
FnIO G – Series

GT-12xA

GT-12BA(32 Points, Sink Input, 24Vdc, 40P Connector)

GT-12CA(32 Points, Source Input, 24Vdc, 40P Connector)

GT-12FA(32 Points, Universal Input, 24Vdc, 40P Connector)

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Specification

History

Rev	Pages	Remarks	Date	Editor
1.00			2016/05/17	Hongseok, Kim
1.01	4,5	Changed Environmental Spec, General Spec	2016/06/03	Joonho, Park
1.02		Temp spec	2016/06/10	Dohoon, Lee
1.03		Input filter	2016/10/26	Seokhyun, Jun
1.04		Add missing content	2017/07/14	Hongseok, Kim
1.05	4,5		2020/04/20	Joonho, Park
1.06	10	Add Module 'GT-12BA, GT-12CA'	2022/07/04	Byunghyun, Lim
1.07	6,7,8,9	Change Diagram, Signal Description, LED	2023/03/30	Soyeong, Park
1.08	4,6,7,8,9	Edit Certification / Change Diagram, Status LED	2023/08/04	Suna, Hwang
1.09	8	Delete text related to Wiring Diagram	2023/12/15	Suna, Hwang

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	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

Specification

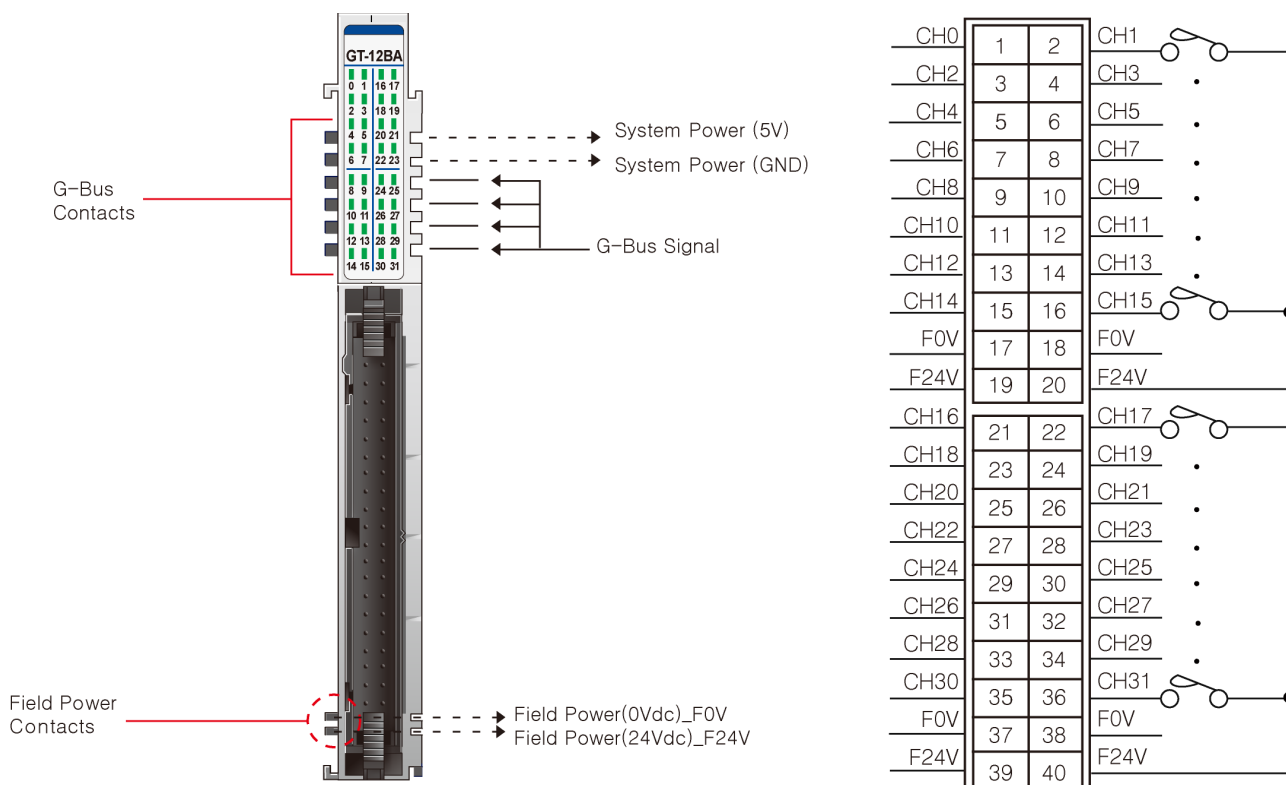
2. GT-12xA (DI 32pt, 24Vdc, 40P Connector)

