

Analog Input Module

GT-39xx User Manual



DOCUMENT CHANGE SUMMARY				
REV	PAGE	REMARKS	DATE	EDITOR
1.00	New Document		18/07/31	JY,Hyun
1.01		Add Product GT-3934, GT-3918, GT-3944, GT-3928	19/01/16	JY,Hyun
1.02		Add Product GT-3938, GT-3948	20/07/15	JY,Hyun

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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°C 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.
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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)

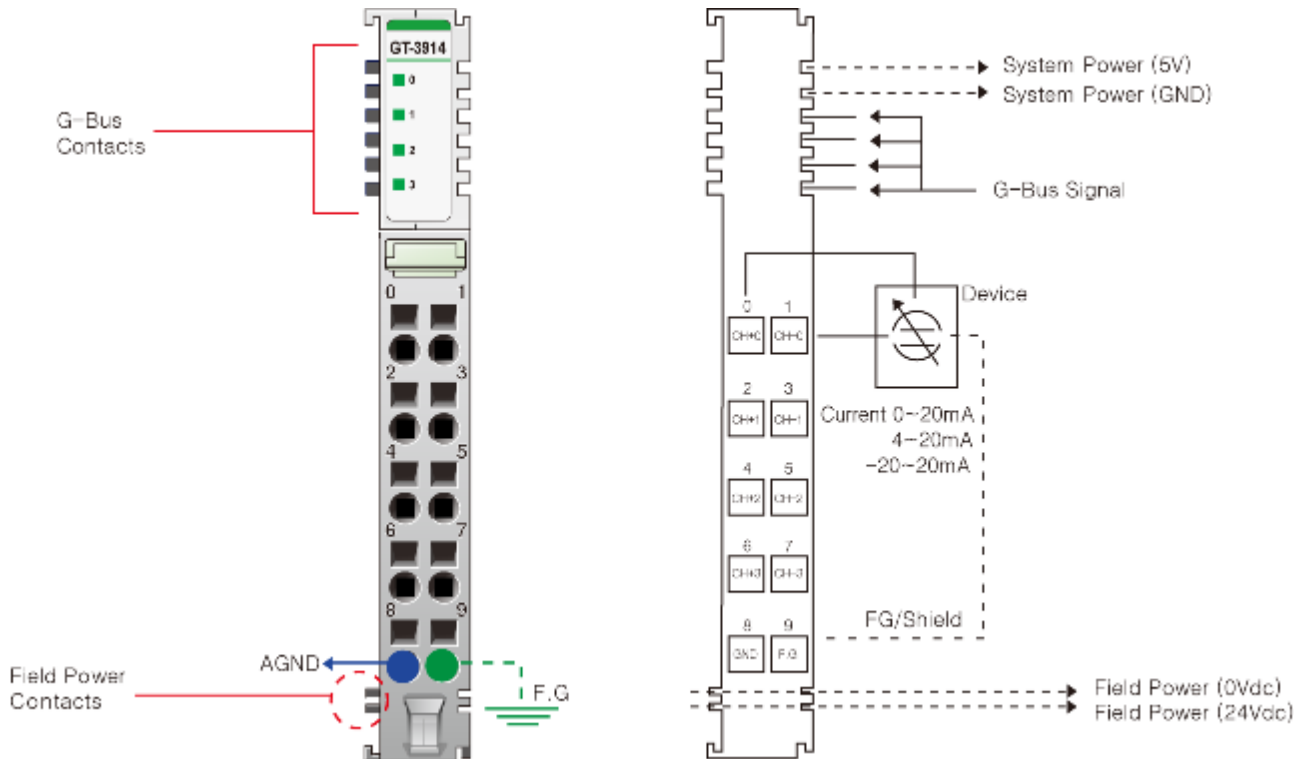
2. Analog Input Module List

GT-Number	Description	ID
GT-3914	Differential Type, 4 CHs, 0~20, 4~20, $\pm 20\text{mA}$, 12Bits, 10RTB	3914
GT-3934	Differential Type, 4 CHs, 0~20, 4~20, $\pm 20\text{mA}$, 16Bits, 10RTB	3934
GT-3918	Differential Type, 8 CHs, 0~20, 4~20, $\pm 20\text{mA}$, 12Bits, 18RTB	3918
GT-3938	Differential Type, 8 CHs, 0~20, 4~20, $\pm 20\text{mA}$, 16Bits, 18RTB	3938
GT-3924	Differential Type, 4 CHs, 0~5, 0~10, ± 5 , $\pm 10\text{Vdc}$, 12Bits, 10RTB	3924
GT-3944	Differential Type, 4 CHs, 0~5, 0~10, ± 5 , $\pm 10\text{Vdc}$, 16Bits, 10RTB	3944
GT-3928	Differential Type, 8 CHs, 0~5, 0~10, ± 5 , $\pm 10\text{Vdc}$, 12Bits, 18RTB	3928
GT-3948	Differential Type, 8 CHs, 0~5, 0~10, ± 5 , $\pm 10\text{Vdc}$, 16Bits, 18RTB	3948

3. Specification

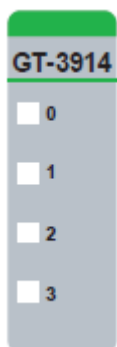
3.1. GT-3914

3.1.1. 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)	Input Channel Common(AGND)	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
Overrun/Underrun	0~20mA : LED Off > 21mA 4~20mA : LED Off > 21mA, LED Off < 3mA -20~20mA : LED Off > 21mA, LED Off < -21mA	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°C ~ 70°C
UL Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative Humidity	5% ~ 90% Non-condensing
Mounting	DIN Rail
General Specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL, FCC

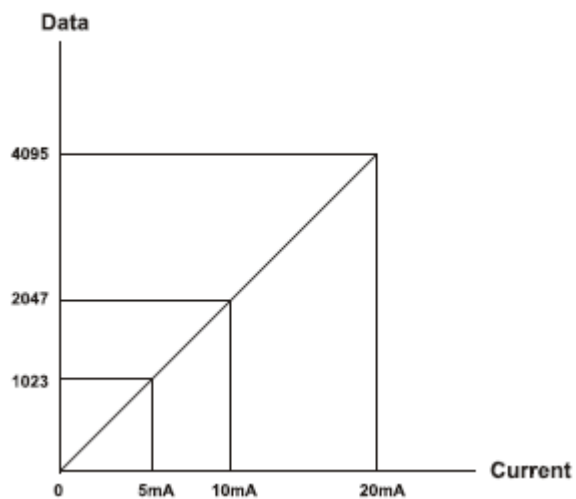
3.1.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Single Ended, Non-Isolated Between Channel
Indicators(Logic side)	4 Green Input Status
Resolution in Ranges	12 bits : 4.88uA/bit(0~20mA) 12 bits : 3.91uA/bit(4~20mA) 12 bits : 9.77uA/bit(-20~20mA)
Input Current Ranges	0~20mA, 4~20mA, -20~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 70°C
Input Impedance	121.5Ω
Diagnostic	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) Minimum Range Over : LED Off < -20mA (-20~20mA)
Conversion Time	1.2msec / All Channels
Field Calibration	Not Required
Common Type	1 Common, Field Power 0V is the Common(AGND)
General Specification	
Power Dissipation	Max. 30mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field Power : DC/DC Convertor Isolation
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~30Vdc@60°C 18~26.4Vdc@70°C Power Dissipation : Max. 40mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm ² (AWG 14)
Torque	0.8Nm(7lb-in)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	Refer to 'Environment Specification'

3.1.6. Data Value / Current

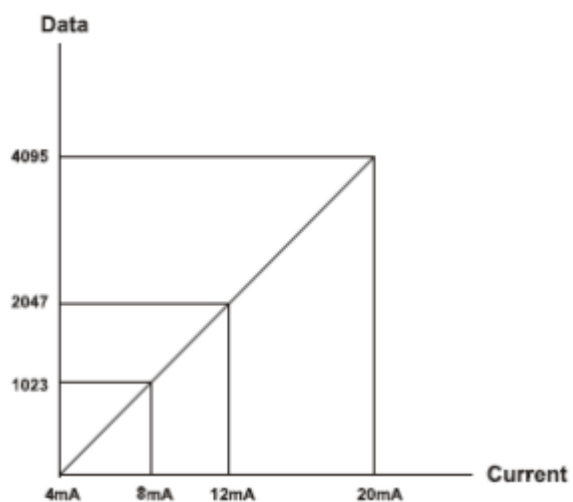
Current Range : 0~20mA

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



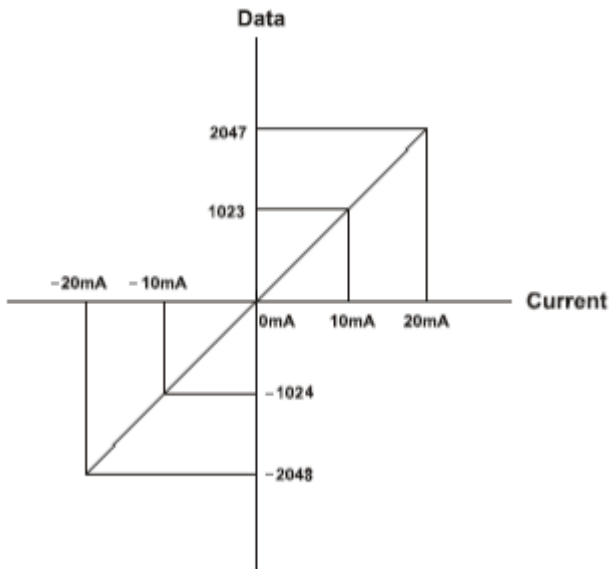
Current Range : 4~20mA

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

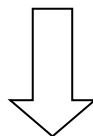


Current Range : -20~20mA

Current	-20.0mA	-10.0mA	0mA	+10.0mA	20.0mA
Data(Hex)	HF800	HFC00	H0000	H03FFF	H07FF

