FnIO G – Series :

GT-12xF

GT-121F(16 Points, Sink Input, 24Vdc, 20P Connector)
GT-122F(16 Points, Source Input, 24Vdc, 20P Connector)
GT-123F(16 Points, Universal Input, 24Vdc, 20P Connector)

Table of Contents

History

Rev	Pages	Remarks	Date	Editor
1.00			2016/04/08	Hongseok, Kim
1.01		Environment Specification, Input impedance	2016/06/03	Dohoon, Lee
1.02		Input filter	2016/10/26	Seokhyun, Jun
1.03		Add missing content	2017/07/14	Hongseok, Kim
1.04	4,5	Shock, Vibration specification changed General specification added(UL)	2020/04/20	Joonho, Park
1.05	10	Add Module 'GT-121F, GT-122F'	2022/07/04	Byunghyun, Lim
1.06	6,7,8	Change Diagram, Signal Description, LED	2023/03/30	Soyeong, Park
1.07	4,6,7,8,9	Edit Certification / Change Diagram, Status LED	2023/08/04	Suna, Hwang
1.08	8	Delete text related to Wiring Diagram	2023/12/15	Suna, Hwang
1.09	5	Add Wiring-Module Connector	2026/03/10	Soyeong, Park

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	EN61000-6-4/All : 2011
Industrial Immunity	EN 61000-6-2 : 2019
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL, UKCA

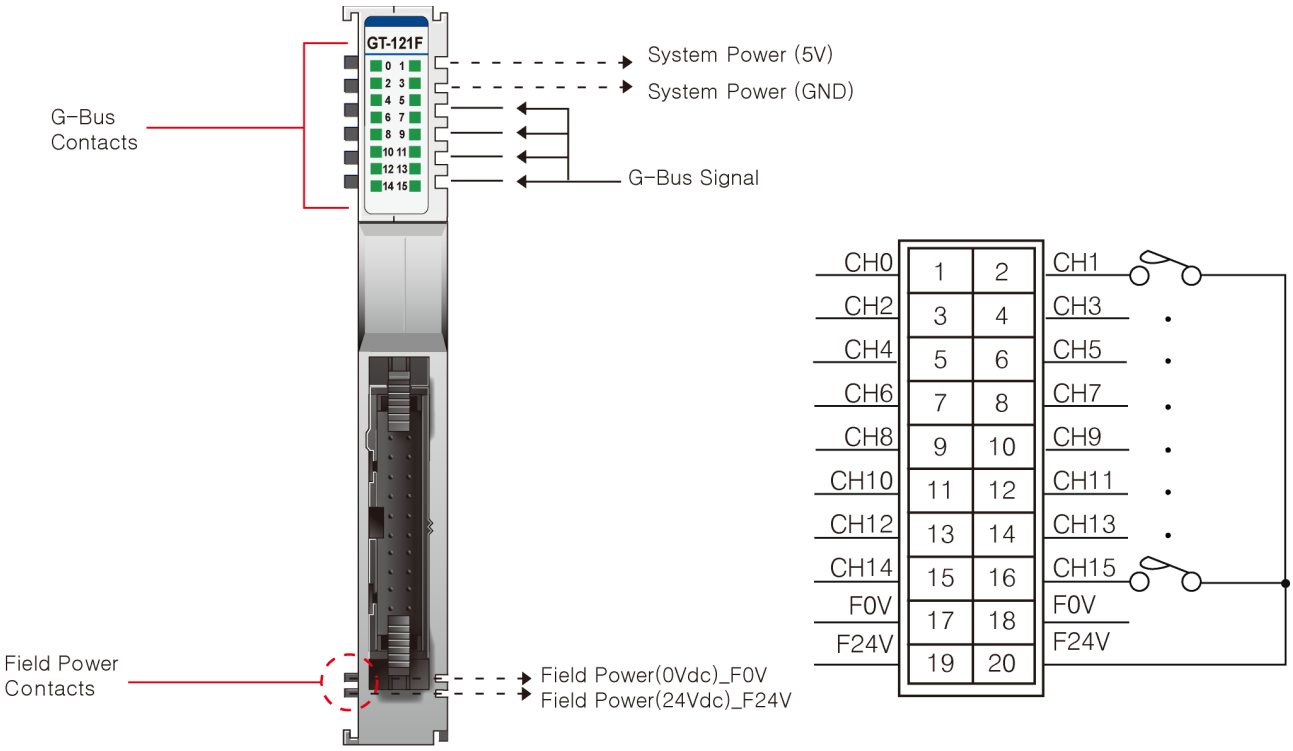
2. GT-12xF (DI 16pt, 24Vdc, 20P Connector)

