NR&D

QSPXM

Quantum™ Seriplex™ Master

Description

Niobrara's QSPXM is a Seriplex Master designed for the Modicon® Quantum PLC. The QSPXM allows the PLC to interact with I/O points and devices via the Seriplex Sensor/Actuator bus.

Seriplex is an efficient, inexpensive, deterministic bus interconnecting up to 510 I/O points or 480 16-bit words using a single four-wire cable. A full Seriplex network of 240 input registers and 240 output registers cannot be supported by the QSPXM due to the PLC's I/O limitation of 32 input registers and 32 output registers.

Seriplex connection to the QSPXM is made through a front mounted, male 9-pin D-subminiature connector. Power for the QSPXM is drawn from the Quantum bus, although an external power supply is required to power the Seriplex network. The QSPXM will support either a 12 or 24 volt DC Seriplex network. When the QSPXM serves as the host for the Seriplex network, no clock module is needed; the QSPXM supplies the Seriplex clock and serves as the source of pull-up current to the Seriplex line. All PLC electronics are optically isolated from the Seriplex network. The QSPXM supports Seriplex clock rates of 16, 32, 64, or 100 kHz.

Applications

• Host controller for Seriplex Network in Mode 1
• Peer-to-peer I/O sharing for Seriplex Network in Mode 2

Data Handling

The QSPXM interfaces to the Quantum PLC as an I/O module so it can be used in the Local (CPU rack), Remote (RIO), or Distributed (DIO) I/O racks. The QSPXM is Traffic Copped through the Quantum backplane as an analog module with 32 Input registers (3x) and 32 Output registers (4x), or as an I/O module with 512 discrete inputs (1x) and 512 discrete outputs (0x).

The first input register is the QSPXM status register; the first output register is the QSPXM configuration register. All other registers are Seriplex I/O. The layout of the I/O registers depends on the configuration register value. Niobrara provides a QSPXM configuration tool on its web site; point your browser to www.niobrara.com/qspxm_config.html.

The QSPXM supports lengths of the Seriplex bus up to 256 bits in multiples of 16. The QSPXM supports multiplexing of 2, 4, 8, or 16 channels deep by up to 240 bits wide in multiples of 16 bits. Multiplexed words must be positioned on 16-bit boundaries and must occupy the highest numbered bits of the configured Seriplex address space.

The QSPXM is a certified CAPP product, and is supported by Modsoft®, Concept™, and ProWORX programming software. The Quantum Seriplex Master is supplied with a user's manual on cd and carries a one year warranty.

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"The QSPXM…can be used in the Local, Remote, or Distributed I/O racks…"

Collaborative Automation Partner Program

Seriplex™

Niobrara Research & Development Corporation
www.niobrara.com

Ordering Information

The QSPXM is available as:
- **QSPXM**   with 1 Seriplex port

Specifications

Dimensions	Single width Quantum register rack module. 1.59" wide by 9.84" tall by 4.09" deep (40 x 250 x 104 mm). Approximately 12 oz. (340 g) net. All connectors and indicators are front mounted except the Quantum bus card edge connector on the back.
Power Requirements	From Quantum bus - 5 VDC, 100 mA; from Seriplex network power supply - 12 or 24 VDC, 100 mA.
Operating Conditions	0 to 60 degrees C operating temperature; -40 to 80 degrees C storage. Humidity up to 90% noncondensing; pressure altitude -200 to +10,000 feet MSL.
Seriplex Port	9-pin male D-subminiature connector. Variable frequency (16, 32, 64, 100 Kbaud Seriplex protocol). Supports Mode 1 and Mode 2 and multiplexed analog I/O.
Indicators LED	Indicators for Fault, Active, Ready, Run, Voltage OK, and Data Validation. Six total indicators.
Faults Detected	Clock shorted low; clock shorted high; data shorted low; data shorted high; external clock active; Mode 1 device w/Mode 2 host.
PLC Addressing	Up to 32 words in, 32 words out when used in local or remote I/O racks; up to 30 words in, 32 words out when used in distributed I/O racks.