Leader in Industrial Electric Power and Automation creating environment-friendly and highly productive industrial society as Total-solution provider

LG Industrial Systems (LGIS), founded in 1974, as a leader in Korean industrial electric power and automation market is trying to be a global leader. LGIS will fulfill its mission providing total-solution as a forerunner of creating environment-friendly and productive industrial future society.

GLOFA GM Series

Programmable Logic Controller

Table of contents

■ GLOFA-GM Series

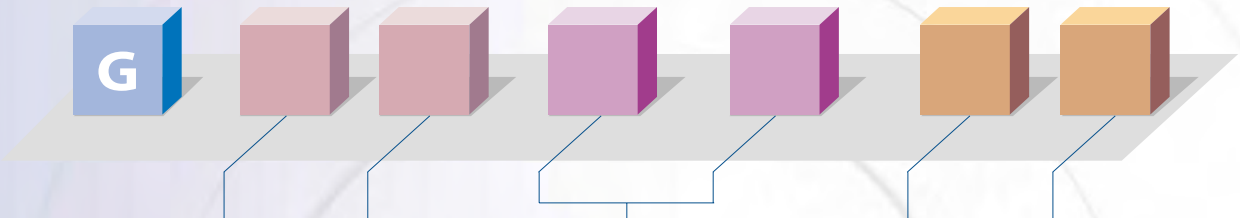
Series	Specification				Network					
	Max. I/O points (Using remote I/O)	Execution speed (㎲/step)	Memory capacity (byte)		Fast Enet	Fnet	Cnet	Dnet	Pnet	Rnet
			Program	Data						
GM4	GM4-CPUA 2,048 (4,096)	0.2	128K	52K	●	●	●	●	●	●
	GM4-CPUB 2,048 (8,192)	0.2	128K	50K	●	●	●	●	●	●
	GM4-CPUC 3,584 (32,768)	0.12	1M	428K	●	●	●	●	●	●
GM6	384	0.5	68K	32K	●	●	●	●	●	●
GM7	10~80	0.5	68K	32K	●	●	●	●	●	●
GM7U	20~120	0.1	132K	44K				slave	slave	

● Enet: Ethernet ● Fnet: Fieldbus ● Cnet: Computer Link ● Dnet: DeviceNet ● Pnet: Profibus-DP
● Rnet: Dedicated communication for LGIS SMART I/O

Series	Special modules						
	Analog I/O	High speed control	Position control	PID control	Thermocouple input	RTD	Analog timer
GM4 	7 Types G4F-AD3A (8Ch) G4F-AD2A (4Ch) G4F-DA3V (8Ch) G4F-DA2V (4Ch) G4F-DA3I (8Ch) G4F-DA2I (4Ch) G4F-DA1A (2Ch)	3 Types G4F-HSCA (1Ch) G4F-HO1A (2Ch) G4F-HD1A (2Ch) * 1)	6 Types G4F-PPXO G4F-PPXD * 1) (Axis X=1, 2, 3)	2 Types G4F-PIDB (16 loops) G4F-TMCA (2 loops)	1 Type G4F-TC2A (4Ch)	1 Type G4F-RD2A (4Ch)	1 Type G4F-AT3A (8 points)
GM6 	3 Types G6F-AD2A (4Ch) G6F-DA2V (4Ch) G6F-DA2I (4Ch)	4 Types G6F-HSCA (1Ch) G6F-HO1A (2Ch) G6F-HD1A (2Ch) * 1) Built-in (CPUC)	6 Types G6F-PPXO G6F-PPXD * 1) (Axis X=1, 2, 3)	Built-in (CPUB/CPUC)	1 Type G6F-TC2A (4Ch)	-	-
GM7 * 2) 	3 Types	Built-in (1Ch)	Built-in (Pulse output)	Built-in	-		1 Type G7F-AT2A (4 points)
GM7U * 2) 	7 Types	Built-in (4Ch)	Built-in Control axis: 2			1 Type	

