 8 Channels,0~20, 4~20, +/- 20mA, 12Bits, 10RTB	3918
GT-3924	Differential type, 4 Channels,0~5, 0~10, +/- 5, +/-10 Vdc, 12Bits, 10RTB	3924
GT-3944	Differential type, 4 Channels,0~5, 0~10, +/- 5, +/-10 Vdc, 16Bits, 10RTB	3944
GT-3928	Differential type, 8 Channels,0~5, 0~10, +/- 5, +/-10 Vdc, 12Bits, 18RTB	3928

3. Specification

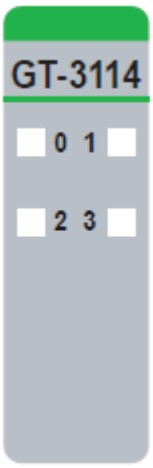
3.1. GT-3114

3.1.1. 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	Field Ground	Field Ground	9

3.1.2. 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

3.1.3. 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
Over Range Check	[LED Off > 21mA (Maximum Range Over- Channel OFF] [LED Off < 3mA (Minimum Range Over , 4 ~ 20mA)]- Channel OFF	Over range Check
Field Power Error	All Channel Repeat the Green and Off	Field Power is unconnected

3.1.4. Environment Specification

Environmental Specification	
Operation 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 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Protection Class	Variable/IP20
Product Certifications	CE, UL

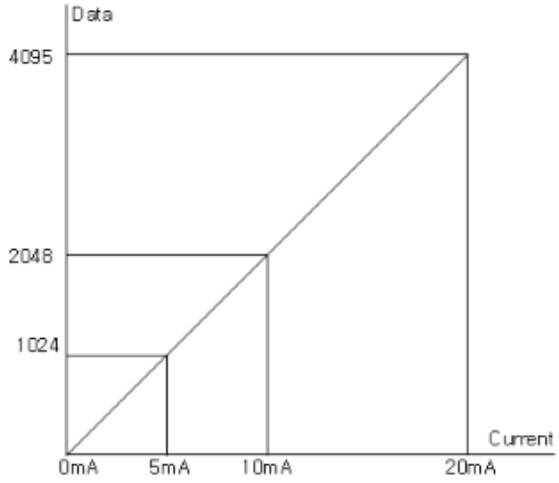
3.1.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Single Ended, Non-Isolated Between Channels
Indicators	4 Green Input Status
Resolution in Ranges	12 Bits : 4.88uA/Bit(0~20mA), 3.91uA/Bit(4~20mA)
Input Current Ranges	0~20mA, 4~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ambient ±0.3% Full Scale @ -40℃, 70℃
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) Maximum Range Over : LED Off > 21mA Minimum Range Over : LED Off < 3mA (4~20mA)
Conversion Time	800usec / All Channels
Field Calibration	Not Required
Common Type	4 Common(Field Power 0V is the Common=AGND)
General Specification	
Power Dissipation	Max. 25mA @ 5.0Vdc
Isolation	I/O to Logic : Isolation Field Power : Non-Isolation
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~32Vdc Power Dissipation : Max. 25mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm²(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.1.6. Data Value / Current

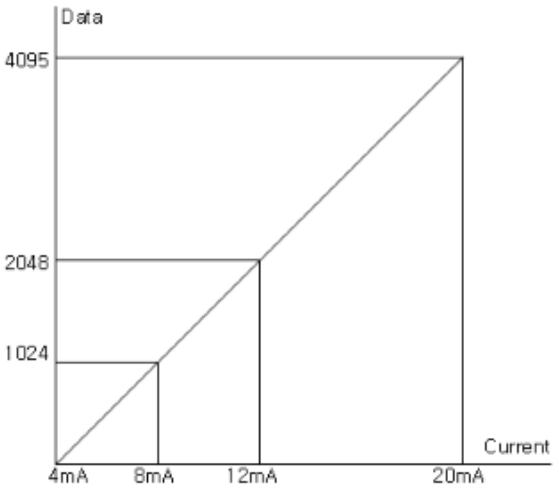
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Current Range : 4~20mA

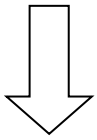
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



3.1.7. 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							

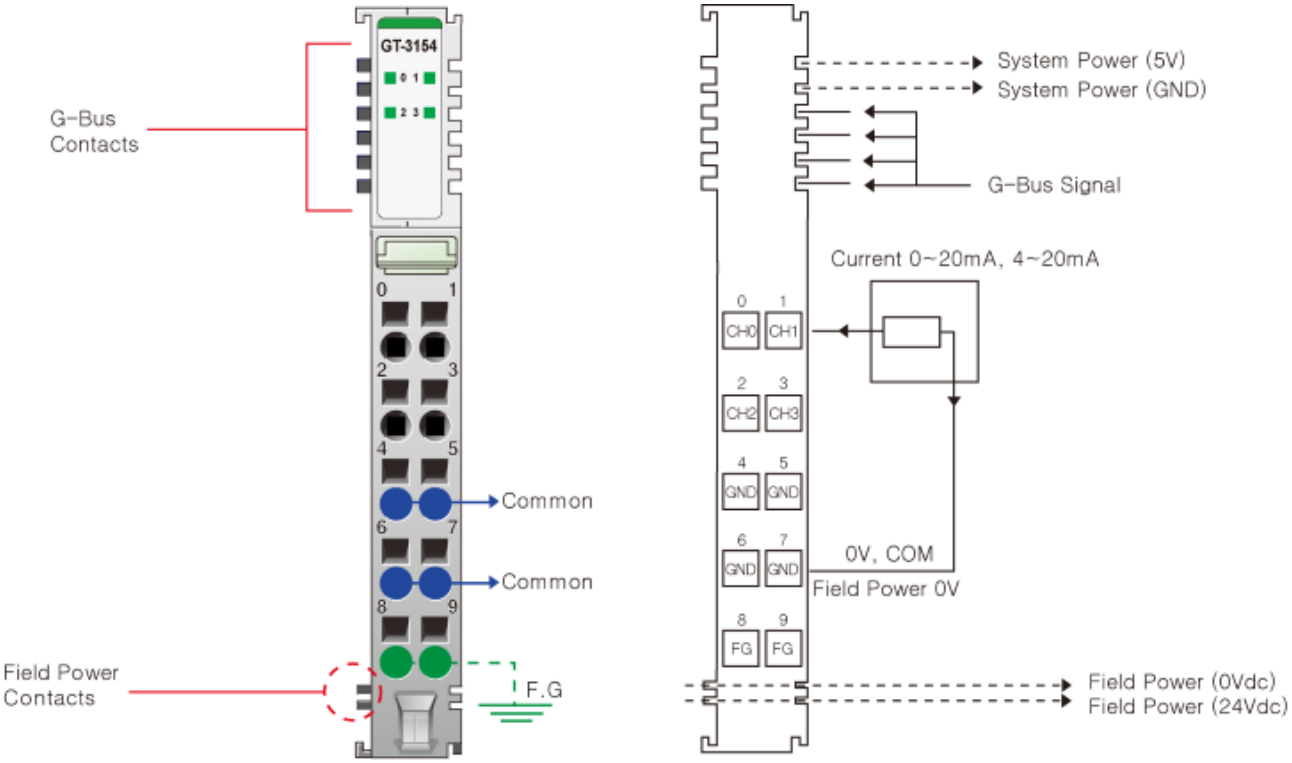
3.1.8. Parameter Data

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 ~ / H62 : Slowest)							
Byte 5	Not used(=00)							

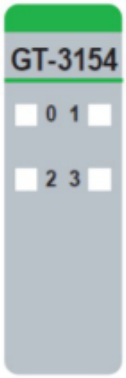
3.2. GT-3154

3.2.1. 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	Field Ground	Field Ground	9

3.2.2. 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

3.2.2. 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	Rangd Chedk
Field Power Error	All Channel Repeat the Green and Off	Field Power is unconnected

3.2.4. Environment Specification

Environmental Specification	
Operation 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 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Installation Pos./ Protect. Class	Variable/IP20
Product Certifications	CE, UL

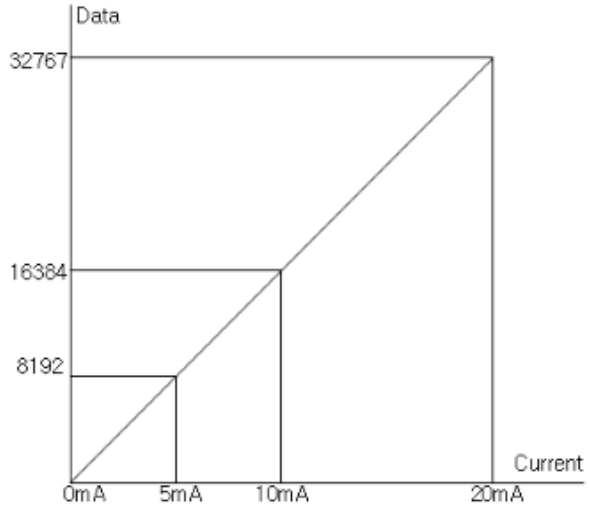
3.2.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Single Ended, Non-Isolated Between Channels
Indicators	4 Green Input Status
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.61uA/Bit(0~20mA), 0.49uA/Bit(4~20mA)
Input Current Ranges	0~20mA, 4~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ambient ±0.3% Full Scale @ -40℃, 70℃
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	650usec / All channel
Field Calibration	Not Required
Common Type	4Common(Field Power 0V is the Common=AGND)
General Specification	
Power Dissipation	Max. 25mA @ 5.0Vdc
Isolation	I/O to Logic : Isolation Field Power : Non-Isolation
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~32Vdc Power Dissipation : Max. 20mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm²(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.2.6. Data Value / Current

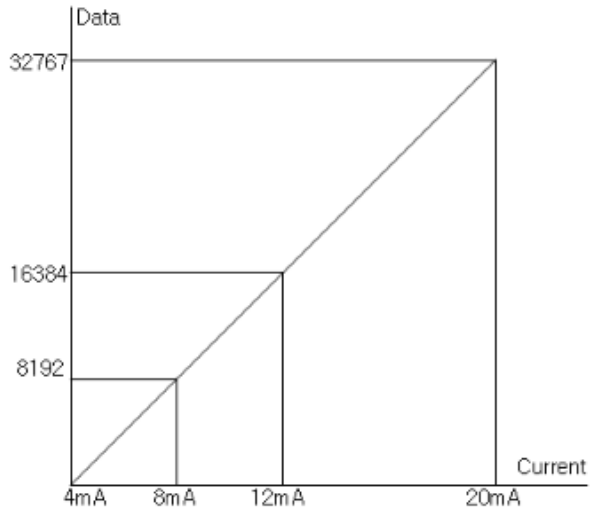
Current Range : 0~20mA

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



Current Range : 4~20mA

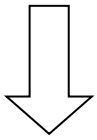
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



3.2.7. 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							

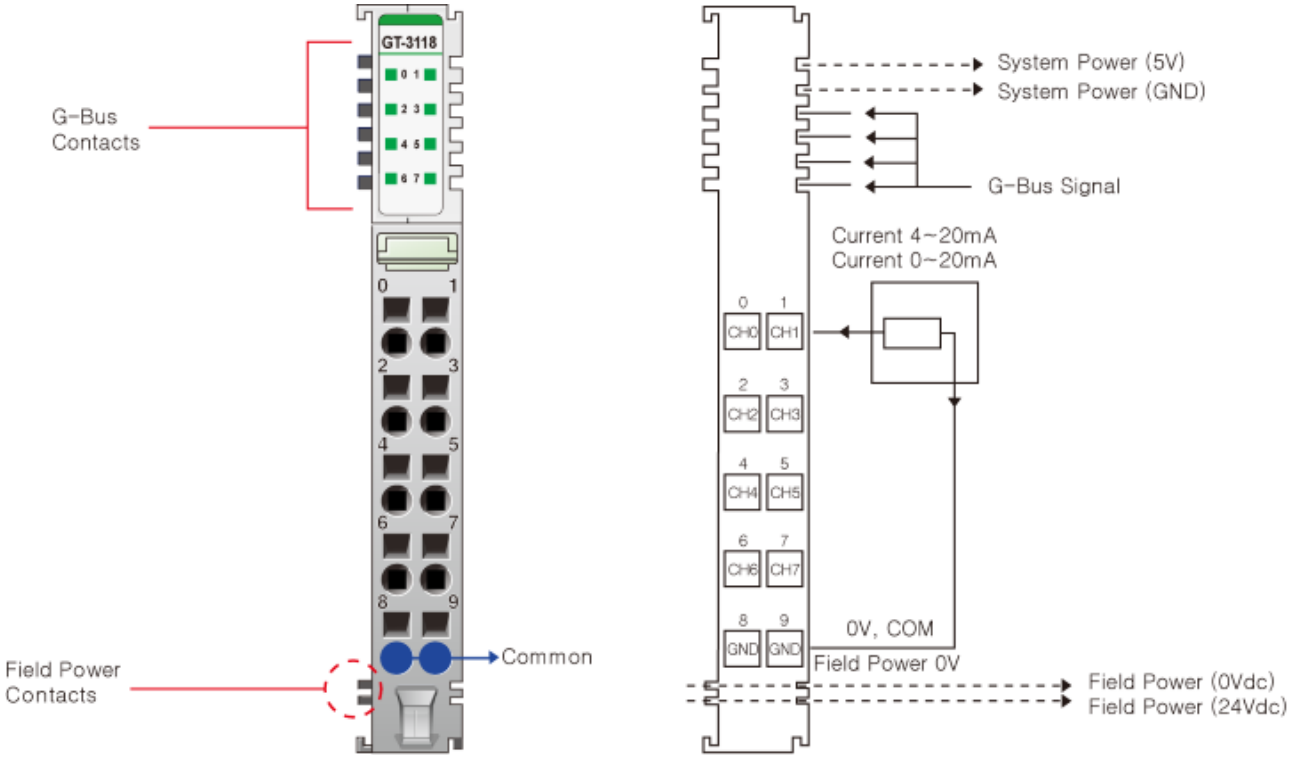
3.2.8. Parameter Data

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~ / H62 : Slowest)							
Byte 5	Not used(=00)							

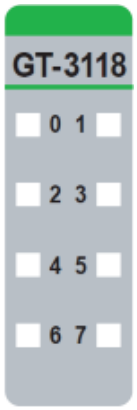
3.3. GT-3118

3.3.1. 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 4	Input Channel 5	5
6	Input Channel 6	Input Channel 7	7
8	Input Channel Common (AGND)	Input Channel Common (AGND)	9

3.3.2. 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
4	Input Channel 4	Green
5	Input Channel 5	Green
6	Input Channel 6	Green
7	Input Channel 7	Green

3.3.3. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF	Normal Operation
	[LED On > 0.5% (Maximum Input Value)] - Channel Green	
Over Range Check	[LED Off > 21mA (Maximum Range Over - Channel OFF]	Over range Check
	[LED Off < 3mA (Minimum Range Over , 4 ~ 20mA)] - Channel OFF	
Field Power Error	All Channel Repeat the Green and Off	Field Power is unconnected

3.3.4. Environment Specification

Environmental Specification	
Operation 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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Protection Class	Variable/IP20
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

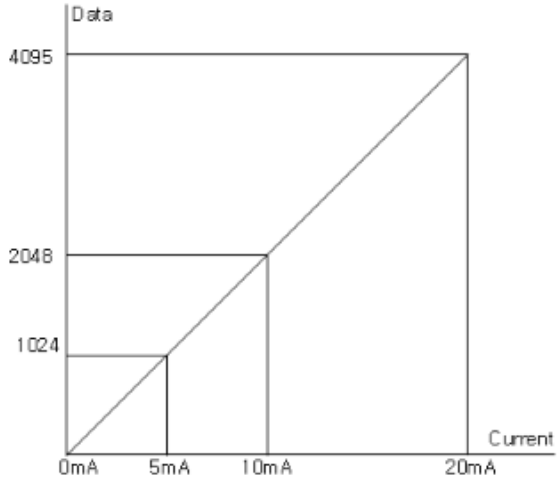
3.3.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Single Ended, Non-Isolated Between Channels
Indicators	8 Green Input Status LEDs
Resolution in Ranges	12 Bits : 4.88uA/Bit(0~20mA), 3.91uA/Bit(4~20mA)
Input Current Ranges	0~20mA, 4~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ambient ±0.3% Full Scale @ -40℃, 70℃
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) Maximum Range Over : LED Off > 21mA Minimum Range Over : LED Off < 3mA (4~20mA)
Conversion Time	≤ 1msec / All Channels, ≤ 0.125msec per Channel
Field Calibration	Not Required
Common Type	2 Common(Field Power 0V is the Common=AGND)
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. 30mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm²(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to '1. Environment Specification'**

3.3.6. Data Value / Current

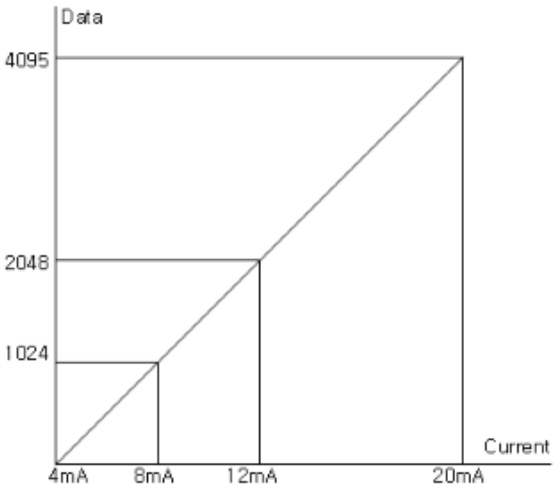
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Current Range : 4~20mA

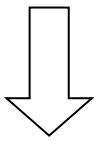
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



3.3.7. Mapping Data into the Image Table.

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7



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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							

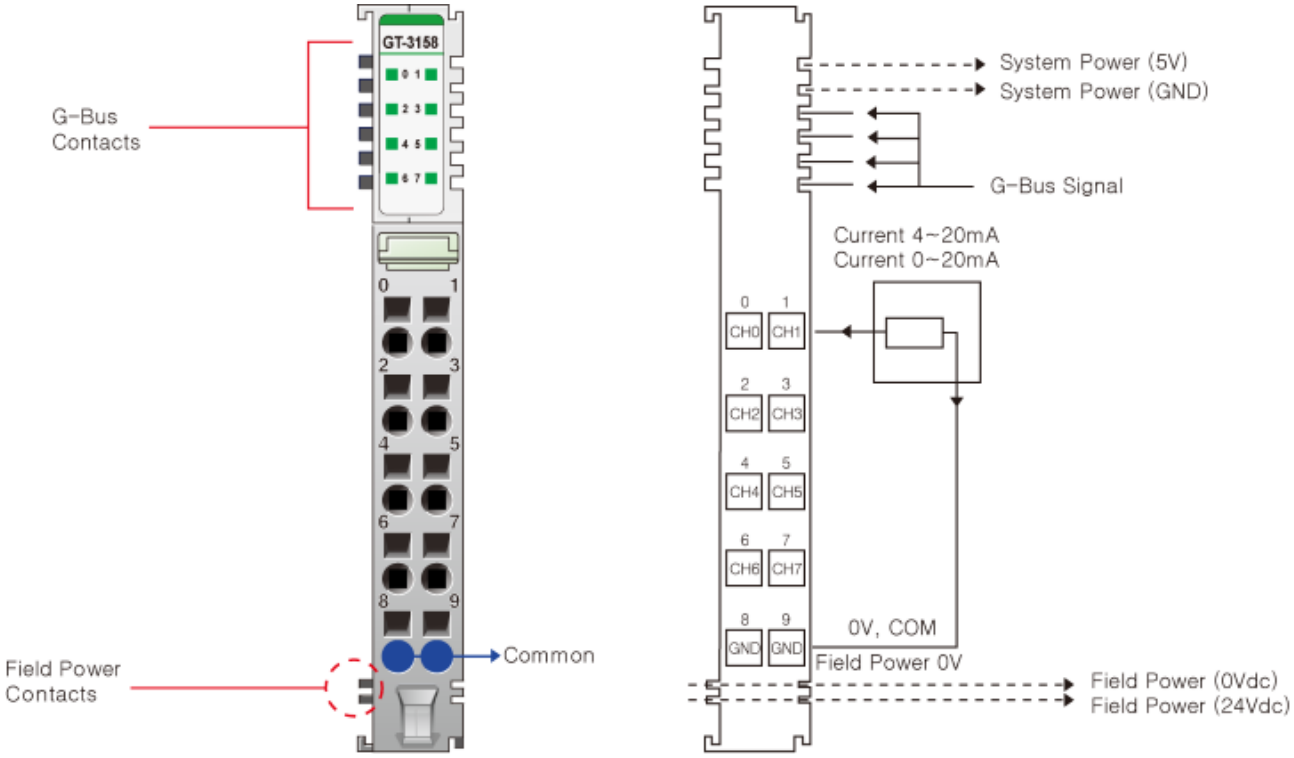
3.3.8. Parameter Data

Valid Parameter length : 10 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	Current Range for Channel 4 (H00: 0~20mA, H01: 4~20mA)							
Byte 5	Current Range for Channel 5 (H00: 0~20mA, H01: 4~20mA)							
Byte 6	Current Range for Channel 6 (H00: 0~20mA, H01: 4~20mA)							
Byte 7	Current Range for Channel 7 (H00: 0~20mA, H01: 4~20mA)							
Byte 8	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 9	Not used(=00)							

