
FnIO G – Series :

GT-346F

GT-346F (16 Channels, Voltage Input, 0~10Vdc / 0~5Vdc / 1~5Vdc, 14bit/16bit)

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Specification

History

Rev	Pages	Remarks	Date	Editor
1.00			2018/03/09	Soyeong, Park
1.01	12	Edit Resolution in Range	2018/06/14	Soyeong, Park
1.02	12	Add Filter On/Off Function / Edit Conversion Time	2021/08/26	Soyeong, Park
1.03		Add Module Resolution (14bit)	2022/06/20	Soyeong, Park
1.04	4,6,8	Change Diagram/Edit Certification/Add Data range	2023/08/01	Soyeong, Park
1.05	5	Edit System, Field Power Dissipation	2025/05/30	Suna, Hwang
1.06	5	Add Wiring-Module Connector	2026/03/10	Soyeong, Park

Specification

1. ENVIRONMENT SPECIFICATION

Environmental specification	
Operating Temperature	-40°C ~60°C
UL Temperature	-20°C ~60°C
Storage Temperature	-40°C ~85°C
Relative Humidity	5% ~ 90% non-condensing
Mounting	DIN rail
General specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6, 4g
Industrial Emissions	EN 61000-6-4/A11 : 2011
Industrial Immunity	EN 61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

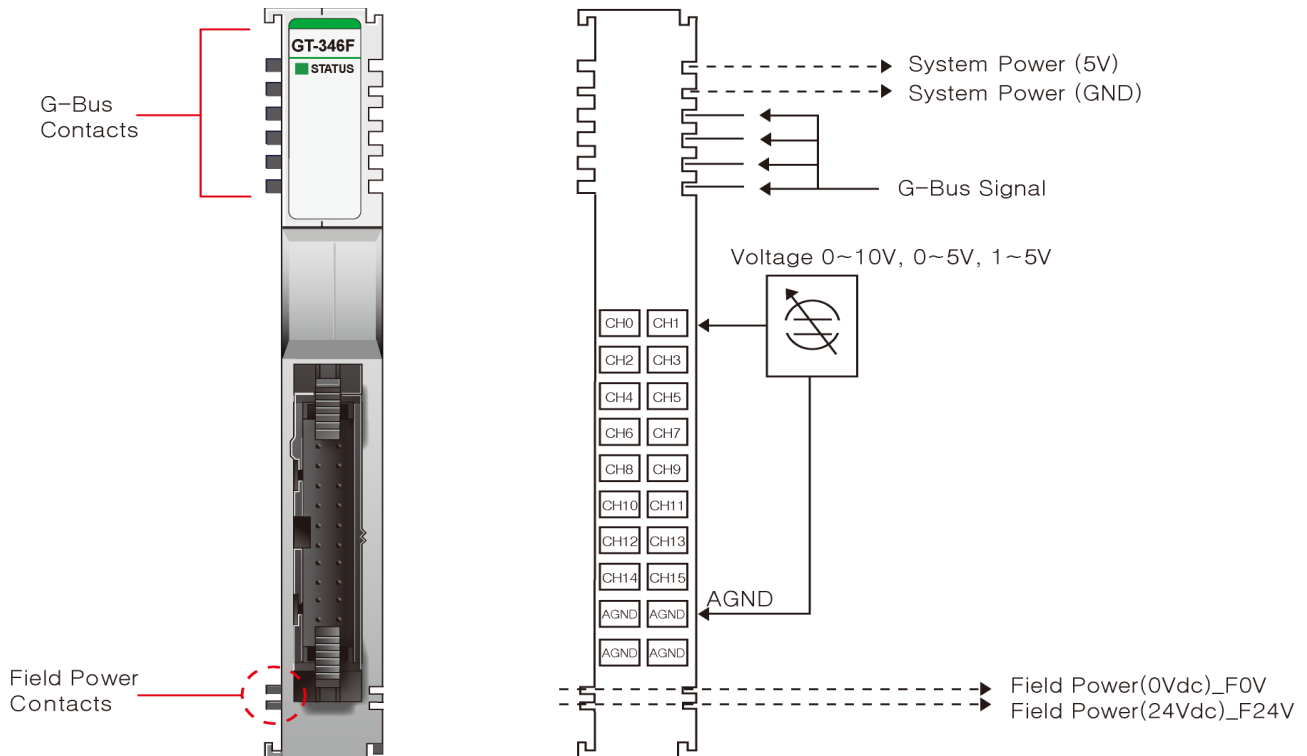
2. GT-346F (16 Channels Voltage Input, 0~10Vdc / 0~5Vdc / 1~5Vdc, 14bit/16bit)

