Chapter 3 General specification

3.1 General specification

General specifcation of GLOFA-GM series is like following.

[Table 3.1] General specification

<table>
<tr><th>No.</th><th>Item</th><th colspan="7">Specification</th><th>Related spec.</th></tr>
<tr><td>1</td><td>Using temp</td><td colspan="7">0℃ +55℃</td><td></td></tr>
<tr><td>2</td><td>Keep temp</td><td colspan="7">-25℃ +70℃</td><td></td></tr>
<tr><td>3</td><td>Using hum</td><td colspan="7">5 95%RH, should not be frosted</td><td></td></tr>
<tr><td>4</td><td>Using hum</td><td colspan="7">5 95%RH, should not be frosted</td><td></td></tr>
<tr><td rowspan="8">5</td><td rowspan="8">Anti-vibration</td><td colspan="5">If discrete vibration exists</td><td colspan="2"></td><td></td></tr>
<tr><td>Frequency</td><td colspan="2">Acceleration</td><td>Amplitude</td><td colspan="2">Frequencies</td><td rowspan="7">IEC 61131-2[1)]</td></tr>
<tr><td>10≤f< 57 Hz</td><td colspan="2">-</td><td>0.075mm</td><td colspan="2" rowspan="5">10 times in each direction for X,Y,Z</td></tr>
<tr><td>57≤f≤150 Hz</td><td colspan="2">9.8 m/s²(1G)</td><td>-</td></tr>
<tr><td colspan="4">If consecutive vibration exist</td></tr>
<tr><td>Frequency</td><td colspan="2">Accel. speed</td><td>Freq. width</td></tr>
<tr><td>10≤f< 57 Hz</td><td colspan="2">-</td><td>0.035mm</td></tr>
<tr><td>57≤f≤150 Hz</td><td colspan="2">4.9 m/s²(0.5G)</td><td>-</td></tr>
<tr><td>6</td><td>Anti-shock</td><td colspan="7">* Max. shock accel.:147 m/s²(15G)
* Duration time :11 ms
Pulse wave : half sine wave pulse(3 times in each of X,Y,Z direction)</td><td>IEC 61131-2</td></tr>
<tr><td rowspan="4">7</td><td rowspan="4">Anti-noise</td><td>Square wave impulse noise</td><td colspan="6">±1,500V</td><td>LG industrial Internal testing spec.</td></tr>
<tr><td>Discharge ESD</td><td colspan="6">Volt. : 4kV(Contacting discharge)</td><td>IEC 61131-2, IEC 1000-4-2</td></tr>
<tr><td>Radiated electronic noise</td><td colspan="6">27~500 MHz, 10V/m</td><td>IEC 61131-2, IEC 1000-4-3</td></tr>
<tr><td>Fast transient /Burst noise</td><td>Item</td><td>Power module</td><td>Digital Input/output Over 24V)</td><td colspan="2">Digital input/output(less than 24) Analog comm. interface</td><td>IEC 61131-2, IEC 1000-4-4</td></tr>
<tr><td></td><td>Volt</td><td>2kV</td><td>1kV</td><td colspan="2">0.25kV</td><td></td></tr>
</table>

No.	Item	Specification	Related spec.
8	Environ. temp	Should not be corrosive gas and particle	
9	Altitude for use	Below 2000m	
10	Pollution rate[2)]	Below 2	
11	Cooling method	Cooling by ambient air	

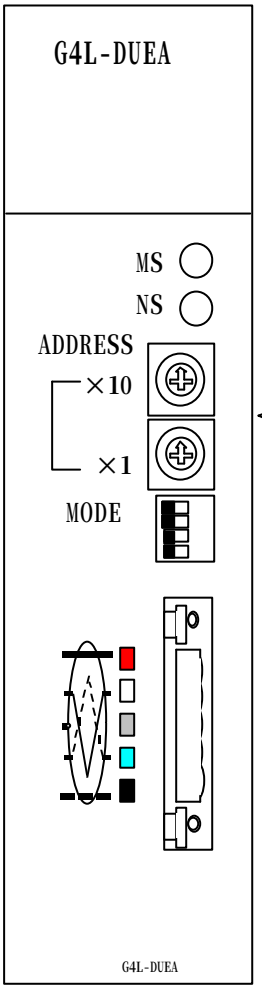
Remark

1) IEC(International Electrotechnical Commission): International non-governmental organization, which promote international cooperation, establish international standard, and administer valuation system to its suitableness for international standards of electric and electronic tech fields.