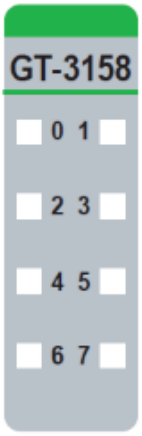
3.4. GT-3158

3.4.1. 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 4	Input Channel 5	5
6	Input Channel 6	Input Channel 7	7
8	Input Channel Common (AGND)	Input Channel Common (AGND)	9

3.4.2. 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
4	Input Channel 4	Green
5	Input Channel 5	Green
6	Input Channel 6	Green
7	Input Channel 7	Green

3.4.2. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF	Normal Operation
	[LED On > 0.5% (Maximum Input Value)] - Channel Green	
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

3.4.4. Environment Specification

Environmental Specification	
Operation 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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Installation Pos. / Protect/ Class	Variable/IP20
Product Certifications	CE, UL

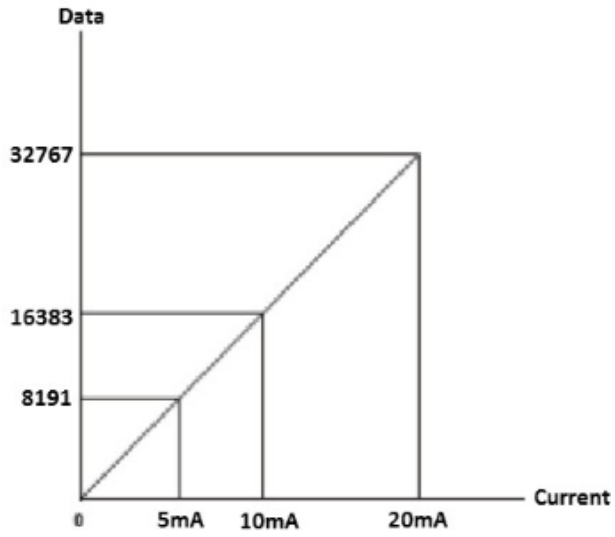
3.4.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Single Ended, Non-Isolated Between Channels
Indicators	8 Green Input Status LEDs
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.61uA/Bit(0~20mA), 0.49uA/Bit(4~20mA)
Input Current Ranges	0~20mA, 4~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ambient ±0.3% Full Scale @ -40℃, 70℃
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	≤ 1msec / All Channels, ≤ 0.125msec per Channel
Field Calibration	Not Required
Common Type	2 Common(Field Power 0V is the Common=AGND)
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. 30mA @ 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'**

3.4.6. Data Value / Current

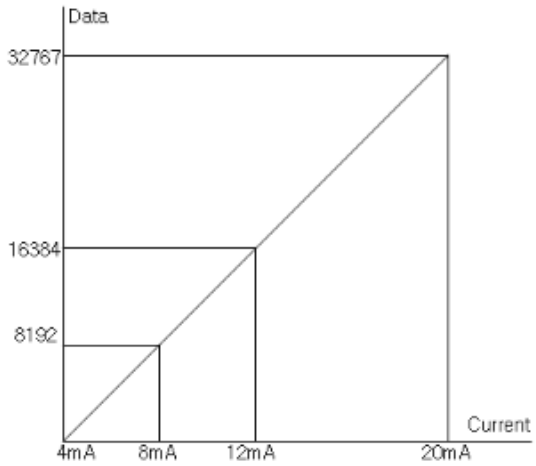
Current Range : 0~20mA

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



Current Range : 4~20mA

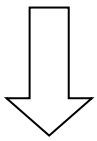
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



3.4.7. Mapping Data into the Image Table.

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7



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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							

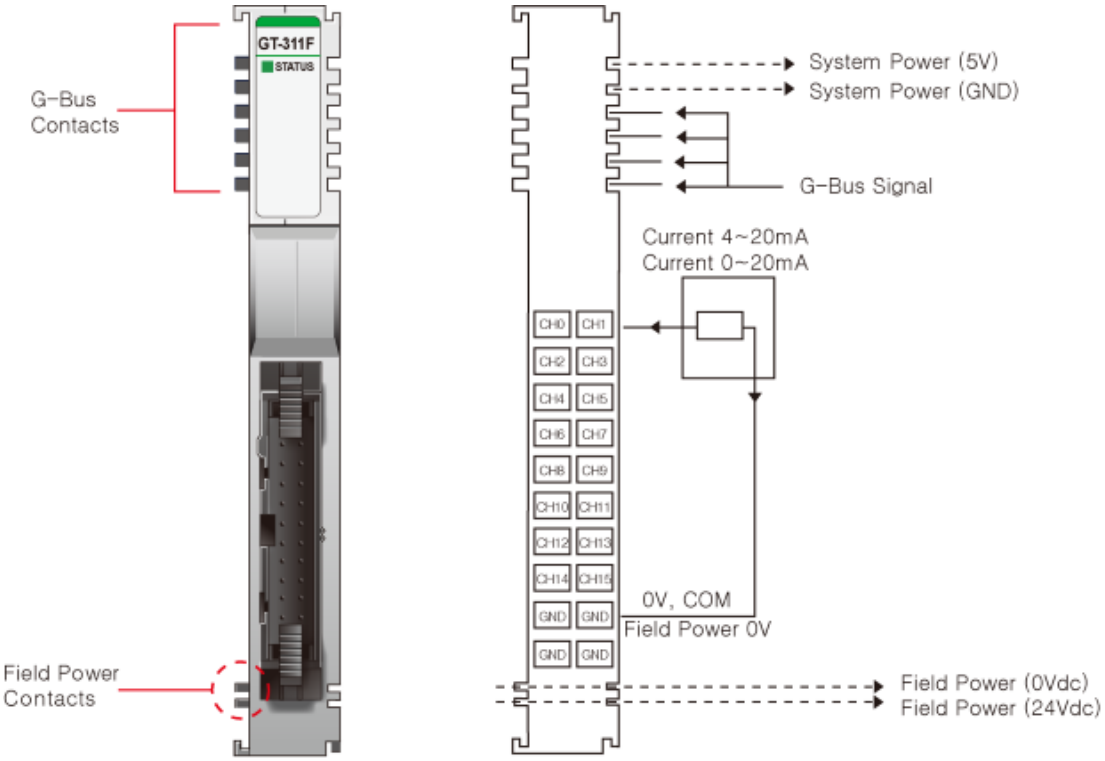
3.4.8. Parameter Data

Valid Parameter length : 10 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	Current Range for Channel 4 (H00: 0~20mA, H01: 4~20mA)							
Byte 5	Current Range for Channel 5 (H00: 0~20mA, H01: 4~20mA)							
Byte 6	Current Range for Channel 6 (H00: 0~20mA, H01: 4~20mA)							
Byte 7	Current Range for Channel 7 (H00: 0~20mA, H01: 4~20mA)							
Byte 8	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 9	Not used(=00)							

3.5. GT-311F

3.5.1. 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 4	Input Channel 5	5
6	Input Channel 6	Input Channel 7	7
8	Input Channel 8	Input Channel 9	9
10	Input Channel 10	Input Channel 11	11
12	Input Channel 12	Input Channel 13	13
14	Input Channel 14	Input Channel 15	15
16	Input Channel Common (AGND)	Input Channel Common (AGND)	17
18	Input Channel Common (AGND)	Input Channel Common (AGND)	19

3.5.2. LED Indicator

LED No.	LED Function / Description	LED Color
0	Input Channel 0	Green

3.5.3. 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

3.5.4. Environment Specification

Environmental Specification	
Operation Temperature	-40℃ ~ 60℃
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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Protection Class	Variable/IP20
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

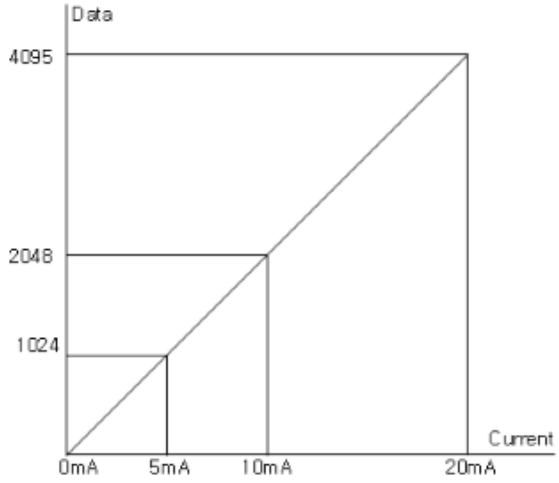
3.5.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	16 Channels Single Ended, Non-Isolated Between Channels
Indicators	1 Green G-Bus Status LED
Resolution in Ranges	12 Bits : 4.88uA/Bit(0~20mA), 3.91uA/Bit(4~20mA)
Input Current Ranges	0~20mA, 4~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ambient ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	121.5Ω
Diagnostic	Diagnostic Field Power Off : LED Blinking
Conversion Time	All Channels <3.2ms
Field Calibration	Not Required
Common Type	14 Common(FieldPower 0V is the Common=AGND)
General Specification	
Power Dissipation	Max. 30mA@ 5Vdc
Isolation	I/O to Logic : PhotocouplerIsolation Field Power : Non-Isolation
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~32Vdc Power Dissipation : Max. 35mA@ 24Vdc
Wiring	I/O Cable Max. 2.0mm^2(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to '1. Environment Specification'**

3.5.6. Data Value / Current

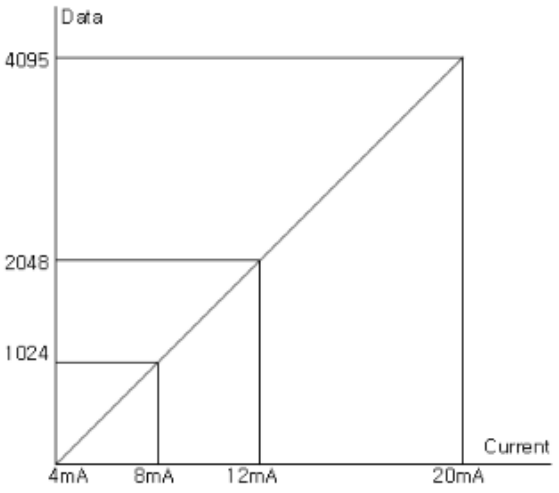
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Current Range : 4~20mA

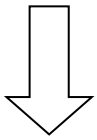
Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



3.5.7. Mapping Data into the Image Table

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7
Analog Input Ch8
Analog Input Ch9
Analog Input Ch10
Analog Input Ch11
Analog Input Ch12
Analog Input Ch13
Analog Input Ch14
Analog Input Ch15



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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							
Byte 16	Analog Input Ch8 Low byte							
Byte 17	Analog Input Ch8 High byte							
Byte 18	Analog Input Ch9 Low byte							
Byte 19	Analog Input Ch9 High byte							
Byte 20	Analog Input Ch10 Low byte							
Byte 21	Analog Input Ch10 High byte							
Byte 22	Analog Input Ch11 Low byte							
Byte 23	Analog Input Ch11 High byte							
Byte 24	Analog Input Ch12 Low byte							
Byte 25	Analog Input Ch12 High byte							
Byte 26	Analog Input Ch13 Low byte							
Byte 27	Analog Input Ch13 High byte							
Byte 28	Analog Input Ch14 Low byte							
Byte 29	Analog Input Ch14 High byte							
Byte 30	Analog Input Ch15 Low byte							
Byte 31	Analog Input Ch15 High byte							

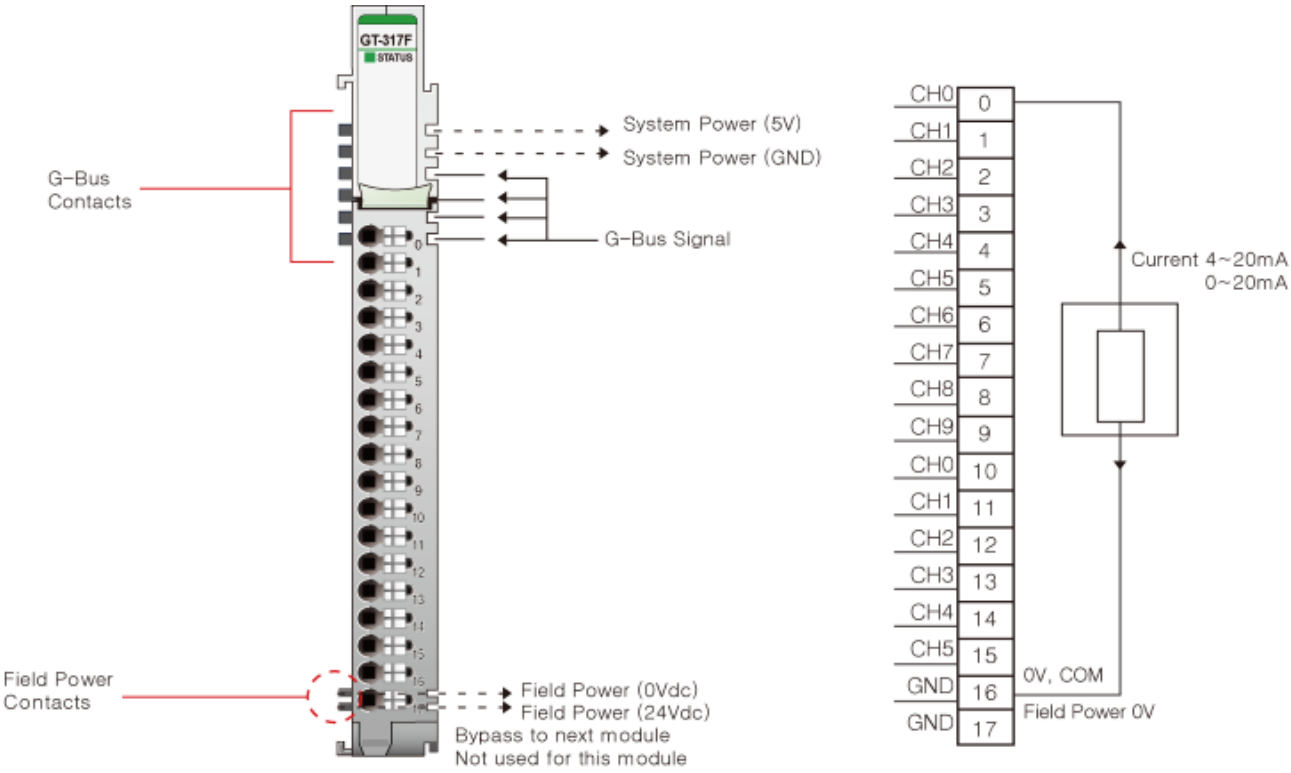
3.5.8. Parameter Data

Valid Parameter length : 18 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	Current Range for Channel 4 (H00: 0~20mA, H01: 4~20mA)							
Byte 5	Current Range for Channel 5 (H00: 0~20mA, H01: 4~20mA)							
Byte 6	Current Range for Channel 6 (H00: 0~20mA, H01: 4~20mA)							
Byte 7	Current Range for Channel 7 (H00: 0~20mA, H01: 4~20mA)							
Byte 8	Current Range for Channel 8 (H00: 0~20mA, H01: 4~20mA)							
Byte 9	Current Range for Channel 9 (H00: 0~20mA, H01: 4~20mA)							
Byte 10	Current Range for Channel 10 (H00: 0~20mA, H01: 4~20mA)							
Byte 11	Current Range for Channel 11 (H00: 0~20mA, H01: 4~20mA)							
Byte 12	Current Range for Channel 12 (H00: 0~20mA, H01: 4~20mA)							
Byte 13	Current Range for Channel 13 (H00: 0~20mA, H01: 4~20mA)							
Byte 14	Current Range for Channel 14 (H00: 0~20mA, H01: 4~20mA)							
Byte 15	Current Range for Channel 15 (H00: 0~20mA, H01: 4~20mA)							
Byte 16	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 17	Not used(=00)							

3.6. GT-317F

3.6.1. Wiring Diagram



Pin No.	Signal Description
0	Input Channel 0
1	Input Channel 1
2	Input Channel 2
3	Input Channel 3
4	Input Channel 4
5	Input Channel 5
6	Input Channel 6
7	Input Channel 7
8	Input Channel 8
9	Input Channel 9
10	Input Channel 10
11	Input Channel 11
12	Input Channel 12
13	Input Channel 13
14	Input Channel 14
15	Input Channel 15
16	Input Channel Common (AGND)
17	Input Channel Common (AGND)

3.6.2. LED Indicator

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

3.6.3. Channel Status LED

Status	LED	To indicate
G-Bus Status	Off Green	Disconnection Connection

3.6.4. Environment Specification

Environmental Specification	
Operation 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 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN 61000-6-4 : 2007+A1:2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

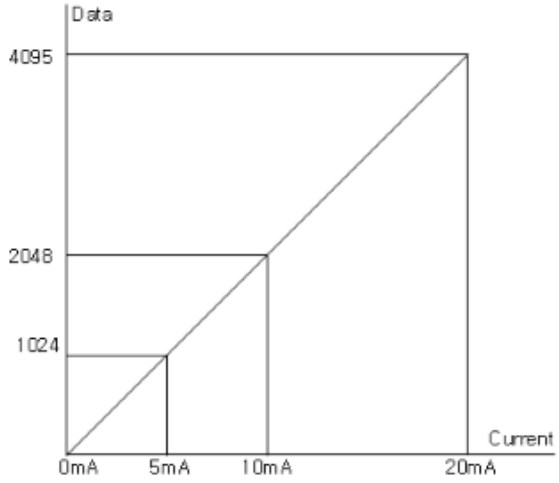
3.6.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	16 Channels Single Ended, Non-Isolated Between Channels
Indicators	16 Green G-Bus Status LED
Resolution in Ranges	12 Bits : 4.88uA/Bit(0~20mA), 3.91uA/Bit(4~20mA)
Input Current Ranges	0~20mA, 4~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ambient ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	121.5Ω
Conversion Time	Max. 3.2 msec (All Channels) (TBD)
Field Calibration	Not Required
Common Type	2 Common(Field Power 0V is the Common=AGND)
General Specification	
Power Dissipation	Max. 200mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field Power : Non-Isolation
Field Power	Not used Field power bypass to next expansion module
Wiring	I/O Cable Max. 1.0mm²(AWG 18)
Weight	63g
Module Size	12mm x 109mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.6.6. Data Value / Current

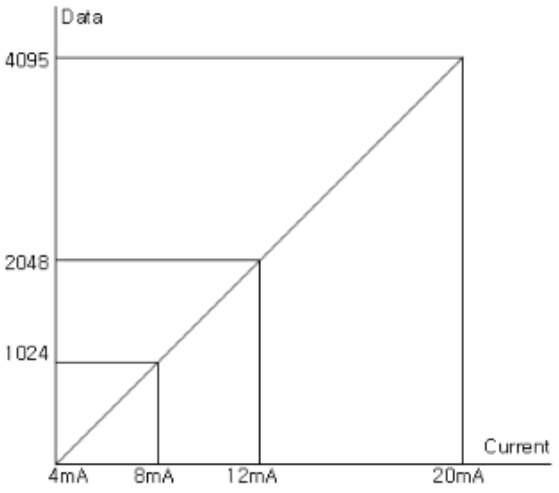
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Current Range : 4~20mA

Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



3.6.7. Mapping Data into the Image Table.

- Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7
Analog Input Ch8
Analog Input Ch9
Analog Input Ch10
Analog Input Ch11
Analog Input Ch12
Analog Input Ch13
Analog Input Ch14
Analog Input Ch15

- 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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							
Byte 16	Analog Input Ch0 Low byte							
Byte 17	Analog Input Ch7 High byte							
Byte 18	Analog Input Ch0 Low byte							
Byte 19	Analog Input Ch7 High byte							
Byte 20	Analog Input Ch0 Low byte							
Byte 21	Analog Input Ch7 High byte							
Byte 22	Analog Input Ch0 Low byte							
Byte 23	Analog Input Ch7 High byte							
Byte 24	Analog Input Ch0 Low byte							
Byte 25	Analog Input Ch7 High byte							
Byte 26	Analog Input Ch0 Low byte							
Byte 27	Analog Input Ch7 High byte							
Byte 28	Analog Input Ch0 Low byte							
Byte 29	Analog Input Ch7 High byte							
Byte 30	Analog Input Ch0 Low byte							
Byte 31	Analog Input Ch7 High byte							

