

## DATA SHEET

### PLC Option SV-iS7 Series



- When using LSIS equipment, thoroughly read this datasheet and associated manuals introduced in this datasheet. Also pay careful attention to safety and handle the module properly.
- Store this datasheet in a safe place so that you can take it out and read it whenever necessary.

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## Safety Precautions

- Safety Precautions are for using the product safe and correct in order to prevent the accidents and danger, so please go by them.
- The precautions explained here only apply to the iS7 PLC Option. For safety precautions, refer to the iS7 user's manual.
- The precautions are divided into 2 sections, 'Warning' and 'Caution'. Each of the meanings is represented as follows.



### Warning

If violated instructions, it can cause death, fatal injury or considerable loss of property.



### Caution

If violated instructions, it can cause a slight injury or slight loss of products

- The symbols indicated in the PLC and datasheet mean as follows



This symbol means pay attention because of danger of injury, fire or malfunction.



This symbol means paying attention because of danger of electric shock.

- Store this datasheet in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user.



### Warning

- ▶ **Do not contact the terminals while the power is applied.**  
It can cause electric shock and malfunction.

- ▶ **Protect the product from being gone into by foreign metallic matter.**  
It can cause fire, electric shock and malfunction.



### Caution

- ▶ **Be sure to check the rated voltage and terminal arrangement for the module and observe them correctly.**  
It can cause fire, electric shock and malfunction.

- ▶ **Tighten up the terminal screw firmly to defined torque when wiring.**  
If the terminal screw looses, it can cause fire and electric shock.

- ▶ **Do not install around inflammable substances.**  
It can cause fire.

- ▶ **Use in an environment that meets the general specifications contained in this datasheet.**  
It can cause electrical shock, fire, erroneous operation and deterioration.

- ▶ **Be sure that external load does not exceed the rating of output module.**  
It can cause fire and erroneous operation.

- ▶ **Do not use in the environment of direct vibration**  
It can cause electrical shock, fire and erroneous operation.

- ▶ **Do not disassemble, repair or modify except A/S specialist.**  
It can cause electrical shock, fire and erroneous operation.

- ▶ **When disposing, treat it as industrial waste.**  
It can cause poisonous pollution or explosion.

## Precautions for use

- ▶ This option card is for SV-iS7 only. Don't install it to any other device than SV-iS7.
- ▶ When using the product, use the inverter with grounded. For the method of GND, please refer to the instruction manual of inverter body.
- ▶ Be sure to connect inverter and option card exactly. For the method of connection, Please refer to '6. How to install option in this instruction manual.
- ▶ Do not separating or remodeling the PCB of Option card.
- ▶ Turn off when install or uninstall the option.
- ▶ Use Mobile or Radio telegraph at 30cm away from the product.
- ▶ Input/output signal or communication wire should be 100mm away from high voltage cable or power line.

## Before handling the product

Before using the product, read the datasheet and the User's manual through to the end carefully in order to use the product efficiently.

Name	Item Code
KGLWIN User's Manual	10310000294
MASTER-K Instruction User's Manual	10310000271
iS7 PLC Option User's Manual	10310000904

- \* iS7 PLC option is supported in KGLWIN version 3.5 only.
- \* You can download each manual from <http://www.lsis.biz>.

## 1. Introduction

This data sheet provides brief information about usage of iS7 PLC option.

## 2. General Specifications

The following describes the general specification about iS7 PLC option.

No	Item	Specifications				Standard	
1	Operating temperature	0 ~ 55 °C (32 ~ 131 °F)					
2	Storage temperature	-25 ~ 70 °C (-13 ~ 158 °F)					
3	Operating Humidity	5 ~ 95%RH, non-condensing					
4	Storage humidity	5 ~ 95%RH, non-condensing					
5	Vibration	Occasional vibration				10 times in each direction for X, Y, Z	IEC61131-2
		Frequency	Acceleration	Amplitude	Sweep count		
		10sf < 57 Hz	-	0.075 mm			
		57 sf≤150 Hz	9.8 m/s <sup>2</sup> (1G)	-			
		Continuous vibration					
		Frequency	Acceleration	Amplitude			
		10sf < 57 Hz	-	0.035 mm			
57sf≤150 Hz	4.9 m/s <sup>2</sup> (0.5G)	-					
6	Shocks	* Maximum shock acceleration: 147 m/s <sup>2</sup> (15G) * Duration time :11 ms * Pulse wave: half sine wave pulse ( 3 times in each of X, Y and Z directions )				IEC61131-2	
7	Noise immunity	Square wave impulse noise	±1,500 V			LSIS internal Standard	
		Electrostatic discharge	Voltage :4kV(contact discharge)			IEC61131-2 IEC61000-4-2	
		Radiated electromagnetic field	27 ~ 500 MHz, 10 V/m			IEC61131-2 IEC61000-4-3	
		Fast transient & Burst noise	Severity Level	All power modules	Digital / Analog Input / Communication Interface	IEC61131-2 IEC61000-4-4	
			Voltage	2 kV	1 kV		
8	Atmosphere	Free from corrosive gases and excessive dust					
9	Altitude for use	Up to 2,000m					
10	Pollution degree	2 or lower					
11	Cooling method	Self-cooling					

## 3. Performance Specifications

The performance specifications for iS7 PLC option are as follows.

