Pub: DS OptiLogic, Rev B2

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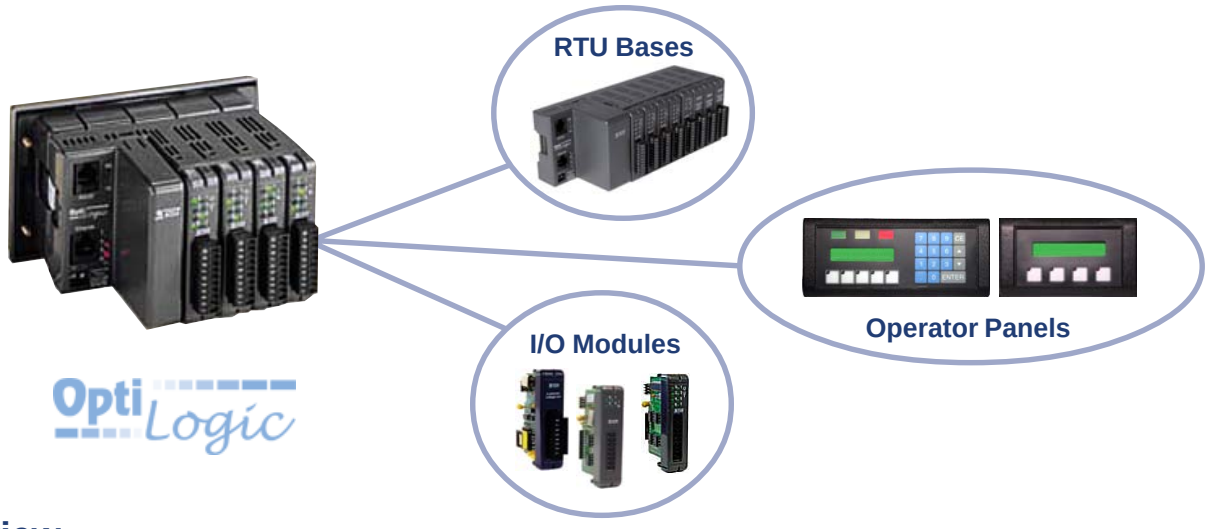
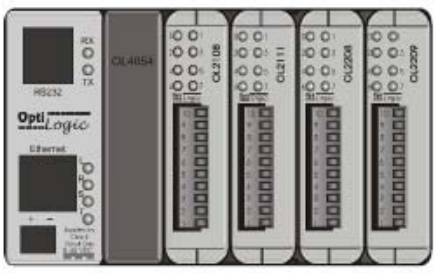
OptiLogic® Series

Flexible Modular System for Cost-Effective Ethernet I/O



Overview

Nematron's OptiLogic series is a flexible, modular system, designed to allow the ability to configure an optimal solution for specific application needs. To accomplish this goal, Optimation has developed a series of I/O modules, communications modules, specialty modules and operator panels that can be plugged together in nearly any combination. This datasheet covers the currently available modules that plug into the card cage (RTU base module).



Most OptiLogic modules can be installed in any card cage slot and used in any appropriate combination and quantity* that will fit in the card cage. This applies to all general purpose digital and analog I/O. If an application requires all digital inputs - plug in digital input modules only. If an application requires a mixture of analog and digital input and output - select the mixture that fits the need. Snap together modularity gives the ability to optimize any system for any need.

*Certain power limitations and requirements apply. Please refer to user manuals for details.

System Features Overview

- Flexible, modular system
- 4-slot and 8-slot card cage options (RTUs)
- Easy snap-together design
- Mountable on standard DIN rails
- Optional operator panel interfaces
- Wide selection of I/O modules available
- 10BaseT (10 Mbit/s) Ethernet-ready
- Modbus TCP/IP-capable (OL4228 RTU base only)
- OLQuickStart software for testing and exercising RTUs
- OL System Builder software provides an interface between program and RTU
- Manuals and product guides are available online

OptiLogic Product Guide

RTU Bases

OptiLogic Remote Terminal Units (RTU) deliver superior point-of-use 10-BaseT (10 Mbit/s) Ethernet I/O and operator panel capabilities for PC-based data acquisition and control systems. OptiLogic RTUs allow any appropriate combination of OptiLogic I/O modules to be easily plugged into the available slots. OptiLogic RTUs are available with four or eight slots.

