

# NR&D



**“The SERI gives SY/MAX PLC I/O new life by turning it into Modbus/TCP Ethernet Distributed I/O.”**

Collaborative Automation  
by  
**Schneider Electric**

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# SERI

## SY/MAX Ethernet Remote Interface

### Overview

The Niobrara R&D SERI module is a SY/MAX Ethernet Remote Interface. It replaces the CPU or RI interface in a SY/MAX local or remote rack and maps its I/O to Modbus/TCP. The SERI can then be controlled via Ethernet from another PLC or SCADA.

Upgrading from SY/MAX to Unity Pro or Concept is now as simple as adding entries to the Quantum (or Premium or M340 or Compact or Momentum) Ethernet I/O Scanner for each SERI-controlled rack. Users can configure the SERI's powerful internal register mapper with a standard Web browser or included PC software. This mapper logically groups the SY/MAX input and output modules to minimize the number of Modbus/TCP messages required for control. Most systems will only need a single combination read+write I/O Scanner entry per SERI. The SY/MAX status of each module register is available to Modbus/TCP for monitoring blown fuses, analog over-range, etc. SERI provides an individual default value to each output register when there is a loss of remote control.

The SERI does not support Remote I/O from the local rack. Users must install a SERI in each Remote I/O rack.

### Features

- Web interface for configuration and troubleshooting
- PC program for online/offline configuration and troubleshooting
- flexible register mapper to arrange I/O logically
- reverts to default values on loss of communication
- default values configurable for every output word
- configuration stored in Flash memory
- supports a list of four allowed controlling IP Addresses
- supports the combined Read+Write message from Modicon PLC I/O Scanners
- supports “Disable Outputs” feature of SY/MAX rack for system testing
- allow upgrade of SY/MAX PLC control system without rewiring I/O

### SY/MAX rack with SERI-T

### Modbus TCP I/O Scanner



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## Tested Equipment

### NR&D Modules:

MEB, EPE5, IBSM, IBSS, SPXM, UCM4, RM14K, SPE4, and AIM4

### Register and Digital racks:

RRK-100, RRK-200, RRK-300, HRK-100, HRK-150, and HRK-200

### Input:

HIM-101, HIM-131, HIM-141, HIM-151, HIM-161, HIM-191, RIM-101, RIM-121, RIM-123, RIM-125, RIM-126, RIM-127, RIM-131, RIM-144, RIM-331, RIM-361, RIM-731

### Output:

HOM-211, HOM-221, HOM-241, HOM-251, HOM-261, RAO-208, ROM-121, ROM-122, ROM-141, ROM-221, ROM-271, ROM-431, ROM-441, ROM-871

## Ordering Information

### The SERI is available as:

- **SERI-T** SY/MAX Ethernet Rack Master, 10BaseT Ethernet

## Related Equipment

### The following equipment is also available:

- **SC902** six-foot programming cable

## Specifications

<b>Warranty/Manual</b>	The SERI is furnished with a user manual on CD and carries a one-year warranty from the date of shipment. During the warranty period, free firmware upgrades are available. See Niobrara's Standard Terms and Conditions of Sale for additional warranty information.
<b>Dimensions</b>	Standard SY/MAX register module; 1.5" wide by 13" tall by 6.5" deep. Approximately four pounds net. Rugged welded steel enclosure with baked-on finish.
<b>Power Requirements</b>	From SY/MAX bus. 5 volts, 0.8 A.
<b>Keypad</b>	Three-position keypad (Run, Run/Program, and Halt) on front panel to lock out changes when configured.
<b>Ethernet Port</b>	10BaseT twisted pair Ethernet. Link and Collision indicators on module front panel. Modbus/TCP and HTTP protocols.
<b>Serial Port</b>	SY/MAX compatible RS-422 with same pinout as SY/MAX processor; DB9 female connector with slide lock posts. 9600 baud, even parity, SY/MAX or Modbus/RTU; diagnostics, configuration, and firmware updates only.
<b>Indicators</b>	Power, Run, Program, Memory Error, I/O Error, Outputs Disabled, Configuration Error, Ethernet Error (all on top panel). Transmit and Receive indicators for serial port. Transmit, Receive, Link, and Collision indicators for Ethernet, on bottom of front panel. Fourteen indicators total.
<b>Setup Registers</b>	Processor equivalent registers store the configuration of the unit. These registers are maintained by rack power when present. Setup is restored from Flash memory after power cycle.
<b>Operating Conditions</b>	0 to 60 Celsius operating temperature; -40 to 80 Celsius storage. Humidity up to 90 percent noncondensing. Pressure altitude -200 to + 10,000 feet MSL.

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