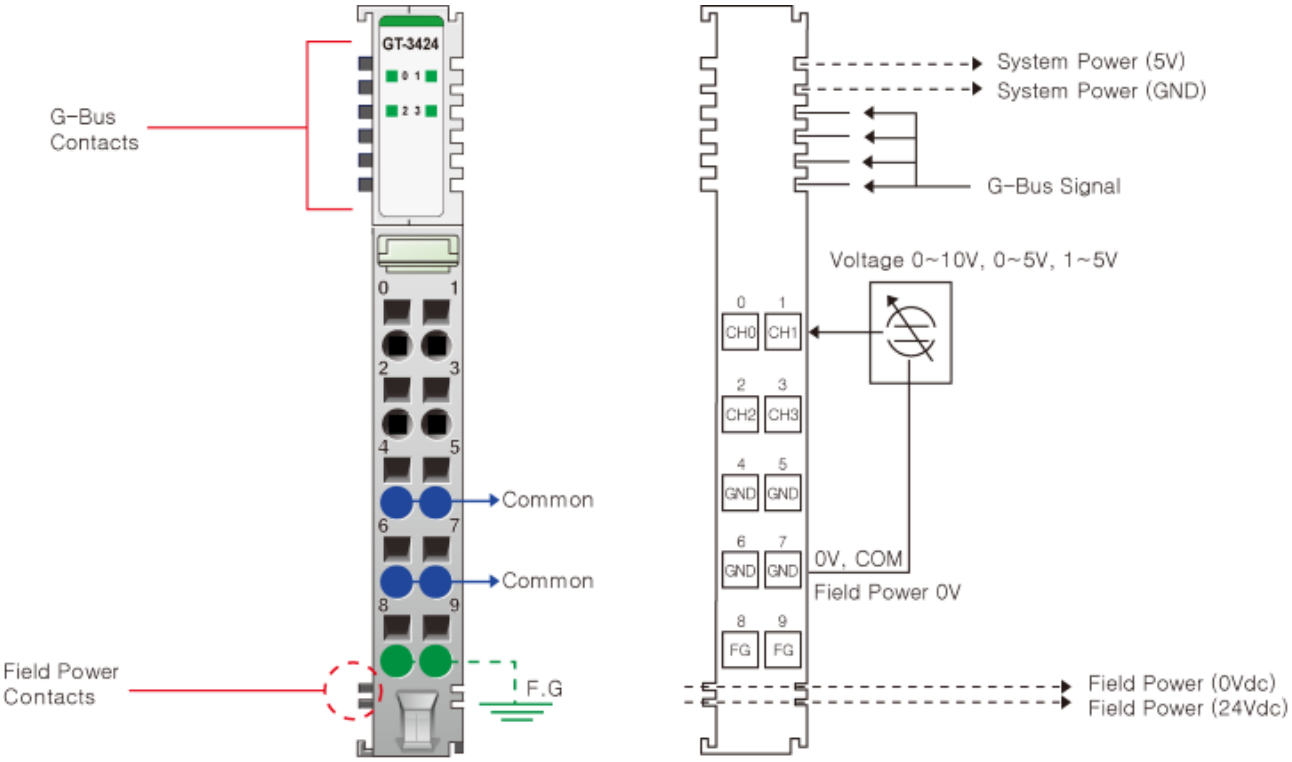
3.6.8. Parameter Data

Valid Parameter length : 18 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	Current Range for Channel 4 (H00: 0~20mA, H01: 4~20mA)							
Byte 5	Current Range for Channel 5 (H00: 0~20mA, H01: 4~20mA)							
Byte 6	Current Range for Channel 6 (H00: 0~20mA, H01: 4~20mA)							
Byte 7	Current Range for Channel 7 (H00: 0~20mA, H01: 4~20mA)							
Byte 8	Current Range for Channel 8 (H00: 0~20mA, H01: 4~20mA)							
Byte 9	Current Range for Channel 9 (H00: 0~20mA, H01: 4~20mA)							
Byte 10	Current Range for Channel 10 (H00: 0~20mA, H01: 4~20mA)							
Byte 11	Current Range for Channel 11 (H00: 0~20mA, H01: 4~20mA)							
Byte 12	Current Range for Channel 12 (H00: 0~20mA, H01: 4~20mA)							
Byte 13	Current Range for Channel 13 (H00: 0~20mA, H01: 4~20mA)							
Byte 14	Current Range for Channel 14 (H00: 0~20mA, H01: 4~20mA)							
Byte 15	Current Range for Channel 15 (H00: 0~20mA, H01: 4~20mA)							
Byte 16	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 17	Not used(=00)							

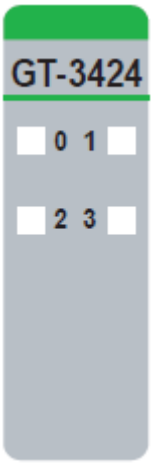
3.7. GT-3424

3.7.1. 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	Field Ground	Field Ground	9

3.7.2. 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

3.7.3. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF [LED Off < 0.5% (Maximum Input Value)] - Channel Green	Normal Operation
Field Power Error	All Channel Repeat The Green and OFF	Field Power is unconnected

3.7.4. Environment Specification

Environmental Specification	
Operation 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 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN 61000-6-4 : 2007+A1:2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

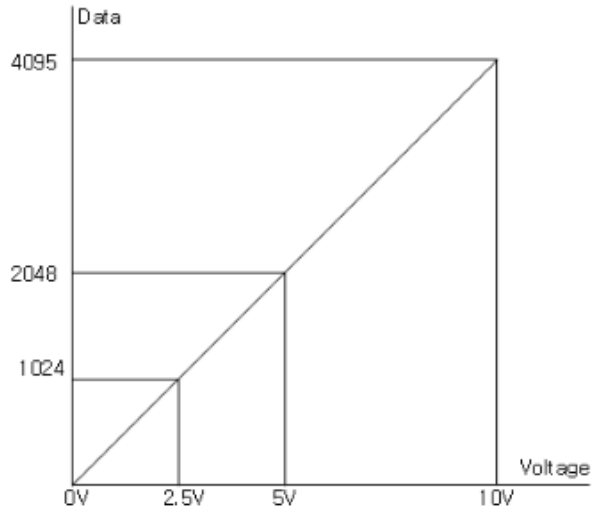
3.7.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Single Ended, Non-Isolated Between Channels
Indicators	4 Green G-Bus Status LED
Resolution in Ranges	12 Bits : 2.44mV/Bit(0~10V), 1.22mV/Bit(0~5V), 0.977mV/Bit(1~5V)
Input Current Ranges	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ambient ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	500kΩ
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)
Conversion Time	≤350usec / All Channel
Field Calibration	Not Required
Common Type	4 Common(Field Power 0V is the Common=AGND)
General Specification	
Power Dissipation	Max. 25mA @ 5.0Vdc
Isolation	I/O to Logic : Isolation Field Power : Non-Isolation
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~32Vdc Power Dissipation : Max. 25mA@24Vdc
Wiring	I/O Cable Max. 2.0mm²(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.7.6. Data Value / Voltage

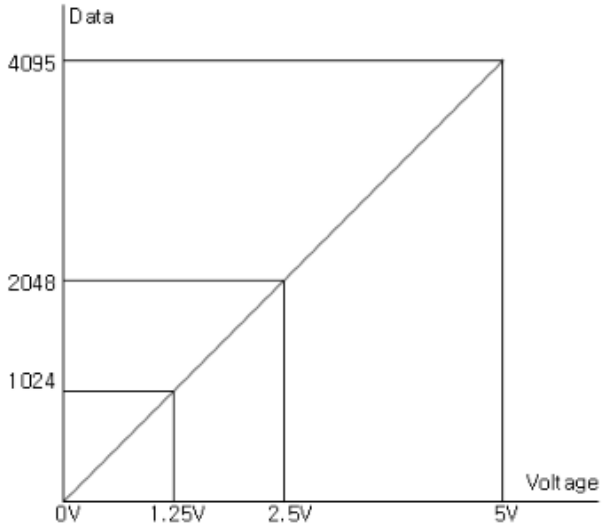
Voltage Range : 0~10Vdc

Current	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



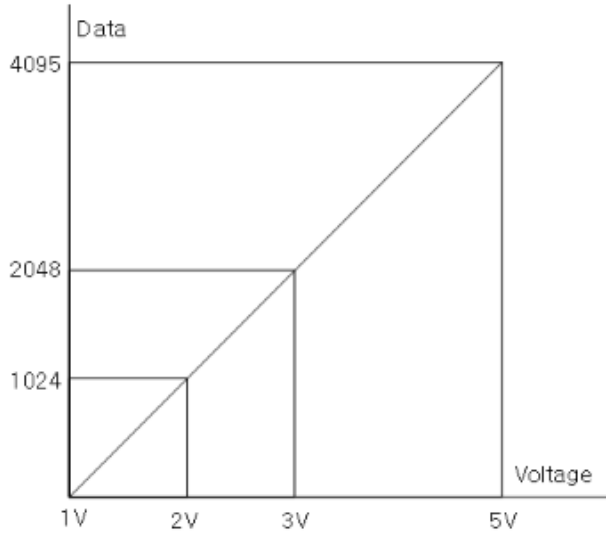
Voltage Range : 0~5Vdc

Current	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Voltage Range : 1~5Vdc

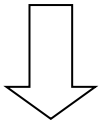
Current	1.0V	2.0V	3.0V	4.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



3.7.7. 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							

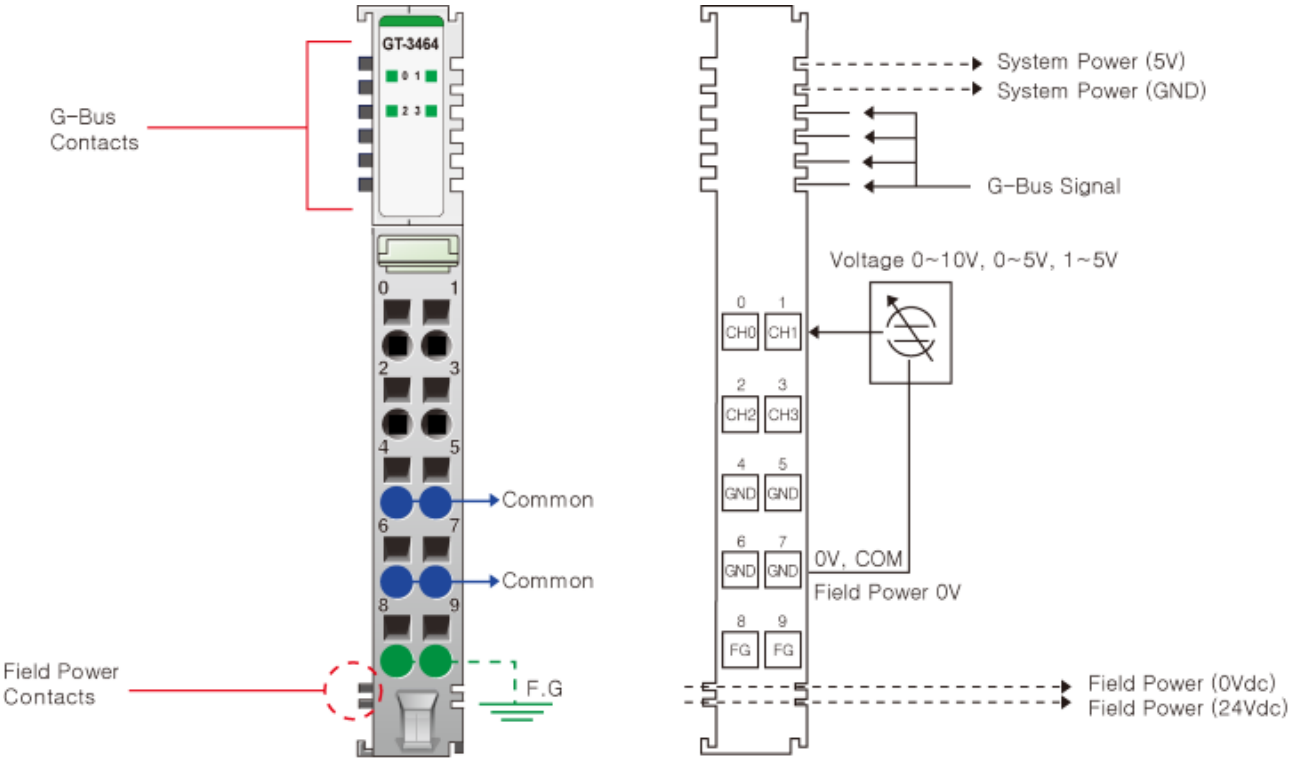
3.7.8. Parameter Data

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	Current Range for Channel 4 (H00: 0~20mA, H01: 4~20mA)							
Byte 5	Current Range for Channel 5 (H00: 0~20mA, H01: 4~20mA)							

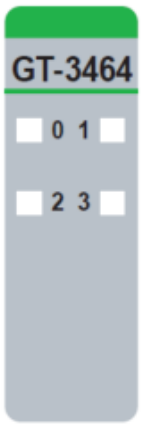
3.8. GT-3464

3.8.1. 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	Field Ground	Field Ground	9

3.8.2. 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

3.8.3. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED OFF < 0.5% (Maximum Input Vlaue)] - Channel OFF [LED On > 0.5% (Maximum Input Value)] - Channel Green	Nrmal Operation
Field Power Error	All Channel Repeat the Green and OFF	Field Power is unconnected

3.8.4. Environment Specification

Environmental Specification	
Operation 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 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN 61000-6-4 : 2007+A1:2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

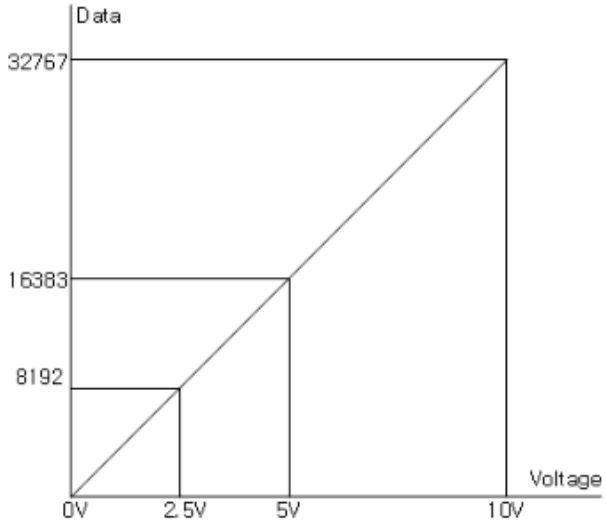
3.8.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Single Ended, Non-Isolated Between Channels
Indicators	4 Green G-Bus Status LED
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.31mV/bit(0~10Vdc), 0.15mV/bit(0~5Vdc), 0.12mV/bit(1~5Vdc)
Input Current Ranges	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ambient ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	500kΩ
Dinostic	Diagonstic 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)
Conversion Time	≤350usec / All channel
Field Calibration	Not Required
Common Type	4 Common(Field Power 0V is the Common=AGND)
General Specification	
Power Dissipation	Max. 25mA @ 5.0Vdc
Isolation	I/O to Logic : Isolation Field Power : Non-Isolation
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~32Vdc Power Dissipation : Max. 25mA@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'**

3.8.6. Data Value / Volatge

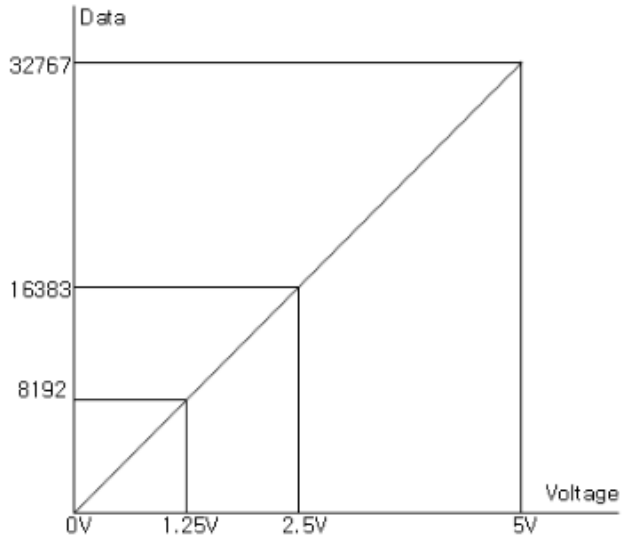
Voltage Range : 0~10Vdc

Current	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



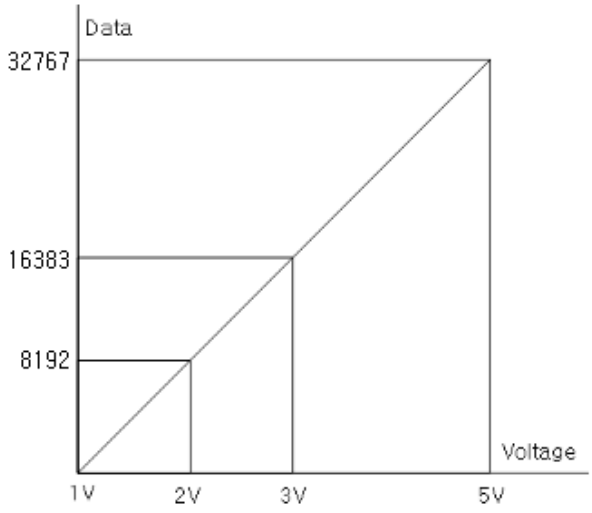
Voltage Range : 0~5Vdc

Current	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H000	H1FFF	H3FFF	H7FFF



Voltage Range : 1~5Vdc

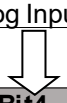
Current	1.0V	2.0V	3.0V	4.0V
Data(Hex)	H000	H1FFF	H3FFF	H7FFF



3.8.7. 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							

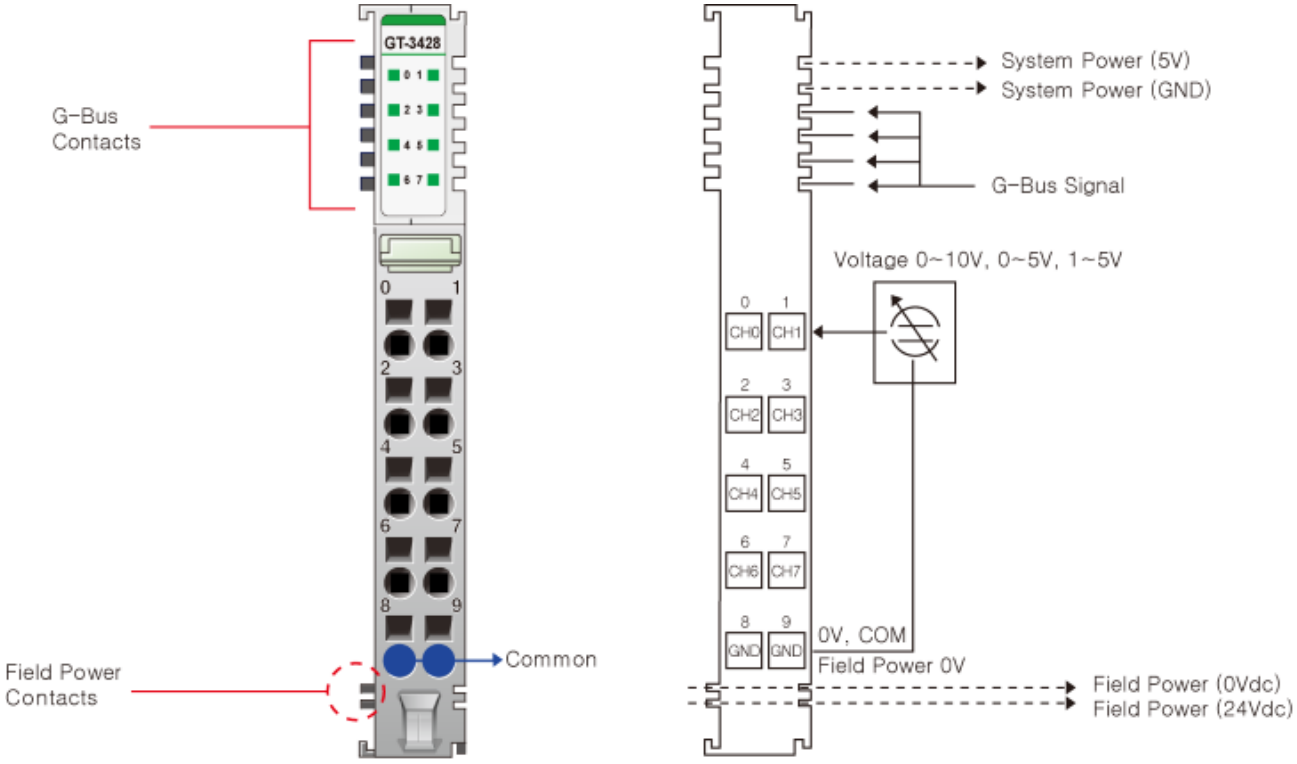
3.8.8. Parameter Data

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 ~ / H62: Slowest)							
Byte 5	Not used(=00)							

