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OMRON
INDUSTRIAL AUTOMATION

CP1W-MODTCP01-US

CP1 Modbus/TCP Adapter

Modbus/TCP Master for CP1L and CP1H Micro PLCs
Modbus/TCP Slave for CJ2M-CPU3x, CP1L and CP1H PLCs

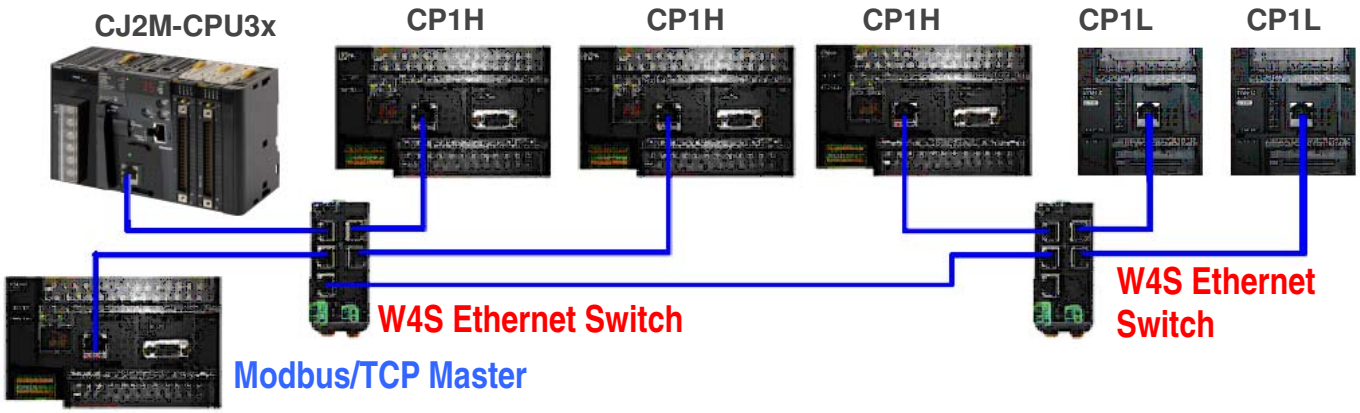
The CP1W-MODTCP01-US allows Omron CP1L, CP1H and CJ2M-CPU3x PLCs to function as slave nodes on a Modbus/TCP network. The adapter can function as either a Modbus/TCP Master or as a Modbus/TCP Slave, but not both simultaneously. The Modbus/TCP Master mode is used to control/monitor IO blocks and other remote devices. The Modbus/TCP Slave mode responds to commands from a Modbus/TCP Master such as a PC or PLC.

Key Features and Benefits

- **Most Popular Network –** Modbus/TCP/IP is the most popular remote I/O Ethernet network for PLC systems in the world
- **Simple setup –** Web page configuration for IP Address & Master/Slave selection
- **Operates as a Modbus/TCP Master or Slave -** As a Master, the adapter is used to control/monitor IO blocks and other remote devices. As a Modbus/TCP Slave it responds to commands from a Modbus/TCP Master (PC, PLC, other)
- **Perfect for Data Collection –** The CP1W- MODTCP01-US turns a CJ2M-CPU3x, CP1L/H PLC into a Modbus/TCP Slave that can easily share information with a Modbus/TCP Master for remote data collection or control
- **High Speed Counters & Expandable I/O –** 4 x 100Khz counters built-in, up to 320 I/O (CP1H-X) & 180 I/O (CP1L-M60) PLCs
- **Programmable Slave for Motion, Temperature Control –** Each PLC can be a powerful motion controller* (CP1H - 4 Axis, CP1L – 2 Axis) with high speed interrupts, Real Time Clock, PID, Floating Point Math and is expandable with digital I/O or analog for Temperature or Process Control. The addition of a Modbus/TCP adapter turns the PLC into a Low Cost Programmable Slave *Transistor models
- **Supports Multiple Connections -** If the adapter is configured in Modbus/TCP slave mode, it can also support communications to CX-Programmer, NS HMI or other devices that use FINS (Omron's open communication protocol)
- **Gateway for Modbus/TCP & FINS Ethernet –** Allows CS/CJ PLCs with Ethernet or EtherNet/IP to communicate using FINS through a CP1 PLC as a Modbus/TCP Slave

Typical Master/Slave Configuration

Modbus/TCP Slaves can perform Motion Control, Process Control, etc.