2.1. GT-346F Specification

Items	Specification
Input Specification	
Inputs per module	16 Channels single ended, non-isolated between channel
Indicators(Logic side)	1 Green G-Bus status
Resolution in Ranges*	14 bits : 0.61mV/bit(0~10V) 14 bits : 0.31mV/bit(0~5V) 14 bits : 0.24mV/bit(1~5V) 16 bit (Include Sign) 15 bits : 0.31mV/bit(0~10V) 15 bits : 0.15mV/bit(0~5V) 15 bits : 0.12mV/bit(1~5V)
Input Current Range	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16bits Integer (2's complement)
Module Error	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ -40°C, 60°C
Input Impedance	500kΩ
Diagnostic	Diagnostic Field Power Off : LED Blinking
Conversion Time	1.5msec / All channel
Calibration	Not Required
Common Type	4 Common, Field Power 0V is Common(AGND)
General specification	
Power dissipation	Max. 35mA @ 5Vdc
Isolation	I/O to Logic : Isolation Field power : Non-Isolation
UL Field Power	Supply voltage : 24Vdc nominal, Class2
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 18 ~ 26.4Vdc Power Dissipation : Max. 35mA@24Vdc
Wiring	According to the connector specification Hirose Connector : HIF3BA-20PA-2.54DSA Omron Connector : XG4A-2031
Weight	58g
Module Size	12mm x 99mm x 70mm
Environment Condition	Refer to 'Environment Specification'

*Refer to 2.5 Parameter Data

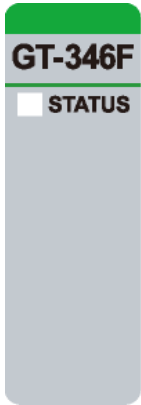
2.2. GT-346F Wiring Diagram



Pin No.	Signal Description	Signal Description	Pin No.
1	Input Channel 0	Input Channel 1	2
3	Input Channel 2	Input Channel 3	4
5	Input Channel 4	Input Channel 5	6
7	Input Channel 6	Input Channel 7	8
9	Input Channel 8	Input Channel 9	10
11	Input Channel 10	Input Channel 11	12
13	Input Channel 12	Input Channel 13	14
15	Input Channel 14	Input Channel 15	16
17	Input Channel Common(AGND)	Input Channel Common(AGND)	18
19	Input Channel Common(AGND)	Input Channel Common(AGND)	20

2.3. GT-346F LED Indicator

2.3.1. LED Indicator



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

2.3.2. 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

Specification

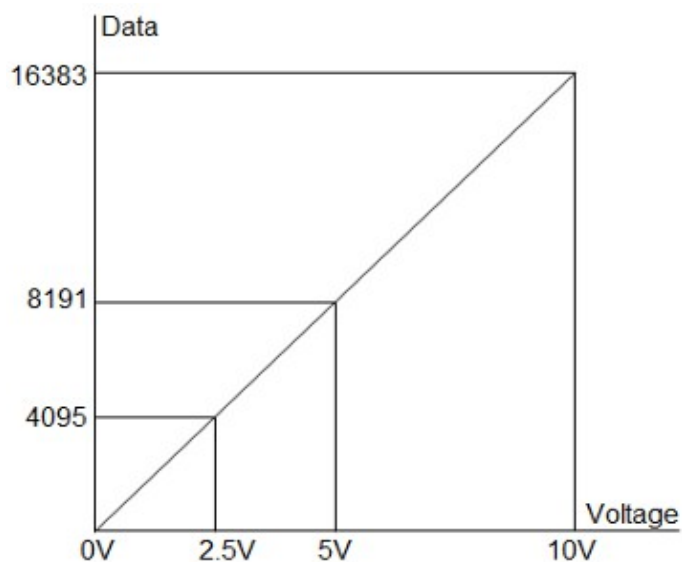
2.4. Data value / Voltage

2.4.1. Operating Range

Voltage Range : 0~10V

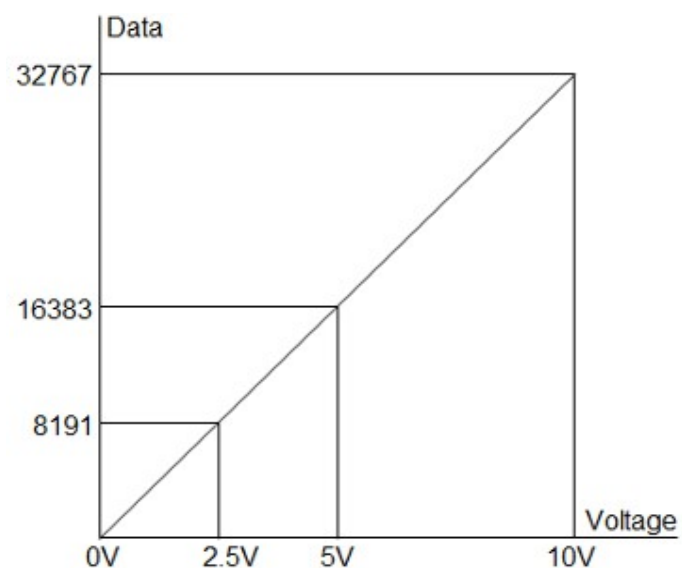
(14bit)