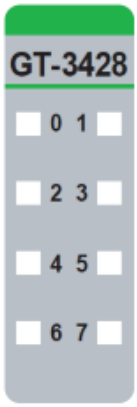
3.9. GT-3428

3.9.1. 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 4	Input Channel 5	5
6	Input Channel 6	Input Channel 7	7
8	Input Channel Common (AGND)	Input Channel Common (AGND)	9

3.9.2. 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
4	Input Channel 4	Green
5	Input Channel 5	Green
6	Input Channel 6	Green
7	Input Channel 7	Green

3.9.3. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF	Normal Operation
	[LED On > 0.5% (Maximum Input Value)] - Channel Green	
Field Power Error	All Channel Repeat Green and Off	Field Power is unconnected

3.9.4. Environment Specification

Environmental Specification	
Operation 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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Protection Class	Variable/IP20
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

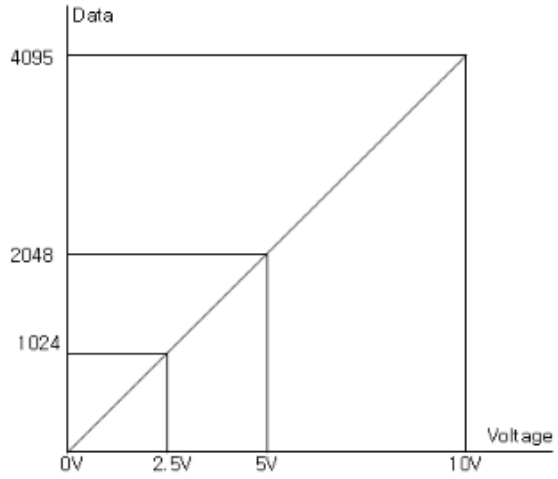
3.9.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Single Ended, Non-isolated Between Channels
Indicators	8 Green Input Status LEDs
Resolution in Ranges	12 Bits : 2.44mV/Bit(0~10V), 1.22mV/Bit(0~5V), 0.98mV/Bit(1~5V)
Input Voltage Range	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16 Bits Integer (2's complement)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	500kΩ
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)
Conversion Time	≤ 1msec / All Channels (≤ 0.125ms per Channel)
Calibration	Not Required
Common Type	2 Common(Field Power 0V is the Common=AGND)
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. 30mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm²(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.9.6. Data Value / Voltage

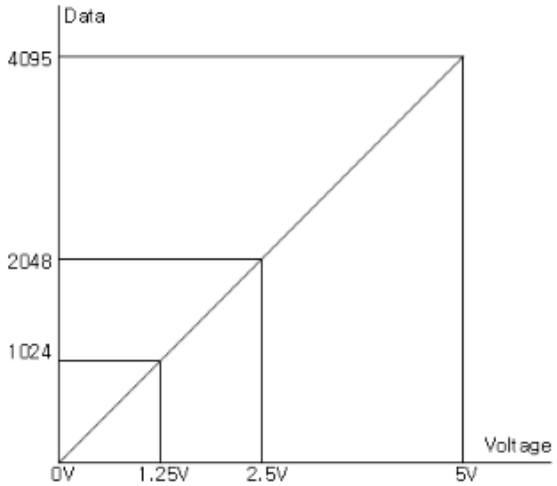
Voltage Range : 0~10Vdc

Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



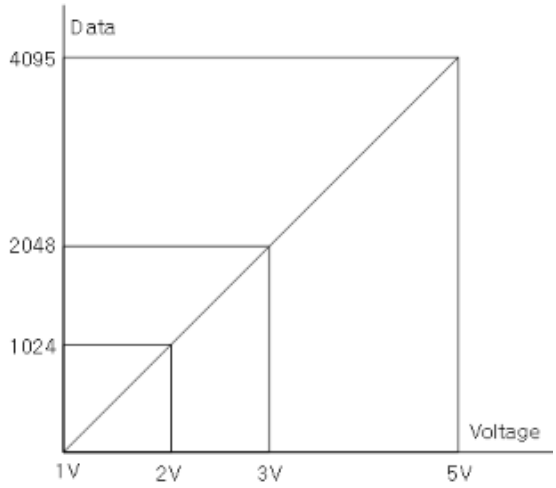
Voltage Range : 0~5Vdc

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Voltage Range : 1~5Vdc

Voltage	1.0V	2.0V	3.0V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



3.9.7. Mapping Data into the Image Table

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7

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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							

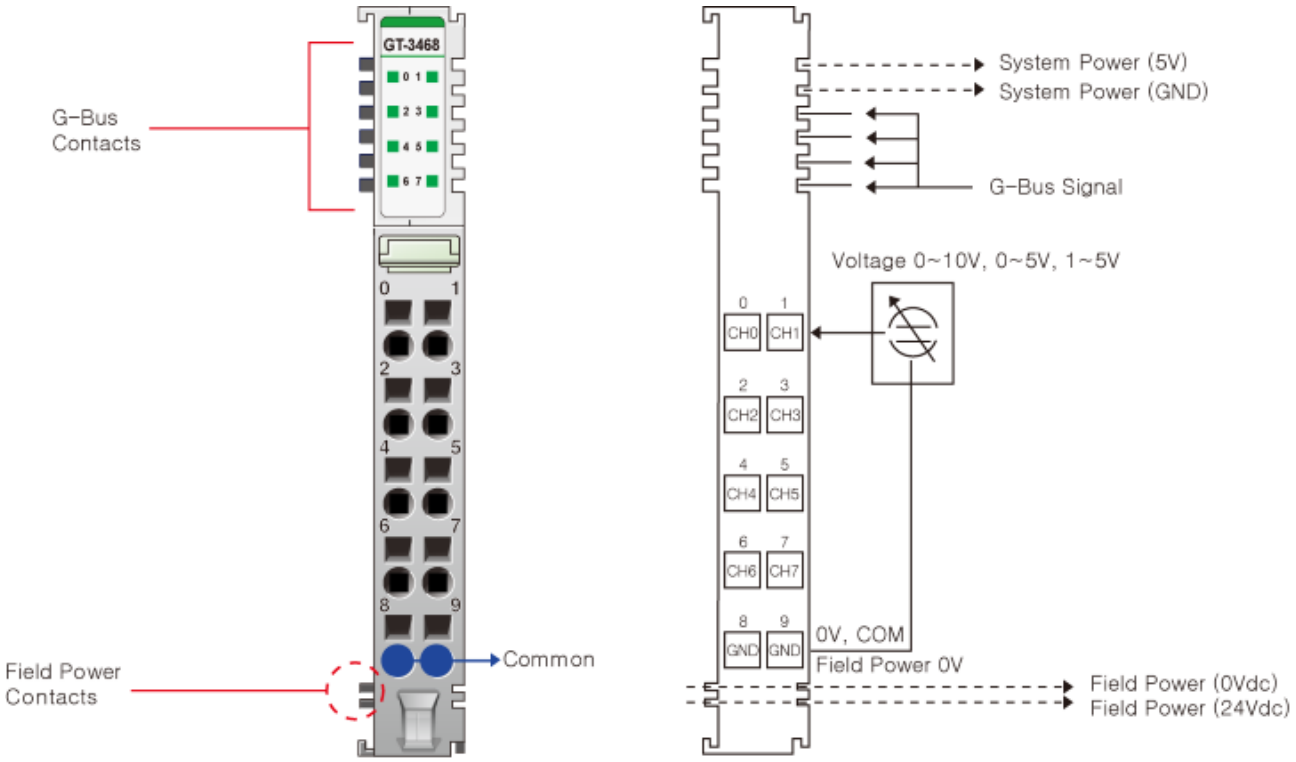
3.9.8. Parameter Data

Valid Parameter length : 10 Bytes
Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Voltage Range for Channel 0 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 1	Voltage Range for Channel 1 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 2	Voltage Range for Channel 2 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 3	Voltage Range for Channel 3 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 4	Voltage Range for Channel 4 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 5	Voltage Range for Channel 5 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 6	Voltage Range for Channel 6 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 7	Voltage Range for Channel 7 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 8	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 9	Not used(=00)							

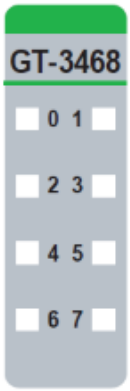
3.10. GT-3468

3.10.1. 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 4	Input Channel 5	5
6	Input Channel 6	Input Channel 7	7
8	Input Channel Common (AGND)	Input Channel Common (AGND)	9

3.10.2. 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
4	Input Channel 4	Green
5	Input Channel 5	Green
6	Input Channel 6	Green
7	Input Channel 7	Green

3.10.3. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF	Normal Operation
	[LED On > 0.5% (Maximum Input Value)] - Channel Green	
Field Power Error	All Channel Repeat Green and Off	Field Power is unconnected

3.10.4. Environment Specification

Environmental Specification	
Operation 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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

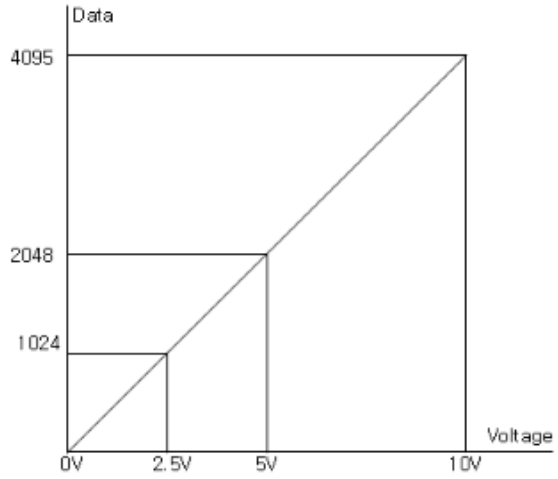
3.10.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Single Ended, Non-isolated Between Channels
Indicators	8 Green Input Status LEDs
Resolution in Ranges	16 Bit (Include Sign) 15 Bits : 0.31mV/bit(0~10V), 0.15mV/bit(0~5V), 0.12mV/bit(1~5V)
Input Voltage Range	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16 Bits Integer (2's complement)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	500kΩ
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)
Conversion Time	≤ 1msec / All Channels (≤ 0.125msper Channel)
Calibration	Not Required
Common Type	2 Common(Field Power 0V is the Common=AGND)
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. 30mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm²(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.10.6. Data Value / Voltage

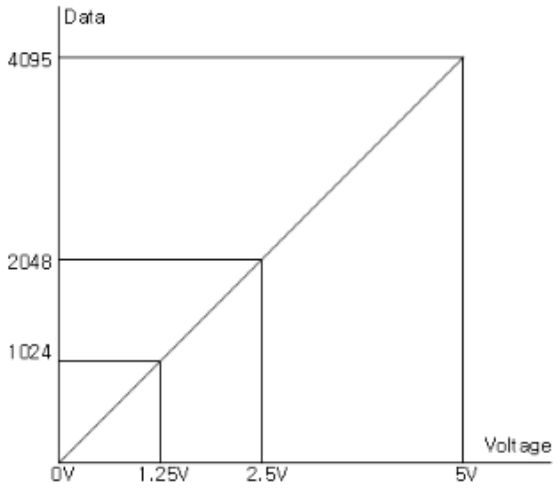
Voltage Range : 0~10Vdc

Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



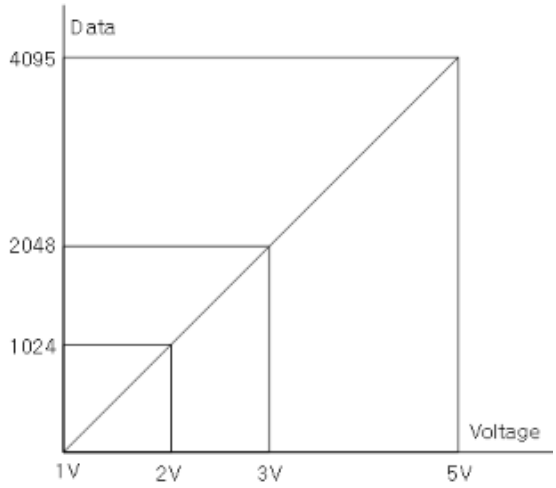
Voltage Range : 0~5Vdc

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



Voltage Range : 1~5Vdc

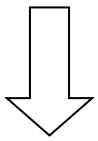
Voltage	1.0V	2.0V	3.0V	5.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



3.10.7. Mapping Data into the Image Table

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7



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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							

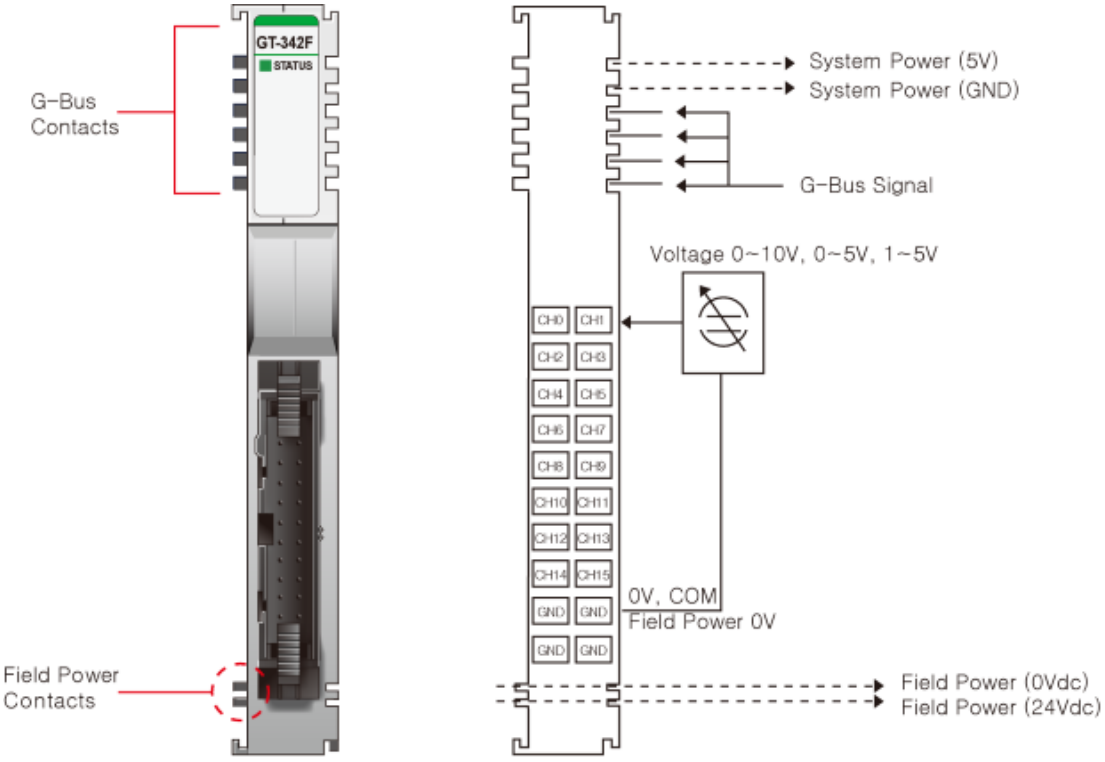
3.10.8. Parameter Data

Valid Parameter length : 10 Bytes
Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Voltage Range for Channel 0 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 1	Voltage Range for Channel 1 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 2	Voltage Range for Channel 2 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 3	Voltage Range for Channel 3 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 4	Voltage Range for Channel 4 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 5	Voltage Range for Channel 5 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 6	Voltage Range for Channel 6 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 7	Voltage Range for Channel 7 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 8	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 9	Not used(=00)							

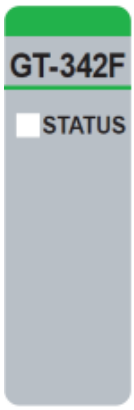
3.11. GT-342F

3.11.1. 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 4	Input Channel 5	5
6	Input Channel 6	Input Channel 7	7
8	Input Channel 8	Input Channel 9	9
10	Input Channel 10	Input Channel 11	11
12	Input Channel 12	Input Channel 13	13
14	Input Channel 14	Input Channel 15	15
16	Input Channel Common (AGND)	Input Channel Common (AGND)	17
18	Input Channel Common (AGND)	Input Channel Common (AGND)	19

3.11.2. LED Indicator



LED No.	LED Function / Description	LED Color
0	Input Channel 0	Green

3.11.3. 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

3.11.4. Environment Specification

Environmental Specification	
Operation Temperature	-40℃ ~ 60℃
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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Protection Class	Variable/IP20
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

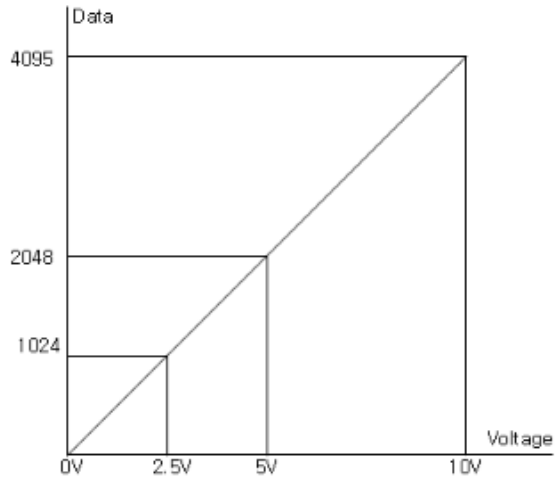
3.11.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	16 Channels Single Ended, Non-isolated Between Channels
Indicators	1 Green G-Bus Status LED
Resolution in Ranges	12 Bits : 2.44mV/Bit(0~10V), 1.22mV/Bit(0~5V),0.98mV/Bit(1~5V)
Input Voltage Range	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16 Bits Integer (2's complement)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	500kΩ
Diagnostic	Diagnostic Field Power Off : LED Blinking
Conversion Time	All Channels <1.3ms
Calibration	Not Required
Common Type	4 Common(Field Power 0V is the Common=AGND)
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. 35mA@ 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'**

3.11.6. Data Value / Voltage

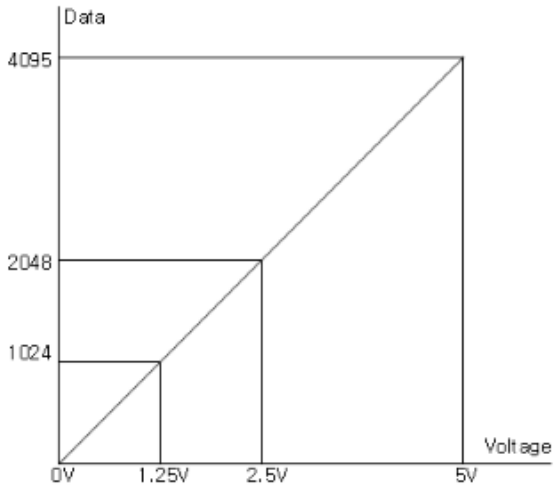
Voltage Range : 0~10Vdc

Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



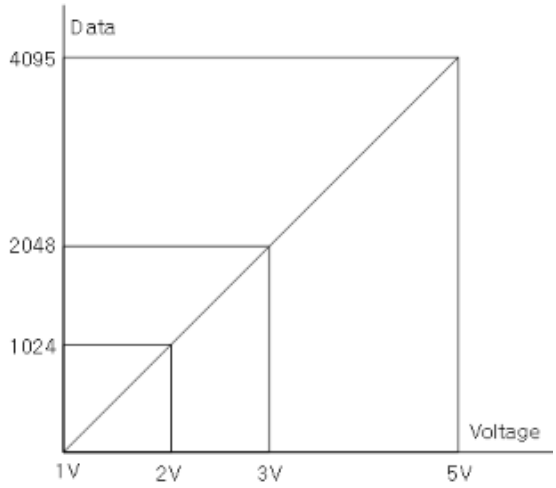
Voltage Range : 0~5Vdc

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Voltage Range : 1~5Vdc

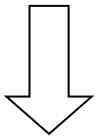
Voltage	1.0V	2.0V	3.0V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



3.11.7. Mapping Data into the Image Table

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7
Analog Input Ch8
Analog Input Ch9
Analog Input Ch10
Analog Input Ch11
Analog Input Ch12
Analog Input Ch13
Analog Input Ch14
Analog Input Ch15