**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

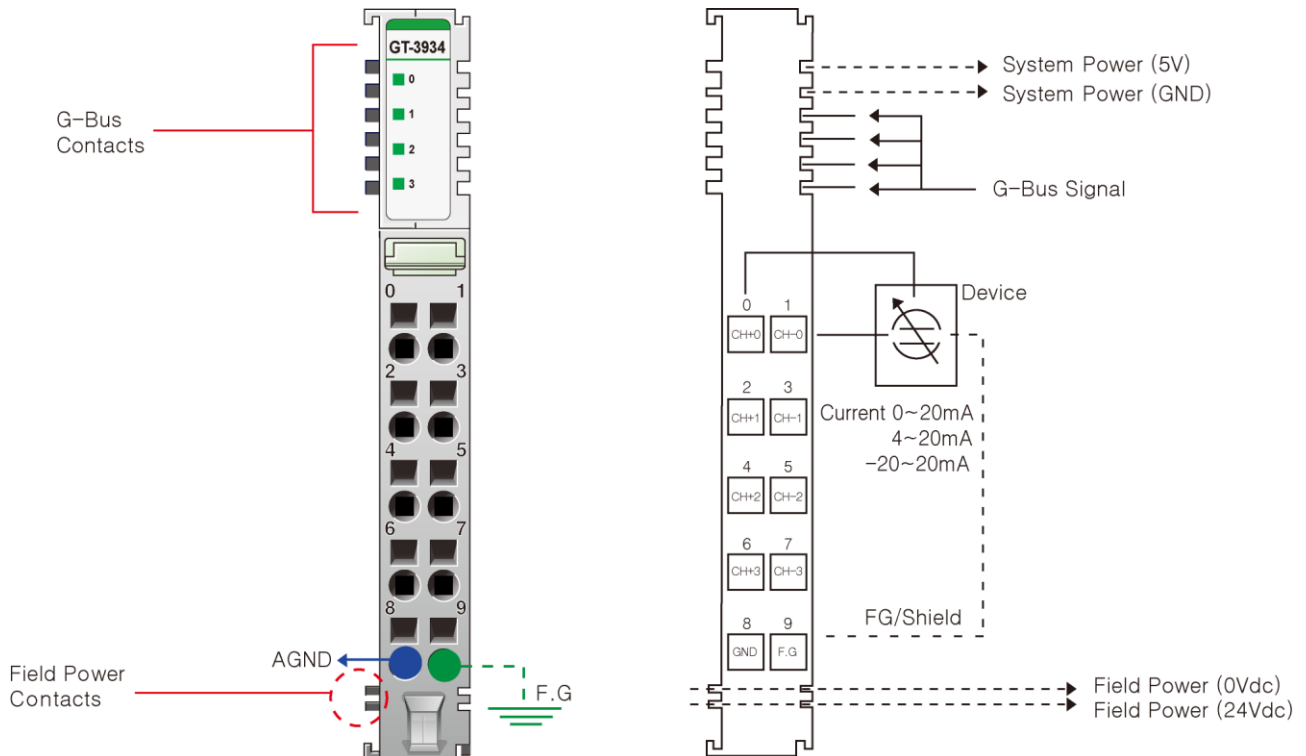
-. Valid Parameter length : 6 Bytes

-. Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Ch#0 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 1	Ch#1 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 2	Ch#2 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 3	Ch#3 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 4	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E : Slowest)							
Byte 5	Reserve							

3.2. GT-3934

3.2.1. 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)	Input Channel Common(AGND)	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

3.2.3. 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
Overrun/Underrun	4~20mA : LED Off < 3mA -20~20mA : LED Off > 21mA, LED Off < -21mA	Over range Check
Field Power Error	All Channel Repeat the Green and Off	Field Power is unconnected

3.2.4. Environment Specification

Environmental Specification	
Operation Temperature	-40°C ~ 70°C
UL Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative Humidity	5% ~ 90% Non-condensing
Mounting	DIN Rail
General Specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL, FCC

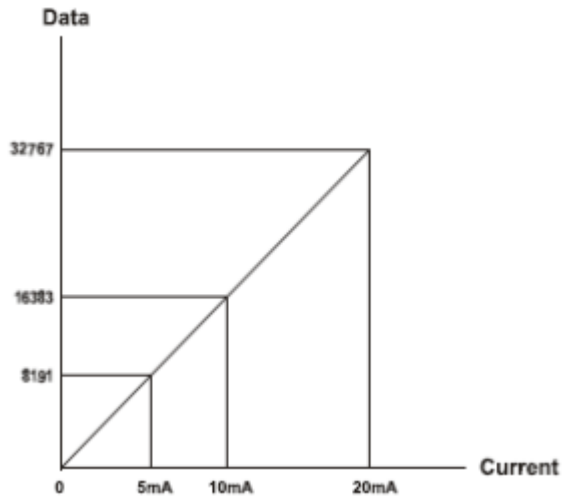
3.2.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Single Ended, Non-Isolated Between Channel
Indicators(Logic side)	4 Green Input Status
Resolution in Ranges	16bit(Include Sign) 15 bits : 0.61uA/Bit(0~20mA) 15 bits : 0.49uA/Bit(4~20mA) 15bit(Include Sign) 15 bits : 1.22uA/Bit(-20~20mA)
Input Current Ranges	0~20mA, 4~20mA, -20~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 70°C
Input Impedance	121.5Ω
Diagnostic	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) Minimum Range Over : LED Off < -20mA (-20~20mA)
Conversion Time	1.2msec / All Channels
Field Calibration	Not Required
Common Type	1 Common, Field Power 0V is the Common(AGND)
General Specification	
Power Dissipation	Max. 30mA @ 5.0Vdc
Isolation	I/O to Logic : Isolation Field Power : DC/DC Convertor Isolation
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~30Vdc@60°C 18~26.4Vdc@70°C Power Dissipation : Max. 40mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm ² (AWG 14)
Torque	0.8Nm(7lb-in)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	Refer to 'Environment Specification'

3.2.6. Data Value / Current

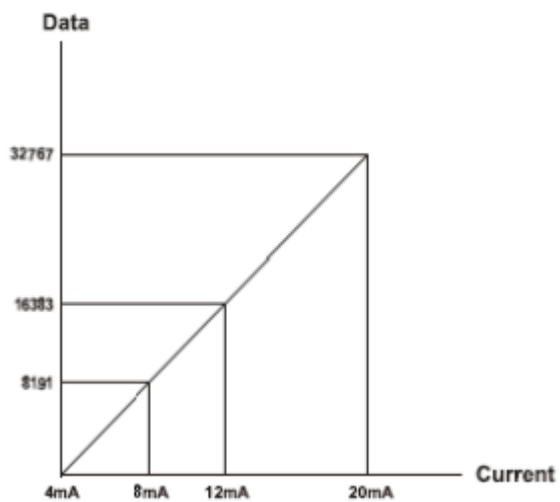
Current Range : 0~20mA

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



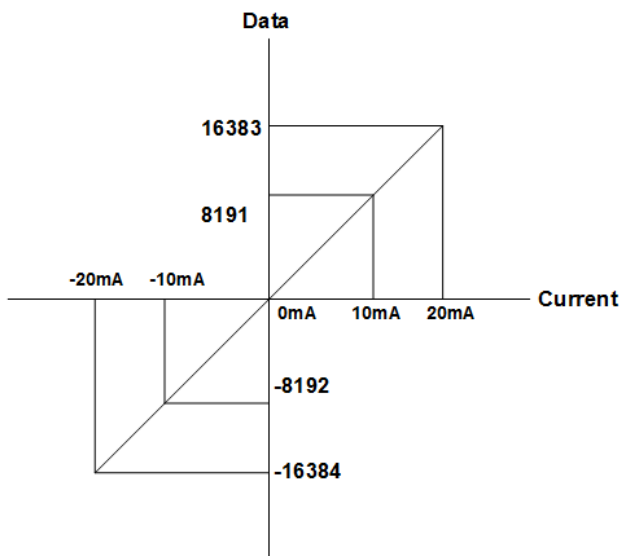
Current Range : 4~20mA

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

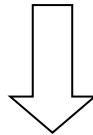


Current Range : -20~20mA

Current	-20.0mA	-10.0mA	0.0mA	+10.0mA	+20.0mA
Data(Hex)	HC000	HE000	H0000	H1FFF	H3FFF

**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

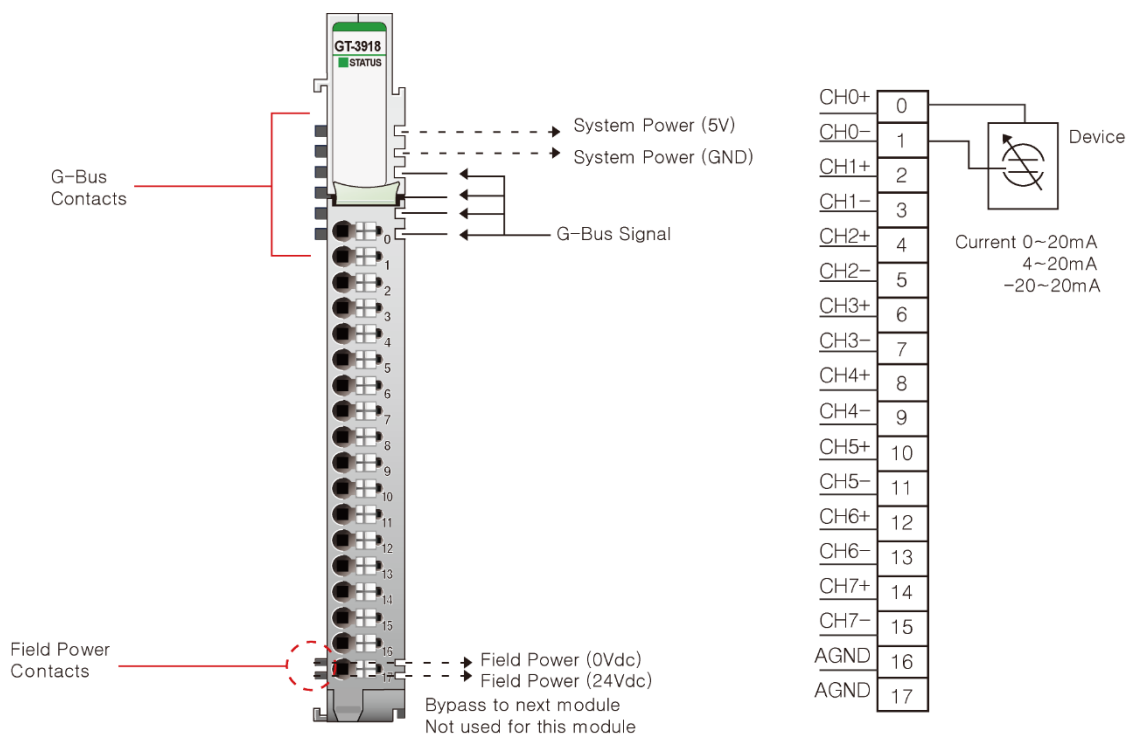
-. Valid Parameter length : 6 Bytes

-. Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Ch#0 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 1	Ch#1 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 2	Ch#2 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 3	Ch#3 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 4	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E : Slowest)							
Byte 5	Reserve							

3.3. GT-3918

3.3.1. Wiring Diagram



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

3.3.2. LED Indicator



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

3.3.3. Channel Status LED

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

3.3.4. Environment Specification

Environmental Specification	
Operation Temperature	-40°C ~ 60°C
UL Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative Humidity	5% ~ 90% Non-condensing
Mounting	DIN Rail
General Specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
EMC Resistance	EN61000-6-2 : 2005 EN61000-6-4 : 2007+A1 : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL, FCC

