FnIO G – Series :

GT-346F

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

Table of Contents

History

REV.	PAGES	REMARKS	DATE	Editor
1		Preliminary	Mar 09, 2018	Soyeong, Park
1.01	5	Edit Resolution in Range	June 14, 2018	Soyeong, Park

1. ENVIRONMENT SPECIFICATION

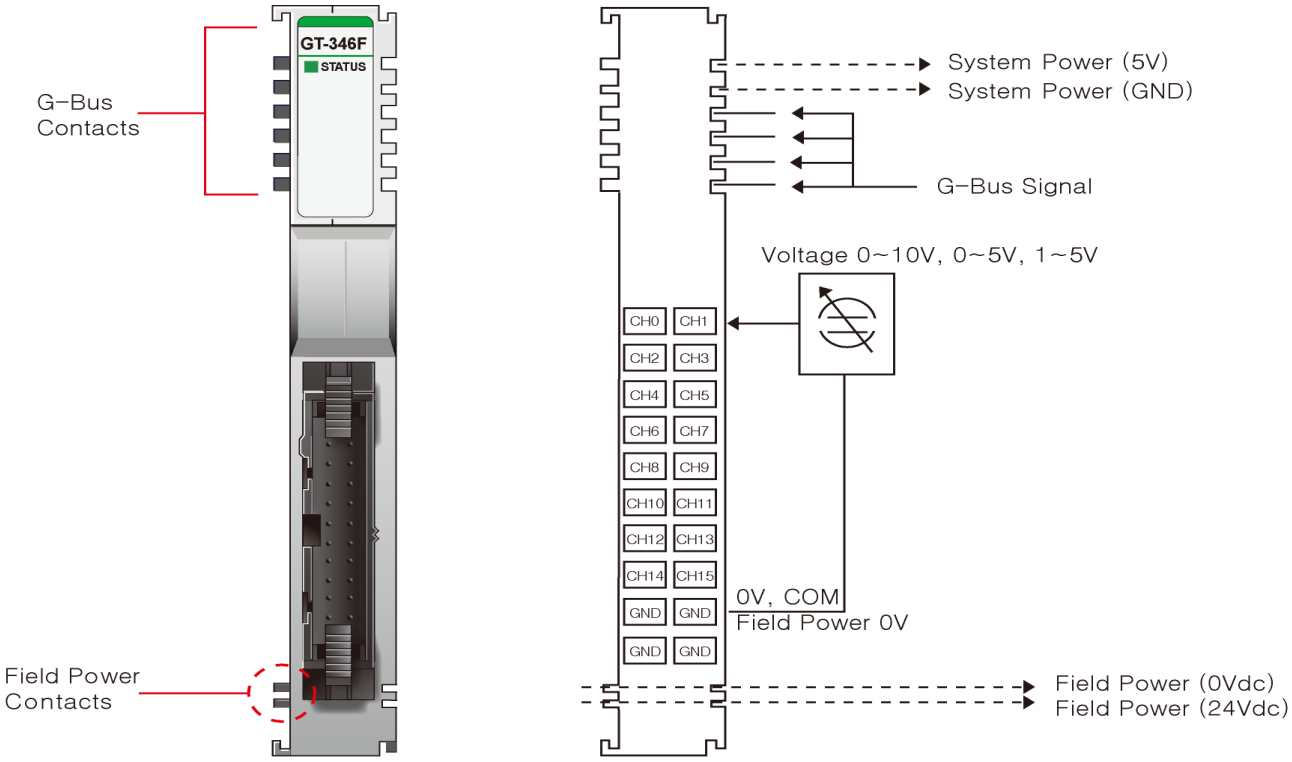
Environmental specification	
Operating Temperature	-40℃~60℃
UL Temperature	-20℃~60℃
Storage Temperature	-40℃~85℃
Relative Humidity	5% ~ 90% non-condensing
Mounting	DIN rail
General specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6 Sine Vibration 5 ~ 25Hz : 1.6mm 25 ~ 300Hz : 4g Sweep Rate : 1 Oct/min, 20 cycles Random Vibration 10 ~ 40Hz : 0.0125g^2/Hz 40 ~ 100Hz : 0.0125 → 0.002g^2/Hz 100 ~ 500Hz : 0.002g^2/Hz 500 ~ 2000Hz : 0.002 → 1.3 x 10-$^4g^2$/Hz Test time : 1hrs for each test
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, 16BIT)

2.1. GT-346F Specification

Items	Specification
Input Specification	
Inputs per module	16 Channels single ended, non-isolated between channels
Indicators(Logic side)	1 Green G-Bus status
Resolution in Ranges	16 bit (Include Sign) 15 bits : 0.31mV/bit(0~10V) , 0.15mV/bit(0~5V), 0.12mV/bit(1~5Vdc)
Input Current Range	0~10Vdc, 0~5Vdc, 1~5Vdc
Data Format	16bits Integer (2's complement)
Module Error	±0.1% Full Scale @ 25℃ambient ±0.3% Full Scale @ -40℃~60℃
Input Impedance	500kΩ
Diagnostic	Diagnostic Field Power Off : LED Blinking
Conversion Time	All Channel<1.3ms
Calibration	Not Required
Common Type	4 Common, Field Power 0V is Common(AGND)
General specification	
Power dissipation	Max. 30mA @ 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. 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'**