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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							
Byte 16	Analog Input Ch8 Low byte							
Byte 17	Analog Input Ch8 High byte							
Byte 18	Analog Input Ch9 Low byte							
Byte 19	Analog Input Ch9 High byte							
Byte 20	Analog Input Ch10 Low byte							
Byte 21	Analog Input Ch10 High byte							
Byte 22	Analog Input Ch11 Low byte							
Byte 23	Analog Input Ch11 High byte							
Byte 24	Analog Input Ch12 Low byte							
Byte 25	Analog Input Ch12 High byte							
Byte 26	Analog Input Ch13 Low byte							
Byte 27	Analog Input Ch13 High byte							
Byte 28	Analog Input Ch14 Low byte							
Byte 29	Analog Input Ch14 High byte							
Byte 30	Analog Input Ch15 Low byte							
Byte 31	Analog Input Ch15 High byte							

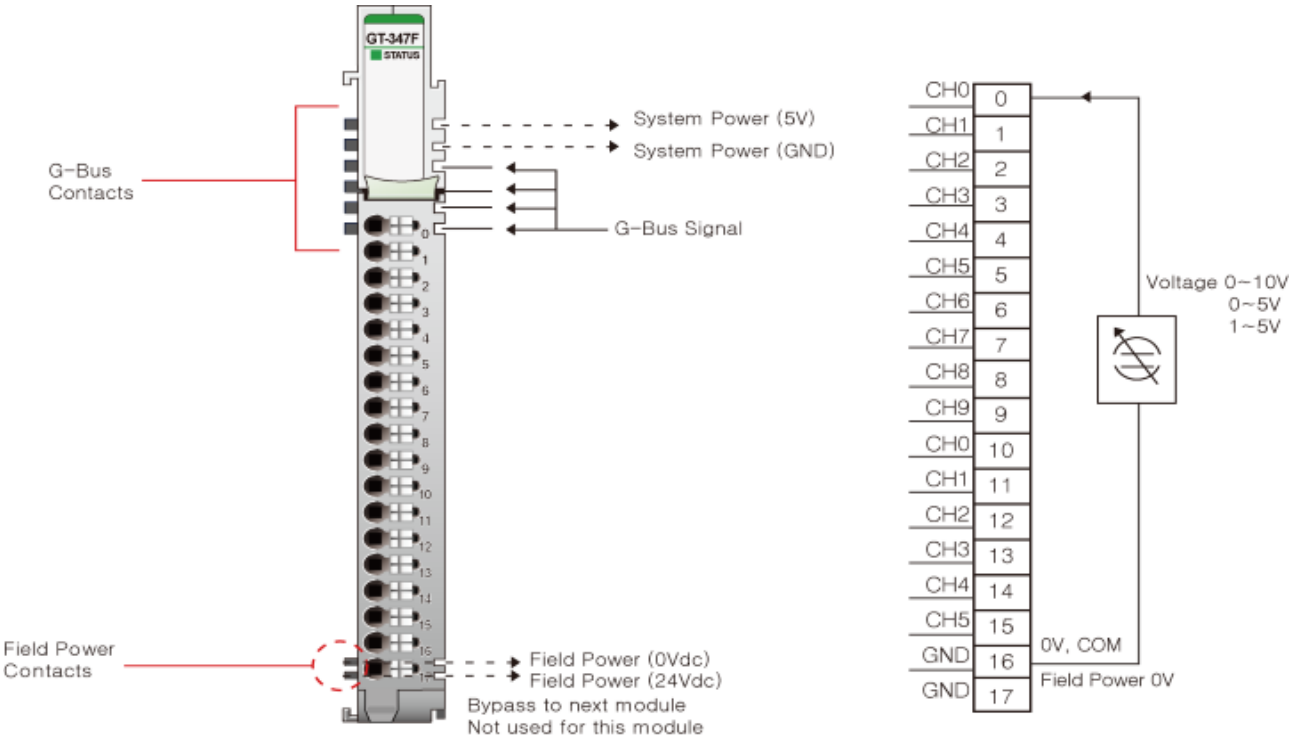
3.11.8. Parameter Data

Valid Parameter length : 18 Bytes
Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Voltage Range for Channel 0 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 1	Voltage Range for Channel 1 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 2	Voltage Range for Channel 2 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 3	Voltage Range for Channel 3 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 4	Voltage Range for Channel 4 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 5	Voltage Range for Channel 5 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 6	Voltage Range for Channel 6 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 7	Voltage Range for Channel 7 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 8	Voltage Range for Channel 8 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 9	Voltage Range for Channel 9 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 10	Voltage Range for Channel 10 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 11	Voltage Range for Channel 11 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 12	Voltage Range for Channel 12 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 13	Voltage Range for Channel 13 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 14	Voltage Range for Channel 14 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 15	Voltage Range for Channel 15 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
Byte 16	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ / H62: Slowest)							
Byte 17	Not used(=00)							

3.12. GT-347F

3.12.1. Wiring Diagram



Pin No.	Signal Description
0	Input Channel 0
1	Input Channel 1
2	Input Channel 2
3	Input Channel 3
4	Input Channel 4
5	Input Channel 5
6	Input Channel 6
7	Input Channel 7
8	Input Channel 8
9	Input Channel 9
10	Input Channel 10
11	Input Channel 11
12	Input Channel 12
13	Input Channel 13
14	Input Channel 14
15	Input Channel 15
16	Input Channel Common (AGND)
17	Input Channel Common (AGND)

3.12.2. LED Indicator

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

3.12.3. Channel Status LED

Status	LED	To indicate
G-Bus Status	Off Green	Disconnection Connection

3.12.4. Environment Specification

Environmental Specification	
Operation Temperature	-40℃ ~ 60℃
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 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

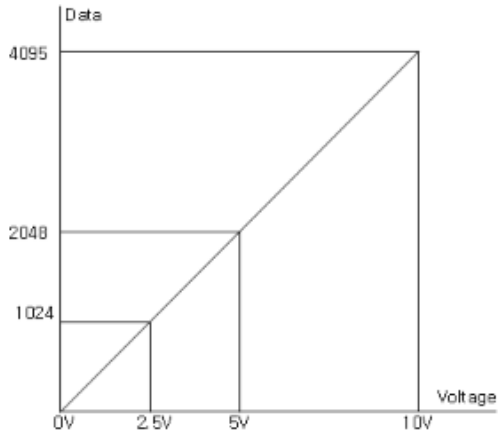
3.12.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	16Channels Differential, Non-isolated Between Channels
Indicators	16 Green G-Bus Status LED
Resolution in Ranges	12 Bits : 2.44mV/Bit(0~10V), 1.22mV/Bit(0~5V), 0.98mV/Bit(1~5V)
Input Range	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 60℃
Input Impedance	500kΩ
Conversion Time	All channels < 1.3ms
Calibration	Not Required
Common Type	2 Common, Field Power 0V is Common(AGND)
General Specification	
Power Dissipation	Max. 210mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : Not Connected
Field Power	Not used Field power bypass to next expansion module
Wiring	I/O Cable Max. 1.0mm^2(AWG 18)
Weight	63g
Module Size	12mm x 109mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.12.6. Data Value / Voltage

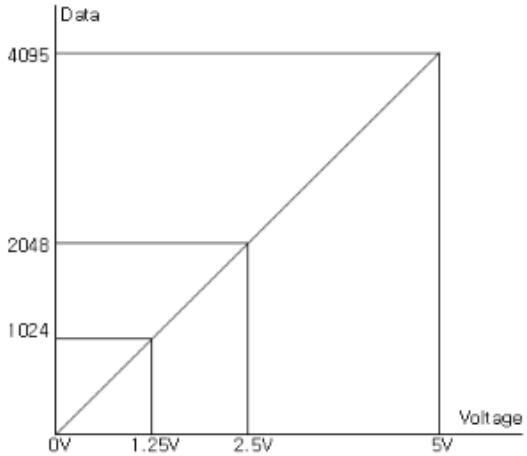
Voltage Range : 0~10Vdc

Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



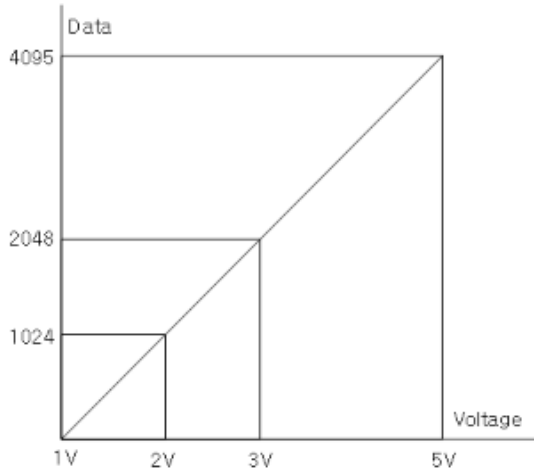
Voltage Range : 0~5Vdc

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Voltage Range :1~5Vdc

Voltage	-20.0mA	-10.0mA	0mA	+10.0mA	+20.mA
Data(Hex)	HF800	HFC00	H0000	H03FF	H07FF



3.12.7. Mapping Data into the Image Table

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7
Analog Input Ch8
Analog Input Ch9
Analog Input Ch10
Analog Input Ch11
Analog Input Ch12
Analog Input Ch13
Analog Input Ch14
Analog Input Ch15

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							
Byte 8	Analog Input Ch4Low byte							
Byte 9	Analog Input Ch4High byte							
Byte 10	Analog Input Ch5Low byte							
Byte 11	Analog Input Ch5High byte							
Byte 12	Analog Input Ch6Low byte							
Byte 13	Analog Input Ch6High byte							
Byte 14	Analog Input Ch7Low byte							
Byte 15	Analog Input Ch7High byte							
Byte 16	Analog Input Ch8Low byte							
Byte 17	Analog Input Ch8High byte							
Byte 18	Analog Input Ch9Low byte							
Byte 19	Analog Input Ch9igh byte							
Byte 20	Analog Input Ch10ow byte							
Byte 21	Analog Input Ch10igh byte							
Byte 22	Analog Input Ch11ow byte							
Byte 23	Analog Input Ch11igh byte							
Byte 24	Analog Input Ch12ow byte							
Byte 25	Analog Input Ch12igh byte							
Byte 26	Analog Input Ch13ow byte							
Byte 27	Analog Input Ch13igh byte							
Byte 28	Analog Input Ch14ow byte							
Byte 29	Analog Input Ch14igh byte							
Byte 30	Analog Input Ch15ow byte							
Byte 31	Analog Input Ch15igh byte							

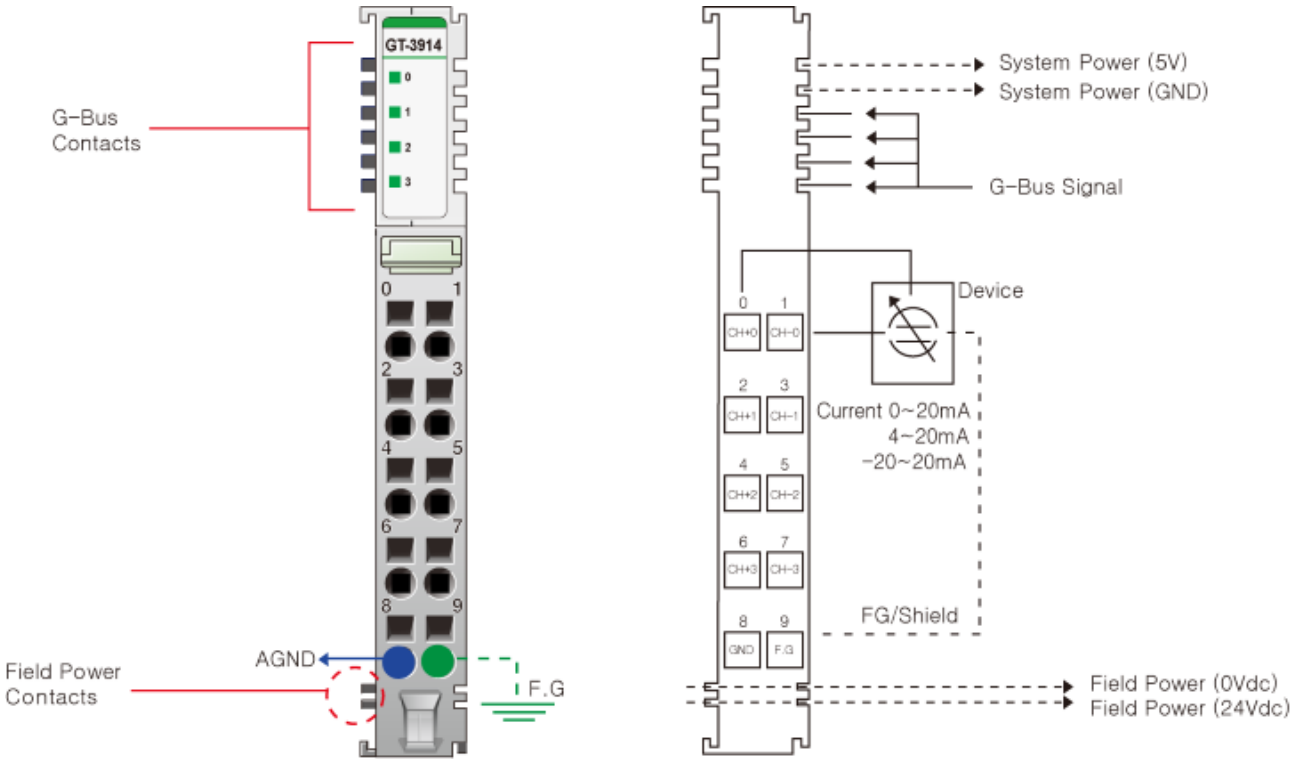
3.12.8. Parameter Data

-Valid Parameter length : 18 Bytes
-Parameter Data

Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Voltage Range for Channel 0 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
1	Voltage Range for Channel 1 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
2	Voltage Range for Channel 2 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
3	Voltage Range for Channel 3 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
4	Voltage Range for Channel 4 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
5	Voltage Range for Channel 5 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
6	Voltage Range for Channel 6 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
7	Voltage Range for Channel 7 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
8	Voltage Range for Channel 8 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
9	Voltage Range for Channel 9 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
10	Voltage Range for Channel 10 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
11	Voltage Range for Channel 11 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
12	Voltage Range for Channel 12 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
13	Voltage Range for Channel 13 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
14	Voltage Range for Channel 14 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
15	Voltage Range for Channel 15 (H00: 0~10Vdc, H01: 0~5Vdc, H02: 1~5Vdc)							
16	Filter Time (H00: Default Filter(=20) / H01: Fastest ~ /H62: Slowest)							
17	Net used(=00)							

3.13. GT-3914

3.13.1. Wiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
0	Input Channel 0(+)	Input Channel 0(-)	1
2	Input Channel 1(+)	Input Channel 1(-)	3
4	Input Channel 2(+)	Input Channel 2(-)	5
6	Input Channel 3(+)	Input Channel 3(-)	7
8	Input Channel Common(AGND)	Field Ground	9

3.13.2. 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

3.13.3. Channel Status LED

Status	LED	To indicate
Normal Operation	Off	[LED Off < 0.5% (Maximum Input Value)]
	Green	[LED On > 0.5% (Maximum Input Value)]
Field Power Error	All Channel Repeat Green and Off	Field Power is unconnected

3.13.4. Environment Specification

Environmental Specification	
Operation 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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Protection Class	Variable/IP20
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

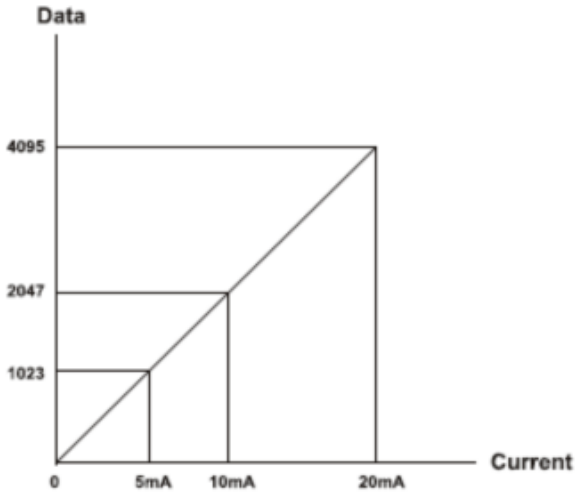
3.13.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Differential, Non-isolated Between Channels
Indicators	4 Green Input Status LEDs
Resolution in Ranges	12 bits : 4.88mV/Bit(0~20mA) 12 bits : 3.91mV/Bit(4~20mA) 12 bits : 9.77mV/Bit(-20~10mA)
Input Range	0~20mA, 4~20mA, -20~20mA
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	121.5Ω
Conversion Time	1msec / All channels
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) Maximum Range Over : LED Off > 21mA Maximum Range Over : LED Off < 3mA(4~20mA) Maximum Range Over : LED Off <-20mA(-20~20mA)
Calibration	Not Required
Common Type	1 Common, Field Power 0V is Common (AGND)
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 : 70℃ : 18 ~ 26.4Vdc 50℃ ; 18~32Vdc Power Dissipation : Max. 40mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm²(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.13.6. Data Value / Current

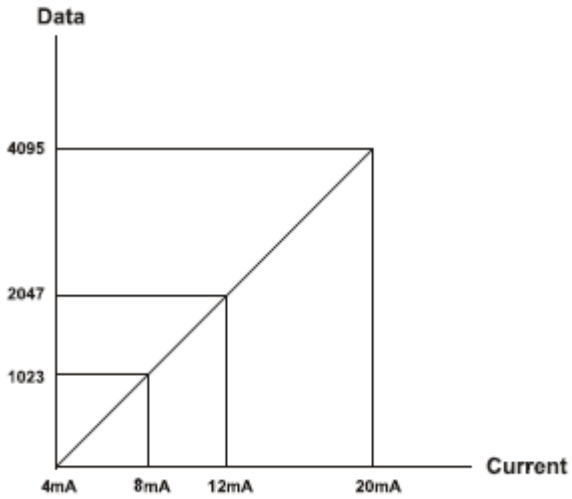
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



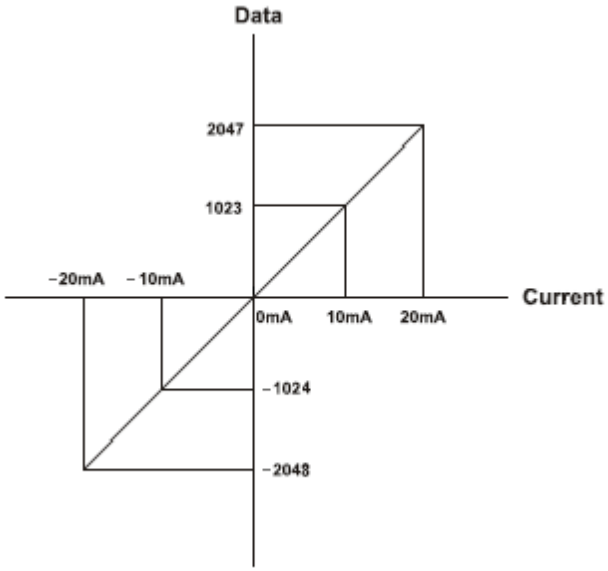
Current Range : 4~20mA

Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Current Range : -20~20mA

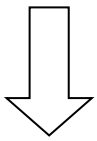
Current	-20.0mA	-10.0mA	0mA	+10.0mA	+20.0mA
Data(Hex)	HF800	HFC00	H0000	H03FF	H07FF