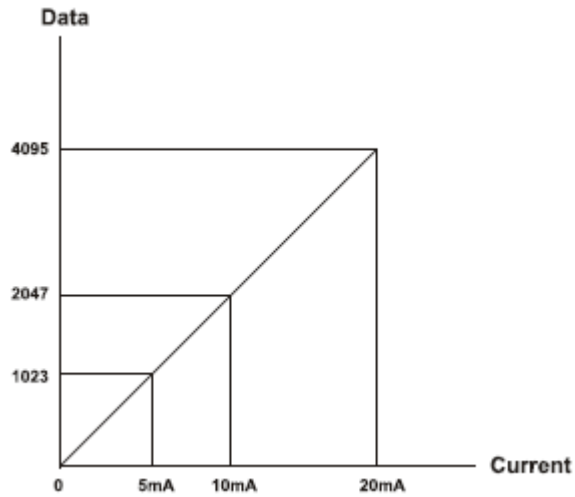
3.3.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Single Ended, Non-Isolated Between Channel
Indicators(Logic side)	1 Green Input Status
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 Current Ranges	0~20mA, 4~20mA, -20~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 60°C
Input Impedance	121.5Ω
Conversion Time	2.2msec / All Channels
Field Calibration	Not Required
General Specification	
Power Dissipation	Max. 200mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field Power : Not Connected
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Not used, Field Power bypass to next expansion module
Single 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'

3.3.6. Data Value / Current

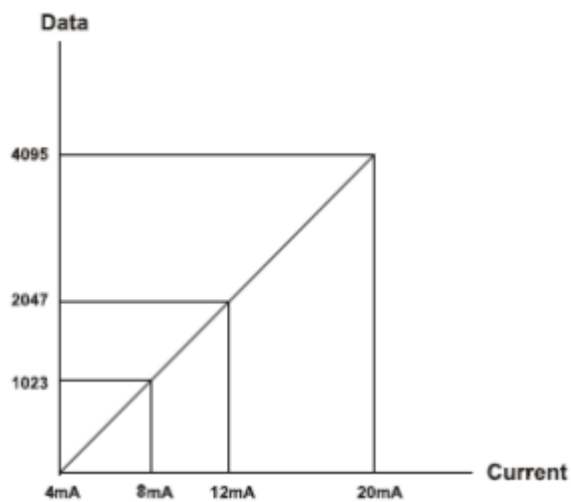
Current Range : 0~20mA

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



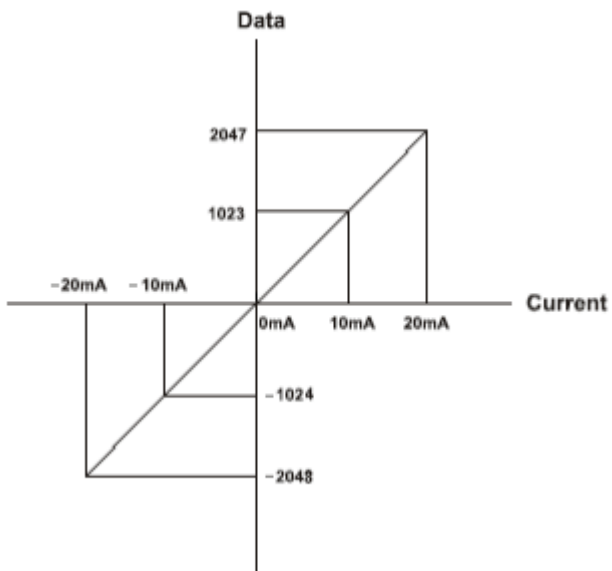
Current Range : 4~20mA

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



Current Range : -20~20mA

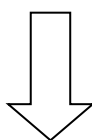
Current	-20.0mA	-10.0mA	0mA	+10.0mA	+20.0mA
Data(Hex)	HF800	HFC00	H0000	H03FFF	H07FF



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

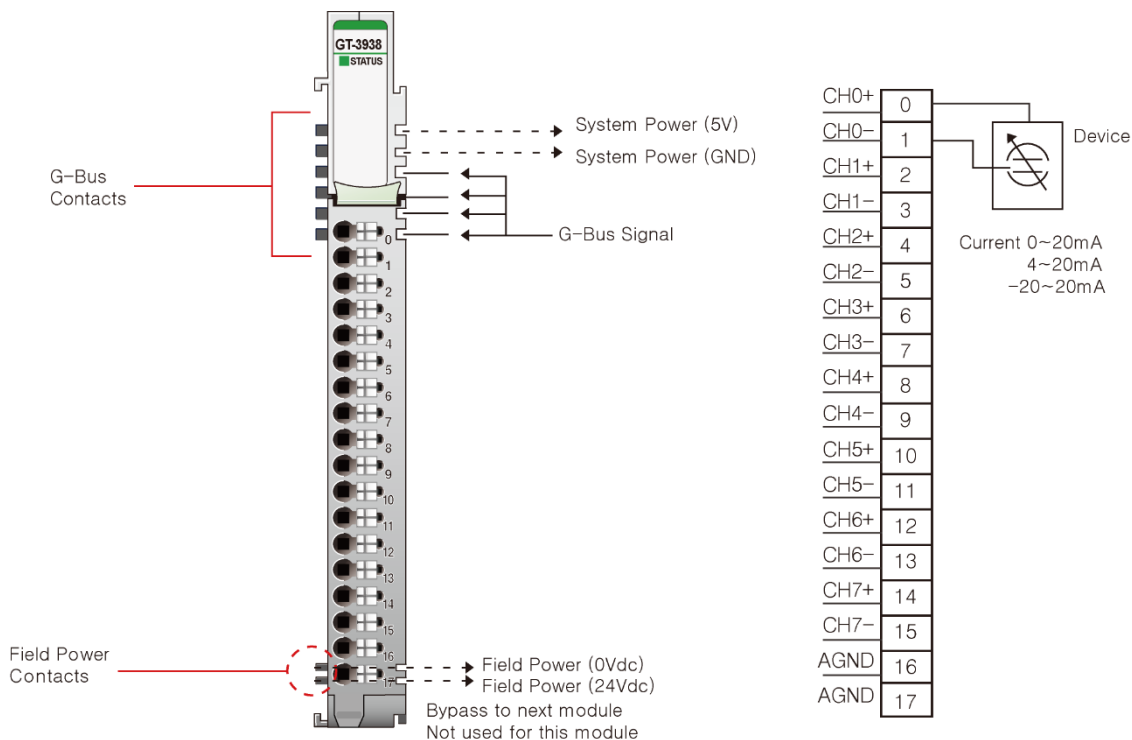
-. Valid Parameter length : 10 Bytes

-. Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Ch#0 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 1	Ch#1 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 2	Ch#2 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 3	Ch#3 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 4	Ch#4 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 5	Ch#5 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 6	Ch#6 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 7	Ch#7 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 8	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E : Slowest)							
Byte 9	Reserve							

3.4. GT-3938

3.4.1. Wiring Diagram



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

3.4.2. LED Indicator



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

3.4.3. Channel Status LED

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

3.4.4. Environment Specification

Environmental Specification	
Operation Temperature	-40°C ~ 60°C
UL Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative Humidity	5% ~ 90% Non-condensing
Mounting	DIN Rail
General Specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
EMC Resistance	EN61000-6-2 : 2005 EN61000-6-4 : 2007+A1 : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL, FCC

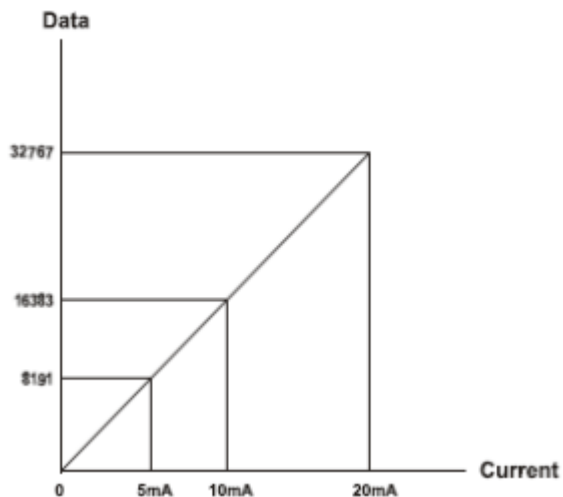
3.4.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Single Ended, Non-Isolated Between Channel
Indicators(Logic side)	1 Green Input Status
Resolution in Ranges	16 bit (Include Sing) 15 bits : 0.61ua/Bit(0~20mA) 15 bits : 0.49uA/Bit(4~20mA) 15 bit (Include Sing) 15 bits : 1.22uA/Bit(-20~20mA)
Input Current Ranges	0~20mA, 4~20mA, -20~20mA
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 60°C
Input Impedance	121.5Ω
Conversion Time	2.2msec / All Channels
Field Calibration	Not Required
General Specification	
Power Dissipation	Max. 200mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field Power : Not Connected
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
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'

3.4.6. Data Value / Current

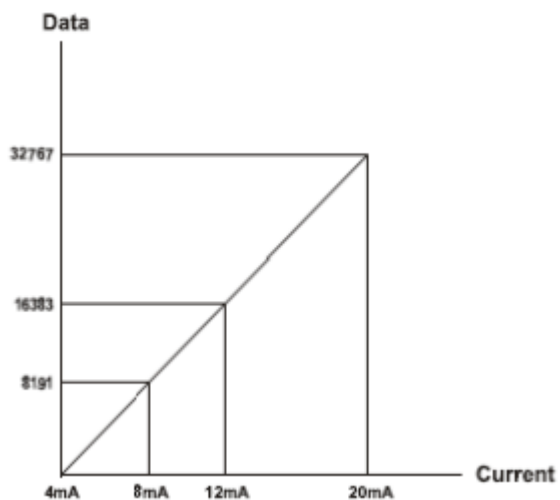
Current Range : 0~20mA

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



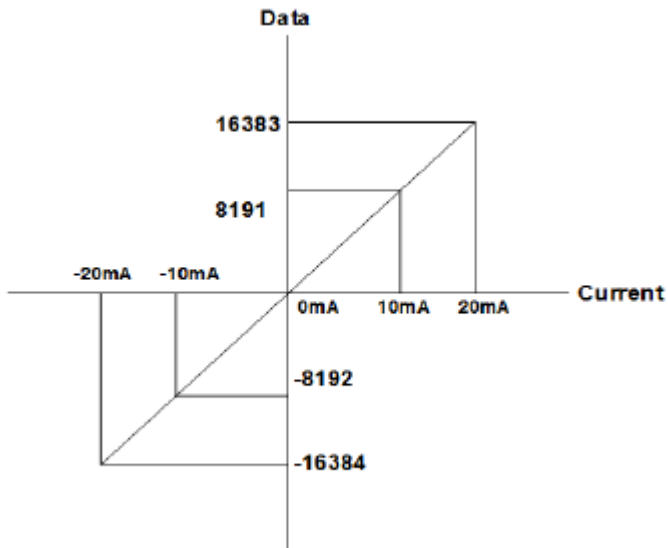
Current Range : 4~20mA

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



Current Range : -20~20mA

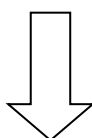
Current	-20.0mA	-10.0mA	0.0mA	+10.0mA	+20.0mA
Data(Hex)	HC000	HE000	H0000	H1FFF	H3FFF