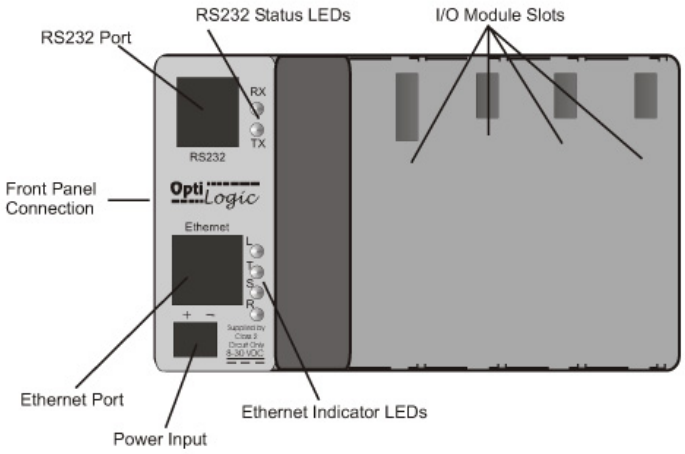
- OL4054 4-slot I/O base or OL4058 8-slot I/O base, both with IPX or OptiLogic/UPD communications.
- Also, the OL4228 8-slot I/O base extends the OptLogic family to include TCP/IP communications. Now, any Modbus TCP-capable, PC-based application can interface with OptiLogic Ethernet I/O.

OL 4054
4 slot RTU Base
with OptilLogic/UDP and IPX

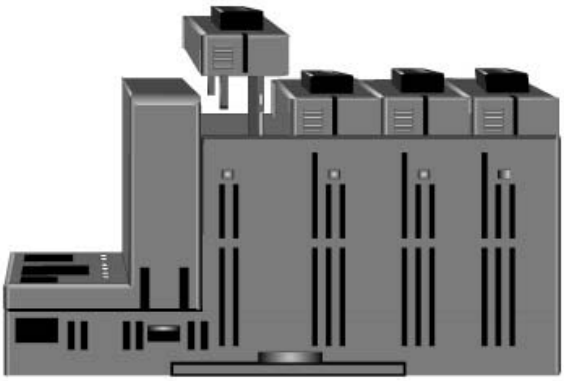
OL 4058
8 slot RTU Base
with OptilLogic/UDP and IPX

OL 4228
8 slot RTU Base with OptilLogic/UDP
and Modbus TCP/IP

RTU Base Assembly Diagram



RTU Base Snap-Together Design



The figures above show OptiLogic Ethernet RTU base examples. The particular bases shown are 4-slot bases. (Bases with 4 or 8 slots are available and have the same basic features.) An OptiLogic Ethernet RTU base consists of a card cage containing an OptiLogic motherboard. The base unit has a built-in Ethernet port, as well as an RS232 port. The OptiLogic base mounts by snapping onto a standard DIN rail, or by snapping onto the DIN rail built into OptiLogic operator panels (see right). When attached to an OptiLogic operator panel, the complete assembly can then be panel mounted. I/O and specialty modules plug into the available slots in the OptiLogic base.

OptiLogic Operator Panels

All OptiLogic RTUs can be mounted on a standard DIN rail, but if an operator panel is required, these units can be quickly snapped onto the back of any OptiLogic panel. The combined module can then be easily mounted in a panel. A single cable links the two units, providing both signal and power.

OL3406
Pushbutton / Indicator Panel

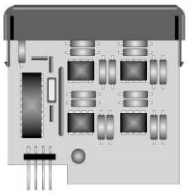
OL3420
Operator Terminal

OL3440
Display Panel

OL3850
Operator Terminal

OptiLogic Product Guide

Cost Effective Network Solution



OptiLogic I/O modules are designed to meet the needs in real world applications. The modules are small circuit boards with a few available points to minimize system cost. Most module connectors are pluggable terminal strips for easy connection, and easy maintainability.