3.13.7. 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							

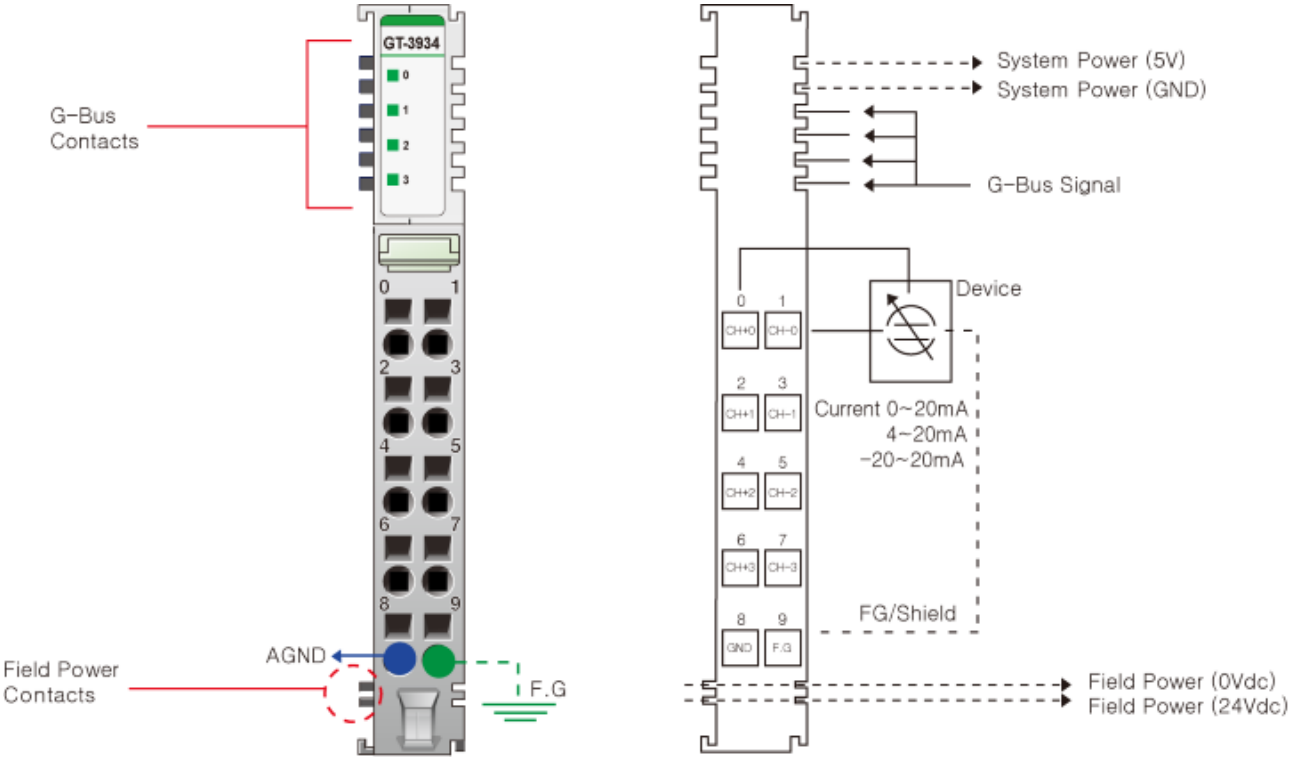
3.13.8. Input Range Setting & Conversion Time Setting

Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Ch#0 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
1	Ch#1 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
2	Ch#2 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
3	Ch#3 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
4	Filter Time(H00 : Default Filter(=20), H01 : Fastest ~ H62 : Slowest)							
5	Reserve							

* ID_PARAMETER (6 Bytes)

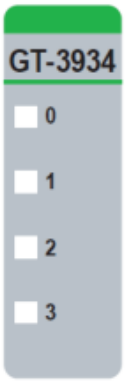
3.14. GT-3934

3.14.1. Wiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
0	Input Channel 0(+)	Input Channel 0(-)	1
2	Input Channel 1(+)	Input Channel 1(-)	3
4	Input Channel 2(+)	Input Channel 2(-)	5
6	Input Channel 3(+)	Input Channel 3(-)	7
8	Input Channel Common(AGND)	Field Ground	9

3.14.2. 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

3.14.3. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Vlaue)] - Channel OFF	Normal Operation
	[LED On > 0.5% (maximum Input Value)] - Channel Green	
Over Range Check	4~20mA : LED Off < 3mA	Over range Check
	-20~20mA : LED Off > 21mA, LED Off <-21mA	
Field Power Error	All Channel Repeat Green and Off	Field Power is unconnected

3.14.4. Environment Specification

Environmental Specification	
Operation 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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN 61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

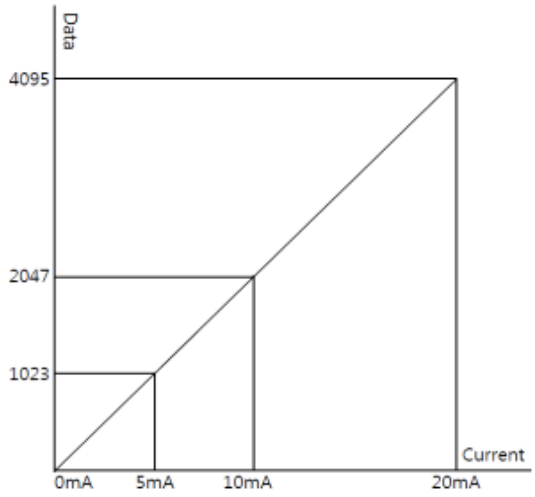
3.14.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Differential, Non-isolated Between Channels
Indicators	4 Green Input Status LEDs
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.61uA/Bit(0~20mA) 15 bits : 0.49uA/Bit(4~20mA) 15 bit (Include Sign) 15 bits : 1.22uA/Bit(-20~20mA)
Input Range	0~20mA, 4~20mA, -20~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	121.5Ω
Conversion Time	1msec / All channels
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) Maximum Range Over : LED Off > 21mA(-20~20mA) Minimum Range Over : LED Off < -21mA(-20~20mA)
Calibration	Not Required
Common Type	1 Common, Field Power 0V is Common (AGND)
General Specification	
Power Dissipation	Max. 30mA @ 5Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : DC/DC Converter Isolation
Field Power	Supply Voltage : 24Vdc nominal Power Dissipation : Max.40mA@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'**

3.14.6. Data Value / Current

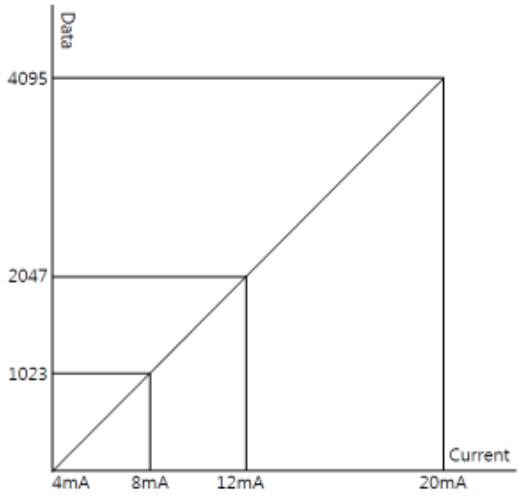
Current Range : 0~20mA

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



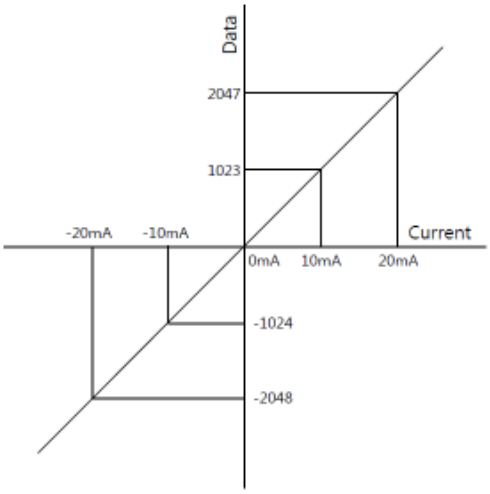
Current Range : 4~20mA

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



Current Range : -20~20mA

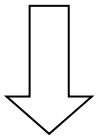
Current	-20.0mA	-10.0mA	0mA	+10.0mA	+20.mA
Data(Hex)	HC000	HE000	H0000	H1FFF	H3FFF



3.14.7. 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							

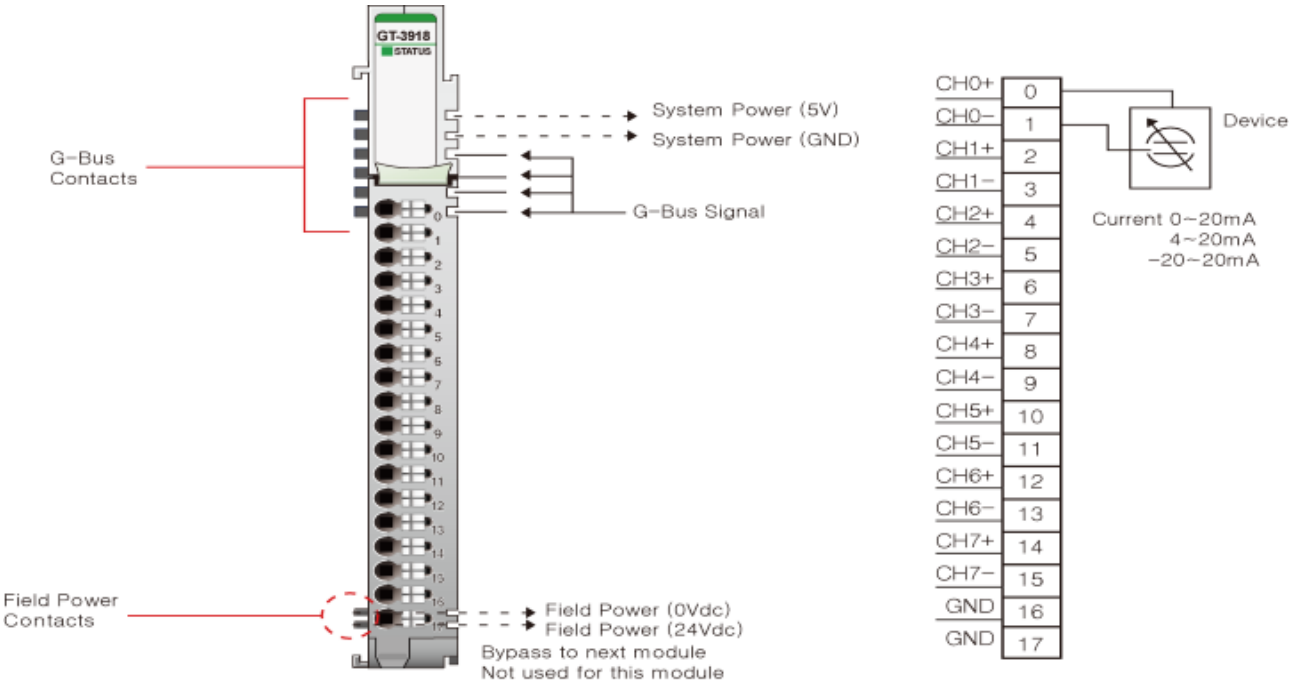
3.14.8. Input Range Setting & Conversion Time Setting

Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Ch#0 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
1	Ch#1 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
2	Ch#2 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
3	Ch#3 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
4	Filter Time(H00 : Default Filter(=20), H01 : Fastest ~ H62 : Slowest)							
5	Reserve							

* ID_PARAMETER (6 Bytes)

3.15. GT-3918

3.15.1. Wiring Diagram



Pin No.	Signal Description
0	Input Channel0(+)
1	Input Channel0(-)
2	Input Channel1(+)
3	Input Channel1(-)
4	Input Channel2(+)
5	Input Channel2(-)
6	Input Channel3(+)
7	Input Channel3(-)
8	Input Channel4(+)
9	Input Channel4(-)
10	Input Channel5(+)
11	Input Channel5(-)
12	Input Channel6(+)
13	Input Channel6(-)
14	Input Channel7(+)
15	Input Channel7(-)
16	Input Channel Common (AGND)
17	Input Channel Common (AGND)

3.15.2. LED Indicator

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

3.15.3. Channel Status LED

Status	LED	To indicate
G-Bus Stauts	Off Green	Disconnection Connection

3.15.4. Environment Specification

Environmental Specification	
Operation Temperature	-40℃ ~ 60℃
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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Installation POs. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

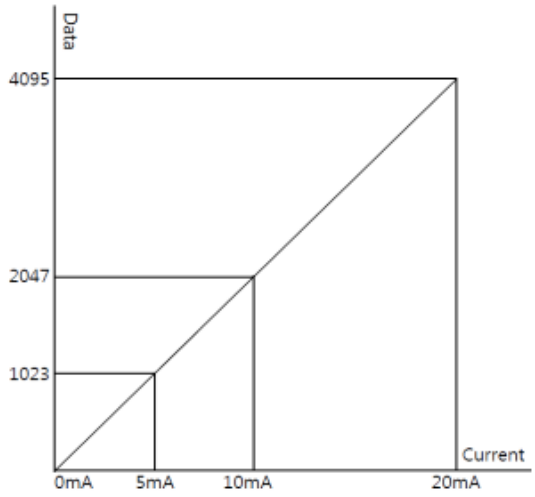
3.15.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Differential, Non-isolated Between Channels
Indicators	8 Green G-Bus Status LED
Resolution in Ranges	12 Bits : 4.88uA/Bit(0~20mA) 12 Bits : 3.91uA/Bit(4~20mA) 12 Bits : 9.77uA/Bit(-20~20mA)
Input Range	0~20mA, 4~20mA, -20~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 60℃
Input Impedance	121.5Ω
Conversion Time	Max. 2.4msec (All channel)
Calibration	Not Required
Common Type	2 Common, Field Power 0V is common (AGND)
General Specification	
Power Dissipation	Max. 200mA @ 5Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : Not connected
Field Power	Not used, Field Power bypass to next expansion module
Wiring	I/O Cable Max. 1.0mm^2 (AWG 18)
Weight	63g
Module Size	12mm x 109mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.15.6. Data Value / Current

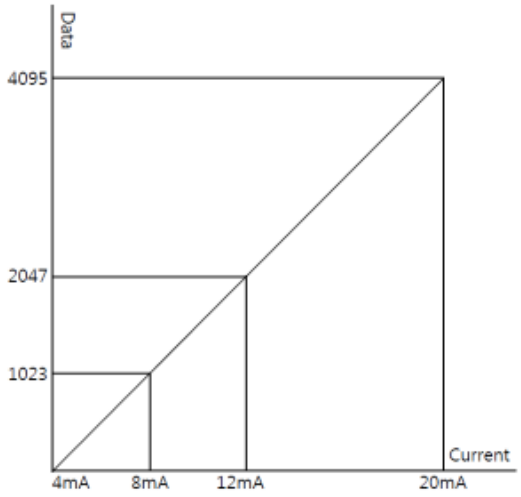
Current Range : 0~20mA

Current	0.0mA	5.0mA	10.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



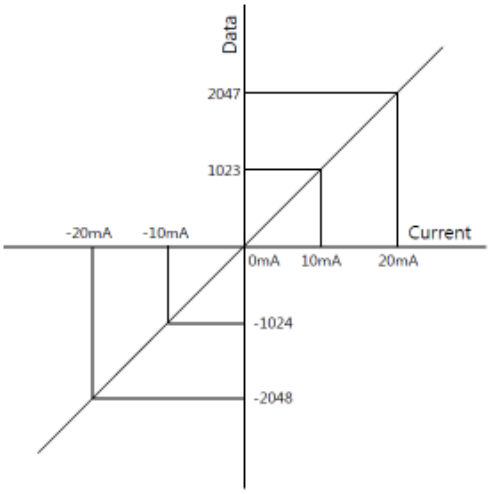
Current Range : 4~20mA

Current	4.0mA	8.0mA	12.0mA	20.0mA
Data(Hex)	H0000	H03FF	H07FF	H0FFF



Current Range : -20~20mA

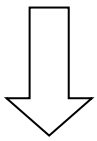
Current	-20.0mA	-10.0mA	0mA	+10.0mA	+20.mA
Data(Hex)	HF800	HFC00	H0000	H03FF	H07FF



3.15.7. Mapping Data into the Image Table

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7



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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							

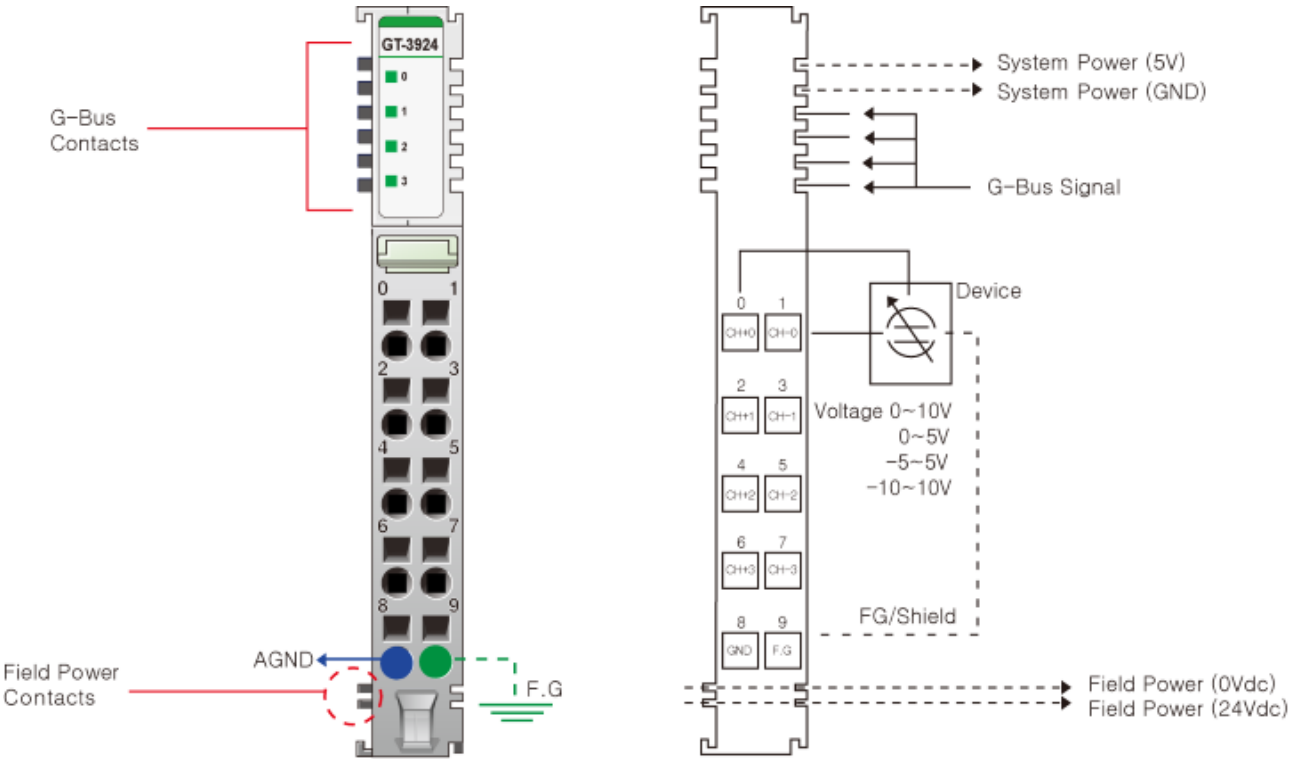
3.15.8. Input Range Setting & Conversion Time Setting

Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Ch#0 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
1	Ch#1 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
2	Ch#2 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
3	Ch#3 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
4	Ch#4 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
5	Ch#5 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
6	Ch#6 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
7	Ch#7 Command(H00: 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
8	Filter Time(H00 : Default Filter(=20), H01 : Fastest ~ H3E : Slowest)							
9	Reserve							

* ID_PARAMETER (10 Bytes)

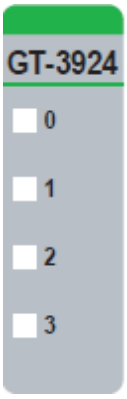
3.16. GT-3924

3.16.1. Wiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
0	Input Channel 0(+)	Input Channel 0(-)	1
2	Input Channel 1(+)	Input Channel 1(-)	3
4	Input Channel 2(+)	Input Channel 2(-)	5
6	Input Channel 3(+)	Input Channel 3(-)	7
8	Input Channel Common(AGND)	Field Ground	9

3.16.2. 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

3.16.3. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF	Normal Operation
	[LED On > 0.5% (Maximum Input Value)] - Channel Green	
Field Power Error	All Channel Repeat Green and Off	Field Power is unconnected

3.16.4. Environment Specification

Environmental Specification	
Operation 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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Protection Class	Variable/IP20
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

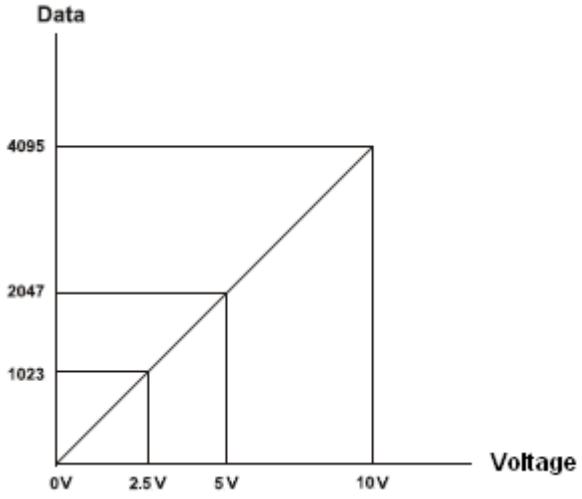
3.16.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Differential, Non-isolated Between Channels
Indicators	4 Green Input Status LEDs
Resolution in Ranges	12 bits : 2.44mV/Bit(0~10V) 12 bits : 1.22mV/Bit(0~5V) 12 bits : 4.88mV/Bit(-10~10V) 12 bits : 2.44mV/Bit(-5~5V)
Input Range	0~10Vdc, 0~5Vdc, -10~10Vdc, -5~5Vdc
Data Format	16bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	667kΩ
Conversion Time	1msec / All channels(<0.25ms per channel)
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)
Calibration	Not Required
Common Type	1 Common, Field Power 0V is Common (AGND)
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. 45mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm²(AWG 14)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.16.6. Data Value / Voltage

