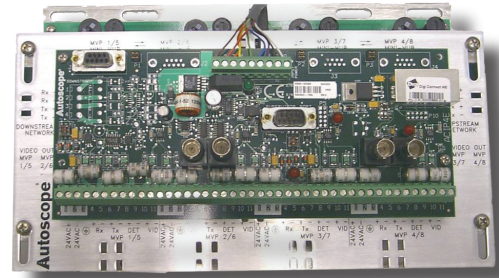


## Autoscope® Communications Interface Panel - Ethernet Option

The **Autoscope ACIP4E** provides simple Ethernet connectivity in today's severe traffic environments.



### Fast Communication

The Ethernet option to the **Autoscope ACIP4** Communications Interface Panel provides an Ethernet version 2.0 IEEE 802.3 compliant 10/100 Base-T Auto-Sensing port for advanced systems communications. The Ethernet option is available on the standard ACIP4ES flat panel or in the space-saving ACIP4ED double-stacked panel assembly.

The Ethernet option enables an upstream connection to other Ethernet equipment in the cabinet. An industry standard RJ45 type connector supports the simple CAT-5 patch cable interface. Unlike the standard ACIP4S panel, there is no downstream RS-422 connection.

The Ethernet option supports high-speed serial communications up to 230,400 bps. The serial interface on the Ethernet option is preset to operate at 115,200 bps, 8N1 without flow control.

Five diagnostic/status LED indicators are included to simplify and expedite troubleshooting of the field communications network. Two indicators show the status of the network LINK and activity on the Ethernet side, while a red LED shows the receipt of data from the **Autoscope Solo**® Pro Machine Vision Processor (MVP) sensors on the serial side. Another red LED shows the receipt of data from the RS-232 port, typically for a directly connected PC for field maintenance.

There is no need to disconnect the CAT-5 cable to service the **Autoscope** installation. These indicators provide the technician with a quick and easy means of diagnosing network configuration problems and isolating hardware faults.

### Theory of Operation

The ACIP4E interface panel implements power, high-volt-

age transient protection, mechanical strain relief, and electrical connections to **Autoscope Solo** Pro MVP sensors for communications and video. This acts as a terminal for Ethernet network communications. The ACIP4E interface panel offers a place to terminate the **Autoscope Solo** Pro MVP cables from one to four **Autoscope Solo** Pro MVPs and a single 10/100 Base-T Ethernet communications network cable. The panel passes detection information from the **Autoscope** sensors to the Detector Port Master (DPM) and traffic controller.

### Features

- Exceeds NEMA TS1 and TS2 requirements
- Ethernet version 2.0 IEEE 802.3 compliant 10/100 Base-T Auto-Sensing Port
- Static IP (typical) or DHCP configuration
- Factory pre-configured with a private IP address and Class-C subnet mask
- ACIP Learner for easy set up
- High-speed serial interface up to 230,400 bps
- Field-upgradeable firmware via HTTP and utility
- Configuration and management through Simple Network Management Protocol (SNMP) (read & write)
- Strong SSL V3.0/TLS V1.0-based encryption (DES, 3DES, and AES) support
- Rugged, protective enclosure
- Low power consumption
- Two-year warranty

## Simplified Configuration

Compared to the standard ACIP4 interface panel, the Ethernet option port takes the place of the upstream 4-terminal twisted-pair connector, while the associated suppression components are removed. The downstream 4-terminal twisted-pair connector and associated suppression are also removed, as Ethernet connectivity is normally a single Ethernet connection to each intersection. This leaves the Supervisor Port available for local PC connection to conduct set up and maintenance.

Built on leading 32-bit technology, the embedded Ethernet option device server offers true plug-and-play functionality with intelligent device management and configuration via Simple Network Management Protocol (SNMP). The Ethernet option is based on a terminal server device to make set up and configuration as simple as possible. A built-in browser interface allows standard network browsers such as Internet Explorer and Netscape Navigator, or a custom **Autoscope** utility, full access to all functions.

## ACIP Learner Utility

The ACIP Learner Utility Program finds and lists all ACIP4E interface panels that have Ethernet connectors. The Learner Utility allows the operator to specify network properties that allow a more focused search. The **Autoscope** ACIP Learner Utility interacts with the Ethernet port in order to make the assignment of an IP address simple and error free.

In addition, an override jumper allows reset to a default address. The ACIP Learner Utility also facilitates any future firmware upgrades.

The Ethernet option includes a private IP address (192.268.11.252) and a Class-C subnet mask (255.255.255.0) pre-configured in the ACIP4E before it leaves the factory.

## Benefits

- Faster communications
- Supports more flexible Ethernet-based installations
- No need for Ethernet-to-serial converters
- Allows sharing Ethernet pipe with other cabinet equipment
- Ethernet communications allow use of video server for faster video refresh than the **Autoscope** Video Player

## Specifications

- 32-Bit NET+ARM high-performance Reduced Instruction Set Computer (RISC) processor (NS7520 55MHz)
- High-speed TTL Serial Interface:
  - Throughput up to 230,400 bps
  - Full signal support for TXD, RXD, RTS, CTS, DTR, DSR, and DCD
  - Hardware & software flow control
- Integrated 2MB Flash and 8MB RAM
- Auto-sensing 10/100Base-T network interface with on-board RJ45 connector
- Robust on-board IP stack: TCP, UDP, DHCP, SNMP, SSL/TLS, HTTP, SMTP, ICMP, IGMP, and ARP
- Industry-leading low latency
- Firmware is field-upgradeable via HTTP
- Secure, web-based configuration (HTTP/HTTPS)
- Universal IP address assignment
- Configuration & management through SNMP (read/write)
- Strong SSL V3.0/TLS V1.0-based encryption capable:
  - DES (56 Bit)
  - 3DES (168 Bit)
  - AES (128/256 Bit)

## Connectors

- Ethernet connectivity upstream: RJ-45 connector
- Detector Communications Port: Single DB9 female connector
- Local Supervisor PC Port: Single DB9 male connector
- Video Outputs: 4 standard 75Ω BNC video connectors
- Solo Cable Terminations: 4 sets of 11 compression terminals to support up to 4 **Autoscope Solo** Pro MVP sensors
- Line Power Connection: 3-position compression block

## Econolite model ACIP4ED

- Space-saving ACIP4 double-stacked panel assembly with Ethernet option

## Humidity Limits

- Up to 100% relative humidity per MIL-E-5400T paragraph 4.3.24.4.

## Ambient Temperature Limits

- -29°F to +165°F (-34°C to +74°C)

## Ordering Information

- Econolite model ACIP4ES: Standard ACIP4 flat-panel assembly with Ethernet option

## Warranty

- Two-year standard warranty

## Product Support

Product support and training by team of factory-trained **Autoscope** technical support specialists