

# NR&D



**“... allows the PLC to interact with I/O points and devices via the AS-i bus.”**

Collaborative Automation  
by  
**Schneider**  
Electric

**Niobrara Research & Development Corporation**  
P.O. Box 3418  
Joplin, MO 64803  
800-235-6723  
Tel: 417-624-8918  
Fax: 417-624-8920  
www.niobrara.com

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# QASI

## Quantum AS-Interface Master Module

### Overview

Niobrara's QASI is an AS-Interface (AS-i) network master designed for the Modicon TSX Quantum Automation Series PLC. The QASI allows the PLC to interact with I/O points and devices via the AS-i bus. It conforms to AS-i specifications (up to v3.0), which provide for analog I/O on the AS-i network, A and B slave addressing for up to 62 slaves, and enhanced safety features.

AS-i is an efficient, inexpensive, deterministic I/O bus that uses a single two-wire cable to carry data and logic power. Originally designed for discrete I/O, the AS-i specification has been expanded to add support for analog I/O.

### Applications

The QASI is intended to act as a host controller for an AS-i I/O network. It has a single AS-i port and AS-i network connection to the QASI is made through a front-mounted removable screw terminal connector.

Version 3 mode AS-i features include:

- Master profile M4
- Support for AS-i Version 3.0 and lower
- Support for A/B addressing of up to 62 slaves
- Support for 7.3 and 7.4 profile analog slaves

The QASI includes a LCD display to provide status and diagnostic information, including listing projected, detected, active, and faulted I/O. Screens are provided to view discrete I/O data and analog data for each slave. AS-i slaves may even have their addresses changed by the user through the front panel. For deeper access, the QASI has a single RS-232 serial port, which is useful for configuration, diagnostics, and firmware upgrades.

The QASI draws power from the Quantum bus, although an external power supply is required to power the AS-i network.

The QASI may be used as a replacement for the Modicon 140EIA92100 module by field selecting the EIA921 operating mode through the front panel LCD and buttons. In this mode, it is configured as if it were a 140EIA92100 module, and will work just like its predecessor with supports for only 31 discrete slaves and no analog I/O.

### PLC Interface

The QASI interfaces to the Quantum PLC as an I/O module so customers can use it in the Local (CPU rack), Remote (RIO), or Distributed (DIO) I/O racks. The QASI is traffic-coped through the Quantum backplane as an analog module with 27 Input registers (3x) and 27 Output registers (4x).

The QASI provides direct backplane register access to all possible discrete AS-i inputs and outputs. The analog I/O and configuration data is passed through the rack interface using a data windowing

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scheme. A Derived Function Block (DFB) is provided for Unity Pro operation to automatically move all analog and configuration data. 984LL support is accomplished with some simple logic using the TBLK block.

The entire QASI configuration is stored in the PLC so the QASI may be hot-swapped with no external configuration.

## Notes

The QASI is supported by Modsoft, Concept, ProWORX, and Unity Pro programming software.

## Ordering Information

The QASI is available as:

- **QASI-001** Quantum AS-i Master Module, single channel, AS-i up to version 3.0.

## Related Equipment

- **MM1** Programming cable, RS-232, RJ45 to DB9S.

## Specifications

<b>Warranty/Manual</b>	The QASI comes with a user manual on CD, and a one-year warranty from the date of shipment. See Niobrara's Standard Terms and Conditions of Sale for additional warranty information.
<b>Dimensions</b>	Single width Quantum register module. 1.59" wide by 9.84" tall by 4.09" (40 x 250 x 104 mm) deep. Approximately 12 oz. (340 g.) net. All connectors and indicators are front mounted except for the Quantum bus card edge connector on the back.
<b>Power Requirements</b>	From Quantum bus, 5 VDC, 350mA maximum; from AS-i network power supply - 100mA maximum.
<b>Serial Port</b>	RS-232 serial data port. RJ45 female connector, Modicon Micro pinout.
<b>AS-i Port</b>	AS-i Port: 2-position removable connector with screw terminals.
<b>Indicators</b>	64x128 pixel LCD display. Three front panel mounted pushbuttons "Page", "+", and "-".
<b>PLC Addressing</b>	27 words in, 27 words out. May be used in local, remote, or distributed I/O racks.
<b>Operating Conditions</b>	0 to 60 degrees C operating temperature; -40 to 80 degrees C storage. Humidity up to 90 percent noncondensing. Pressure altitude -200 to +10,000 feet MSL.

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