

FnIO G – Series :

GT-5442

GT-5442 (2Channels, PWM Output, 0.5A/24Vdc, Push-pull)

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History

Rev	Pages	Remarks	Date	Editor
1.00			2021/06/17	Soyeong, Park
1.01		Certification Release	2020/04/21	Soyeong, Park
1.02	4,6	Edit Certification / Change Diagram	2023/08/07	Soyeong, Park
1.03	5	Edit System Power Dissipation	2025/05/30	Suna, Hwang
1.04	8	Add Recovery Function	2025/08/08	Soyeong, Park

1. ENVIRONMENT SPECIFICATION

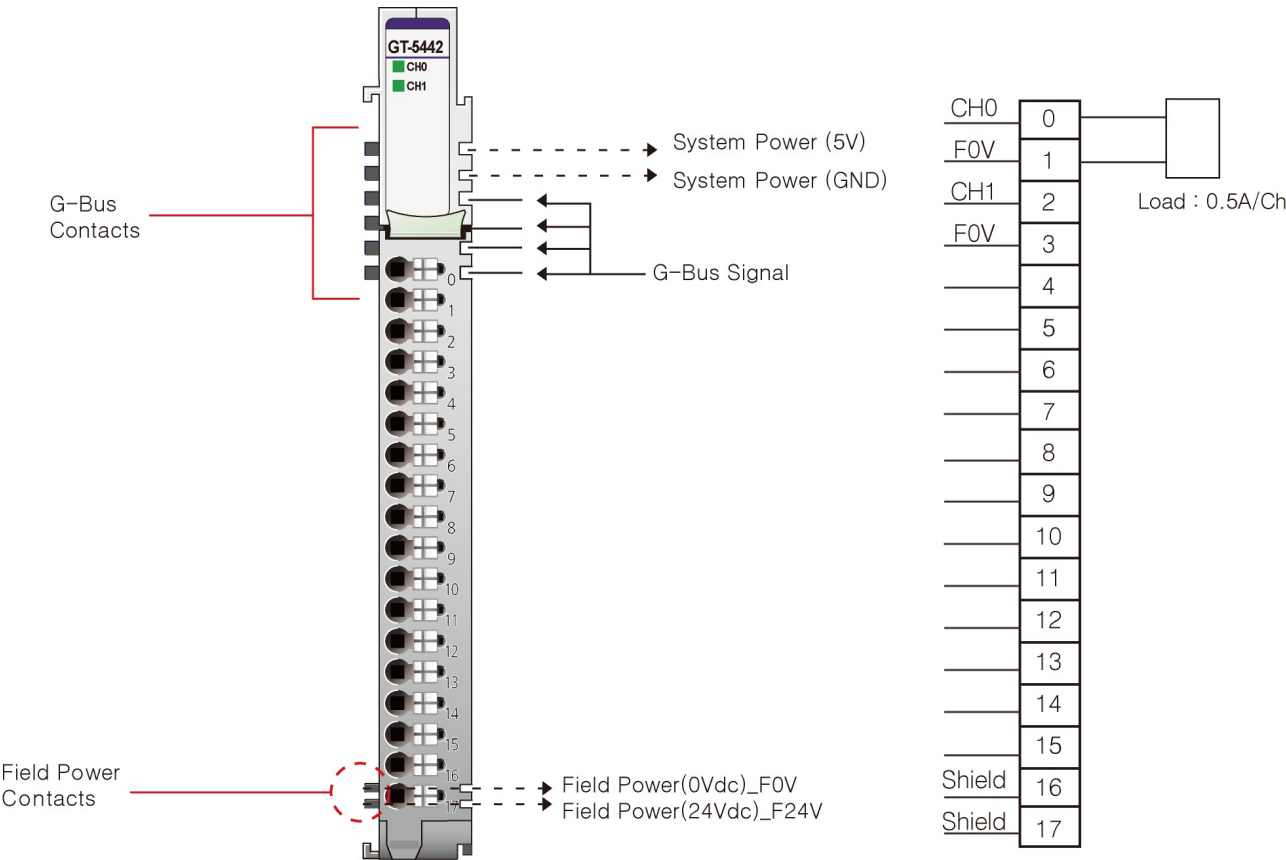
Environmental Specification	
Operation Temperature	-40°C ~60°C
UL Temperature	-20°C ~60°C
Storage Temperature	-40°C ~85°C
Relative Humidity	5%~90% Non-condensing
Mounting	DIN rail
General Specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6, 4g
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN 61000-6-2 : 2005
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL

2. GT-5442 (2Channels, PWM Output, 0.5A/24Vdc, Push-pull)

2.1. GT-5442 Specification

Items	Specification
Output Specification	
Number of channel	2 Channels
Number of output	2 Output, Push-pull Type
Indicators	2 Green Pulse Output LED
Output Voltage	Nominal 24Vdc (Depends on Field Power)
Output current	0.5A per channel, 1.0A per Module *automatically switch current (sink/source) according to external load. *Operating Temperature -40°C ~ 45°C : Max 0.5A per channel 45°C ~ 60°C : Max 0.3A per channel
Pulse output frequency	1-5kHz±0.5%
Pulse output duty	0.0-100.0% ±1.0% (0.1%/1LSB), Ton>1us, Toff>1us
Protection	Short Protection
Common Type	2 Common, Field Power 0V is Common
General specification	
Power dissipation	Max. 80mA @ 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 : 15~30Vdc Power dissipation : Max. 10mA @ 24Vdc except load.
Single Wire	I/O Cable Max. 0.823mm ² (AWG18)
Weight	63g
Module Size	12mm x 109mm x 70mm
Environment Condition	Refer to 'Environment Specification'

2.2. GT-5442 Wiring Diagram



*automatically switch current (sink/source) according to external load.

Pin No.	Signal Description
0	PWM Output Channel #0
1	Field Power 0V, Common
2	PWM Output Channel #1
3	Field Power 0V, Common
4	N.C.
5	N.C.
6	N.C.
7	N.C.
8	N.C.
9	N.C.
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	Shield
17	Shield

*N.C : Not Connected.

2.3. GT-5442 LED Indicator

2.3.1. LED Indicator



LED No.	LED Function / Description	LED Color
0	PWM Output Channel #0	Green
1	PWM Output Channel #1	Green

2.3.2. Channel Status LED

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

2.4. Mapping data into the image table

● Input Image Value

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Reserved							
Byte1	Reserved							

● Output Image Value

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Frequency CH#0 Low Byte							
Byte1	Frequency CH#0 High Byte							
Byte2	Duty CH#0 Low Byte							
Byte3	Duty CH#0 High Byte							
Byte4	Frequency CH#1 Low Byte							
Byte5	Frequency CH#1 High Byte							
Byte6	Duty CH#1 Low Byte							
Byte7	Duty CH#1 High Byte							

- Range of each Duty is 0(0.0%) ~ 1000(100.0%). If Duty value is 365, then duty rate is 36.5%

- When a fault occurs, all outputs are turned OFF.

- After Error recovery, recovery operation is performed according to the parameter values, Refer to Error-Recovery in Parameter Data.

2.5. Parameter Data

- Valid Parameter length : 2 Bytes
- Parameter Data

Bit No	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Byte0	Reserved							Error-Recovery*
Byte1	Reserved							

* Error-Recovery : 0(default) = Auto-Recovery / 1 = Manual-Recovery

- Auto-Recovery : When the error situation is restored to normal, it operates with the value before the error.

- Manual-Recovery : When the error situation is restored to normal, the output image data value must be reset.