2) Pollution rate : Indicator of polluted rate which can shows the capability of power saving, pollution rate 2 stands for the status of non-conductive pollution taking place. But at the time frosted then it shows conductive

3.2 Part name and Structure

3.2.1 G4L-DUEA



LED display section	
7-Segment	Displays the status of comm. module

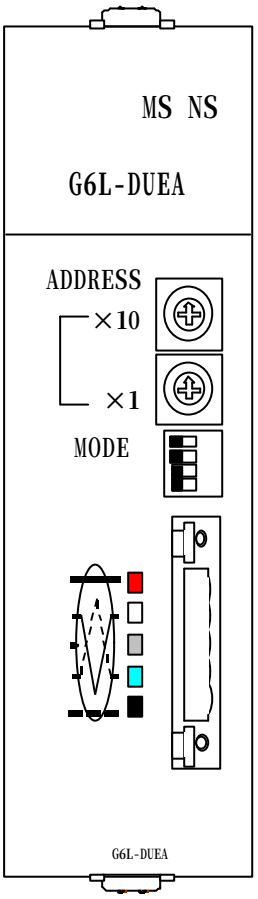
LED display section	
MS	Displays the status of interface between Comm. module and CPU module
NS	Displays the status of network of comm. module

Station switch
Displays station number of itself on comm. module

Mode selecting switch
Operating mode selecting of communication module

Communication connector
Connector for connecting with communication module

3.2.2 G6L-DUEA



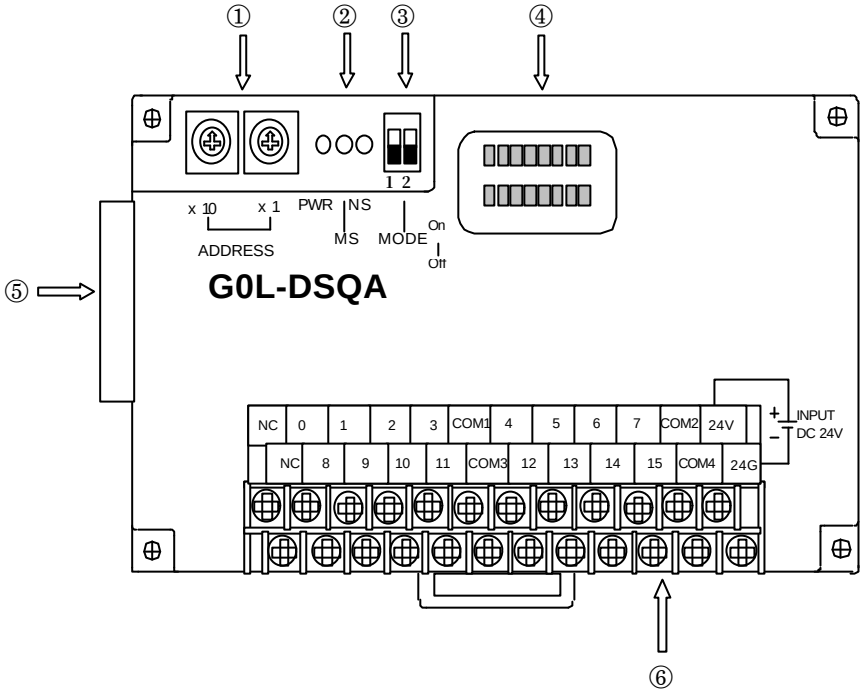
LED display	
MS	Displays the status of interface between Comm. module and CPU module
NS	Displays the status of network of comm. module