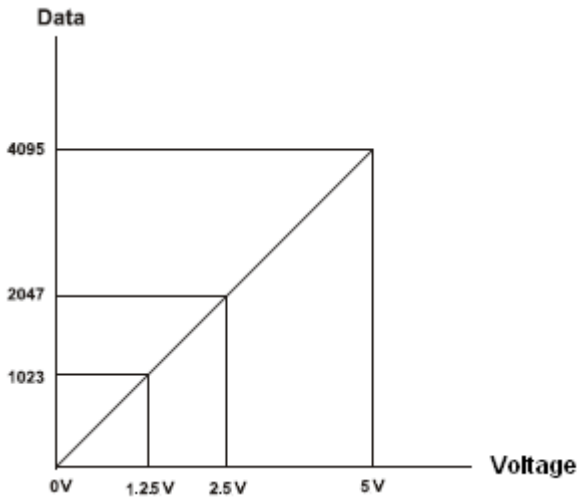
Voltage Range : 0~10V

Voltage	0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



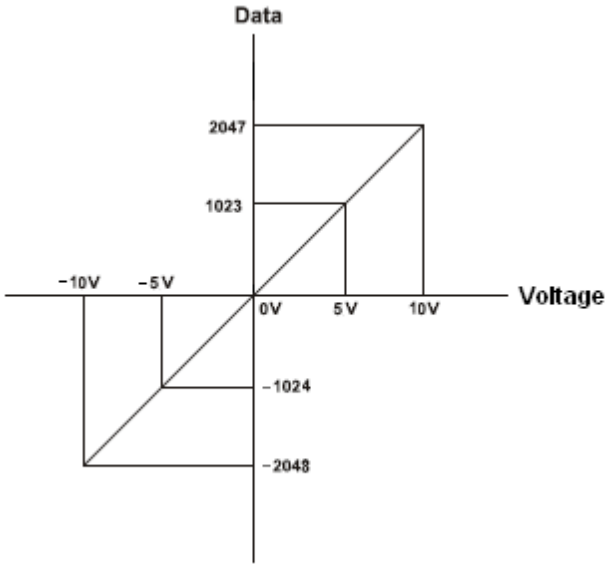
Voltage Range : 0~5V

Voltage	0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



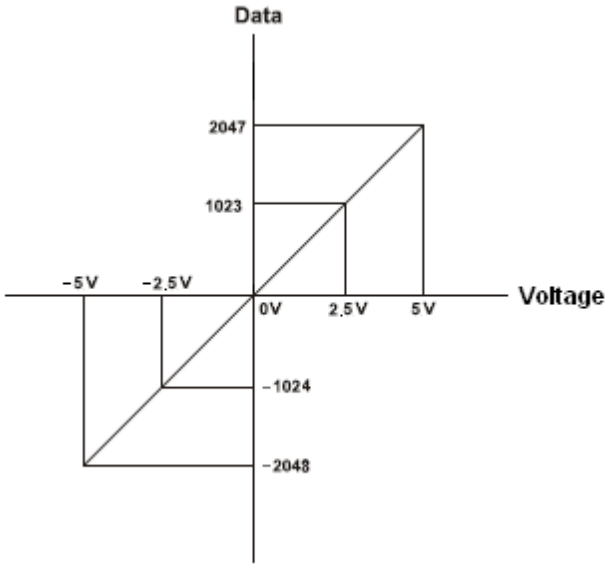
Voltage Range : -10~10V

Voltage	-10.0V	-5.0V	0.0V	+5.0V	+10.0V
Data(Hex)	HF800	HFC00	H0000	H03FF	H07FF



Voltage Range : -5~5V

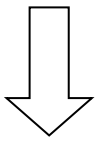
Voltage	-5.0V	-2.5V	0.0V	+2.5V	+5.0V
Data(Hex)	HF800	HFC00	H0000	H03FF	H07FF



3.16.7. 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							

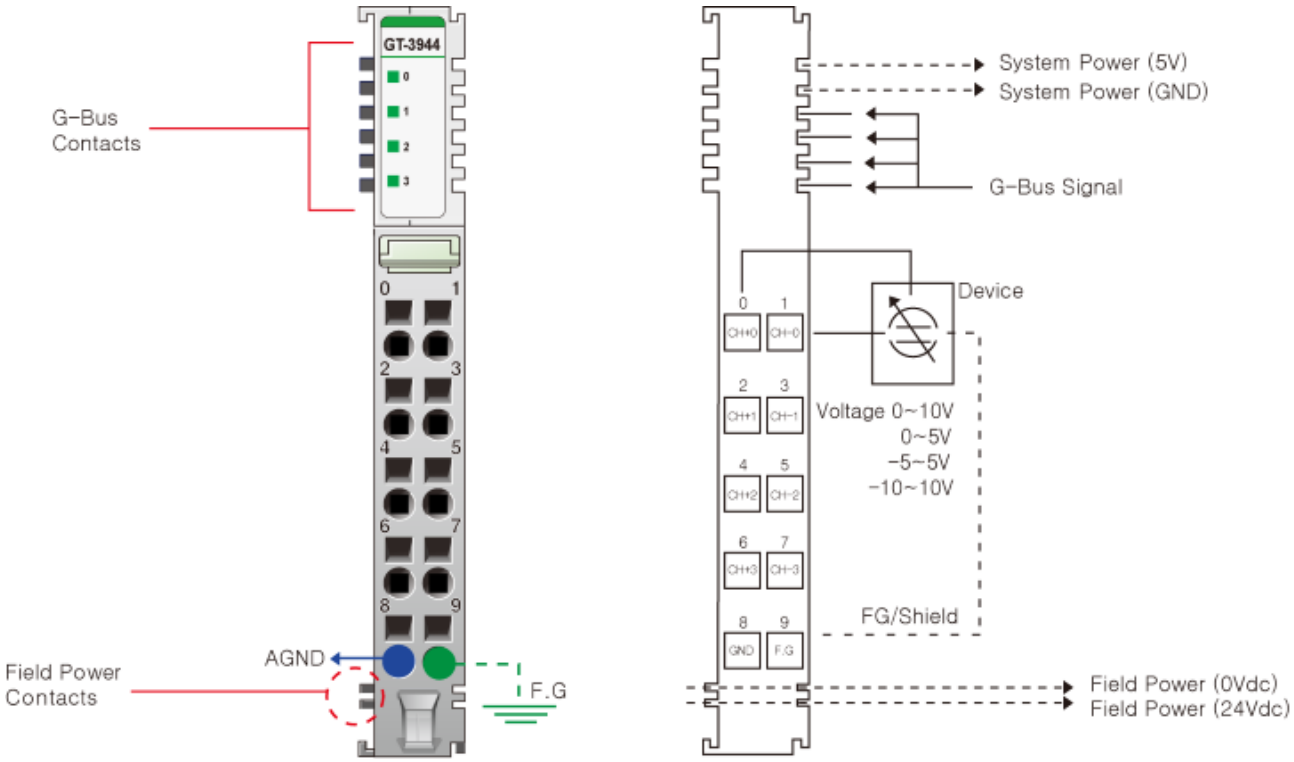
3.16.8. Input Range Setting & Conversion Time Setting

Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Ch#0 Command(H00 : 0~10V, H01 : 0~5V, H01 : -10~10V, H03 : -5~5V)							
1	Ch#1 Command(H00 : 0~10V, H01 : 0~5V, H01 : -10~10V, H03 : -5~5V)							
2	Ch#2 Command(H00 : 0~10V, H01 : 0~5V, H01 : -10~10V, H03 : -5~5V)							
3	Ch#3 Command(H00 : 0~10V, H01 : 0~5V, H01 : -10~10V, H03 : -5~5V)							
4	Filter Time(H00 : Default Filter(=20), H01 : Fastest ~ H62 : Slowest)							
5	Reserve							

* ID_PARAMETER (6 Bytes)

3.17. GT-3944

3.17.1. Wiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
0	Input Channel 0(+)	Input Channel 0(-)	1
2	Input Channel 1(+)	Input Channel 1(-)	3
4	Input Channel 2(+)	Input Channel 2(-)	5
6	Input Channel 3(+)	Input Channel 3(-)	7
8	Input Channel Common(AGND)	Field Ground	9

3.17.2. 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

3.17.3. Channel Status LED

Status	LED	To indicate
Normal Operation	[LED Off < 0.5% (Maximum Input Value)] - Channel OFF	Normal Operation
	[LED On > 0.5% (Maximum Input Value)] - Channel Green	
Field Power Error	All Channel Repeat Green and Off	Field Power is unconnected

3.17.4. Environment Specification

Environmental Specification	
Operation 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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN 61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

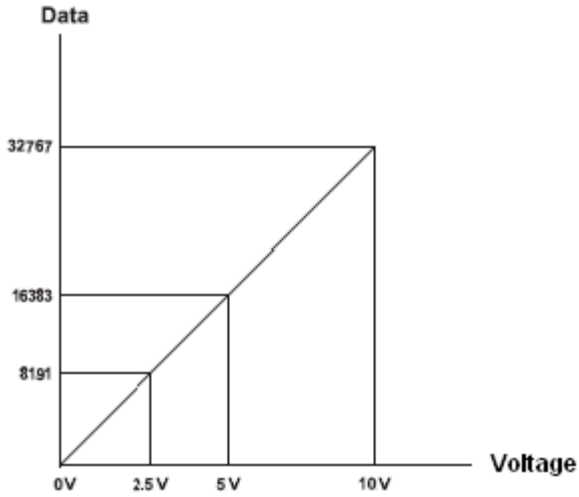
3.17.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Differential, Non-isolated Between Channels
Indicators	4 Green Input Status LEDs
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.31mV/Bit(0~10V) 15 bits : 0.15mV/Bit(0~5V) 15 bit (Include Sign) 15 bits : 0.61mV/Bit(-10~10V) 15 bits : 0.31mV/Bit(-5~5V)
Input Range	0~10Vdc, 0~5Vdc, -10~10Vdc, -5~5Vdc
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 70℃
Input Impedance	667kΩ
Conversion Time	1msec / All channels(0.25ms per channel)
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)
Calibration	Not Required
Common Type	1 Common, Field Power 0V is Common (AGND)
General Specification	
Power Dissipation	Max. 30mA @ 5Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : DC/DC Converter Isolation
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~32Vdc Power Dissipation : Max.45mA@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'**

3.17.6. Data Value /

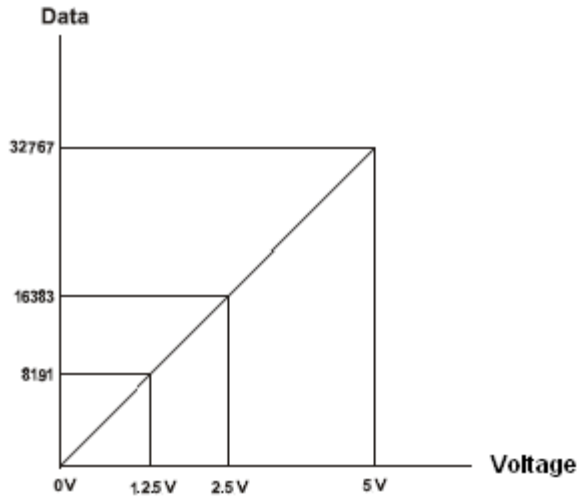
Voltage Range : 0~10V

Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



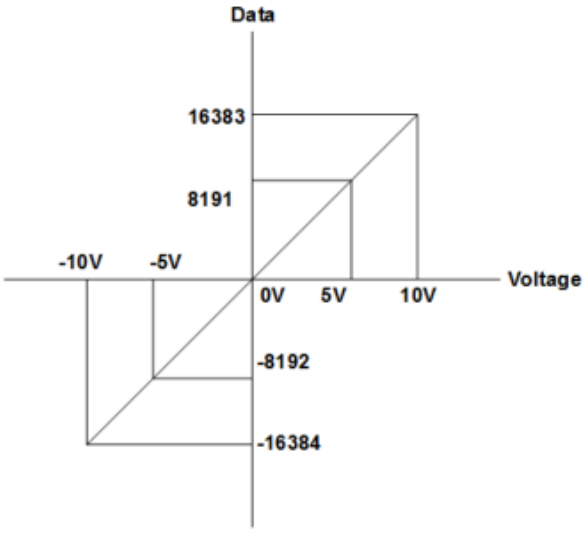
Voltage Range : 0~5V

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



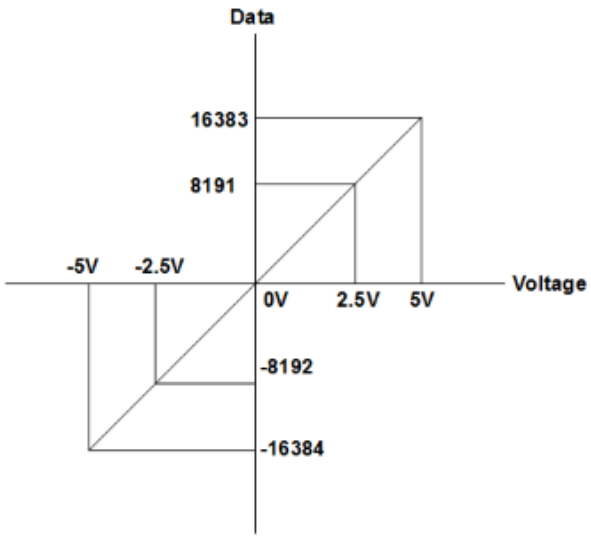
Voltage Range : -10~10V

Voltage	-10.0V	-5.0V	0.0V	+5.0V	+10.0V
Data(Hex)	HC000	HE000	H0000	H1FFF	H3FFF



Voltage Range : -10~10V

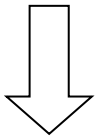
Voltage	-5.0V	-2.5V	0.0V	+2.5V	+5.0V
Data(Hex)	HC000	HE000	H0000	H1FFF	H3FFF



3.17.7. 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							

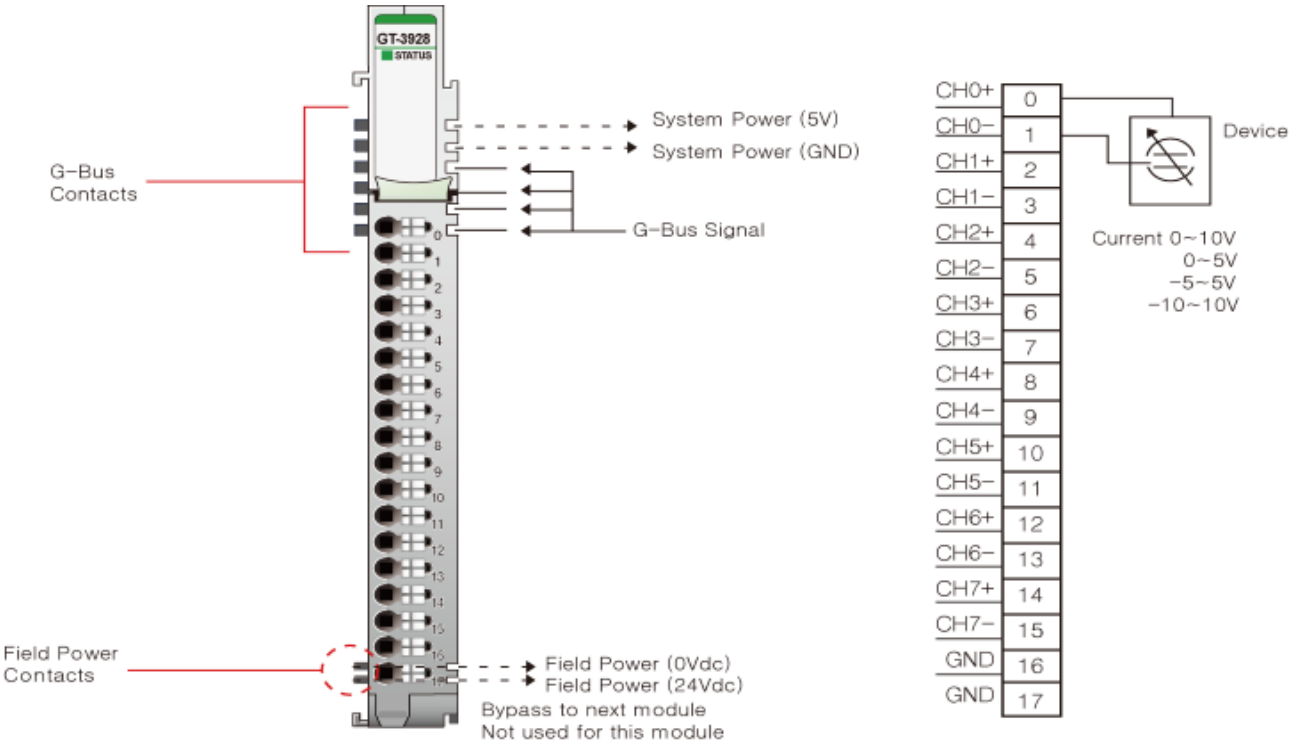
3.17.8. Input Range Setting & Conversion Time Setting

Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Ch#0 Command(H00 : 0~10V, H01 : 0~5V, H02 : -10~10V, H03 : -5~5V)							
1	Ch#1 Command(H00 : 0~10V, H01 : 0~5V, H02 : -10~10V, H03 : -5~5V)							
2	Ch#2 Command(H00 : 0~10V, H01 : 0~5V, H02 : -10~10V, H03 : -5~5V)							
3	Ch#3 Command(H00 : 0~10V, H01 : 0~5V, H02 : -10~10V, H03 : -5~5V)							
4	Filter Time(H00 : Default Filter(=20), H01 : Fastest ~ H62 : Slowest)							
5	Reserve							

* ID_PARAMETER (6 Bytes)

3.18. GT-3928

3.18.1. Wiring Diagram



Pin No.	Signal Description
0	Input Channel 0(+)
1	Input Channel0(-)
2	Input Channel 1(+)
3	Input Channel1(-)
4	Input Channel2(+)
5	Input Channel2(-)
6	Input Channel 3(+)
7	Input Channel3(-)
8	Input Channel4(+)
9	Input Channel4(-)
10	Input Channel 5(+)
11	Input Channel5(-)
12	Input Channel6(+)
13	Input Channel6(-)
14	Input Channel 7(+)
15	Input Channel7(-)
16	Input Channel Common(AGND)
17	Input Channel Common(AGND)

3.18.2. LED Indicator

LED No.	LED Function / Description	LED Color
0	Input Channel 0	Green

3.18.3. Channel Status LED

Status	LED	To indicate
G-Bus	Off Green	Disconnection Connection

3.18.4. Environment Specification

Environmental Specification	
Operation Temperature	-40℃ ~ 60℃
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 Sweeps Random Vibration - 10 ~ 40 Hz : 0.0125 g^2/Hz - 40 ~ 100 Hz : 0.0125 → 0.002 g^2/Hz - 100 ~ 500 Hz : 0.002 g^2/Hz - 500 ~ 2000 Hz : 0.002 → 1.3 x 10-4g^2/Hz - Test time : 1hrs for each test
EMC Resistance Burst/ESD	EN 61000-6-2 : 2005 EN61000-6-4/All : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL

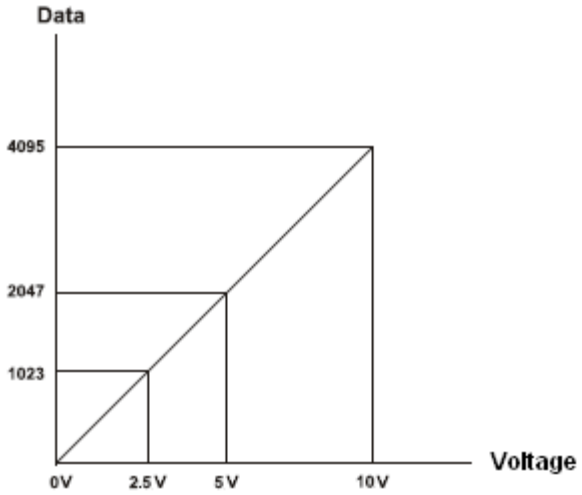
3.18.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Differential, Non-isolated Between Channels
Indicators	1 Green Input Status LED
Resolution in Ranges	12 Bits : 2.44mV/Bit(0~10V) 12 Bits : 1.22mV/Bit(0~5V) 12 Bits : 4.88mV/Bit(-10~10V) 12 Bits : 2.44mV/Bit(-5~5V)
Input Range	0~10Vdc, 0~5Vdc, -10~10Vdc, -5~5Vdc
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25℃ ±0.3% Full Scale @ -40℃, 60℃
Input Impedance	667kΩ
Conversion Time	Max. 2.2msec (All channel)
Calibration	Not Required
Common Type	2 Common, Field Power 0V is Common (AGND)
General Specification	
Power Dissipation	Max. 200mA @ 5Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field power : Not connected
Field Power	Not used Field Power bypass to next expansion module
Wiring	I/O Cable Max. 1.0mm²(AWG 18)
Weight	63g
Module Size	12mm x 109mm x 70mm
Environment Condition	**Refer to 'Environment Specification'**

