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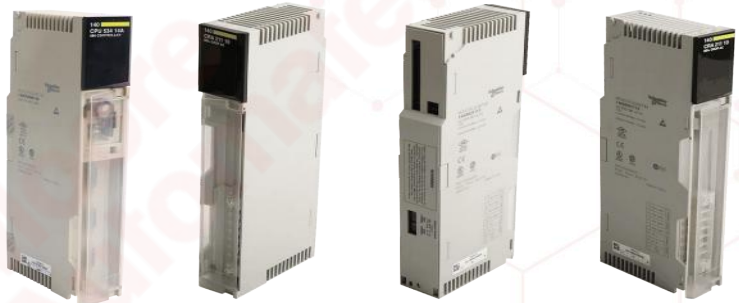

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Moore Automated is a global automation parts reseller focused on hard-to-find and obsolete industrial automation products. Today we already have 20 years experience in automation area.In past time we insist to offer best service to worldwide client,In future we will also offer good quality and satisfied service again.

Quantum

with Concept and ProWORX
Hardware Reference Manual

Schneider Electric

Modicon Quantum Automation System Overview

Introduction

This chapter provides an overview of the Modicon Quantum Automation System, which includes Modicon Quantum software support.

What Is in This Chapter?

This chapter contains the following topics:

Quantum CPU Modules

Overview

The Quantum CPU is a module residing on the Quantum local I/O backplane. The CPU is a digitally operating electronic system, which uses a programmable memory for the internal storage of user instructions. These instructions are used to implement specific functions such as:

- Logic
- Process sequencing
- Timing
- Coupling
- Arithmetic

These instructions allow control through digital and analog outputs, for various types of machines and processes.

The Quantum CPU serves as a bus master controlling the local, remote, and distributed I/O of the Quantum system.

Quantum I/O Modules

Overview

Quantum I/O modules are electrical signal converters that convert signals to and from field devices to a signal level and format, which can be processed by the CPU, such as:

- Limit switches
- Proximity switches
- Temperature sensors
- Solenoids
- Valve actuators

All I/O modules are optically isolated to the bus, ensuring safe and trouble-free operation. All I/O modules are also software configurable.

RIO Modules (CRP/CRA/NRP)

Quantum RIO head and drop modules use a S908-based networking I/O configuration. Communication is done via single or dual coaxial cabling up to 15,000 feet away. This configuration supports a mix of the following product lines:

- SY/MAX
- 200 Series
- 500 Series
- 800 Series
- Quantum I/O

When Quantum RIO is required, the Quantum controller may support up to 31 RIO drops. In an RIO configuration, an RIO head module is connected with coaxial cable to RIO drop modules at each remote drop.

Quantum NRP modules provide extended communication capabilities and noise immunity for the Quantum RIO network with fiber optic media.

DIO Module (CRA)

Quantum DIO is implemented over a Modbus Plus network. The CPU or NOMs module may be the network head via their Modbus Plus ports.

Quantum DIO Modbus Plus drop adaptors are specifically designed to link Quantum I/O modules to the head via twisted pair shielded cable (Modbus Plus). The DIO drop modules also provide the I/O with power (maximum 3A) from a 24 Vdc or a 115/230 Vac source. Each DIO network supports up to 63 distributed drops using repeaters.

Network Option Module (NOM)

Quantum NOM modules provide extended communication capabilities for the Quantum system within a Modbus Plus configuration.

Modbus Plus on Fiber Module (NOM)

Quantum Modbus Plus on Fiber modules provides connectivity to Modbus Plus nodes by fiber cable without fiber optic repeaters, and allows the creation of a pure fiber optic network or a mixed fiber optic/twisted-pair network (with the use of a 490NRP254 Fiber Optic Repeater).

Ethernet TCP/IP (NOE) Modules

Quantum Ethernet TCP/IP modules make it possible for a Quantum controller to communicate with devices on an Ethernet network using TCP/IP – the de facto standard protocol. An Ethernet module may be inserted into an existing Quantum system and connected to existing Ethernet networks via fiber optic or twisted pair cabling.

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