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

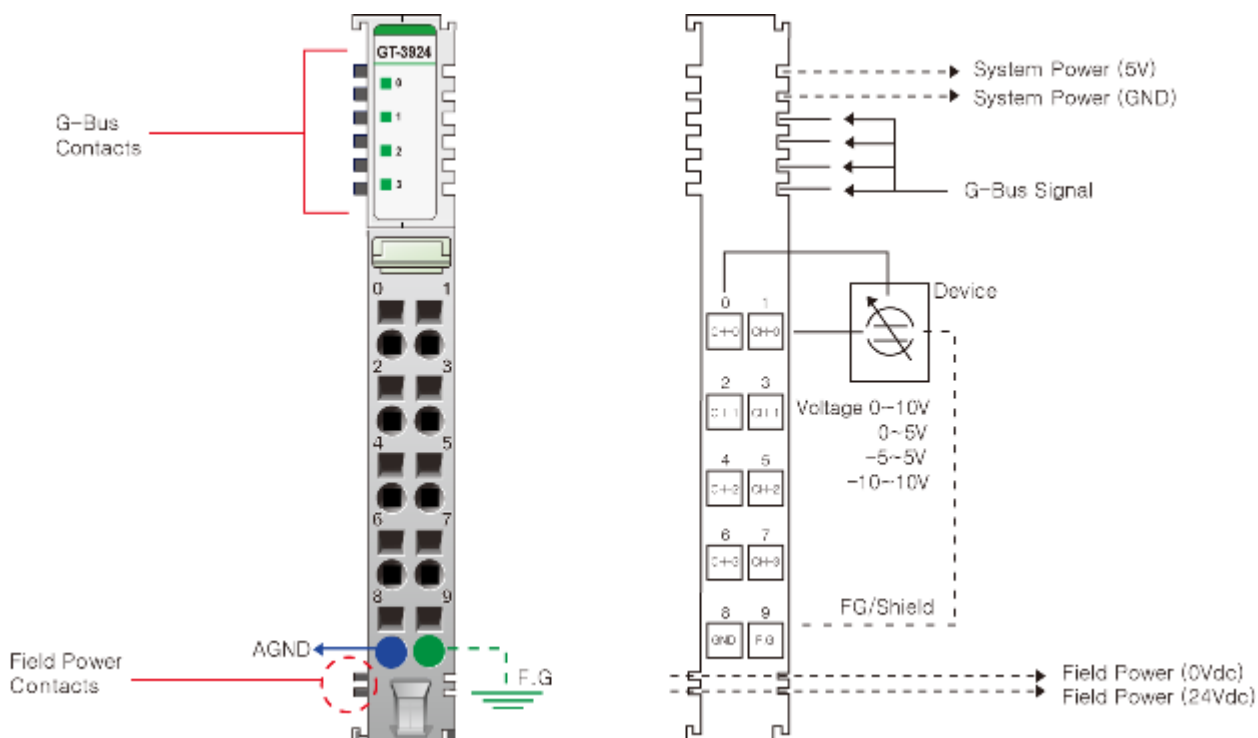
-. Valid Parameter length : 10 Bytes

-. Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Ch#0 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 1	Ch#1 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 2	Ch#2 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 3	Ch#3 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 4	Ch#4 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 5	Ch#5 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 6	Ch#6 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 7	Ch#7 Command(H00 : 0~20mA, H01 : 4~20mA, H02 : -20~20mA)							
Byte 8	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E : Slowest)							
Byte 9	Reserve							

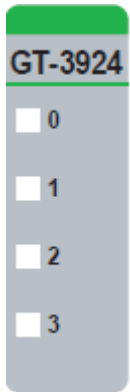
3.5. GT-3924

3.5.1. 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)	Input Channel Common(AGND)	9

3.5.2. 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

3.5.3. 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
Field Power Error	All Channel Repeat the Green and Off	Field Power is unconnected

3.5.4. Environment Specification

Environmental Specification	
Operation Temperature	-40°C ~ 70°C
UL Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative Humidity	5% ~ 90% Non-condensing
Mounting	DIN Rail
General Specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL, FCC

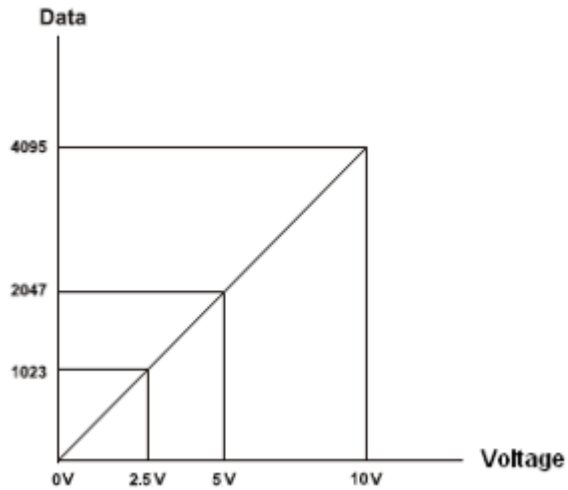
3.5.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Single Ended, Non-Isolated Between Channel
Indicators(Logic side)	4 Green Input Status
Resolution in Ranges	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 Current Ranges	0~10Vdc, 0~5Vdc, -10~10Vdc, -5~5Vdc
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 70°C
Input Impedance	667k5Ω
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	1.0msec / All Channel
Field Calibration	Not Required
Common Type	1 Common, Field Power 0V is the Common(AGND)
General Specification	
Power Dissipation	Max. 30mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field Power : Non-Isolation
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~30Vdc Power Dissipation : Max. 45mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm ² (AWG 14)
Torque	0.8Nm(7lb-in)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	Refer to 'Environment Specification'

3.5.6. Data Value / Voltage

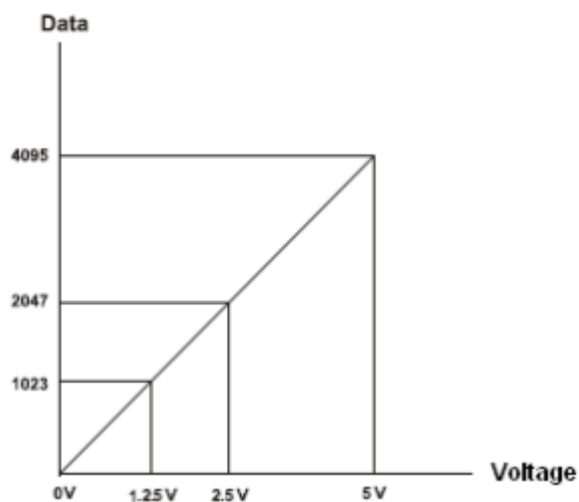
Voltage Range : 0~10V

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



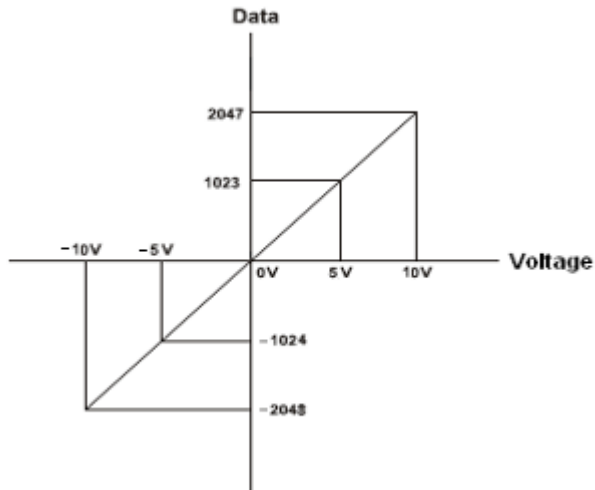
Voltage Range : 0~5V

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

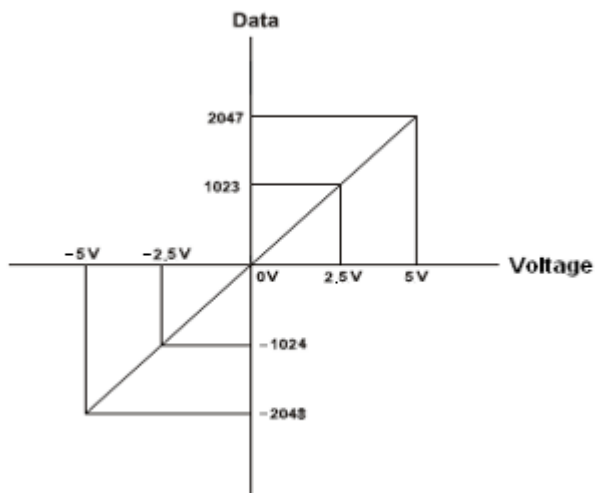


Voltage Range : -10~10V

Voltage	-10.0V	-5.0V	0.0V	+5.V	+10.0V
Data(Hex)	HF800	HFC00	H0000	H03FFF	H07FF

**Voltage Range : -5~5V**

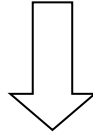
Voltage	-5.0V	-2.5V	0.0V	+2.5V	+5.0V
Data(Hex)	HF800	HFC00	H0000	H03FFF	H07FF



