LE5109 24 16 CPU

➢

CPU						
I O	24	24VDC	16			100~240VAC

➢

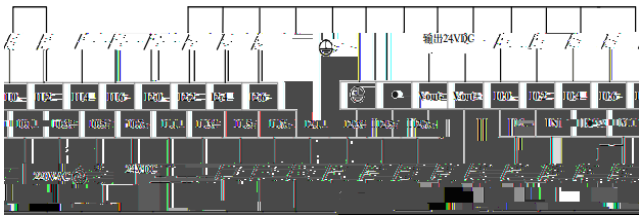
- PLC PLC
- AutoThink V3.1.0
- AutoThink

⚠

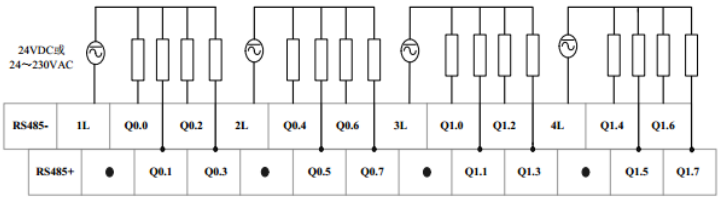
(1)
(2) PLC

(3) PLC
(4)
(5) ⚠

➢



LE5109



LE5109

LE5109

		L	
		N	

Vout- 24VDC

LE5109 24 DI / 16 DO CPU Module

➢ **Technical Specifications**

CPU Specifications		**Power Supply Specifications**		
On-board I/O	24 DI / 16 DO	Input	Rated voltage	100~240VAC
			Permissible range	85~264VAC 50/60Hz
I/O expansion module (max.)	20 (total modules power)		Current consumption (max.)	1000mA
Number of expansion board	1	External output voltage	24VDC	
Programming language	LD/ST/CFC/SFC	External output current (max.)	+24VDC (supply for expansion bus)	950mA
Program memory	256K bytes		+24VDC (supply for peripheral device)	400mA
Data memory	64K bytes		+5VDC (supply for expansion bus)	2500mA
Power-loss retentive memory	8K bytes	Hold up time (loss of power)		80ms
Memory card	Memory card with USB interface	**Communication Specifications**		
HSC	8 HSC at 200KHz for single phase	Communication interface	2 RS485	
	4 HSC at 100KHz for A/B phase	Interface type	PS/2, pluggable terminals	
Pulse catch	8	Baud rates (bps)	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200	
Fast external interruption	6			
Frequency measurement	4			
Basic instruction processing time		Communication protocol	Proprietary protocol, Modbus master-slave, free port communication protocol,multi-PLC interconnection(only for terminal connecting)	
Input Specifications		**Output Specifications**		
Number of inputs	24	Number of outputs	16	
Input type	Sink/source	Output type	Relay	
Rated voltage	24VDC	Permissible range	5 30VDC or 5 250VAC	
Permissible range	0 30VDC	Output current	2A (resistance load)	
Logic 1 signal	15~30VDC, permissible min. current 3mA	Rated current per common (max.)	8A	
Logic 0 signal	0~5VDC, permissible max. 1mA	ON state resistance		
Filtering parameter	ms, 20ms, 50ms, 100ms	Switching frequency (max.)	1Hz	
		Lifetime mechanical	No load: up to 10,000,000 open/close cycles	
Isolation mode	Optocoupler (field side to system)		Rated resistance 2A load: up to 100,000 open/close cycles	
Isolation groups	1	Isolation mode	Relay isolation (field side to system)	
Isolation withstand voltage	500VAC for 1 minute, leakage current <5mA	Isolation groups	4	
		Isolation withstand voltage	2500VAC for 1minute, leakage current <5mA	
Physical Specifications				
Dimensions W x H x D (mm)	147×97×90	Operating temperature	0 60	
Weight	875g	Storage temperature	-40 70	
Relative humidity	5%~95% (non-condensing)			

➢ **Definition of Indicators**

Type	**Color**	**Status**		**Description**
Power supply PWR	Green	ON		Power supply works in normal mode.
		OFF		Power is defective or not supplied.
Channel status indicator Ix.y Qm.n	Green	ON		The channel is ON.
		OFF		The channel is OFF.
Operation indicator RUN/STOP	Green/ Yellow	ON green		PLC is in RUN mode and user program is running.
		ON yellow		PLC is in STOP mode and user program is not running.
		Flash alternately	1Hz	Wait to load the user program from a memory card
			4Hz	Loading the user program from a memory card
Failure status indicator ERR	Red	ON		The CPU is in failed mode.
		OFF		PLC is in normal operating mode.