*1) -HO1A, -PPXO: Open collector type,
-HD1A, -PPXD: Line drive type
*2) Refer to P19

■ Part number name



Type	
4	GM4
6	GM6
7	GM7

I	Input
Q	Output
H	Hybrid
L	Comm.
F	Special

I/O type	
A1	AC 110V input
A2	AC 220V input
D2	DC 12/24 input
RY	Relay output
SS	Triac output
TR	Transistor output
DR	DC input/Relay output
DT	DC input/Transistor output

I/O point	
1	8 points
2	16 points
4	32 points
8	64 points

Feature

IEC61131-3 Language / Open Network System

ISO9001

Ⓤ Number : E124950

Powerful and compact PLC

CPU, digital I/O and power part are embedded in block-type PLCs, which is easy to install in whatever area you want for system configuration. In case of module-type PLCs, system configuration is easily achieved by a variety of modules (CPUs, I/O, special modules, network modules).

Ⓤ CE

GM7/GM7U

Global standard (IEC61131-3) language

- IL (Instruction list)
- LD (Ladder diagram)
- SFC (Sequential function chart)

Dedicated CPU (one-chip) for high speed processing time

- GM4 (0.2μs/step)
- GM4C (0.12μs/step)
- GM6 (0.5μs/step)
- GM7 (0.5μs/step)
- GM7U (0.1μs/step)

Convenient programming tool

- Windows 95/98/ME/NT/2000/XP based
- Editing, Monitoring, Debugging function by symbol
- Supports IL, LD, SFC language
- Simulation without PLC

GM6

GM4

International standard communication protocol suitable for CIM.

- Enet Modules (Ethernet, 10/100Mbps)
- Fnet Modules (Fieldbus, 1Mbps)
- Dnet Modules (DeviceNet, 125k, 250k, 500kbps)
- Pnet Modules (Profibus-DP, 9.6kbps~12Mbps)

Various special function module

- Analog I/O modules
- High speed counter modules
- Position control modules
- RTD, Thermocouple input modules
- PID, Analog timer module

International standard Ethernet (GM4/6)

- Fast Ethernet (10/100Mbps)
- 100BASE-T, 10BASE-5, support
- IEEE802.3 & Protocol (TCP/IP, UDP/IP)
- Communication with other PLC Systems using function block (FB)
- Two types: open Ethernet, dedicated Ethernet

■ General specifications

Item	Description				Standard
Ambient temperature	0~55℃ (32 ~131℉)				
Storage temperature	-25~70℃ (-13~158℉)				
Ambient humidity	5~95%RH (Non-condensing)				
Storage humidity	5~95%RH (Non-condensing)				
Vibration	Occasional vibration			10 times each direction (X, Y and Z)	IEC 61131-2
	Frequency	Acceleration	Pulse width		
	10 ≤ f < 57㎐	-	0.075mm		
	57 ≤ f ≤ 150㎐	9.8㎨ (1G)	-		
	Continuous vibration				
	Frequency	Acceleration	Pulse width		
	10 ≤ f< 57㎐	-	0.035mm		
	57 ≤ f< 150㎐	4.9㎨ (0.5G)	-		
Shocks	• Peak acceleration: 147㎨(15G) • Duration: 11ms • Half-sine, 3 times each direction per each axis				
Impulse noise	Square wave impulse noise		±1,500Vp-p		LGIS Standard
	Electrostatic discharge		±4kV		IEC 61131-2/IEC 1000-4-2
	Radiated electromagnetic field noise		27~500MHz, 10V/m		IEC 61131-2/IEC 1000-4-3
	Fast transient/ burst noise	Power supply	Digital I/O (more than 24V)	Digital I/O (>24V) Analog I/O, Comm.I/O	IEC 61131-2/IEC 1000-4-4
		2kV	1kV	0.25kV	
Operation ambience	Free from corrosive gases and excessive dust				
Altitude	Up to 2,000m (6,562ft)				
Pollution degree	Less than or egual to 2*				
Cooling method	Air-cooling				

* Pollution degree 2 is nonconductive pollution of the sort where occasionally a temporary conductivity caused by condensation must be expected.