3.5.7. 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							

3.5.8. Parameter Data

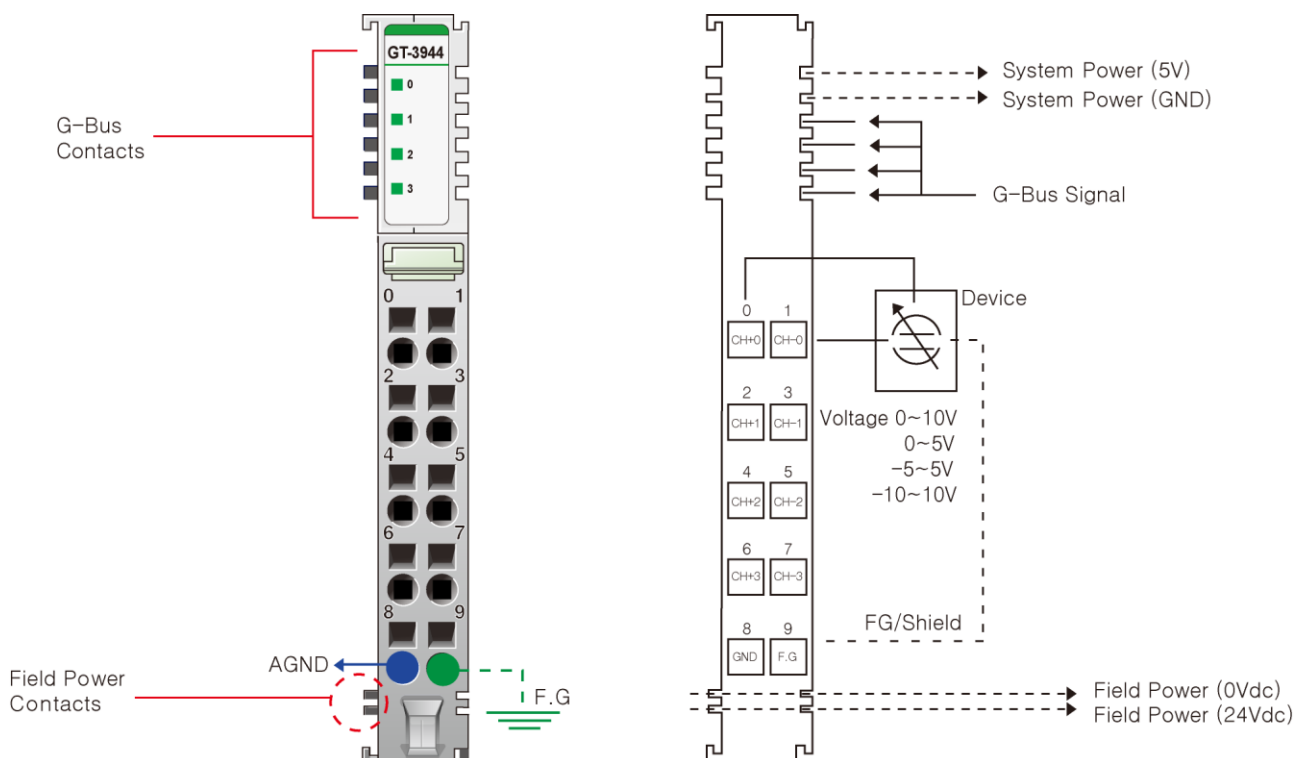
- Valid Parameter length : 6 Bytes

- Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Ch#0 Command(H00 : 0~10V, H01: 0~5V, H02:-10~10V, H03: -5~5V)							
Byte 1	Ch#1 Command(H00 : 0~10V, H01: 0~5V, H02:-10~10V, H03: -5~5V)							
Byte 2	Ch#2 Command(H00 : 0~10V, H01: 0~5V, H02:-10~10V, H03: -5~5V)							
Byte 3	Ch#3 Command(H00 : 0~10V, H01: 0~5V, H02:-10~10V, H03: -5~5V)							
Byte 4	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E : Slowest)							
Byte 5	Reserve							

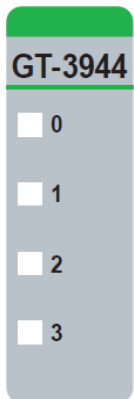
3.6. GT-3944

3.6.1. 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)	Input Channel Common(AGND)	9

3.6.2. 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

3.6.3. 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
Field Power Error	All Channel Repeat the Green and Off	Field Power is unconnected

3.6.4. Environment Specification

Environmental Specification	
Operation Temperature	-40°C ~ 70°C
UL Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative Humidity	5% ~ 90% Non-condensing
Mounting	DIN Rail
General Specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL, FCC

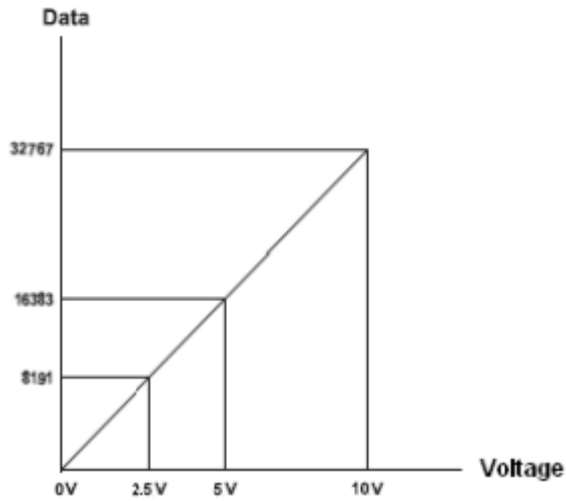
3.6.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	4 Channels Single Ended, Non-Isolated Between Channel
Indicators(Logic side)	4 Green Input Status
Resolution in Ranges	16bit(Include Sign) 15 bits : 0.31mV/Bit(0~10V) 15 bits : 0.15mV/Bit(0~5V) 15bit(Include Sign) 15 bits : 0.61mV/Bit(-10~10V) 15 bits : 0.31mV/Bit(-5~5V)
Input Current Ranges	0~10Vdc, 0~5Vdc, -10~10Vdc, -5~5Vdc
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 70°C
Input Impedance	667kΩ
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	1.0msec / All Channels
Field Calibration	Not Required
Common Type	1 Common, Field Power 0V is the Common(AGND)
General Specification	
Power Dissipation	Max. 30mA @ 5.0Vdc
Isolation	I/O to Logic : Isolation Field Power : Non-Isolation
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18~30Vdc Power Dissipation : Max. 45mA @ 24Vdc
Wiring	I/O Cable Max. 2.0mm ² (AWG 14)
Torque	0.8Nm(7lb-in)
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	Refer to 'Environment Specification'

3.6.6. Data Value / Voltage

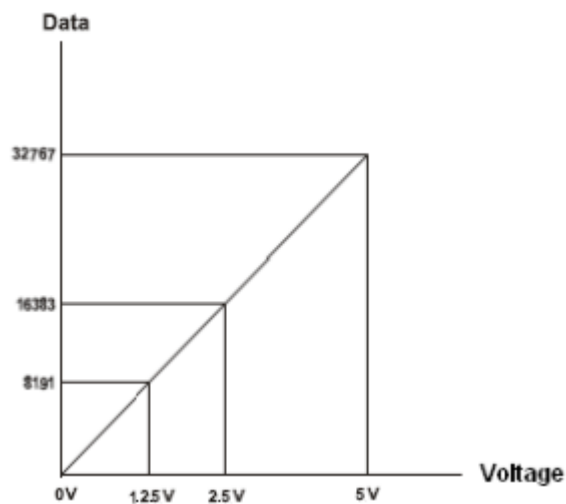
Voltage Range : 0~10V

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



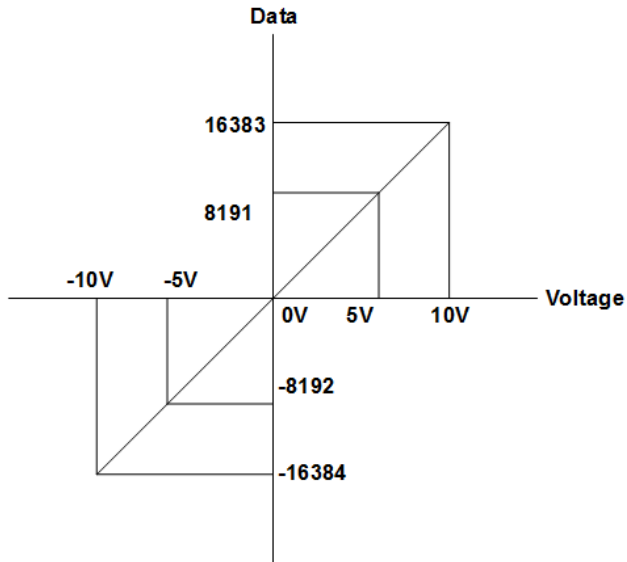
Voltage Range :

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

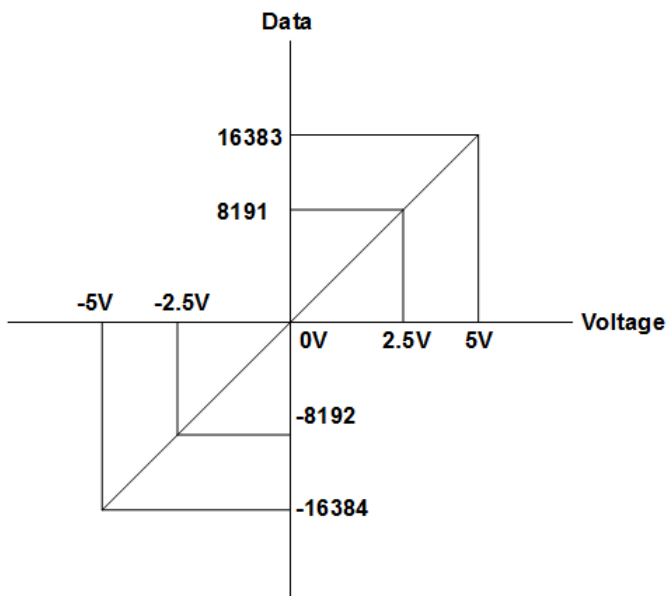


Voltage Range : -10~10V

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

**Voltage Range : -5~5V**

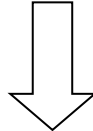
Voltage	-5.0V	-2.5V	0.0V	+2.5V	+5.0V
Data(Hex)	HC000	HE000	H0000	H1FFF	H3FFF



