Maximise network flexibility with SST™ Communication Modules for rapid connection of Rockwell ControlLogix systems to Modbus TCP or Siemens Industrial Ethernet and Modbus Serial networks

SST™ communication modules for Rockwell ControlLogix systems are the perfect choice for a wide range of applications including factory automation, process control and complex machines.

The ESR2 family module connects ControlLogix controllers to various non-Rockwell protocols such as, Modbus serial, Modbus TCP and Siemens Industrial Ethernet. Each module such as, Modbus TCP and Siemens Industrial Ethernet has 1x Ethernet + 2x Serial channels protocols that act independently to perform powerful data exchange with industrial devices such as Modbus Masters or Slaves and Siemens S5/S7 PLCs.

Time-saving configuration and diagnostics can be achieved using the console software connected remotely via EtherNet/IP or RSLinx. Each module is delivered with its custom Add-On-Profile (AOP) for easy integration into the RSLogix 5000 software. The I/O data transfer supports 2 modes: a “Direct Mode” for sharing up to 248 Input words + 248 Output words without ladder logic, or a “Paging Mode” for sharing up to 32,000 I/O words.

CLXT modules withstand high-temperatures and perform in harsh, corrosive environments to meet a wider range of customer application demands. For additional information visit: www.molex.com/link/sstcommunicationmodules.html.

Features and Benefits

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully integrated into Rockwell Integrated Architecture Builder™ and ProposalWorks™</td>
<td>Quickly configure a system and create a bill of materials</td>
</tr>
<tr>
<td>Simultaneously run Ethernet and Serial protocols: Modbus TCP and Siemens Industrial Ethernet (Simatic® S5/S7 PLCs)</td>
<td>Extremely versatile solution; perfect for concentrator or gateway applications</td>
</tr>
<tr>
<td>More communications channels and protocols supported on a single module compared to the competition</td>
<td>Reduce number of modules required; save space in the backplane and lower system costs</td>
</tr>
<tr>
<td>Direct I/O mapping: no ladder logic to write</td>
<td>Reduces programming time by over 90%; user trials shown time is cut from days to hours</td>
</tr>
<tr>
<td>I/O data refresh every PLC cycle, up to 255 Read/Write cyclic access per channel</td>
<td>Improves performance; faster system response and enhanced productivity</td>
</tr>
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<td>New user-friendly configuration tool with visual cyclic function screen</td>
<td>Benefit from faster configuration, reduced configuration errors and a short learning curve</td>
</tr>
<tr>
<td>Software package with advanced visual diagnostic tools included</td>
<td>Easy troubleshooting</td>
</tr>
<tr>
<td>Share up to 32K words of I/O process data with a Rockwell CPU using a single module</td>
<td>Suitable for large applications, no need to use multiple cards</td>
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<tr>
<td>Independent, electrically isolated serial channels</td>
<td>Improves reliability; prevents noise transfer to other channels</td>
</tr>
<tr>
<td>Simultaneously manage Ethernet protocols in both Client and Server modes</td>
<td>Module can receive unsolicited data from a remote PLC (such as critical alarm bits)</td>
</tr>
<tr>
<td>CLXT modules feature wider temperature ranges and conformal coated, harsh-duty components</td>
<td>Use with Rockwell ControlLogix XT PLCs Designed to operate in harsh, corrosive environments</td>
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</table>

ESR2-CLX Module: 112073-0001
1 Ethernet + 2 Serial Ports Supporting Modbus TCP, Siemens Industrial Ethernet

ESR2-CLXT Module: 112073-0003
1 Ethernet + 2 Serial Ports Supporting Modbus Serial, Modbus TCP and Siemens Industrial Ethernet
Applications

Factory automation and process control:
- Oil and gas plants
- Oil drilling rigs
- Water, wastewater treatment
- Pharmaceutical
- Food and beverage
- Consumer and packaged goods
- Fibers and textiles
- Automotive
- Steel
- Mining, minerals and cement
- Chemical, petrochemical
- Marine
- Military

Specifications

Hardware

BUS INTERFACE
Rockwell Allen-Bradley 1756 ControlLogix
Support multiple modules in a chassis
Local and remote rack

MEMORY
128 MB of onboard memory
8 MB of flash memory

DIAGNOSTICS
4 characters display
3 LED indicators

USB PORT
Type A, USB 2 and 1.1 compatible
User configuration boot
Module firmware upgrade

CURRENT CONSUMPTION
850 mA @ 5V or 1.75 mA @ 24V

OPERATING TEMP
0 up to +60°C

STORAGE TEMP
-40 up to +85°C

REGULATORY APPROVALS
RoHS compliant
CE
FM approved, C, US
Class I Div 2, Groups A,B,C,D
Marine (RINA)
Korea CC

Network – Ethernet Port

PORT
1 Ethernet port

SPEED
10/100 Mbps, auto-negotiation

PROTOCOL
Simultaneous Client/Server
Support TCP and UDP connection

Client mode
Siemens S7 (S7-1200, S7-200, S7-300, and S7-400) Client and Server modes
Siemens S5 Client and Server modes
Connect up to 128 Modbus, Siemens server devices
Support up to 4 simultaneous requests to a target device
Function code: 0, 1, 2, 3, 4, 15,16

Server mode
32K words / 32K bits shared memory
Function Code: 0, 1, 3, 15, 16
Connect up to 60 Siemens PLCs

Network – Serial Port

PORT
4 Serial ports

SPEED
110 to 115200 bps

PARITY
None, even, and odd

DATA BITS
5, 6, 7, or 8

STOP BITS
1 or 2

CONNECTOR
RJ45 (DB9 male supplied cable)

ELEC. INTERFACE
RS232 and RS485, 500V galvanic insulation

PROTOCOL
Master
- RTU or ASCII Mode
  - Maximum slave: 127 slaves
  - Function code: 0, 1, 2, 3, 4, 5, 6, 15, 16
  - Data format: Intel® / Motorola®

Slave
- RTU or ASCII Mode
  - 32K words / 32K bits shared memory devices
  - Function Code: 0, 1, 3, 5, 6, 15, 16
Typical System Architecture

Additional Product Information

Ordering Information

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Engineering No.</th>
<th>Ethernet Ports</th>
<th>Serial Ports</th>
<th>PLC Supported</th>
<th>Product Attributes</th>
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<tr>
<td>112073-0001</td>
<td>SST-ESR2-CLX-RLL</td>
<td></td>
<td>1</td>
<td>2</td>
<td>Rockwell ControlLogix</td>
</tr>
<tr>
<td>112073-0003</td>
<td>SST-ESR2-CLX-RLL-CC</td>
<td></td>
<td></td>
<td>Rockwell ControlLogix XT</td>
<td>Remote Link Library (RLL) feature</td>
</tr>
<tr>
<td>112073-0002</td>
<td>SST-ESR2-CLXT-RLL</td>
<td></td>
<td></td>
<td>Rockwell ControlLogix</td>
<td>Remote Link Library (RLL) feature Conformal Coated</td>
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</table>

Simple to transfer data with Add-On Instructions

Flexible Database Configuration options

Visual Cyclic Function Configuration screen showing data-overlapping errors, data mapping, table areas and message details

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