

## SST™ backplane communication module connects your Rockwell ControlLogix® controller to Ethernet Modbus and Serial Modbus networks.

**molex**  
one company > a world of innovation

Leader for 15 years in connectivity for Rockwell ControlLogix controllers, SST™ communication modules are the perfect choice for a wide range of applications including factory automation, process control and complex machines.

SST Modbus module connects Rockwell ControlLogix controller to Modbus networks. Each module has 1 Ethernet + 2 Serial communication channels that act as independent Modbus TCP Client/Server and Modbus Master or Slave protocols to exchange data with other Modbus compatible devices.

SST Modbus module is delivered with its "Add-On-Profile" (AOP) for easy integration into the ControlLogix system using the RSLogix 5000 software. The data transfer from the SST module to the ControlLogix processor supports 2 modes; a "direct mode" allowing mapping of Modbus data in I/O processor image (496 inputs bytes / 496 output bytes) and a "messaging mode" (based on CIP transaction) allowing access to Modbus data images stored in 32K registers of the SST™ module's memory.

Save your time, the SST module doesn't require any ladder logic programming to be used. The configuration is created using Windows engineering console software connected via RLL (Remote Link Library) functionality allowing a remote access to the SST module for the configuration and the diagnostics through Rockwell network architectures (Ethernet/ControlNet/DeviceNet).

The SST console allows the user to define the network parameters, Modbus devices and the cyclic data exchanges. The console includes a user configuration manager offering services for download, upload, copy, and rename of user configurations. With this, a user can very easily and quickly create a new configuration to initialize and start the SST module.

The SST console includes diagnostic tools to help with the commissioning and monitoring of the Modbus connection. These tools allow access in read and write modes to the Modbus slaves or to monitor and modify the module's internal data shared bound for a Modbus Master. Thus, the user-friendly tools are available for controlling the communication in commissioning phase (PROG mode). This same information is also available in production (RUN mode) through status words making it possible for the user to manage the execution of the control application in its

### FEATURES AND BENEFITS

- **Save money!**  
1x Ethernet + 2x RS232/RS485 Serial Modbus channels on a single slot
- **Save time!**  
No ladder logic to write for configuration and data transfer between module and ControlLogix processor
- Boot user configuration and update firmware module through integrated USB port
- I/O supported data format: Bit, Byte, Word, Dword, Float
- RLL feature: configure and diagnose Modbus network remotely via Rockwell RSLinx
- Advanced Windows engineering configuration and diagnostics console
- Up to 8 SST™ modules can be used in one ControlLogix rack
- Support local and remote ControlLogix chassis
- Add-On-Profile; For increased functionality and reduced commissioning time.

### APPLICATIONS

- Control/Command of Modbus devices to perform tasks with strong critical time constraints
- Supervision / Scada to monitor plant
- Bridge Rockwell networks to Modbus compatible devices



## SST-ESR2-CLX-RLL

**ControlLogix Communication Module  
Modbus TCP and Serial**

**MODBUS TCP**



**RoHS**

**Class 1, Div 2**

**CE**

**UL US**



**New!**

- **Add-On-Profile! For increased functionality and reduced commissioning time.**



## SPECIFICATIONS

### Product Information

#### Product Package

##### Engineering Tools

- Configuration console
- Test and diagnostic tools

##### Supported OS:

- Windows (32-bit): XP, 2000

#### Technical Data

##### Bus interface

- Rockwell 1756 ControlLogix
- Support multiple modules in a chassis
- Local and remote rack

##### Memory

- 128 MB of onboard shared memory
- 8 MB of flash memory (user configuration and firmware)

##### Diagnostics

- 4 scrolling characters display
- 3 LEDs indicator:
  - Health of the network (COMM)
  - Communication status (SYS)
  - Initialization complete and module is ok (OK)

##### I/O Mapping

- Maximum 496 bytes input data
- Maximum 496 bytes output data
- Maximum 250 words status data
- Maximum 41 bytes configuration data

##### Shared Memory

- 32K words and 32K bits
- Read/Write access
- Ladder logic based on CIP messaging

##### Current Consumption:

850 mA @ 5V or 1.75 mA @ 24V

##### Operating Temperature: 0 to +60°C

##### Storage Temperature: -40 to +85°C

#### Communication Ports

##### 1x Ethernet port

- Fast Ethernet 10/100 Mbps, auto negotiating
- Base-T (RJ45)
- 4 leds (Rx, Tx, Link, 10/100)