Station switch
Displays station number of itself on comm. module

Mode selecting switch
Operation mode selecting of communication module

Communication connector
Connector for connecting with communication module

3.2.3 G0L-DSQA



① Station switch	0 ~ 63 (Decimal)
×10	Set 10 digit of station number
×1	Set 1 digit of station number

② LED display	Displays communications status
PWR	Displays power status
MS	Displays the status of interface with CPU module
NS	Displays network status of comm. module

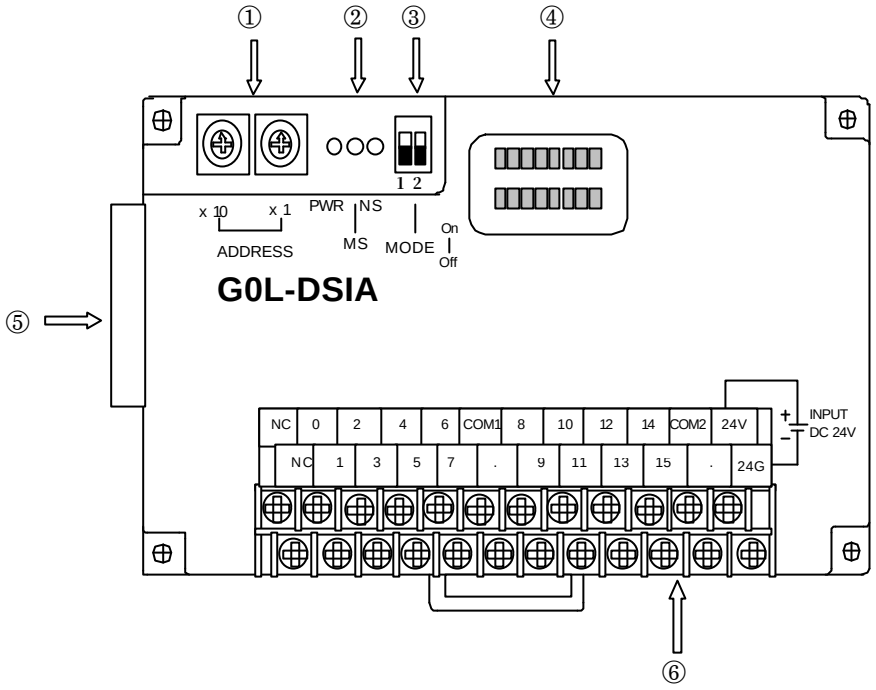
③ Mode switch	Setting of communication speed
1:Off/2:Off	125 kbyte
1:Off/2:On	250 kbyte
1:On/2:On(Off)	500 kbyte

④ LED Display	Displays output
G0L-DSQA	Displays 16 points output value

⑤ Communication connector	5-Pin type connector
CON1	Connector for connecting with communication cable

⑥ Terminal block		Contact point and power input
G0L-DSQA	0 ~ 15	Output terminal
	COM1 ~ COM4	Common terminal(4 point per COM)
	NC	No connection
	24V	DC 24V(+) Power input terminal
	24G	DC 24V(-) Power input terminal

3.2.4 G0L-DSIA



① Station switch	0 ~ 63 (Decimal)
×10	Set 10 digit of station number
×1	Set 1 digit of station number

② LED display	Display communication status
PWR	Displays power status
MS	Displays the status of interface with CPU module
NS	Displays network status of communication module

③ Mode switch	Setting of communication speed
1:Off/2:Off	125 kbyte
1:Off/2:On	250 kbyte
1:On/2:On(Off)	500 kbyte

④ LED Display	Displays input values
G0L-DSIA	Displays 16 points input value

⑤ Communication connector	5-Pin type connector
CON1	Communication cable connection connector

