

FnIO G – Series :

GT-5424

GT-5424 (4Channels, PWM Output, 2.0A/24Vdc, Push-pull)

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History

Rev	Pages	Remarks	Date	Editor
1.00			2023/08/02	Soyeong, Park
1.01	5	Edit Field Power Range	2025/03/04	Soyeogn, Park
1.02	5	Edit System Power Dissipation	2025/05/30	Suna, Hwang
1.03	8	Add Recovery Function	2025/08/08	Soyeong, Park

1. ENVIRONMENT SPECIFICATION

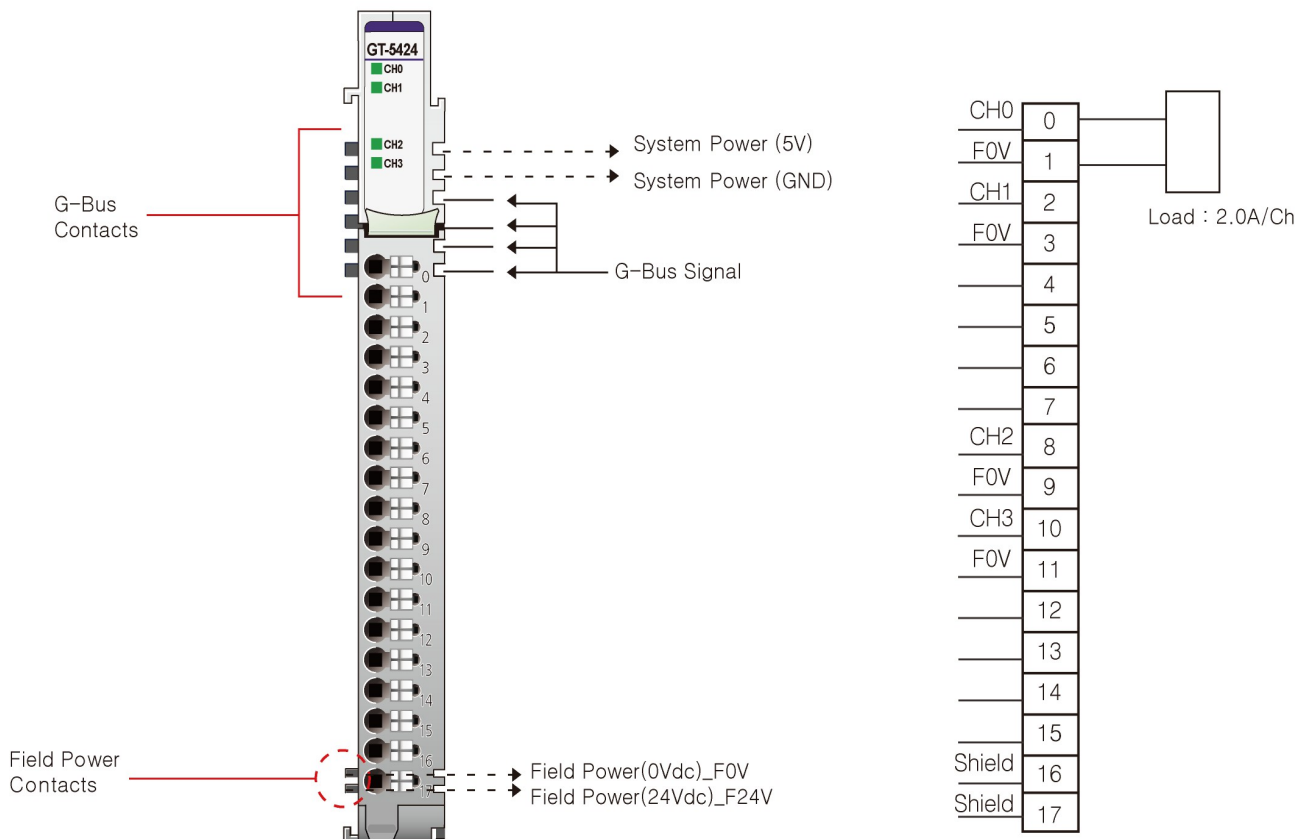
Environmental Specification	
Operation Temperature	-40°C ~60°C
UL Temperature	-20°C ~60°C
Storage Temperature	-40°C ~85°C
Relative Humidity	5%~90% Non-condensing
Mounting	DIN rail
General Specification	
Shock Operating	IEC 60068-2-27
Vibration Resistance	Based on IEC 60068-2-6, 4g
Industrial Emissions	EN61000-6-4/All : 2011
Industrial Immunity	EN 61000-6-2 : 2019
Installation Position	Vertical and horizontal installation is available
Product Certifications	CE, UL, UKCA

2. GT-5424 (4Channels, PWM Output, 2.0A/24Vdc, Push-pull)

2.1. GT-5424 Specification

Items	Specification
Output Specification	
Number of channel	4 Channels
Number of output	4 Output, Push-pull Type
Indicators	4 Green Pulse Output LED
Output Voltage	Nominal 24Vdc (Depends on Field Power)
Output current	2.0A per channel, 8.0A per Module @25°C *automatically switch current (sink/source) according to external load. *Ambient 50-60°C 2CH 2.0A Duty 100% Possible (one channel skip Ex) CH0/CH2 or CH1/CH3) 4CH 1.0A Duty 100% Possible 4CH 2.0A Duty 50% Possible
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	4 Common, Field Power 0V is Common
General specification	
Power dissipation	Max. 85mA @ 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 : 15~28.8Vdc Power dissipation : Max. 15mA @ 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-5424 Wiring Diagram



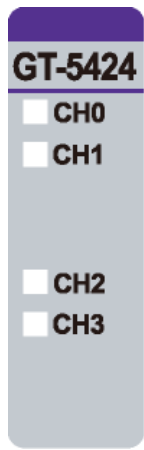
*automatically switch current (sink/source) according to external load.

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	PWM Output Channel #2
9	Field Power 0V, Common
10	PWM Output Channel #3
11	Field Power 0V, Common
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	Shield
17	Shield

*N.C : Not Connected.

2.3. GT-5424 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	PWM Output Channel #2	Green
3	PWM Output Channel #3	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							
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							
Byte8	Frequency CH#2 Low Byte							
Byte9	Frequency CH#2 High Byte							
Byte10	Duty CH#2 Low Byte							
Byte11	Duty CH#2 High Byte							
Byte12	Frequency CH#3 Low Byte							
Byte13	Frequency CH#3 High Byte							
Byte14	Duty CH#3 Low Byte							
Byte15	Duty CH#3 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.