2.1. GT-12xF Specification

Items	Specification		
Input specification			
	GT-121F	**GT-122F**	**GT-123F**
Inputs per module	16 points Sink type	16 points Source type	16 points universal (Sink or Source) type
Indicators	16 green input status		
On–state voltage	24V dc nominal 15~ 30Vdc @ 60℃		
On-state current	2.25mA @ 24Vdc 3mA @ 30Vdc		
Off-state voltage	9.3Vdc @ 25℃		
Input signal delay	OFF to ON : 0.3ms Max ON to OFF : 0.3ms Max		
Input filter	Adjustable, up to 10ms		
Nominal input impedance	10.2K ohm typical		
Common type	16 points / 2 COM		
General specification			
Power dissipation	Max. 50mA @ 5Vdc		
Isolation	I/O to Logic : photocoupler isolation		
UL field power	Supply voltage : 24Vdc nominal, Class 2		
Field power	Supply voltage : 24Vdc nominal Voltage range : 15~30Vdc Power dissipation: 0mA @ 24Vdc		
Wiring	According to the connector specification Hirose Connector : HIF3BA-20PA-2.54DSA Omron Connector : XG4A-2031		
Weight	52g		
Module size	12mm x 99mm x 70mm		
Environment condition	**Refer to '1. Environment Specification'**		