2.2. GT-346F 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

2.3. GT-346F LED Indicator

2.3.1. LED Indicator

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

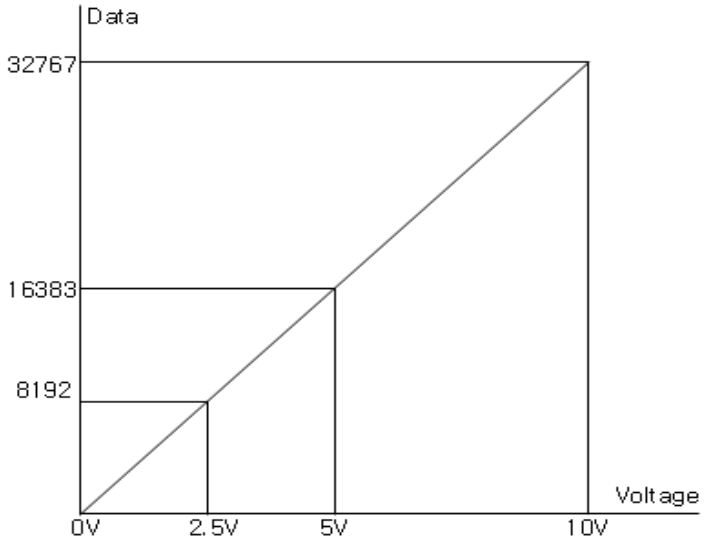
2.3.2. Channel Status LED

Status	LED	To indicate
G-Bus Status	Off Green	Disconnection Connection
Field Power Error	Status Channel Repeat the Green and Off	Field Power is unconnected

2.3.3. Data value / Voltage

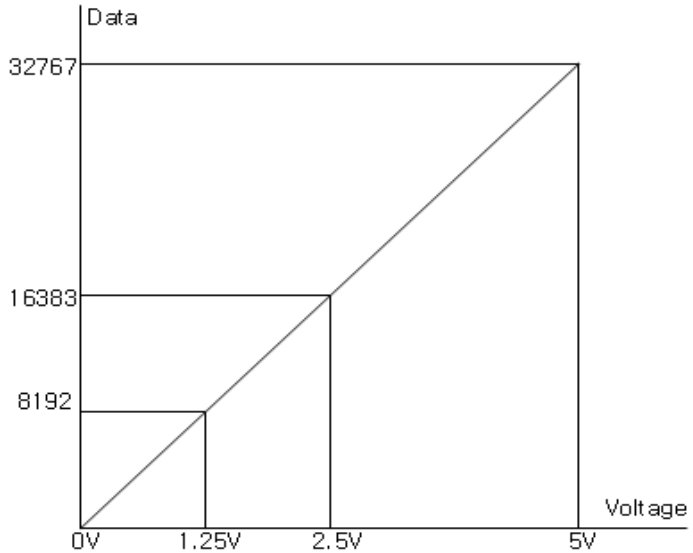
Voltage Range : 0~10Vdc

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



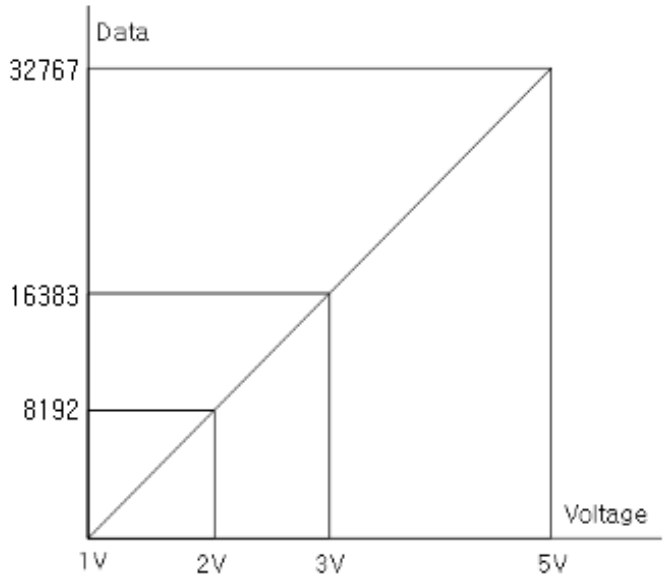
Voltage Range : 0~5Vdc

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



Voltage Range : 1~5Vdc

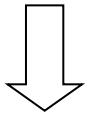
Voltage	1.0V	2.0V	3.0V	5.0V
Data(Hex)	H0000	H1FFF	H3FFF	H7FFF



2.4. 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							

2.5. 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)