3.6.7. 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							

3.6.8. Parameter Data

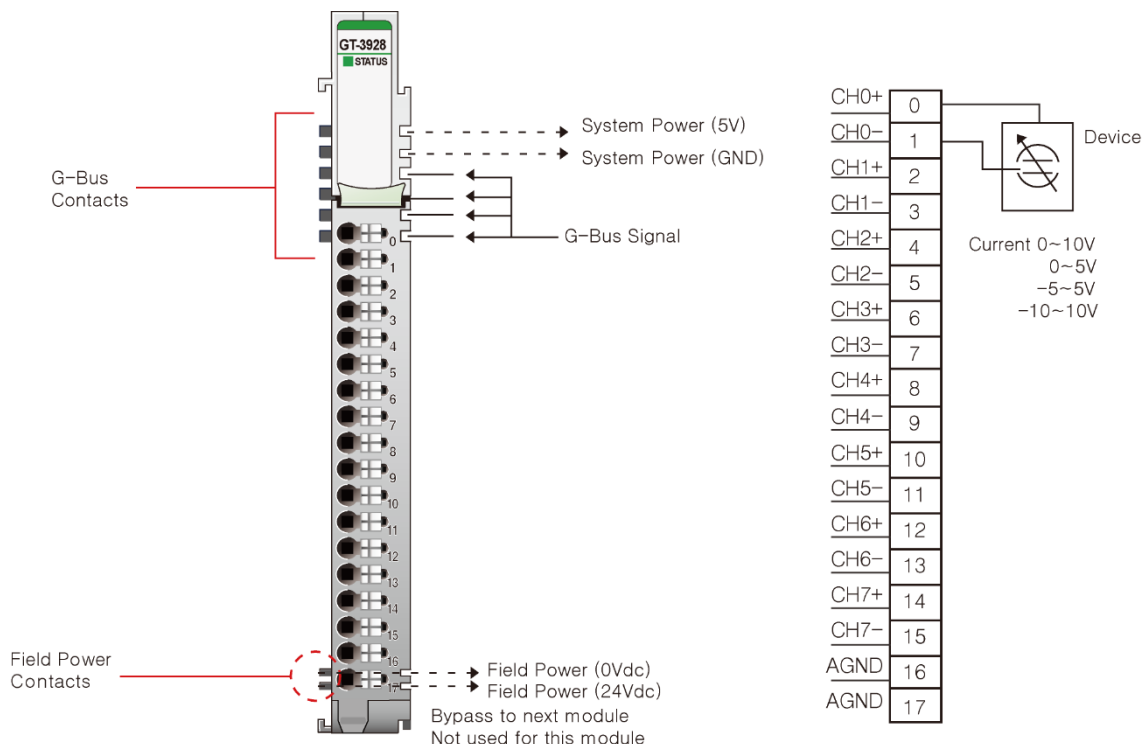
- Valid Parameter length : 6 Bytes

- Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Ch#0 Command(H00 : 0~10V, H01: 0~5V, H02:-10~10V, H03: -5~5V)							
Byte 1	Ch#1 Command(H00 : 0~10V, H01: 0~5V, H02:-10~10V, H03: -5~5V)							
Byte 2	Ch#2 Command(H00 : 0~10V, H01: 0~5V, H02:-10~10V, H03: -5~5V)							
Byte 3	Ch#3 Command(H00 : 0~10V, H01: 0~5V, H02:-10~10V, H03: -5~5V)							
Byte 4	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E : Slowest)							
Byte 5	Reserve							

3.7. GT-3928

3.7.1. Wiring Diagram



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

3.7.2. LED Indicator



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

3.7.3. Channel Status LED

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

3.7.4. Environment Specification

Environmental Specification	
Operation Temperature	-40°C ~ 70°C
UL Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative Humidity	5% ~ 90% Non-condensing
Mounting	DIN Rail
General Specification	
Shock Operating	IEC 60068-2-27 :2008 / 15g, 11ms
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
EMC Resistance	EN61000-6-2 : 2005 EN61000-6-4 : 2007+A1 : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL, FCC

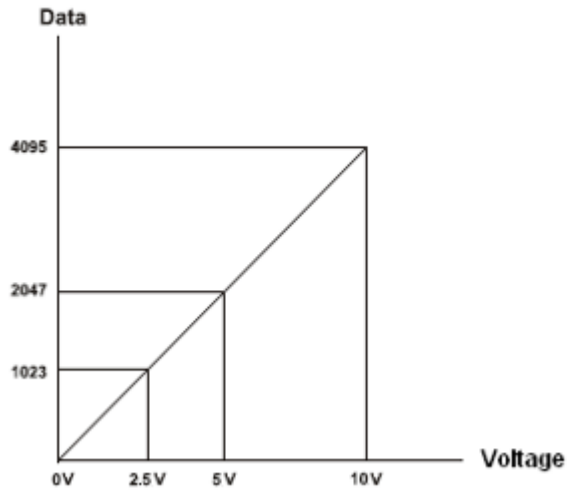
3.7.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Single Ended, Non-Isolated Between Channel
Indicators(Logic side)	1 Green Input Status
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 Current Ranges	0~10Vdc, 0~5Vdc, -10~10Vdc, -5~5Vdc
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 70°C
Input Impedance	667kΩ
Conversion Time	2.0msec / All Channels
Field Calibration	Not Required
General Specification	
Power Dissipation	Max. 200mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field Power : Not Connected
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
Field Power	Not used, Field Power bypass to next expansion module
Single 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'

3.7.6. Data Value / Voltage

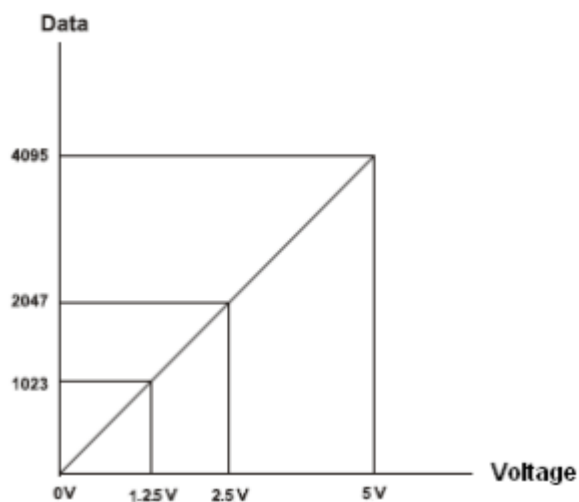
Voltage Range :

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



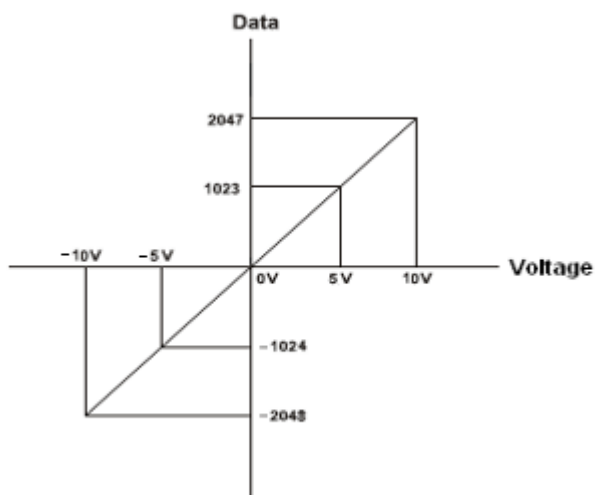
Voltage Range : 0~5V

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

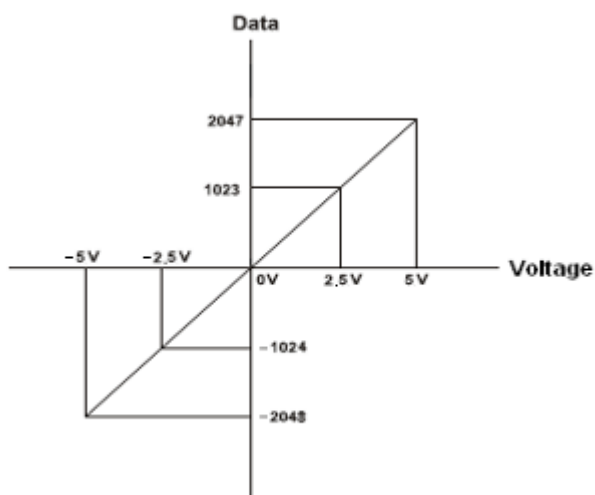


Voltage Range : -10~10V

Voltage	-10.0V	-5.0V	0.0V	+5.0V	+10.0V
Data(Hex)	HF800	HFC00	H0000	H03FFF	H07FF

**Voltage Range : -5~5V**

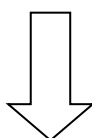
Voltage	-5.0V	-2.5V	0.0V	+2.5v	+5.0V
Data(Hex)	HF800	HFC00	H0000	H03FFF	H07FF



3.7.7. 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							

3.7.8. Parameter Data

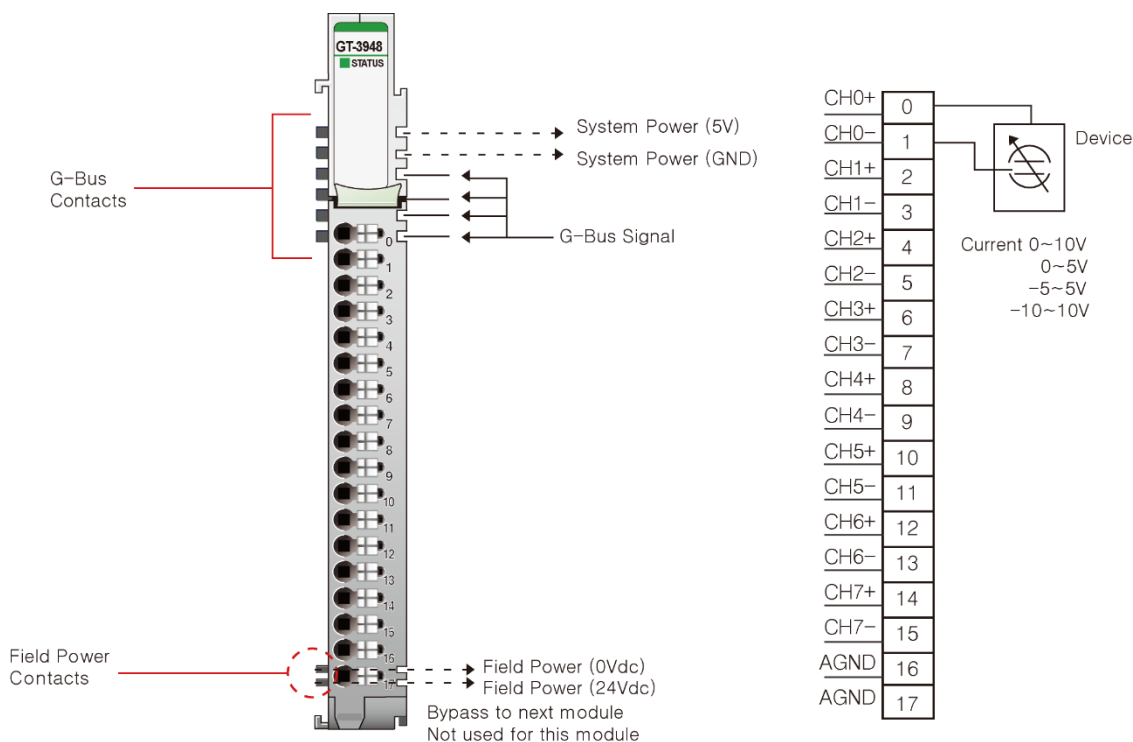
-. Valid Parameter length : 10 Bytes

-. Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Ch#0 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 1	Ch#1 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 2	Ch#2 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 3	Ch#3 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 4	Ch#4 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 5	Ch#5 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 6	Ch#6 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 7	Ch#7 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 8	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E : Slowest)							
Byte 9	Reserve							