■ Technical specifications

Item			GM4-CPUA/B	GM4-CPUC	GM6	GM7	GM7U
Control method			Cyclic execution of stored program, Interrupt task execution				
I/O Updating method			Program refresh per 1 scan				
Program languages			IL (Instruction list) / LD (Ladder diagram) / SFC (Sequential function chart)				
Number of Instructions	Operator		IL: 20, LD: 13				
	Standard function		194	194 + 'real number F'	194		
	Special function block		Special function blocks for special modules				
Configuration speed	Operator		0.2㎲/step	0.12㎲/step	0.5㎲/step		0.1㎲/step
	Standard function/ Standard function block		0.2㎲/step	0.12㎲/step	0.5㎲/step		
Program capacity			128K *	1M	68K		132K
I/O points	Using 32pt module		1,024	1,792	384	10~80	20~120
	Using 64pt module		2,048	3,584	-	-	-
	Network		4,096 / 8,192	32,768	-	-	-
Direct variable area			2~16K	8~117K	2~8K		10K
Symbolic variable area *			52K/50K	428K	32K		30K
Timer *			Not limited, Time range: 0.001~4294967.295 sec (1,193hours)				
Counter *			Not limited, Count range: -32,768~32,767				
Operation mode			RUN, STOP, PAUSE, DEBUG				
Data retention at power failure			Set "retain" at data declaration				
Program type	Scan		180		100		
	Task	Time driven	8	32	8		
		External	8				
		Internal	16		8		
		HSC	-				4
		Error	-	_ERR_SYS	-		
		Initialization	_INIT, _H_INIT		_INIT		
Self-diagnosis			Execution, Delay, Memory error, I/O error, Battery error, Power supply error				
Restart mode			Cold, Warm, Hot restart		Cold, Warm restart		

* K: kilobyte
* One timer occupies 20 bytes in symbolic variable area
* Symbolic variable area: Maximum symbolic area - Direct variable area
* One counter occupies 8 bytes in symbolic variable area

Number of communication module installation

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■ GM4/6

Item	GM4-CPUA	GM4-CPUB	GM4-CPUC	GM6-CPUA/B/C
No. of total communication modules	4	4	8	4
Cnet only	4	4	8	4
High-speed link modules	2	4	8	2
Cnet + HSL link modules	2 + 2	2 + 2	8 in total	2 + 2

Item	Cnet I/F module	HSL module	Installation in expansion base
GM4-CPUA	4	2	×
GM4-CPUB	4	4	○
GM4-CPUC	8	8	○

Network support in GM4/6

- Master (High-speed link): Fnet, Rnet, DeviceNet, Fast Ethernet, Profibus-DP
- Cnet: RS-232C, RS-422/485
- MODBUS (ASCII/RTU) as slave inserting MODBUS library into Cnet module

■ GM7/GM7U

Item	GM7U	GM7 (10 point)	GM7 (20 to 60 point)
No. of total communication modules	2 (built-in Cnet included)	1	1
Cnet only	2 Built-in RS-485 is included.	1 Built-in RS-232C/485 Simultaneous use is not allowed.	1 Built-in RS-232C or Cnet I/F module. Simultaneous use is not allowed.
High-speed link modules	1	Option unit is not allowed	Only 1
Cnet + HS link modules	1 + 1 (built-in RS-485 + HSL 1)		

Network support in GM7/GM7U

- Master (High-speed link): Fnet*1), Rnet*2)
- Slave (High-speed link): Profibus-DP*3), DeviceNet*3)
- Cnet: RS-232C, RS-422/485
- MODBUS (ASCII/RTU) as master/slave in parameter setting (GMWIN)

*1) LG dedicated protocol for Fnet I/F modules
*2) LG dedicated protocol for SMART I/Os
*3) Slave only