

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

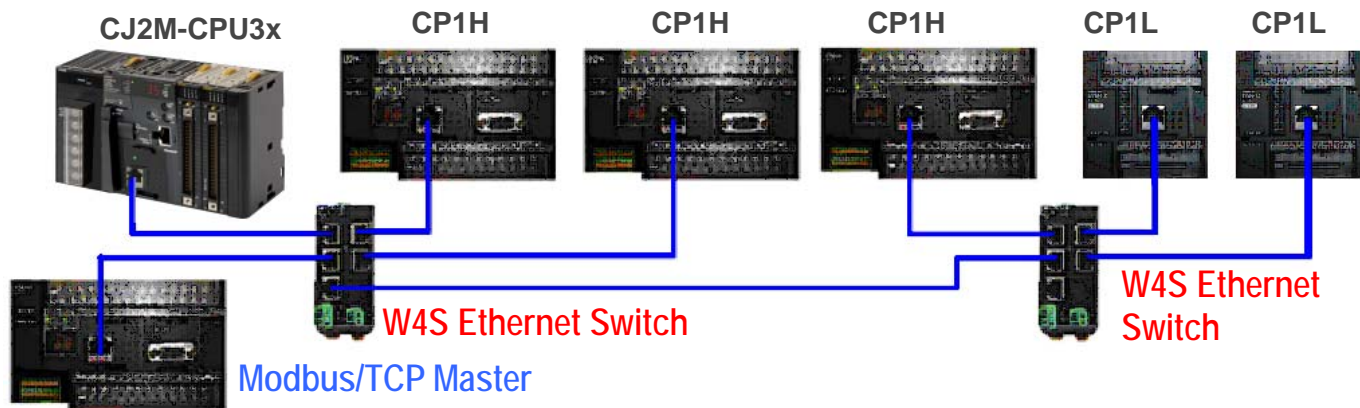
The CP1W-MODTCP01-US allows Omron CP1L, CP1H and CJ2M-CPU3x PLCs to function as slave nodes on a Modbus/TCP network. The adapter can function as either a Modbus/TCP Master or as a Modbus/TCP Slave, but not both simultaneously. The Modbus/TCP Master mode is used to control/monitor IO blocks and other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

## 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	

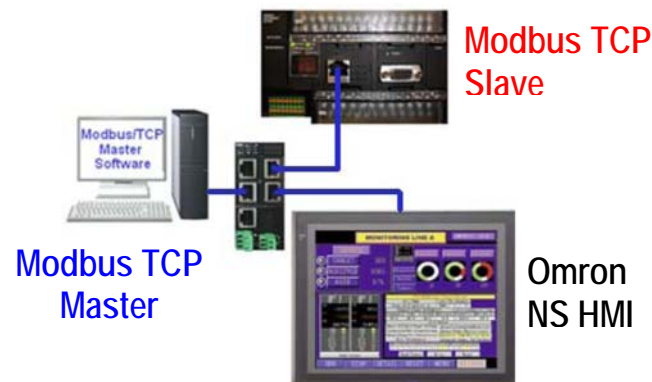
### Applications

- 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

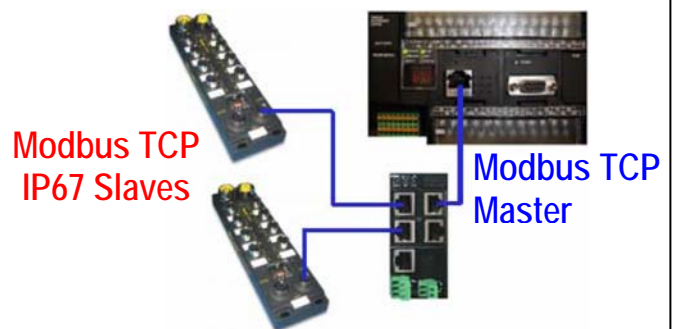
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Modbus/TCP Slave Supports Multiple Connections



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](http://www.omron247.com)

**W450** - CP1H Operation Manual  
**W451** - CP1L / CP1H Programming Manual

**W462** - CP1L Operation Manual  
**V227** - W4S Ethernet Switch

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