3.8. GT-3948

3.8.1. Wiring Diagram



3.8.2. LED Indicator



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

3.8.3. Channel Status LED

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

3.8.4. Environment Specification

Environmental Specification	
Operation Temperature	-40°C ~ 70°C
UL Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative Humidity	5% ~ 90% Non-condensing
Mounting	DIN Rail
General Specification	
Shock Operating	IEC 60068-2-27 : 2008/ 15g, 11ms
Vibration Resistance	Based on IEC 60068-2-6 DNVGL-CG-0039 : Vibration Class B, 4g
EMC Resistance	EN61000-6-2 : 2005 EN61000-6-4 : 2007+A1 : 2011
Installation Pos. / Protect. Class	Variable/IP20
Product Certifications	CE, UL, FCC

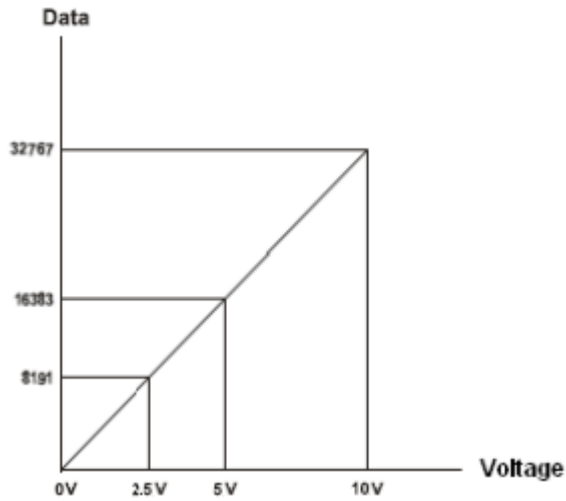
3.8.5. Specification

Items	Specification
Input Specification	
Inputs Per Module	8 Channels Single Ended, Non-Isolated Between Channel
Indicators(Logic side)	1 Green Input Status
Resolution in Ranges	16 bit (Include Sing) 15 bits : 0.31mV/Bit(0~10V) 15 bits : 0.15mV/Bit(0~5V) 15 bit (Include Sing) 15 bits : 0.61mV/Bit(-10~10V) 15 bits : 0.31mV/Bit(-5~5V)
Input Current Ranges	0~10V,0~5V,-10~10V,-5~5V
Data Format	16 Bits Integer (2' compliment)
Module Error	±0.1% Full Scale @ 25°C ambient ±0.3% Full Scale @ -40°C, 70°C
Input Impedance	667kΩ
Conversion Time	2.0msec / All Channels
Field Calibration	Not Required
General Specification	
Power Dissipation	Max. 200mA @ 5.0Vdc
Isolation	I/O to Logic : Photocoupler Isolation Field Power : Not Connected
UL Field Power	Supply Voltage : 24Vdc nominal, Class 2
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'

3.8.6. Data Value / Voltage

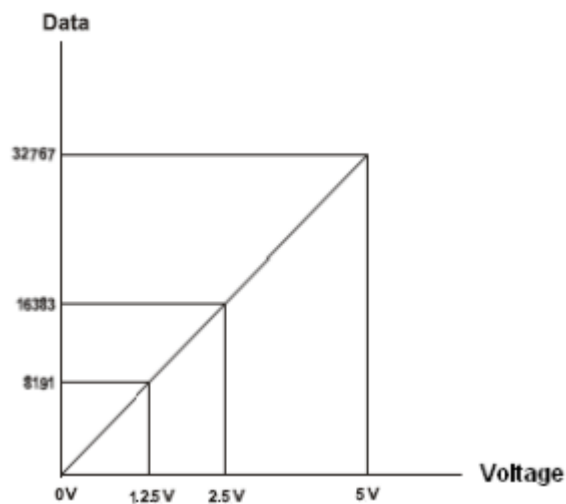
Voltage Range : 0~10V

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



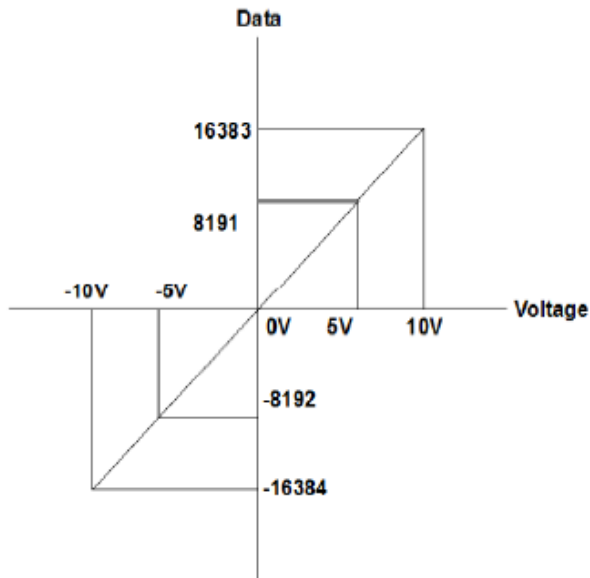
Voltage Range : 0~5V

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

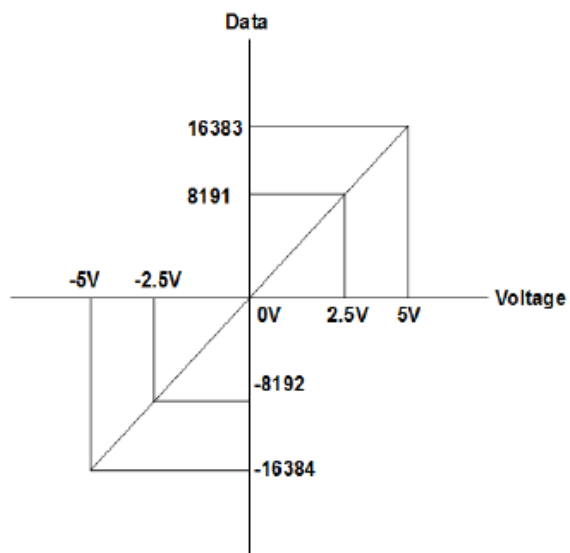


Voltage Range : -10~10V

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

**Voltage Range : -5~5V**

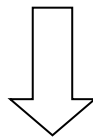
Voltage	-5.0V	-2.5V	0.0V	+2.5V	+5.0v
Data(Hex)	HC000	HE000	H0000	H1FFF	H3FFF



3.8.7. 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							

3.8.8. Parameter Data

-. Valid Parameter length : 10 Bytes

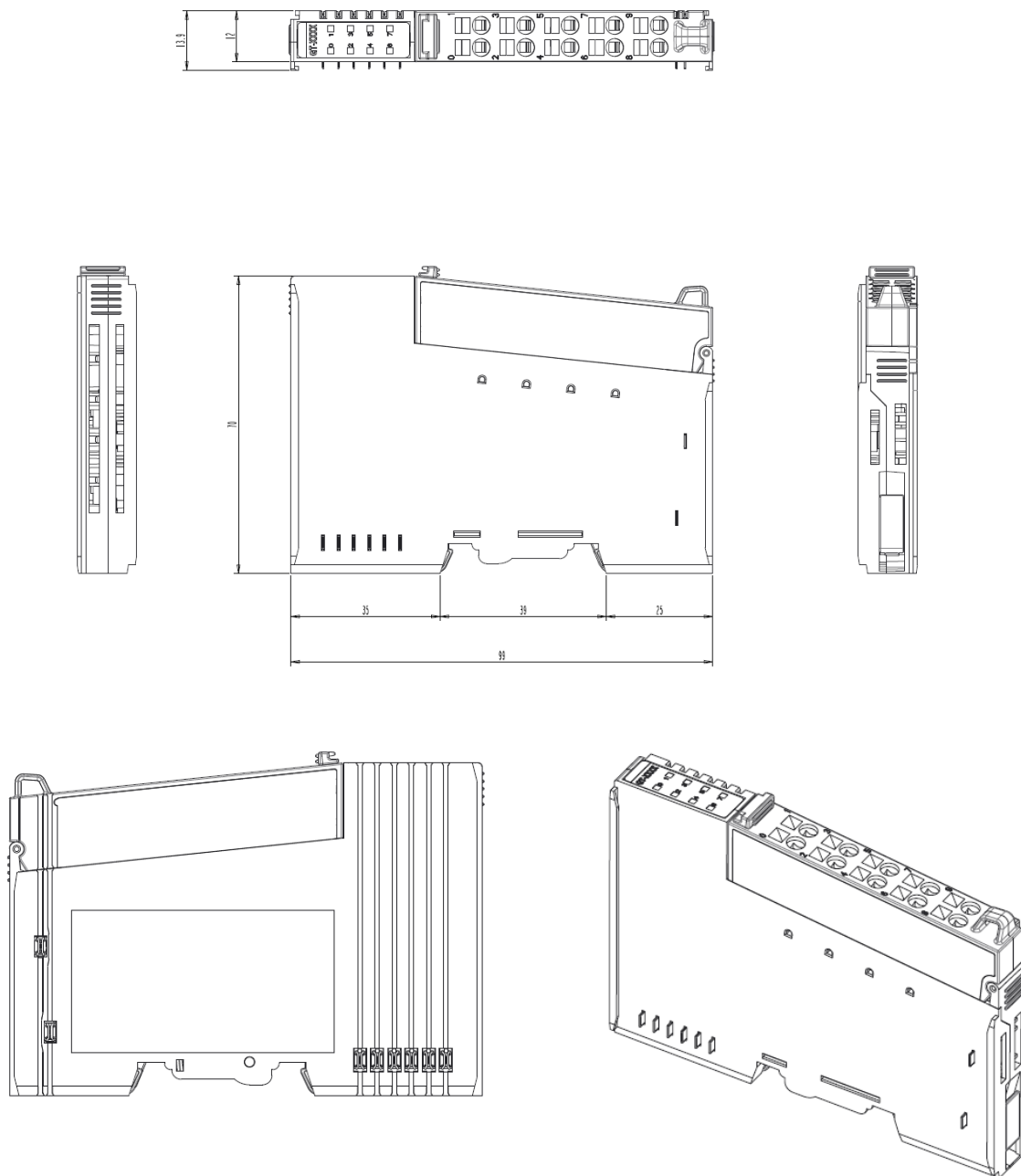
-. Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte 0	Ch#0 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 1	Ch#1 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 2	Ch#2 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 3	Ch#3 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 4	Ch#4 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 5	Ch#5 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 6	Ch#6 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 7	Ch#7 Command(H00: 0~10V, H01: 0~5V, H02: -10~10V, H03: -5~5V)							
Byte 8	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E : Slowest)							
Byte 9	Reserve							