3.18.6. Data Value / Voltage

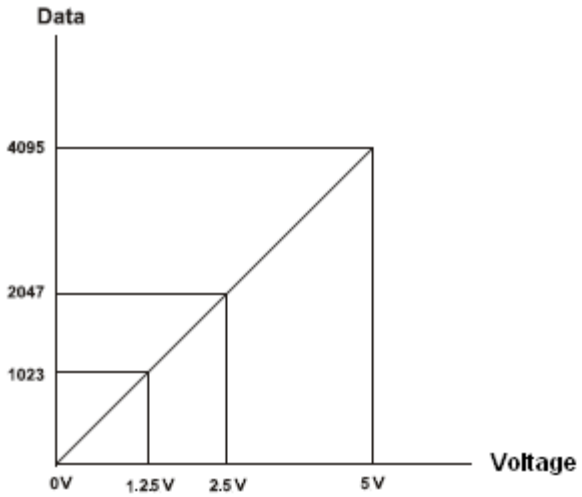
Voltage Range : 0~10V

Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



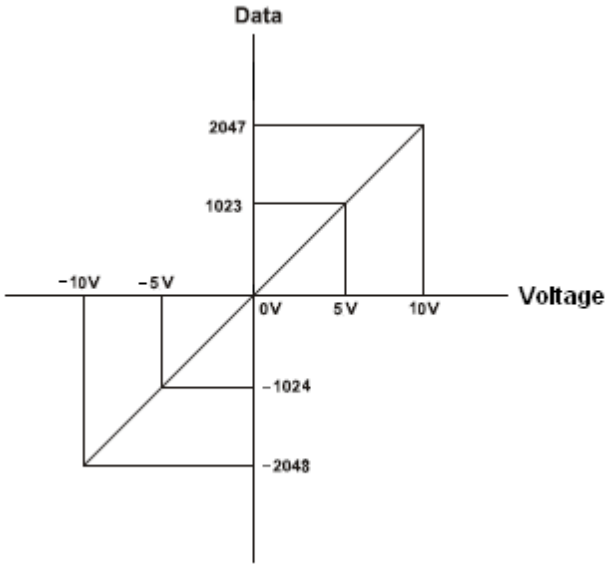
Voltage Range :0~5V

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H03FF	H07FF	H0FFF



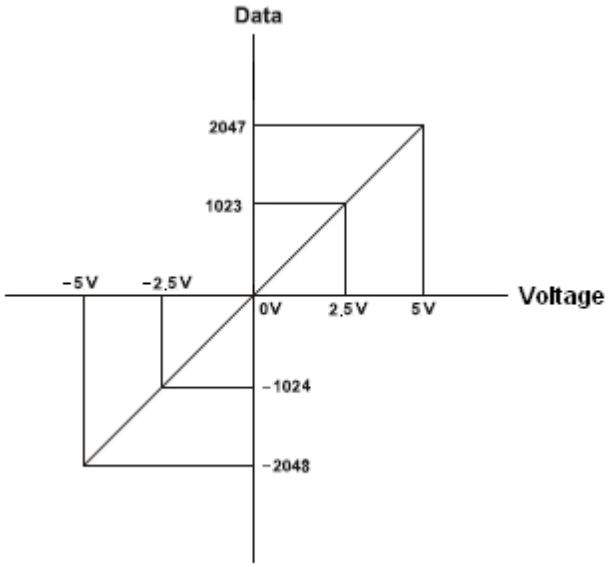
Voltage Range : -10~10V

Voltage	-10.0V	-5.0V	0.0V	+5.0V	+10.0V
Data(Hex)	HF800	HFC00	H0000	H03FF	H07FF



Voltage Range : -5~5V

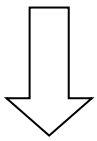
Voltage	-5.0V	-2.5V	0.0V	+2.5V	+5.0V
Data(Hex)	HF800	HFC00	H0000	H03FF	H07FF



3.18.7. Mapping Data into the Image Table

Input Module Data

Analog Input Ch0
Analog Input Ch1
Analog Input Ch2
Analog Input Ch3
Analog Input Ch4
Analog Input Ch5
Analog Input Ch6
Analog Input Ch7



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							
Byte 8	Analog Input Ch4 Low byte							
Byte 9	Analog Input Ch4 High byte							
Byte 10	Analog Input Ch5 Low byte							
Byte 11	Analog Input Ch5 High byte							
Byte 12	Analog Input Ch6 Low byte							
Byte 13	Analog Input Ch6 High byte							
Byte 14	Analog Input Ch7 Low byte							
Byte 15	Analog Input Ch7 High byte							

3.18.8. Input Range Setting & Conversion Time Setting

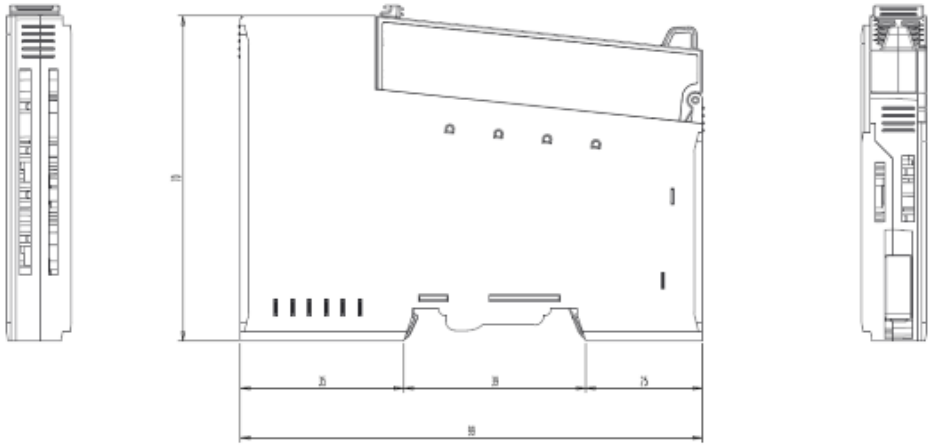
Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Ch#0 Command(H00: 0~10V, H01 : 0~5V, H02 : -10~10V, -H03 : -5~5V)							
1	Ch#1 Command(H00: 0~10V, H01 : 0~5V, H02 : -10~10V, -H03 : -5~5V)							
2	Ch#2 Command(H00: 0~10V, H01 : 0~5V, H02 : -10~10V, -H03 : -5~5V)							
3	Ch#3 Command(H00: 0~10V, H01 : 0~5V, H02 : -10~10V, -H03 : -5~5V)							
4	Ch#4 Command(H00: 0~10V, H01 : 0~5V, H02 : -10~10V, -H03 : -5~5V)							
5	Ch#5 Command(H00: 0~10V, H01 : 0~5V, H02 : -10~10V, -H03 : -5~5V)							
6	Ch#6 Command(H00: 0~10V, H01 : 0~5V, H02 : -10~10V, -H03 : -5~5V)							
7	Ch#7 Command(H00: 0~10V, H01 : 0~5V, H02 : -10~10V, -H03 : -5~5V)							
8	Filter Time(H00 : Default Filter(=20), H01 : Fastest ~ H3E : Slowest)							
9	Reserve							

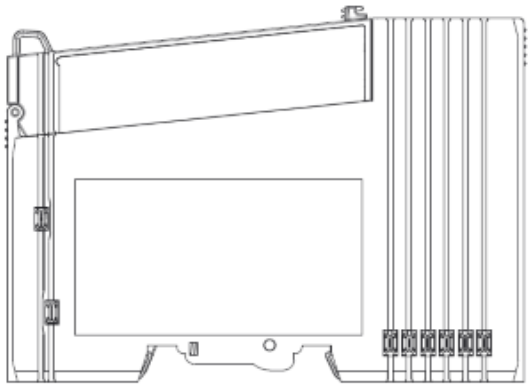
* ID_PARAMETER (10 Bytes)

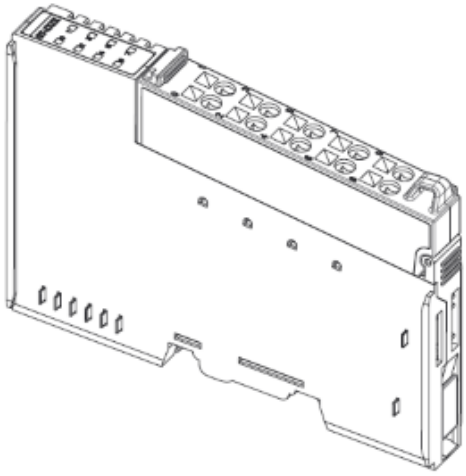
4. Dimension

4.1. GT-3xx4(RTB), GT-3xx8(RTB)

(mm)

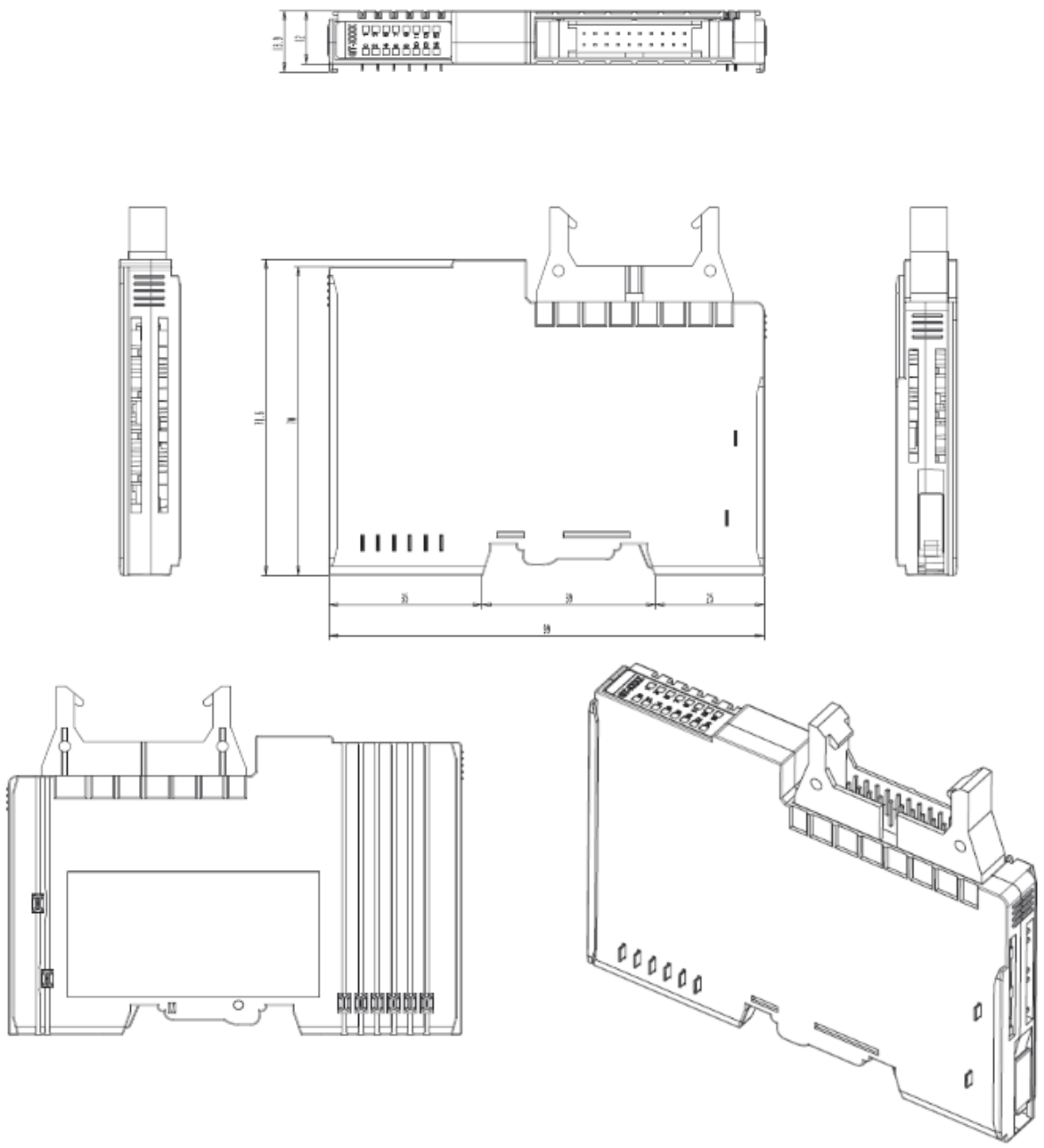






4.2. GT-3xxF(Connector)

(mm)



5. Mounting

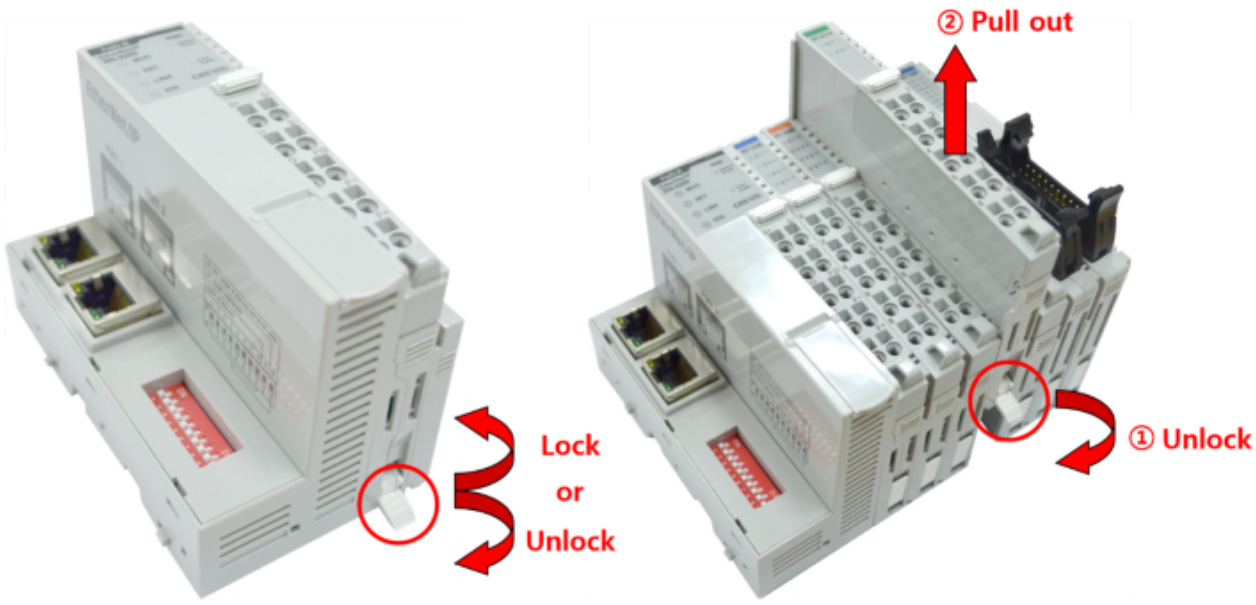
Caution!

Hot surface!
The surface of the housing can become hot during operation. If the device was operated at high ambient temperatures, allow it to be cool before touching it.

Notice!

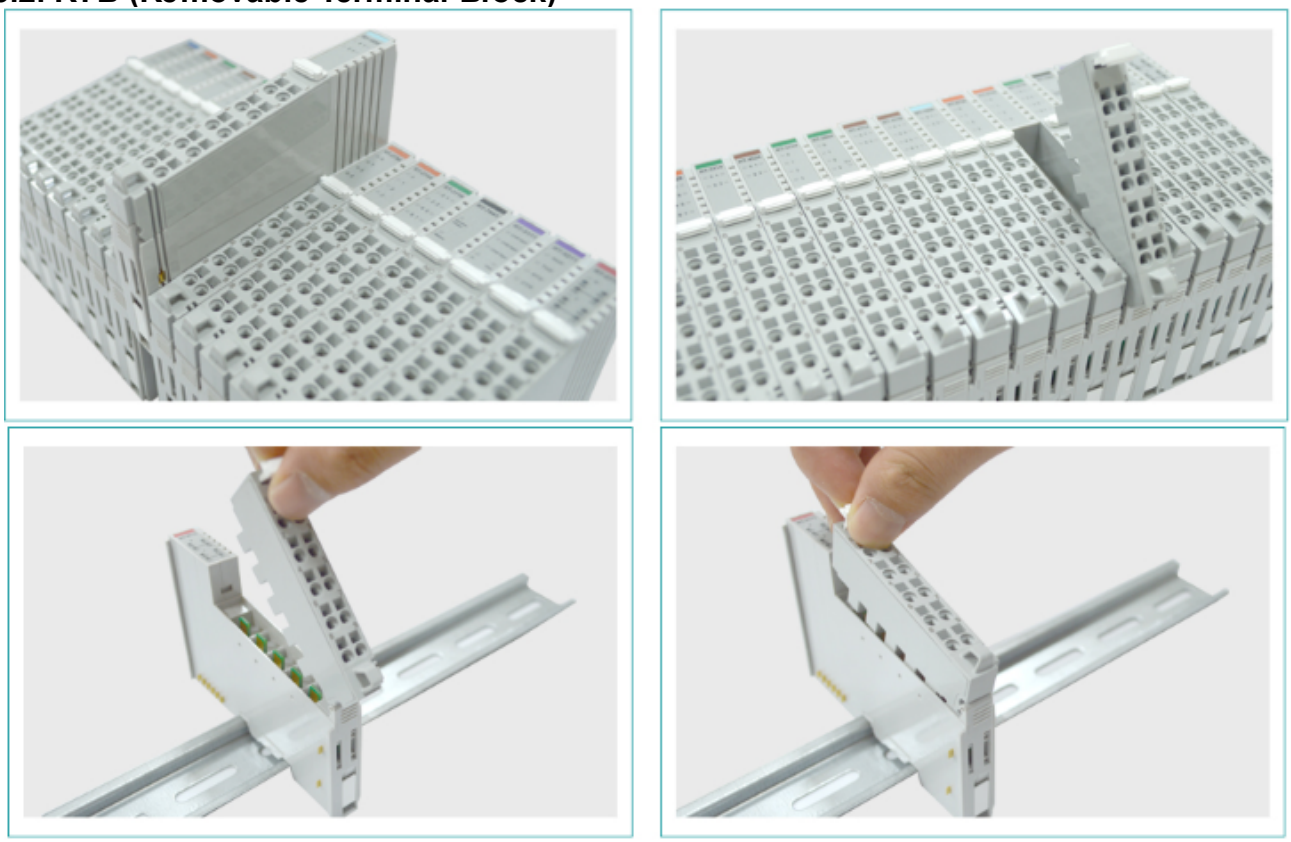
Perform work on devices only if they are de-energized!
Working on energized devices can damage them. Therefore, turn off the power supply before working on the devices.

5.1. I/O Inserting and Removing Devices



- As above figure in order to safeguard the G-Series module from jamming, it should be fixed onto the DIN rail with locking level. To do so, fold on the upper of the locking lever. To pull out the G-Series module, unfold the locking lever as below figure.

5.2. RTB (Removable Terminal Block)



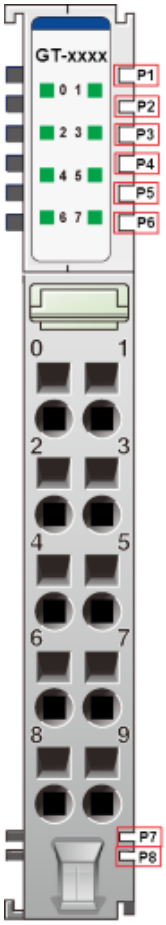
Whole terminal block can be combined and removed for the convenience.

There is a locking switch on the RTB for the easy combination and easy removal.

Easy combination and easy removal for IO modules on the din rail through One Touch Locking Switch.

6. G-Bus Pin Description

Communication between the GN series and the expansion module as well as system / field power supply of the bus modules is carried out via the internal bus. It is comprised of 6 data pin and 2 field power pin.



*Please refer to the table below regarding the pin description from P1 to P8.

No.	Description
P1	System Power (VCC)
P2	System Power (GND)
P3	GBUS TX +
P4	GBUS TX -
P5	GBUS RX +
P6	GBUS RX -
P7	Field Power (GND)
P8	Field Power (VCC)

DANGER	
	Do not touch data and field power pins in order to avoid soiling and damage by ESD noise.