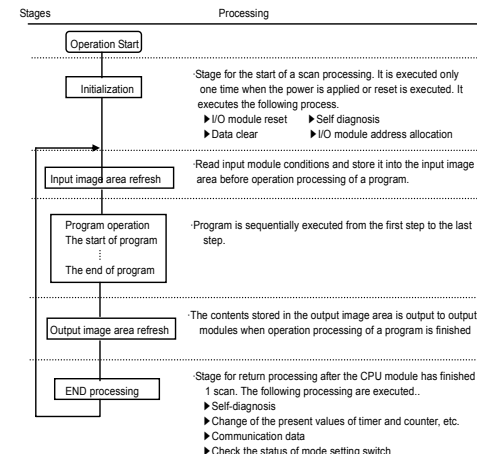
Item	Specification(Economic Type)	Remark
Operating method	Cyclic operation of stored program Interrupt task operation	
I/O Control Method	Scan synchronized batch processing method (Refresh method) Direct method by instruction	
Program language	Ladder Diagram, Instruction List	
Number of Instruction	Basic 29 App. 223	
Processing time	Basic Instruction : 0.4 μs/Step 23-step	
Program memory Cap.	Digital Input 6 / Digital Output(Relay) 4	
Data Area	P P000 ~ P0005 (External Input) P0040 ~ P0043 (External Output)	I/O Relay
	M M000 ~ M191F	Internal Relay
	K K000 ~ K31F	Keep Relay
	L L000 ~ L63F	Link Relay
	F F000 ~ F63F	Special Relay
	T 100ms : T000 ~ T191(192) 10ms : T192 ~ T250(59) 1ms : T251 ~ T255(5) Adjustable boundary area by parameter setting	Timer
	C C000 ~ C255	Counter
	S S00.00 ~ S99.99	Step Relay
	D D0000 ~ D4999	Data Register
Operating Mode	RUN, STOP, PAUSE	

Self-diagnostic functions	Watch dog timer, memory error detection, I/O error Detection, etc	
Memory backup at power down	In the case of the installation of mercury cell(CR2032), the latch or RTC area setting by basic parameter.	
PID Control Function	Function block control, auto tuning, PWM, auto tuning by PWM, forced output, adjustable operation scan-time, Anti-windup, SV-Ramp,	
RS485 Function	MODBUS protocol support	
External Interrupt	6	
Input filter	0 ~ 1000 ms (setting by basic parameter)	
RTC	year/month/day/hour/minute/second setting by using KGLWIN	

## 4. Operation Processing Method

1) Cyclic operation

A PLC program is sequentially executed from the first step to the last step, which is called scan. This sequential processing is called cyclic operation. Cyclic operation of the PLC continues as long as conditions do not change for interrupt processing during program execution.



2) Time driven interrupt operation method

In time driven interrupt operation method, operations are processed not repeatedly but at every preset interval. In the GM6 CPU module, interval can be set to between 0.01 ~ 4294967.29 second. This operation is used to process operation with a constant cycle

3) Event driven interrupt operation method

If a situation occurs which is requested to be urgently processed during execution of a PLC program, this operation method processes immediately the operation which corresponds to interrupt program. The signal which informs those urgent conditions to the CPU module is called interrupt signal. The GM6 CPU module has two kind of interrupt operation methods, which are internal and external interrupt signal methods.

## 5. Parts Name and Descriptions

The following describes the names and functions of parts of iS7 PLC Option

No.	Name	Function
①	SW1	Mode setting switch 1) RUN : Program operation is executed. 2) PAU/REM : PAUSE : Program operation is temporarily stopped. REMOTE: Used for the remote operation 3) STOP : Program operation is temporarily stopped.
②	LED1	RUN LED Indicates the operating status of basic unit • On: When the basic unit operates with the mode setting switch in the local or remote RUN. • Off: When the following occurs - the voltage is not normally supplied to the CPU - the mode setting switch is in the stop - When detecting error that stops operation
③	LED2	ERR LED Indicates the operating status of basic units • Flicker: When detecting error by self-diagnosis during operation • Off: When the CPU is normal state
④	CON1	RS232C connector Connector for KGLWIN

LS constantly endeavor to improve our products so that information in this datasheet is subjected to change without notice.

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