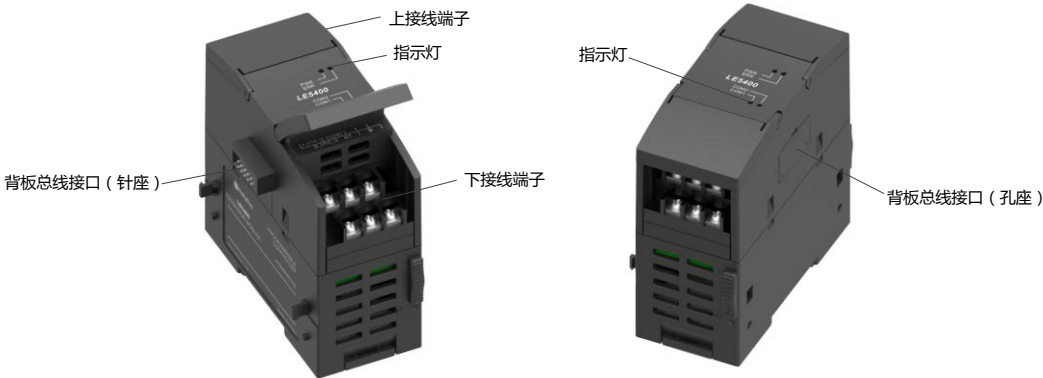


LE5400 双路串口（RS485/RS232）通讯扩展模块

➤ 概述

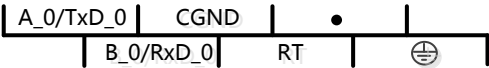
LE5400 为双路串口通讯扩展模块。提供 RS485/RS232 串行通讯接口，作为控制器串口的通讯扩展接口使用。模块支持 ModbusRTU 主站协议、ModbusRTU 从站协议和自由口通信协议，通过 AutoThink 进行配置。

➤ 外部接口



□ 接线端子：

上接线端子为 COM2 口，下接线端子为 COM1 口。在 AutoThink 组态时，COM1 对应 LE5400 模块下第 1 个 COM 口，COM2 对应 LE5400 模块下第 2 个 COM 口。这里以 COM1 口为例描述接线端子定义。



端子	说明
A_0/TxD_0	RS485 信号正端/RS232 信号发送端
B_0/RxD_0	RS485 信号负端/RS232 信号接收端
CGND	通讯信号地
RT	终端电阻使能端。当 COM 口连接 RS485 信号时，可通过短接 RT 端子和 CGND 端子接入终端电阻
●	预留端子，不使用
⊕	保护地

□ 背板总线接口：连接 LE I/O 模块。通过 10 针针座与前一级模块的 10 针孔座相连，10 针孔座与后一级模块的 10 针针座相连，然后使用上下侧锁固定。

□ 指示灯含义：

指示灯类型	颜色	状态	含义
PWR（运行状态指示灯）	绿	亮	模块工作正常
		灭	模块异常
ERR（故障指示灯）	红	亮	通讯或配置异常（如：配置错误、模块离线、内存出错）
		灭	无故障
COM1/COM2（通信状态指示灯）	绿	闪烁	有数据通讯
		灭	无数据通讯

➤ 技术规格

通讯功能		电源规格	
通讯口数量	2 个（RS485/RS232）	供电方式	背板供电
通讯口类型	接线端子	+24VDC（扩展总线提供）	0 mA
通信协议	Modbus 主/从站协议，自由口协议	5VDC（扩展总线提供）	210mA
通讯速率(bps)	9600、19200、38400(默认值)、57600、115200	隔离耐压	
通信数据区	I/Q/M 区	隔离方式	现场和系统间
用户数据区	最大 256 字节	隔离耐压	500VAC，1min，漏电流<5mA
物理特性		环境条件	
尺寸规格（宽×高×深）	47 mm×97 mm×89 mm	工作温度	-20℃～+70℃
重量	142 g	存储温度	-40℃～+70℃
安装方式	导轨安装或螺钉安装	工作环境相对湿度	5%～95%（无凝结）
接线端子	可插拔	存储环境相对湿度	5%～95%（无凝结）

➤ 软件配置

LE5400 模块可以做 Modbus RTU 主站或从站，默认为从站。做主站时，请配置“MODBUS_MASTER（Modbus RTU 主站通讯）”功能块，详见《和利时可编程控制器 PLC 指令手册》。做从站时，请配置以下串口通讯参数和从站地址。

从站配置参数		说明
串口通讯参数	端口号	添加 LE5400 模块时，由软件自动分配，默认从 3 开始
	波特率	9600、19200、38400、57600、115200，单位 bps
	检验方式	无校验、奇校验和偶检验
	停止位	1 位/2 位
	数据位	7 位/8 位（ModbusRTU 不支持 7 位，自由口通讯不支持 7 位无校验）
	通讯类型	RS485/RS232
从站地址		从站地址请与所连接从站设备的组态地址保持一致

LE5400 模块还支持自由口通讯协议。通过自由协议通信时，请配置“COMM_SEND（自由协议通讯数据发送）”/“COMM_RECEIVE（自由协议通讯数据接收）”功能块，详见《和利时可编程控制器 PLC 指令手册》。