4. Dimension

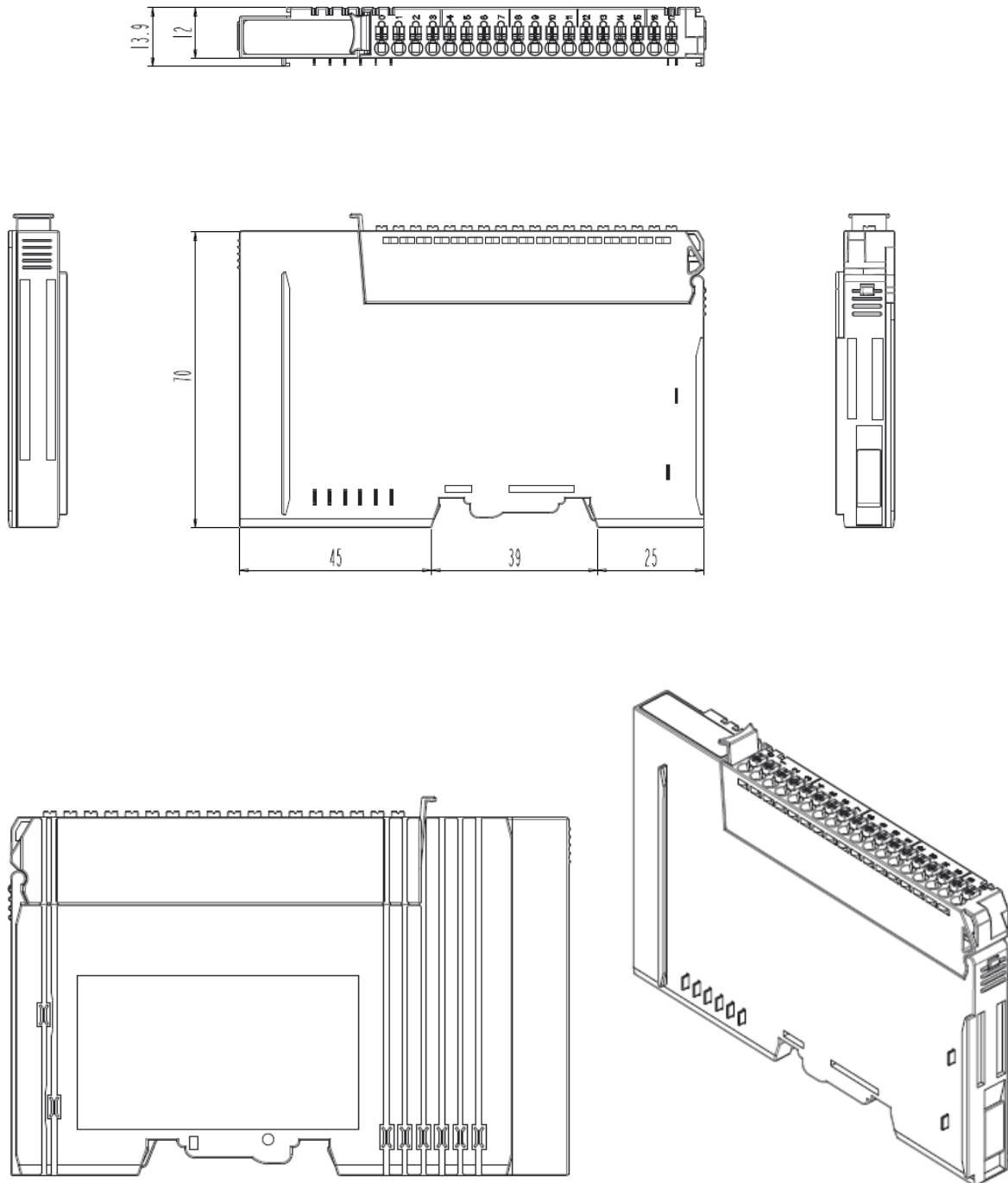
4.1. GT-3xx4(RTB)

(mm)



4.2. GT-3xx8(New 18RTB)

(mm)



5. Mounting

Caution!

Hot surface!

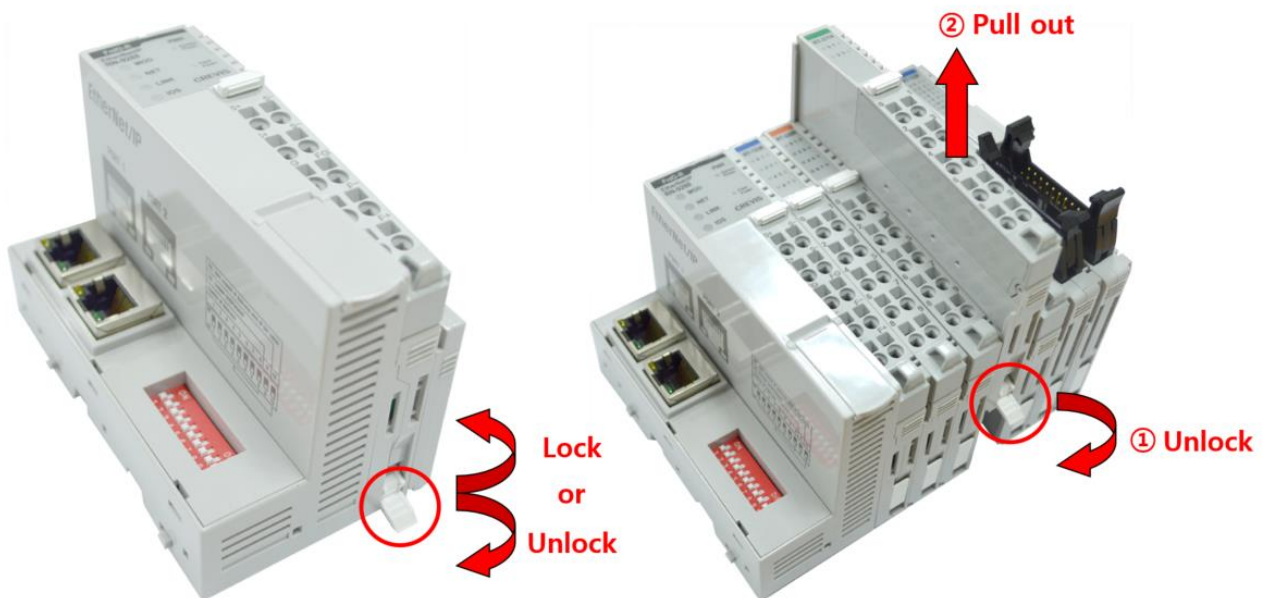
The surface of the housing can become hot during operation. If the device was operated at high ambient temperatures, allow it to be cool before touching it.

Notice!

Perform work on devices only if they are de-energized!

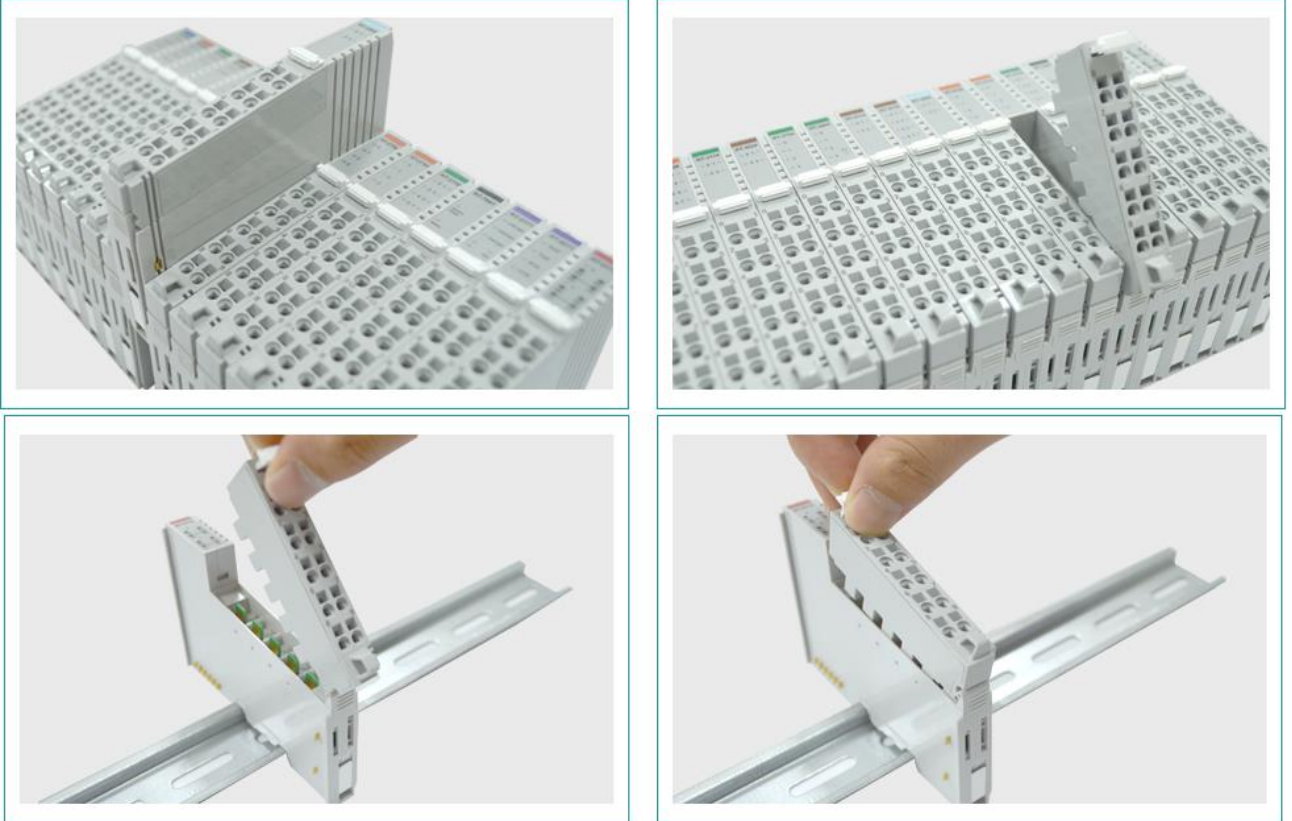
Working on energized devices can damage them. Therefore, turn off the power supply before working on the devices.

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)



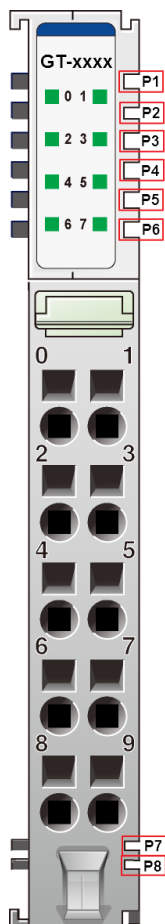
Whole terminal block can be combined and removed for the convenience.

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.