2.1. GT-12xA Specification

Items	Specification		
Input specification			
	GT-12BA	GT-12CA	GT-12FA
Inputs per module	32 points Sink type	32 points Source type	32 points universal (Sink or Source) type
Indicators	32 Green input status		
ON-state voltage	24Vdc nominal 15 ~ 30Vdc @ 60°C		
ON-state current	2.25mA @ 24Vdc 3mA @ 30Vdc		
OFF-state voltage	9.1Vdc @ 25°C		
Input signal delay	OFF to ON : Max. 0.2ms ON to OFF : Max. 0.2ms		
Input filter	Adjustable, up to 10ms		
Nominal input impedance	10.2K ohm typical		
Common type	32 point / 4 COM(Universal)		
General specification			
Power Dissipation	Max. 55mA @ 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	Connector Type, up to AWG22 Module Connector :HIF3BA-40D-2.54DSA		
Weight	59g		
Module Size	12mm x 109mm x 70mm		
Environment Condition	Refer to ‘1. Environment Specification’		

2.2. GT-12xA Wiring Diagram

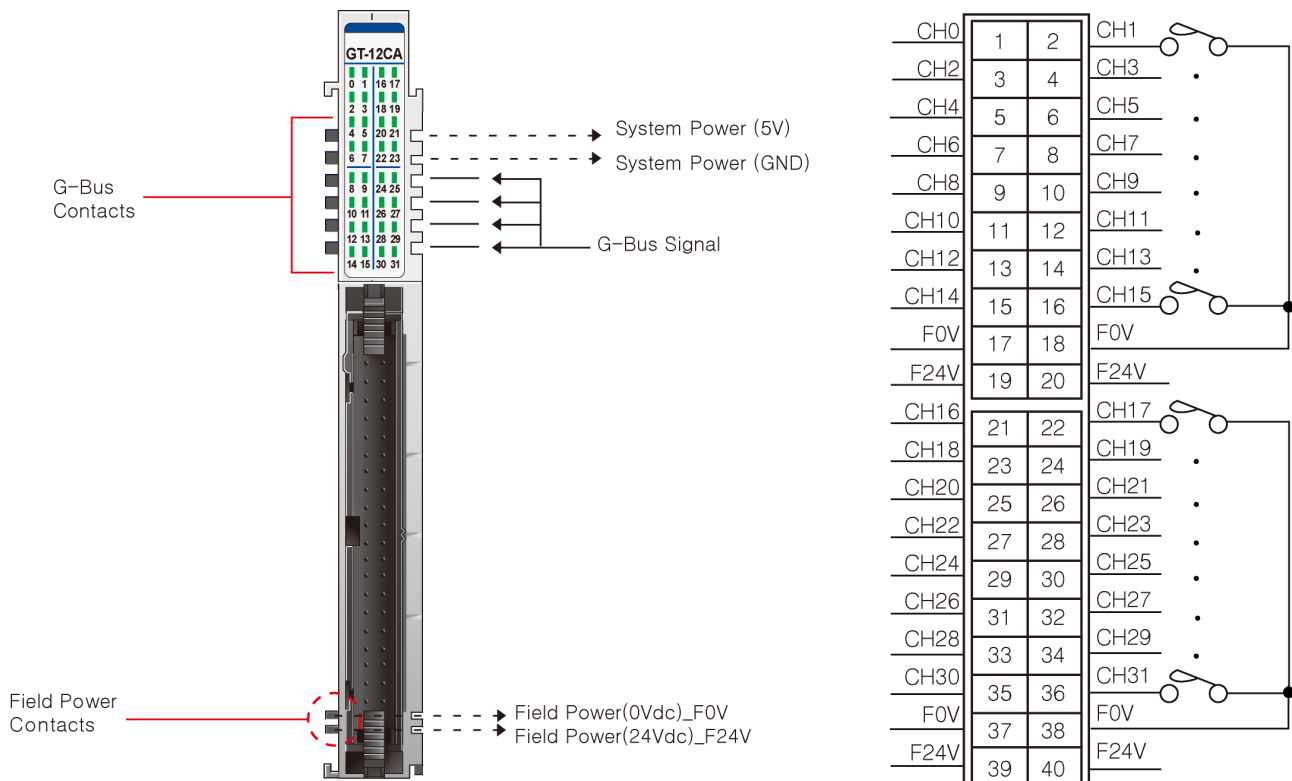
2.2.1. GT-12BA Wiring Diagram



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	Common(Field Power 24V)	Common(Field Power 24V)	20