Voltage	0.0V	2.5V	5.0V	10.0V
Data(Hex)	H0000	H0FFF	H1FFF	H3FFF



(16bit)

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

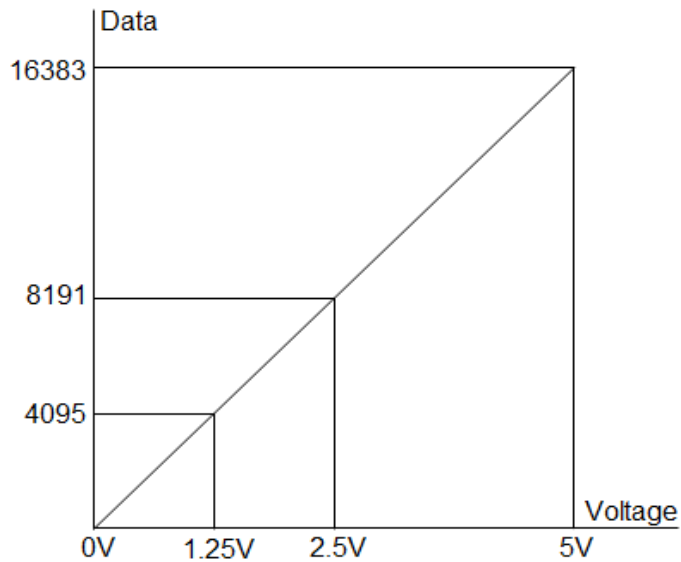


Specification

Voltage Range : 0~5V

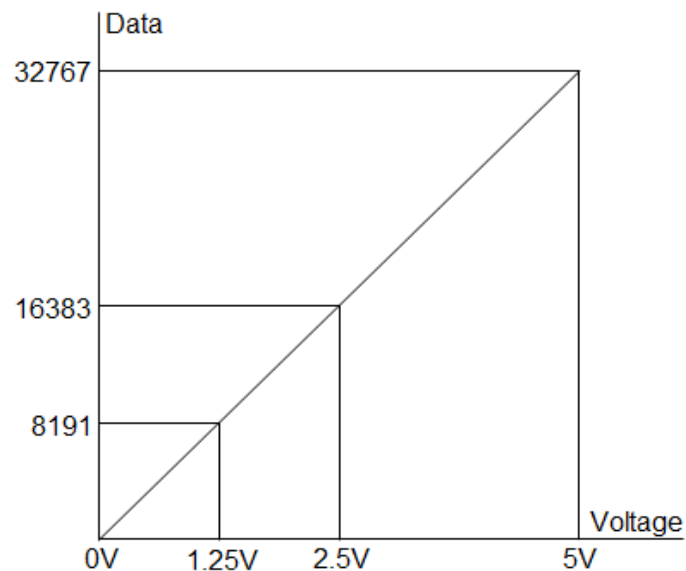
(14bit)

Voltage	0.0V	1.25V	2.5V	5.0V
Data(Hex)	H0000	H0FFF	H1FFF	H3FFF



(16bit)