Instructions: possibility and solutions if ERR indicator is on:
(1) System configuration of programming software is inconsistent with actual hardware configuration;
Solutions: Check system configuration in programming software;
(2) Communication with expansion module failed;
Solutions: Check whether expansion module is connected correctly;
(3) Report faults occurring to each expansion module;
Solutions: Replace faulty expansion module;

➢ **Communication Interface**

RS485 communication interface can establish connection to personal computer (PC) through programming cable, realize download of user program and on-line debugging and be applied to communication with field devices. Junction and communication between LE5109 CPU module and upper computer are achieved through PS/2 of LE5109 (at ① in the figure), junction and communication between LE5109 CPU module and expansion module are achieved through connector (at ② in the figure).

Definition of PS/2

Pin No.	**Definition**	**Pin No.**	**Definition**	**Pin No.**	**Definition**	**Pin No.**	**Definition**
1	__	3	__	5	RS485+	7	System GND
2	__	4	__	6	RS485-	8	System GND

➢ **Software Configuration**

e and hardware are constrained each other.

RUN/STOP selective switch position	**Status of programming software**	**Module status**
Run (Switch to upper position)	RUN	RUN: automatically changed into STOP if users download program in this status.
	STOP	STOP
Stop (Switch to lower position)	RUN/STOP	STOP(user's program stops, unable to run)

➢ **Communication Connection**

- Before downloading, please confirm that PLC is connected as per the schematic diagram. Please use HollySys PLC programming cable to download the program.
- Before downloading, please confirm that AutoThink V3.1.0 or above version has been installed
- instructions for downloading.

Caution:

(1) Cover of the terminal should be fastened properly prior to power on of the PLC system to avoid unnecessary personal injury or device damage.

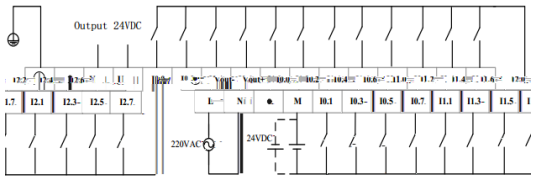
(2) When connecting or removing PLC power, severe personal injury or device damage may be caused if power is not isolated. Therefore, before module installation or removal, all power must be turned off and please pay attention to this at any time.

(3) Before connecting power to PLC, please confirm programming cable is connected properly and please do not remove from or insert into communication port during power on to avoid device damage.

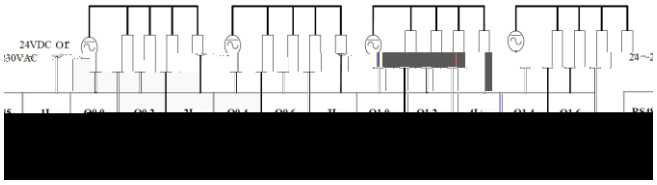
(4) If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

(5) Warning symbol for high voltage, please do not touch equipment with the warning symbol, operation in electricity is strictly prohibited.

➢ **Terminal Definition and Connection**



LE5109 Upper Terminals Definition and Wring Diagram



LE5109 Lower Terminals Definition and Wring Diagram

LE5109 Upper Terminals Definition

Terminal Identification	Description	Terminal Identification	Description	Terminal Identification	Description	Terminal Identification	Description
	Grounding	L	Fire wire	Vout-	Output 24VDC negative		No connection
	No connection	N	Null wire	Vout+	Output 24VDC positive	M	Common of Input
I0.0	Fast external interruption 1/ Pulse catch 1/Frequency measurement 1/Single-phase counter 1/ A/B phase counter 1 phase A / Ordinary input	I0.1	Fast external interruption 2/ Pulse catch 2/Frequency measurement 2/Single-phase counter 2/ A/B phase counter 1 phase B / Ordinary input	I0.2	Fast external interruption 3/ Pulse catch 3/Frequency measurement 3/Single-phase counter 3/ A/B phase counter phase A / Ordinary input	I0.3	Fast external interruption 4/ Pulse catch 4/Frequency measurement 4/Single-phase counter 4/ A/B phase counter 2 phase B / Ordinary input
I0.4	Single-phase counter 1 direction control /Ordinary input	I0.5	Single-phase counter 2 direction control / Ordinary input	I0.6	Single-phase counter 3 direction control /Ordinary input	I0.7	Single-phase counter 4 direction control /Ordinary input
I1.0	Single-phase counter 1 reset/ A/B phase counter 1 reset/Ordinary input	I1.1	Single-phase counter 2 reset/Ordinary input	I1.2	Single-phase counter 3 reset/ A/B phase counter 2 reset/Ordinary input	I1.3	Single-phase counter 4 reset/Ordinary input
I1.4	Fast external interruption 5/ Pulse catch 5/ Single-phase						