➤ 使用说明

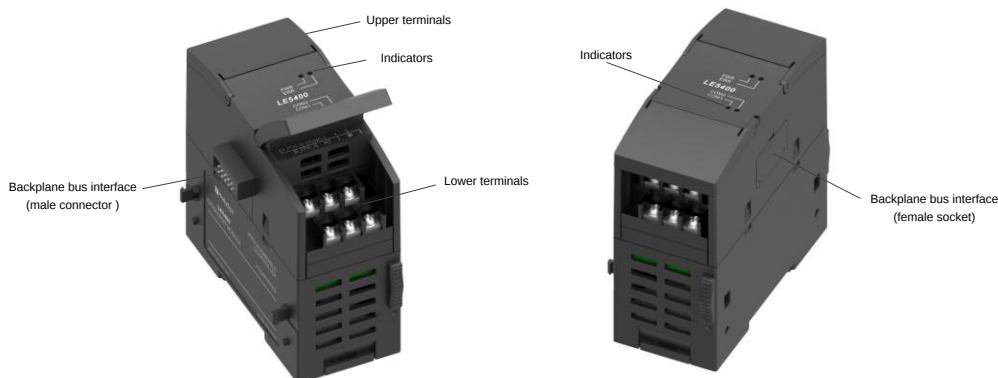
- ☐ 仅 LE5109/LE5109L 控制器支持 LE5400 模块。支持的固件版本：LE5109-D01 及以上版本，LE5109L-E01 及以上版本。
- ☐ LE5109 最大可扩展 6 个 LE5400 模块。
- ☐ LE5109L 最大可扩展 2 个 LE5400 模块。

LE5400 Dual-ports (RS485/RS232) Communication Expansion Module

➤ Brief Review

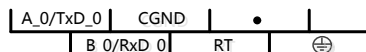
LE5400 is a dual-ports communication expansion module. It provides RS485 / RS232 communication ports, which are used as communication extension interface of controller. The module supports ModbusRTU master station protocol, ModbusRTU slave station protocol and free port communication protocol, you need to configure communication parameters in AutoThink.

➤ External Interface



□ Terminal:

The lower terminal is COM1 and the upper terminal is COM2. When configuring LE5400 in AutoThink, COM1 corresponds to the first COM port, and COM2 corresponds to the second COM port. Here, take COM1 port as an example to describe terminals.



Terminals	Description
A_0/TxD_0	Positive(RS485+) / Send RS232 signal
B_0/RxD_0	Negative (RS485-) / Receive RS232 signal
CGND	Communication signal grounding
RT	Termination resistance enable terminal. When COM port is connected with RS485 signal, the termination resistance can be connected through short circuit of RT terminal and CGND terminal
•	Reserved terminal, unavailable
⊕	Protection grounding

□ Backplane bus interface: To connect with LE I/O modules. Module can be connected to each other through 10-pin female socket located at the right of itself and 10-pin male connector located at the left of itself. Latch the upper and lower side-lockers to secure the two modules next to each other.

□ Description of indicator:

Type	Color	Status	Description
PWR(Running status indicator)	Green	ON	The module is working properly
		OFF	Module is abnormal
ERR(Fault indicator)	Red	ON	Abnormal communication or configuration (e.g. configuration error, module offline, memory error)
		OFF	No fault
COM1/COM2(Communication status indicator)	Green	Flashing	Has data communication
		OFF	No data communication

➤ Technical Parameters

Communication Specifications		Power Supply Specifications	
Number of communication ports	2(RS485/RS232)	Power source	Supplied by backplane
Type of communication interface	Wiring terminal	+24VDC (supplied by expansion bus)	0mA
Communication protocol	Modbus master/slave protocol, Free port protocol	+5VDC (supplied by expansion bus)	210mA
Baud rate (bps)	9600,19200,38400(default value),57600,115200	Isolation Withstand Voltage	
Communication data memory	I/Q/M	Isolation mode	Field side to system
User data memory	Max.256 bytes	Isolation withstand voltage	500VAC for 1 minute, leaking current <5mA
Physical Specifications		Environmental Conditions	
Dimensions W x H x D(mm)	47 mm×97 mm×89 mm	Operating temperature	-20℃~+70℃
Weight	142 g	Storage temperature	-40℃~+70℃
Mounting mode	DIN rail mounting or screw mounting	Operating relative humidity	5%~95%(non-condensing)

Wiring terminal	Pluggable	Storage relative humidity	5%~95%(non-condensing)
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➤ Software Configuration

LE5400 module can be used as master station or slave station of Modbus RTU, and it is default as a slave station. When as a master station, you need to configure function block "MODBUS_MASTER (Modbus RTU Master Communication)". See HollySys Programmable Logic Controller PLC Instruction Manual for details. As a slave station, you need to configure following serial communication parameters and slave address.

Slave configuration parameters		Description
Serial communication parameters	Port	When the LE5400 module is added, port number is automatically assigned by the software, starting from 3
	Baud	9600, 19200, 38400, 57600, 115200, unit: bps
	Verification	Null, Even check and Odd check
	Stop Bits	One bit/Two bit
	Data Bits	Seven bit /Eight bit (Modbus RTU does not support Seven bit, free port communication does not support Seven bit with null verification)
	Communication	RS485/RS232
Slave address		The slave address should be consistent with the configuration address of the connected slave device

The LE5400 module also supports free port communication protocol. When communicating through free protocols, you need to configure function block COMM_SEND (Free Protocol Communication Data Transmission) / COMM_RECEIVE (Free Protocol Communication Data Reception). See HollySys Programmable Logic Controller PLC Instruction Manual for details.

➤ Use Instruction

- ☐ Only the LE5109 / LE5109L controller supports the LE5400 module. Supported firmware version: LE5109-D01 and above version, LE5109L-E01 and above version.
- ☐ LE5109 can extend 6 LE5400 modules at most.
- ☐ LE5109L can extend 2 LE5400 modules at most.