Specification

Item	Description
Part #: CP1W-MODTCP01-US	CJ2M-CPU3x, CP1L/H - Modbus/TCP Slave or CP1L/H Modbus/TCP Master (not both simultaneously)
Type, Max # of Modbus Slave nodes	100Base-TX (Can be used as 10Base-T), 254 Max Slave Nodes
Applicable PLCs	CP1L-L14, CP1L-L20, CP1L-M30, CP1L-M40, CP1L-M60, CP1H
Max Distance, Communication Method	100 m (distance between hub and node), Modbus/TCP/IP protocol
Max number of units mounted in PLC	2 (1 Modbus/TCP Master, 1 Modbus/TCP Slave)(CP1L 30 I/O or more or CP1H)
Max connection/adapter - Slave mode	4 – (2 Modbus/TCP connections & 2 FINS)
Max connection/adapter - Master mode	1 connection (CP1L, CP1H PLCs only can be set to Master Mode)
Current IP Address (Slave mode)	D1200, D1201 (D1200=1st & 2nd Octets in Hex, D1201=3rd & 4th Octets in Hex)
Default IP Address, Web Page Set-up	192.168.250.11 Web Page Set-up: http://192.168.250.11

The adapter supports the following Modbus/TCP function codes:

01 – Read Coil Status	02 – Read Input Status	03 – Read Holding Registers
04 – Read Input Registers	05 – Force Single Coil	06 – Preset Single Register
0F – Force Multiple Coils	10 – Preset Multiple Registers	

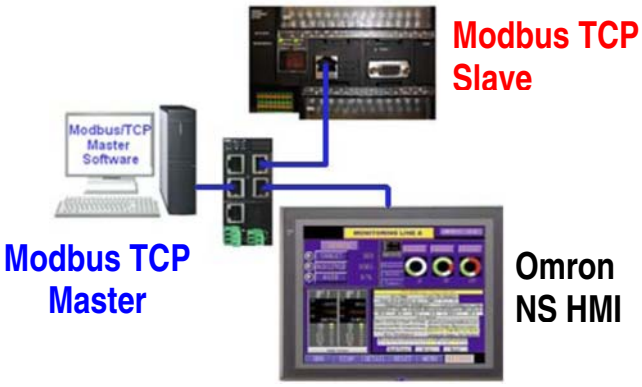
Applications

- Tank Level, Monitoring and Control
- High Speed I/O Data Loggers
- Irrigation Systems, Sequence Control
- Waste Water Monitoring and Control
- Voltage, Current, Monitoring and Control
- SCADA Equipment
- Machine Tool Industry
- Building Automation
- Solar Farms

Configuration Examples

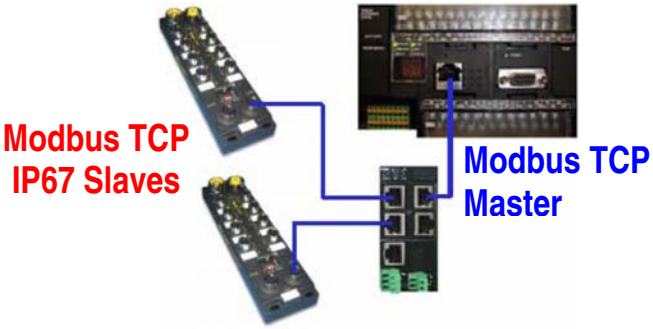
http://www.omron247.com/marcom/Pdfcatal.nsf/PDFLookupByLinkCode/Man_ModbusTCP_Setup_W04I?OpenDocument

Modbus/TCP Slave Supports Multiple Connections



Shown above, the PC is the Modbus TCP Master and it is controlling/monitoring the remote slave (CP1H). The NS HMI communicates to the CP1H PLC via FINS. An Omron W4S Ethernet switch is used to connect the various Ethernet devices.

Modbus/TCP Master to IP67 Slaves, etc.



Shown above is a CP1H PLC with a CP1W-MODTCP01-US adapter configured for Master mode. It is communicating to two remote Omron IP67 Modbus TCP slaves. An Omron W4S Ethernet switch is used to connect the various Ethernet devices.

Ordering Information

Part Number	Description
CP1W-MODTCP01-US	Modbus/TCP Adapter for CJ2M-CPU3x, CP1L and CP1H series PLCs

Additional literature can be obtained from www.omron247.com

W450 - CP1H Operation Manual
W451 - CP1L / CP1H Programming Manual
W462 - CP1L Operation Manual
V227 - W4S Ethernet Switch

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OMRON CANADA, INC. • HEAD OFFICE
Toronto, ON, Canada • 416.286.6465 • 866.986.6766
www.omron247.com

OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE
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Cat. No. P063I-E-01 09/10 Specifications subject to change without notice.