21	Input Channel 16	Input Channel 17	22
23	Input Channel 18	Input Channel 19	24
25	Input Channel 20	Input Channel 21	26
27	Input Channel 22	Input Channel 23	28
29	Input Channel 24	Input Channel 25	30
31	Input Channel 26	Input Channel 27	32
33	Input Channel 28	Input Channel 29	34
35	Input Channel 30	Input Channel 31	36
37	Common(Field Power 0V)	Common(Field Power 0V)	38
39	Common(Field Power 24V)	Common(Field Power 24V)	40

Specification

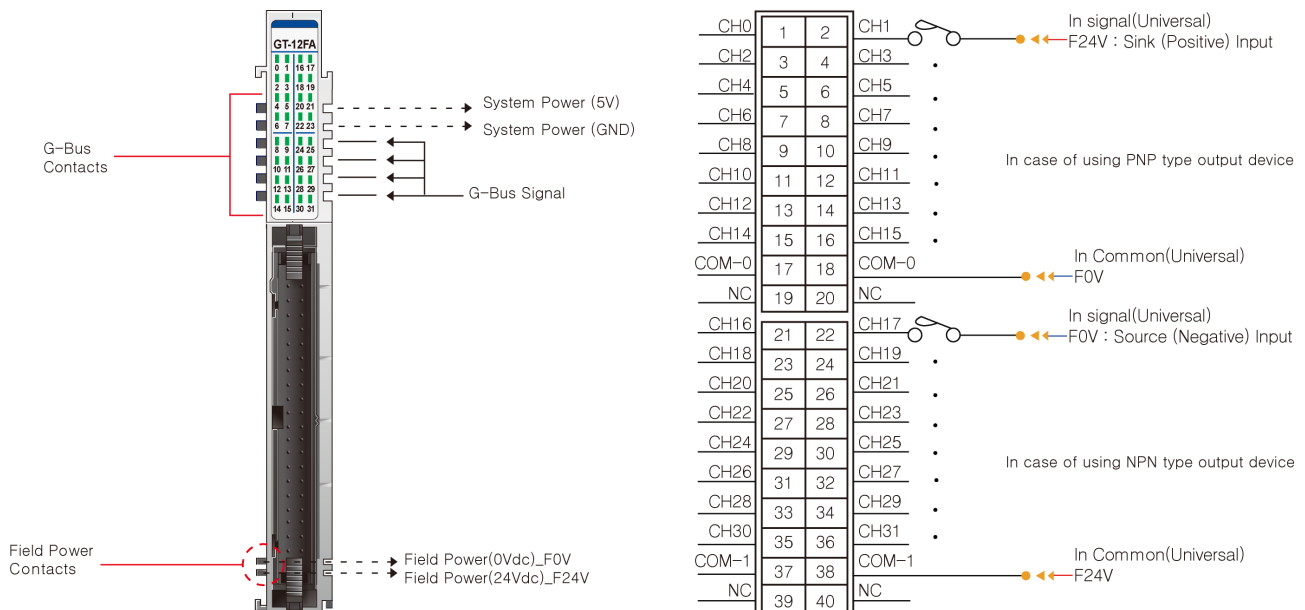
2.2.2. GT-12CA Wiring Diagram



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	Common(Field Power 24V)	Common(Field Power 24V)	20
21	Input Channel 16	Input Channel 17	22
23	Input Channel 18	Input Channel 19	24
25	Input Channel 20	Input Channel 21	26
27	Input Channel 22	Input Channel 23	28
29	Input Channel 24	Input Channel 25	30
31	Input Channel 26	Input Channel 27	32
33	Input Channel 28	Input Channel 29	34
35	Input Channel 30	Input Channel 31	36
37	Common(Field Power 0V)	Common(Field Power 0V)	38
39	Common(Field Power 24V)	Common(Field Power 24V)	40