##### 2x Serial ports

- RJ45 (DB9 shielded male supplied cable)
- 2 leds (TX/RX)
- RS232/RS485/RS422 with galvanic insulation (500 V)
- 110 bps to 115.2 Kbps

##### 1x USB Port

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

#### Protocols

##### Ethernet Modbus

- Support client and server modes simultaneously
- Support TCP and UDP connection
- Client mode
  - Up to 128 Modbus server devices
  - Support up to 4 simultaneous requests
  - Function code: 0, 1, 2, 3, 4, 15, 16
  - Data format: Intel / Motorola
- Server mode
  - 32K words / 32K bits shared memory
  - Function Code: 0, 1, 3, 15, 16 Modbus TCP Client

##### Serial Modbus

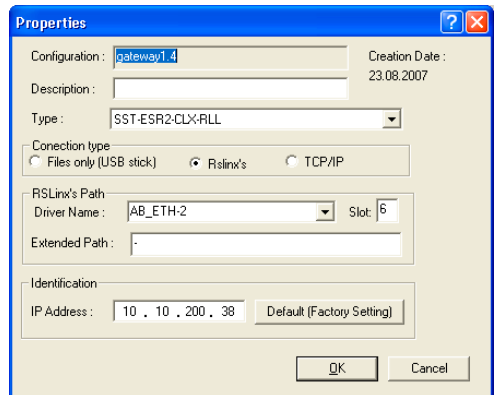
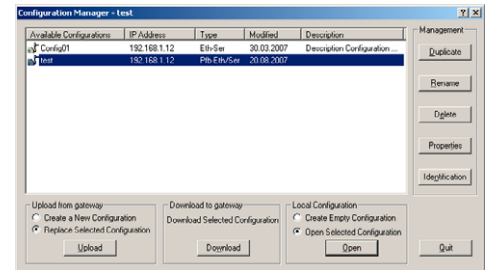
- Master
  - RTU or ASCII Mode
  - Maximum slave: 127 slaves devices
  - Function code: 0, 1, 2, 3, 4, 5, 6, 15, 16
  - Data format: Intel / Motorola
- Slave
  - RTU or ASCII Mode
  - 32K words / 32K bits shared memory
  - Function Code: 0, 1, 3, 5, 6, 15, 16

#### Conformances

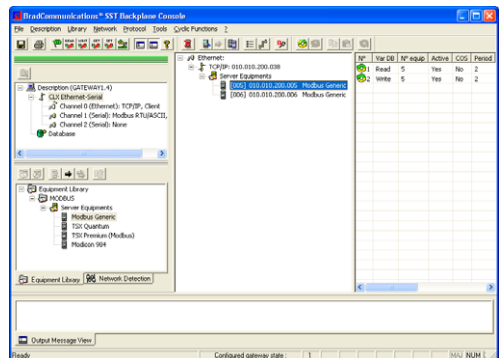
- CE, RoHS, Class 1 / Div 2 - Groups A,B,C & D Hazardous (Classified) locations
- Rockwell Encompass

## SST-ESR2-CLX-RLL

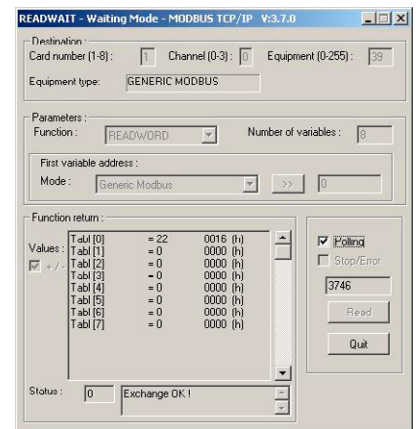
### ControlLogix Communication Modules Modbus TCP and Serial



- User Configuration Manager -



- Configuration Console -



- Modbus Read/Write Data Diagnostic Tool -

## ORDERING INFORMATION

Order No.	Engineering No.	Description
112073-0001	SST-ESR2-CLX-RLL	SST™ 1x Ethernet + 2x Serial ports communications module for Rockwell ControlLogix, includes Remote Link Library
Also available 112078-0001	SST-SR4-CLX-RLL	SST™ 4x Serial ports PLC communications module for Allen-Bradley ControlLogix, includes Remote Link Library

More Serial and Ethernet protocols available for Altus (AL2000 series), Alstom (Alspa C80-35 & C80-75), GE Fanuc (GE90-30 & 90-70), Mitsubishi (AnA, AnU, AnS, QnA, QnAS), Omron (Sysmac C, CV and CS1), Schneider (Premium, Micro, TSX/PMX), Siemens (S7-200/300/400, S5, TI-505). Please contact us for more information.