The snap-together design means low labor costs. Visual status indicators on digital I/O and communications modules provide a convenient means for monitoring operation. All together, the result is a cost effective, easy to use and maintain set of industrial control hardware.

OptiLogic Input Devices

OL2201
8 Point Digital Input Simulator

OL2205
4 point Input, 10-30V AC/DC

OL2208
8 Point Input, 10-30 VDC
(sourcing or sinking)

OL2211
8 Point AC Input,
80-132 VAC

OptiLogic Output Devices

OL2104
4 Relay Output

OL2108
8 Relay Output

OL2109
8 Point, 5-40 VDC sinking output

OL2211
8 Point Solid State Relay Output

OptiLogic Analog Input/Output Devices

OL2304
4 Channel Voltage Output
0-5V, 0-10V, +/-5V, +/-10V
(individual channel configurable)

OL2408
8 Channel, 14 bit,
0-5 VDC or 0-10 VDC
analog input

OL2418
8 Channel, 14 bit,
4-20mA analog input

OptiLogic Pulse Counters

OL2252
2 Channel 0 - 15 KHz

OL2258
High Speed Pulse Counter Pulse &
Direction, Up/Down Count or Quadrature

Communication Devices

OL2602
2 Channel RS232C

Accessories

Cables - All Cables are 6 ft. long unless stated otherwise.

OL-CBL-X01	Ethernet category 5 crossover cable, 6 foot, red
OL-CBL-P01	Ethernet category 5 patch cable, 6 foot, black
OL-CBL-DNL	Base software update download cable. Connects between base RS-232 port and PC's RS232 port. 9 pin D-shell female to RJ12 connector
OL-CBL-RIB1	Interconnect cable, base to operator panel, 1 inch (approximate)
OL-CBL-RIB12	Interconnect cable, base to operator panel, one foot long
OL-CBL-RIB36	Interconnect cable, base to operator panel, three feet long

Power Supplies

OL-PS1	Wall plug power supply for OL4054 and OL4058 panels. 24VDC (unregulated) @ 1A output.

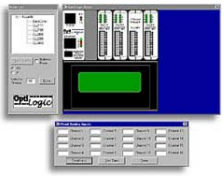
Network Interface Cards

OL-NIC01	Network Interface Card. PCI ethernet adapter (3Com)

OptiLogic Software Options

OptiLogic Software is available for download at no charge from the Nematron.com web site.

OptiLogic QuickStart



OLQuickStart Software tests and exercises OptiLogic RTUs over an Ethernet link. QuickStart is easy to use software to test your system hardware and communications links. Not a software development package.

OptiLogic System Builder

For Windows applications development in C/C++, Visual Basic, or Visual Basic.NET, our System Builder Software provides an easy to use interface between your program and the OptiLogic RTUs. Supporting operating systems include Windows® NT4/ Windows 2000®/Windows XP®/ Windows Vista®*.

The OptiLogic System Builder includes the OptiLogicProtocol.dll, header files, and manuals for use with either Visual Basic or C/C++. By using System Builder, you can quickly develop your application code, or adapt OptiLogic to your existing software. System calls to the DLL are simple and straightforward. The Optilogic DLL handles all of the Ethernet details for you, making operation transparent. You are left to concentrate on what's really important – the functional aspects of your application.

* Windows Vista does not support IPX. The IPX protocol is not available when running on Vista OS.

OptiLogic Update Tool

This software is used to configure an IP address on the 4054/4058/4228 RTU bases and to download firmware updates.

Ordering Information

Nematron products are available worldwide through our network of factory-authorized distributors. For distributor contact information in your area, please visit our website at www.nematron.com and submit a Request for Quote or call Nematron's Customer Care Center at your nearest regional sales office. Product manuals can be downloaded free of charge from the Nematron website.

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