Specification

2.2.3. GT-12FA Wiring Diagram

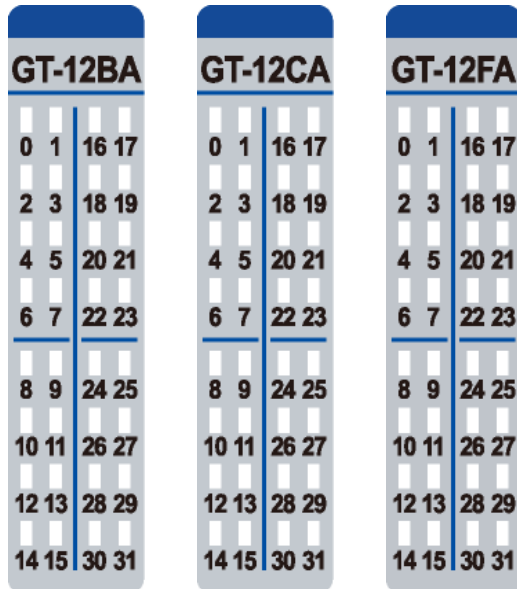


Pin No.	Signal Description	Signal Description	Pin No.
1	Input Channel 0	Input Channel 1	2
3	Input Channel 2	Input Channel 3	4
5	Input Channel 4	Input Channel 5	6
7	Input Channel 6	Input Channel 7	8
9	Input Channel 8	Input Channel 9	10
11	Input Channel 10	Input Channel 11	12
13	Input Channel 12	Input Channel 13	14
15	Input Channel 14	Input Channel 15	16
17	Common(Sink Oper.0V / Source Oper.24V)	Common(Sink Oper.0V / Source Oper.24V)	18
19	NC	NC	20
21	Input Channel 16	Input Channel 17	22
23	Input Channel 18	Input Channel 19	24
25	Input Channel 20	Input Channel 21	26
27	Input Channel 22	Input Channel 23	28
29	Input Channel 24	Input Channel 25	30
31	Input Channel 26	Input Channel 27	32
33	Input Channel 28	Input Channel 29	34
35	Input Channel 30	Input Channel 31	36
37	Common(Sink Oper.0V / Source Oper.24V)	Common(Sink Oper.0V / Source Oper.24V)	38
39	NC	NC	40

Specification

2.3. GT-12xA LED Indicator

2.3.1. LED Indicator



LED No.	LED Function / Description	LED Color	LED No.	LED Function / Description	LED Color
0	INPUT Channel 0	Green	16	INPUT Channel 16	Green
1	INPUT Channel 1	Green	17	INPUT Channel 17	Green
2	INPUT Channel 2	Green	18	INPUT Channel 18	Green
3	INPUT Channel 3	Green	19	INPUT Channel 19	Green
4	INPUT Channel 4	Green	20	INPUT Channel 20	Green
5	INPUT Channel 5	Green	21	INPUT Channel 21	Green
6	INPUT Channel 6	Green	22	INPUT Channel 22	Green
7	INPUT Channel 7	Green	23	INPUT Channel 23	Green
8	INPUT Channel 8	Green	24	INPUT Channel 24	Green
9	INPUT Channel 9	Green	25	INPUT Channel 25	Green
10	INPUT Channel 10	Green	26	INPUT Channel 26	Green
11	INPUT Channel 11	Green	27	INPUT Channel 27	Green
12	INPUT Channel 12	Green	28	INPUT Channel 28	Green
13	INPUT Channel 13	Green	29	INPUT Channel 29	Green
14	INPUT Channel 14	Green	30	INPUT Channel 30	Green
15	INPUT Channel 15	Green	31	INPUT Channel 31	Green

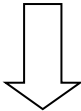
2.3.2. Channel Status LED

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
D23	D22	D21	D20	D19	D18	D17	D16
D31	D30	D29	D28	D27	D26	D25	D24



● Input Image Value

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
Byte2	D23	D22	D21	D20	D19	D18	D17	D16
Byte3	D31	D30	D29	D28	D27	D26	D25	D24

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							