⑥ Bus band		Contact point and power input
G0L-SMIA	0 ~ 15	Input terminal
	COM1 ~ COM2	Common terminal(8 point per COM)
	NC	No connection
	24V	DC 24V(+) power input terminal
	24G	DC 24V(-) power input terminal

3.2.5 LED signal and display contents

MODEL	LED status	LED display contents
G4L-DUEA G6L-DUEA	Green blinker	On line status
	Green lighting	Completed connection setting and normal comm. is on going status
	Red blinker	In case recoverable error takes place
	Red lighting	In case critical error takes place

Model	LED sign		LED Combination
	MS	NS	
G4L-DUEA G6L-DUEA	●	○	Share Ram initiate OK and LINK_IF OK and DUP_MAC_FRAME sending
	●	●	DUP_MAC Error or Network power error.
	●	●	DUP_MAC Ok and Network power Ok and no connection
	●	●	Communication after establishment of normal connection with all stations
	●	●	Error while normal communication
	○	●	Interface error with CPU(Neglect NS LED)

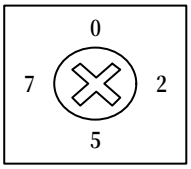
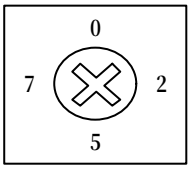
● Green On ● Red On ● Green blink ● Red blink ● None ○ Off

Model	7-Segment	LED display contents
G4L-DUEA	'Station On'	If the station is normal, it displays it's station number.
	'A1' blinkling	Duplicated station number is detected on network
	'A2' blinkling	Abnormal network power on communication module modem.
	'A3' blinkling	Error in comm. Module when higespeed link communication with Scanlist is set
	'B1' 점멸	Error in CPU module
	'B2' 점멸	Error in share RAM
	'B3' 점멸	Error in slave module on normal(regular) communication.

Model	LED Name	LED Display contents	LED On	LED Off
G0L-DSQA G0L-DSIA	PWR	Power On	Power On	Power Off
	MS	Displays Interface status between comm. module and master module.	Normal	Abnormal
	NS	Displays network status of comm. module	Normal	abnormal

3.2.6 Setting of Station number

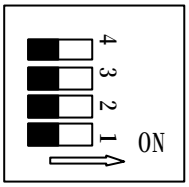
1) Self station number setting

Model	Station number switch schemetic	Contents
G4L-DUEA G6L-DUEA G0L-DSQA G0L-DSIA	×10  ×1 	(1) Station no. is applicable 0 to 63(10 decimal scale) (2) Setting of station number. (Initial setting value is 0 when factory out) * Switch Setting X10 : Setting 10 digit of station number X1 : Setting 1 digit of station number

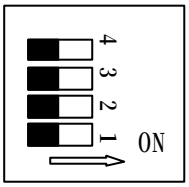
3.2.7 Setting of Mode switch

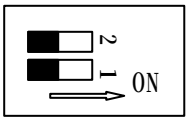
You can set operation mode(Master/Slave) of communication module with Dip switch and it selects communication speed.

1) Operation Mode

Model	Switch	Switch number		Operation status	Remark
		1	2		
G4L-DUEA G6L-DUEA		Off	Off	Master mode	Setting S/W as 1 and 2
		On	Off	Slave mode	

2) Communication Speed

Model	Switch	Switch number		Comm. Speed	Remark
		3	4		
G4L-DUEA G6L-DUEA		Off	Off	125 kbps	Setting S/W as 3 and 4
		On	Off	250 kbps	
		Off	On	500 kbps	
		On	On		