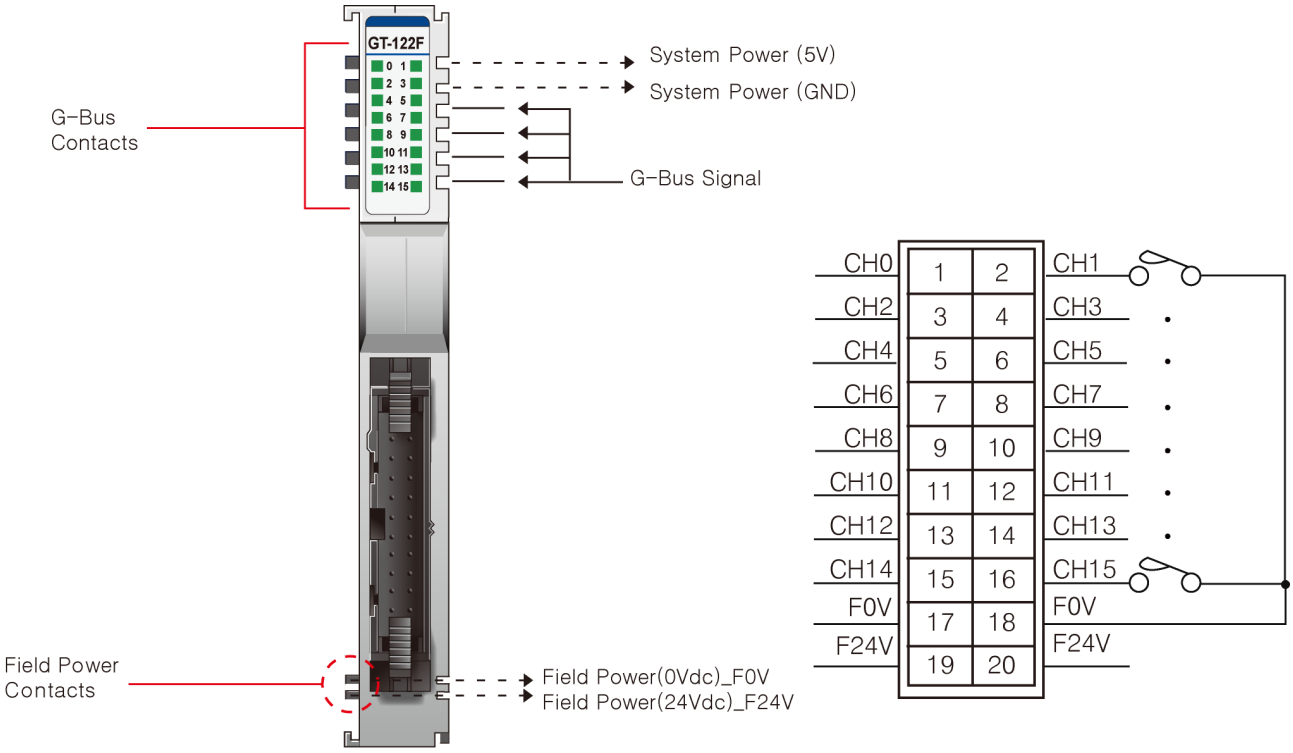
2.2. GT-12xF Wiring Diagram

2.2.1. GT-121F Wiring Diagram



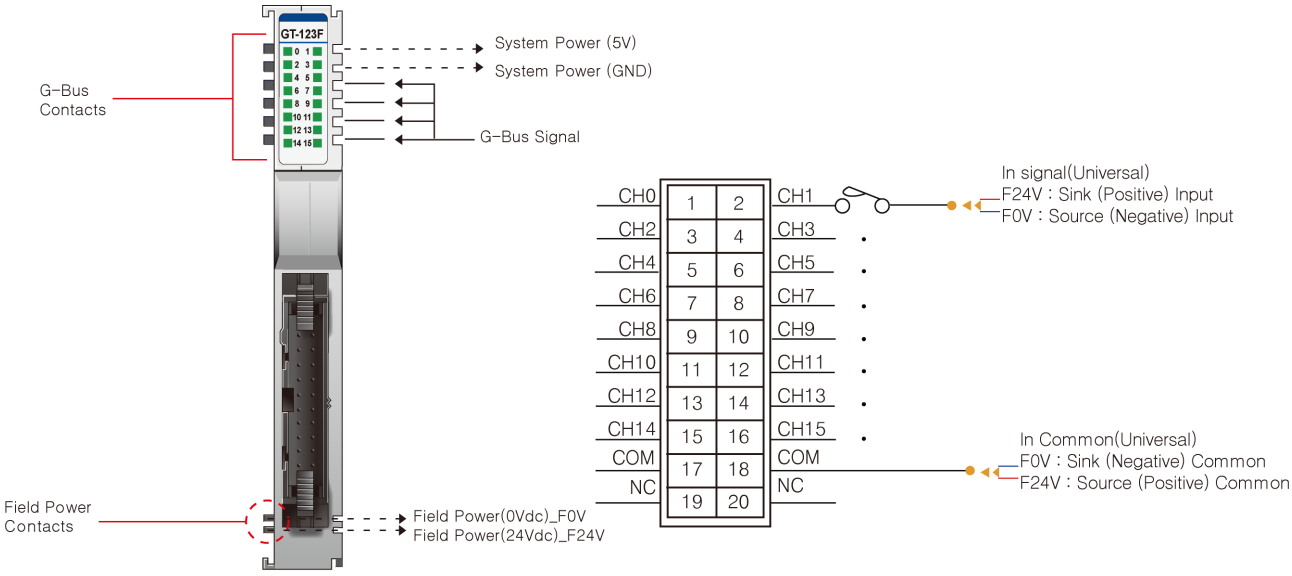
Pin No.	Signal Description	Signal Description	Pin No.
1	Input Channel 0	Input Channel 1	2
3	Input Channel 2	Input Channel 3	4
5	Input Channel 4	Input Channel 5	6
7	Input Channel 6	Input Channel 7	8
9	Input Channel 8	Input Channel 9	10
11	Input Channel 10	Input Channel 11	12
13	Input Channel 12	Input Channel 13	14
15	Input Channel 14	Input Channel 15	16
17	Common(Field Power 0V)	Common(Field Power 0V)	18
19	Field Power 24V	Field Power 24V	20

2.2.2. GT-122F Wirng 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	Field Power 0V	Field Power 0V	18
19	Common(Field Power 24V)	Common(Field Power 24V)	20

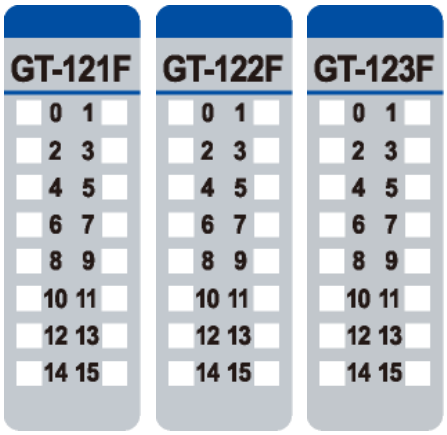
2.2.3. GT-123F Wirng Diagram



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	Common(Sink Oper.0V / Source Oper.24V)	Common(Sink Oper.0V / Source Oper.24V)	18
19	NC	NC	20

2.3. GT-12xF LED Indicator

2.3.1. LED Indicator



LED No.	LED Function / Description	LED Color
0	INPUT Channel 0	Green
1	INPUT Channel 1	Green
2	INPUT Channel 2	Green
3	INPUT Channel 3	Green
4	INPUT Channel 4	Green
5	INPUT Channel 5	Green
6	INPUT Channel 6	Green
7	INPUT Channel 7	Green
8	INPUT Channel 8	Green
9	INPUT Channel 9	Green
10	INPUT Channel 10	Green
11	INPUT Channel 11	Green
12	INPUT Channel 12	Green
13	INPUT Channel 13	Green
14	INPUT Channel 14	Green
15	INPUT Channel 15	Green

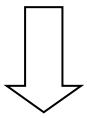
2.3.2. Channel Status LED

Status	LED	To indicate
No Signal	Off	No Input Signal
On Signal	Green	Input Signal detected

2.4. Mapping data into the image table

- **Input Module Data**

D7	D6	D5	D4	D3	D2	D1	D0
D15	D14	D13	D12	D11	D10	D9	D8



- **Input Module Data**

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	D7	D6	D5	D4	D3	D2	D1	D0
Byte1	D15	D14	D13	D12	D11	D10	D9	D8

2.5. Parameter Data

- **Valid Parameter length: 2 Bytes**
- **Parameter Data**

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Input Filter value : 0 ~ 10 (unit : ms)							
Byte1	Reserved							