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

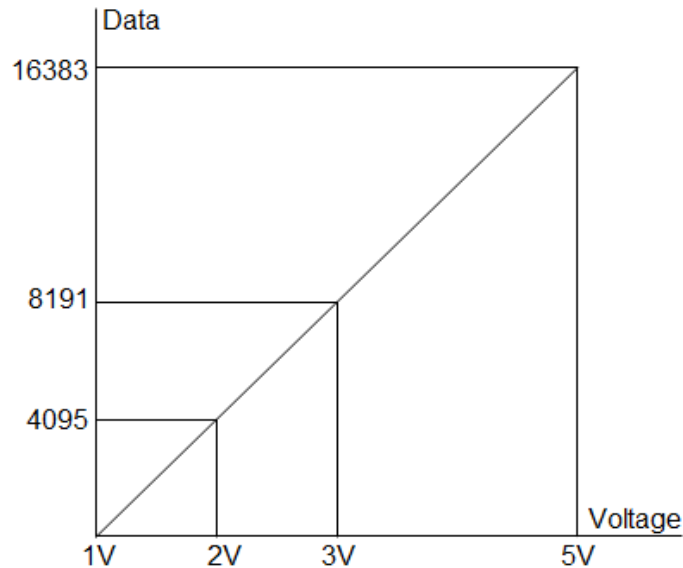


Specification

Voltage Range : 1~5V

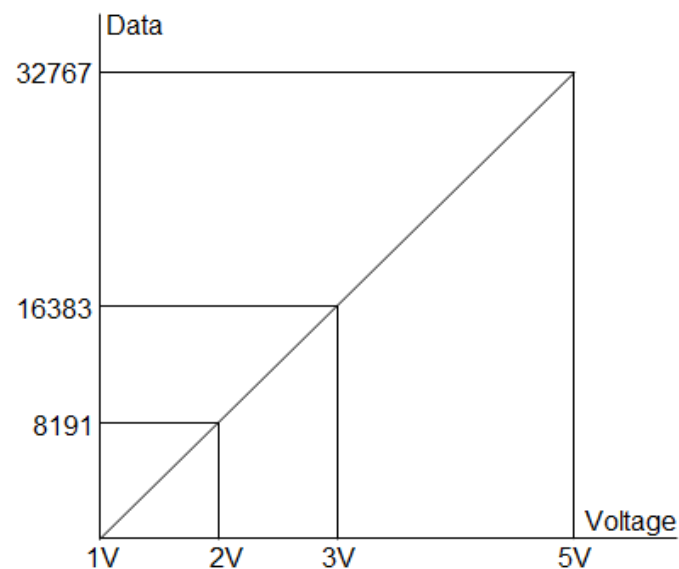
(14bit)

Voltage	1.0V	2.0V	3.0V	5.0V
Data(Hex)	H0000	H0FFF	H1FFF	H3FFF



(16bit)

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



2.4.2. Underrun / Overrun Range

Voltage	Voltage Range : 0~10V		Voltage Range : 0~5V		Voltage Range : 1~5V	
	<0.0V	>10.0V	<0.0V	>6.0V	<1.0V	>6.0V
Data(Hex)	-	-	-	H7FFF	H8000	H7FFF

Specification

2.5. 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
Byte0				Analog Input Ch0 Low byte				
Byte1				Analog Input Ch0 High byte				
Byte2				Analog Input Ch1 Low byte				
Byte3				Analog Input Ch1 High byte				
Byte4				Analog Input Ch2 Low byte				
Byte5				Analog Input Ch2 High byte				
Byte6				Analog Input Ch3 Low byte				
Byte7				Analog Input Ch3 High byte				
Byte8				Analog Input Ch4 Low byte				
Byte9				Analog Input Ch4 High byte				
Byte10				Analog Input Ch5 Low byte				
Byte11				Analog Input Ch5 High byte				
Byte12				Analog Input Ch6 Low byte				
Byte13				Analog Input Ch6 High byte				
Byte14				Analog Input Ch7 Low byte				
Byte15				Analog Input Ch7 High byte				
Byte16				Analog Input Ch8 Low byte				
Byte17				Analog Input Ch8 High byte				
Byte18				Analog Input Ch9 Low byte				
Byte19				Analog Input Ch9 High byte				
Byte20				Analog Input Ch10 Low byte				
Byte21				Analog Input Ch10 High byte				
Byte22				Analog Input Ch11 Low byte				
Byte23				Analog Input Ch11 High byte				
Byte24				Analog Input Ch12 Low byte				
Byte25				Analog Input Ch12 High byte				
Byte26				Analog Input Ch13 Low byte				
Byte27				Analog Input Ch13 High byte				
Byte28				Analog Input Ch14 Low byte				
Byte29				Analog Input Ch14 High byte				
Byte30				Analog Input Ch15 Low byte				
Byte31				Analog Input Ch15 High byte				

2.6. Parameter Data

- Valid Parameter length: 18 Bytes
- Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Voltage Range for Channel 0 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte1	Voltage Range for Channel 1 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte2	Voltage Range for Channel 2 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte3	Voltage Range for Channel 3 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte4	Voltage Range for Channel 4 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte5	Voltage Range for Channel 5 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte6	Voltage Range for Channel 6 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte7	Voltage Range for Channel 7 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte8	Voltage Range for Channel 8 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte9	Voltage Range for Channel 9 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte10	Voltage Range for Channel 10 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte11	Voltage Range for Channel 11 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte12	Voltage Range for Channel 12 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte13	Voltage Range for Channel 13 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte14	Voltage Range for Channel 14 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte15	Voltage Range for Channel 15 (H00: 0~10Vdc, H01: 0~5Vdc, H02 : 1~5Vdc)							
Byte16	Filter Time (H00: Default Filter(20) / H01: Fastest ~ / H3E: Slowest)							
Byte17	Resolution Selection*	Reserved						Filter On/Off **

*Resolution Selection : Resolution for Module (0 : 16bit / 1 : 14bit) (Default (0) : 16bit)

** Filter On/Off : Soft Filter On/Off Setting (0 : Filter ON(Default) / 1: Filter OFF)