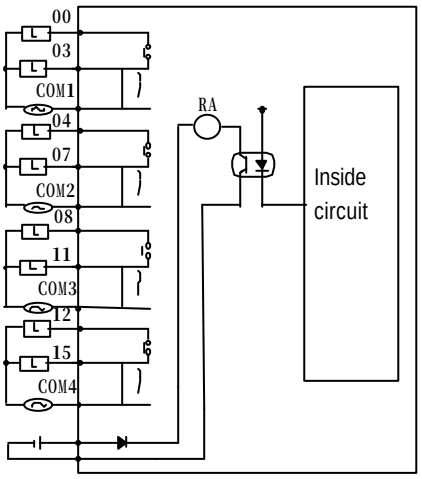
Model	Switch	Switch number		Comm. Speed	Remark
		1	2		
G0L-DSQA G0L-DSIA		Off	Off	125 kbps	Setting S/W as 1 and 2
		On	Off	250 kbps	
		On	On	500 kbps	
		Off	On		

3.3 G0L-DSQA Specification

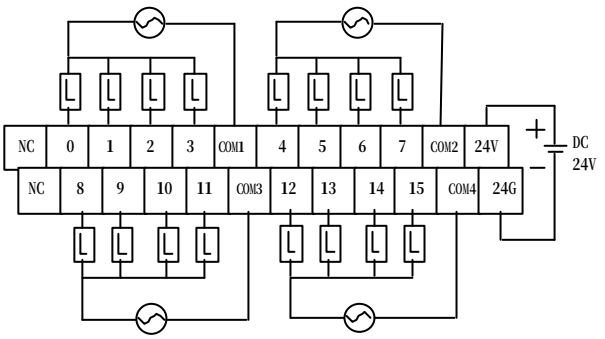
Item		Relay output module
Number of output point		16points
Rated On-Off Volt/Ampere		1A/points, 2A/4points
Min. On-Off Load		DC 5V/1mA
Max. On-Off Volt/Frequency		AC 250V DC 150V, 3,600회/시간
Response Time	Off⇒On	Less than 10ms
	On ⇒Off	Less than 12ms
Life Time	Mechanical	Over 20 million times
	Electrical	Over 100 thousand of rated On-Off Volt/Ampere load
		Over 200 thousand of AC 200V/1.5A,AC 240V/1A(COSΦ=0.7)
		Over 200 thousand of AC 200V/1A,AC 240V/0.5A(COSΦ=0.35)
		Over 200 thousand of DC 24V/1A,DC 100V/0.1A(L/R=7ms)
Power from outside		DC 24V±10%(Riffle Voltage 24V,On at the same time) (Current: Less than 150mA)
Comm.Type		4points/COM
Operation status display		When Output is On status LED is ligh on
Outside connection type		24points terminal block (M3 x 6screw)
Insulation type		Insulation of photo coupler

Circuit schemetic and outside connection drawing

Circuit layout



Wiring

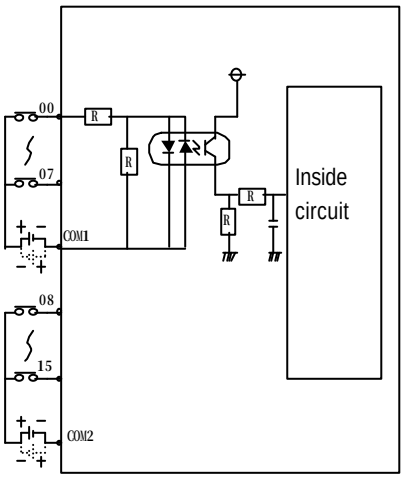


3.4 G0L-DSIA Specification

Item		DC Input module
Rated Input Ampere		7±2mA/Point
Using volt range		DC 24V(Riffle rate Less than 5%)
Max. simultaneous input point		100% (8point/COM)On at the same time
On Voltage		Over DC 19V
Off Voltage		Less than DC 6V
Respond Time	Off⇒On	Less than 10ms
	On ⇒Off	Less than10ms
Comm. type		8points/COM
Operation display		When Input On, LED is light on
Outside connection type		24point terminal block (M3 x 6screw)
Insulation type		Insulation of photo coupler

Circuit layout and external connection diagram

Circuit layout



Wiring