DL05/06 Ethernet Communications Modules

Ethernet Communications Modules

H0-ECOM <--->
H0-ECOM100 <--->

Overview

Ethernet Communications Modules offer features such as:

- High-speed peer-to-peer networking of PLCs
- Fast updates with *Direct*SOFT Programming Software
- High-performance access for Human Machine Interface (HMI), ERP, MES or other Windows-based software
- Industry standard Modbus TCP Client/Server Protocol (H0-ECOM100)
- Free SDK for custom drivers
- Easy setup

The Ethernet Communication (ECOM) Modules represent a price breakthrough for high-speed peer-to-peer networking of PLCs. No longer are you forced to designate a single PLC to be the network master. Any PLC can initiate communications with any other PLC. Link your PLCs with PCs using industry standard Modbus TCP protocol connected through standard cables, hubs, and repeaters. Or, use our **KEP***Direct* I/O Server to link your favorite HMI/SCADA, data historian, MES or ERP software to *Direct*LOGIC PLCs. Our Lookout*Direct* HMI and our DataWorx data collection software include ECOM drivers. *Direct*SOFT Programming Software can be used to monitor or update the program in any *Direct*LOGIC PLC on the network.

Simple connections

Use Category 5 UTP cables which can be run up to 100 meters between nodes. Use repeaters to extend distances and expand the number of nodes.

Our HA-TADP (10/100BaseT) PC network adapter card is compatible with the ECOM modules. See the Communications Products section for information on the adapter card.

Choose your slot

The ECOM module plugs into any option module slot of any DL05 PLC or DL06 PLC. The module maintains identification data, descriptive information, and communication parameters for PLC-to-PLC communications in flash memory. Disconnect power before installing or removing any PLC module.

Specifications	H0-ECOM	H0-ECOM100
Communications	10 BaseT Ethernet	10/100 BaseT Ethernet
Data Transfer Rate	10 Mbps	100 Mbps
Link Distance	100 meters	
Ethernet Port	RJ45	
Ethernet Protocols	TCP/IP, IPX	TCP/IP, IPX, Modbus TCP/IP DHCP, HTML Configuration
Power Consumption	250mA @ 5 VDC	300mA @ 5 VDC
Manufacturer	Host Automation Products, LLC	

CPU	Firmware Required	DirectSOFT Required
DL05	ECOM: Version 4.60 or later ECOM100: Version 4.90 or later	Version 3.0c or later
DL06	ECOM: Version 1.40 or later ECOM100: Version 1.80 or later	Version 4.0, Build 16 or later

H0-ECOM100 *IBox* communications instructions

Over 25 Communications *IBox* instructions are available when using the H0-ECOM100 with a DL05/06 PLC and *Direct*SOFT5 programming software. These easy-to-use instructions allow you to:

- Enable/disable module DHCP
- Read/write module IP, Gateway and Subnet Mask addresses
- Read/write module ID, Name and Description
- Send E-mail messages
- Read/Write PLC memory to networked Hx-ECOM100 modules
- Read/Write PLC memory to networked Hx-ECOM(-F) modules

See the following page for example Communications *IBox* instructions.

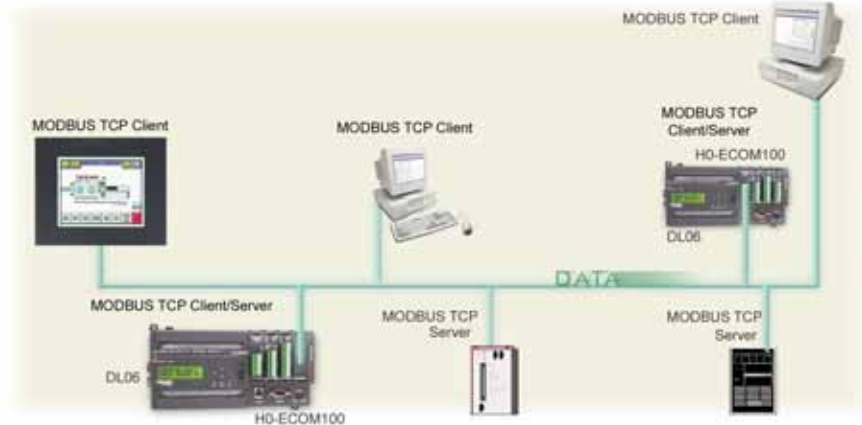**The H0-ECOM100 supports the Industry Standard Modbus TCP Client/Server Protocol**

Message in

Message is sent out of port only connected to device

See the Communications section for details on the E-SW05U Ethernet Switch

DL05/06 Ethernet Communications Modules

Automation Direct

PLC Overview

DL05/06 PLC

DL105 PLC

DL205 PLC

DL305 PLC

DL405 PLC

Field I/O

Software

C-more HMIs

Other HMI

AC Drives

Motors

Steppers/Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pushbuttons/Lights

Process

Relays/Timers

Comm.

TB's & Wiring

Power

Circuit Protection

Enclosures

Appendix

Part Index

Modbus TCP support

The H0-ECOM100 supports the industry standard Modbus TCP Client/Server protocol in addition to the standard IP and IPX protocols. This allows the DL06/06 PLC with an H0-ECOM100 module to serve as a client (master) or as a server (slave) on a Modbus TCP Ethernet network. The H0-ECOM100 can actively issue Modbus commands to other nodes or devices on the Modbus TCP network or simply respond to connected Modbus TCP clients.

ModbusTCP communications architecture

PLC-to-PLC communications

PLC-to-PLC or PLC to a Modbus TCP device communications can be accomplished using standard Read from Network (RX) and Write to Network (WX) instructions (all DL05/06 PLCs, all H0 series ECOMs and all *Direct*SOFT versions). If you're using our new *Direct*SOFT5 programming software, a DL05 or DL06 PLC and an H0-ECOM100, you can use fill-in-the-blank *IBox* instructions to simplify your communications programming. The H0-ECOM100 supports the ECOM100 Configuration *IBox* for use with the ECRX and ECWX *IBox* instructions to read/write to other ECOM(100)s. All H0 series ECOM modules support the NETCFG Configuration *IBox* for use with the NETRX and NETWX *IBox* instructions to read/write to other ECOM modules (remember *Direct*SOFT5 is required). The Communications *IBox* instructions execute with built-in interlocking to greatly simplify communications programming.

ECOM100 Configuration IBox

ECOM100 Read Network IBox

H0-ECOM100 has e-mail capability!

The H0-ECOM100 Send EMail (ECEMAIL) *IBox* instruction will allow the module to behave as an e-mail client and send an SMTP request to your SMTP Server to send a specified e-mail message to the e-mail addresses in the *IBox*'s **To:** field. The **Body:** field allows you to embed real-time data in your e-mail message. *Direct*SOFT5 is required to use the *IBox* instructions.

NetEdit3 software

NetEdit3 Software ships free with the ECOM User Manual. Use NetEdit3 to configure the ECOM modules for your network. Flexible addressing allows you to use your choice of protocols and identifying methods. Assign each module a number or a name or both. You don't have to use an IP address, but you can if it's necessary for your network. NetEdit3 uses two protocols for PC-to-PLC communications: IPX and TCP/IP. The NetEdit3 screen displays all identifiers and troubleshooting information for each module on the network. You can use NetEdit3 to adjust parameters for PLC-to-PLC communications by clicking on **Advanced Settings**. The network identifiers can also be changed from *Direct*SOFT Programming Software.

ECOM100 Send EMail IBox