

New Ethernet Analog I/O modules pack 16 channels of 16-bit A/D into an inch-wide unit to reduce costs

Acromag introduces new 16-channel Analog Input modules with Ethernet communication in a space-saving unit to simplify installation and significantly reduce the cost of interfacing sensor signals to remote controllers.



Acromag continues to expand its line of [BusWorks® Ethernet I/O modules](#) for distributed I/O and SCADA with new [993EN](#) and [994EN](#) models providing a 16-channel 16-bit A/D interface for single-ended analog voltage or current input signals. The space-saving inch-wide units make it very easy to retrofit older control systems for Ethernet Modbus TCP/IP networking and greatly reduce the cost per channel in new installations. Users can select industrial-grade or commercial versions (starting under \$500) for significant savings in applications that do not need the extra performance and safety approvals. Industrial-grade units add superior accuracy, a signal integrator/totalizer function, -40 to 70°C capability, and are designed to meet UL/cUL Class 1 Division 2 ABCD (Zone 2) requirements.

Two models, each with 16 single-ended analog inputs, support a variety of I/O ranges. The 993EN accepts DC current with $\pm 20\text{mA}$, 0-20mA or 4-20mA input ranges. 994EN models accept $\pm 5\text{V}$ or $\pm 10\text{V}$ DC. Fast scanning updates all 16 channels in just 8mS. Dual-format data registers support 16-bit integer and 32-bit floating point formats. Users can read raw channel data based on 16-bit signed integer or 32-bit scaling registers, configurable on a per-channel basis, to minimize CPU or HMI software processing time. Surge protection and 3-way 1500V isolation between I/O, power, and network circuits increase reliability.

A sample averaging function is also configurable. Averaging improves performance in noisy or fluctuating environments and increases the performance of single-ended inputs. On industrial-grade units, an integration function can totalize inputs with non-volatile counter registers on all channels. Totalizing is ideal for flow applications, providing the ability to accurately measure actual volumetric usage on liquid, gas, electricity, and fuel flows. Users can read instantaneous flow signals and volume data on each channel. Information is stored to non-volatile memory which is safe in the event of a power loss. Common applications involve monitoring temperature, pressure, flow, and level instruments in process control, automation, remote data acquisition, online monitoring, and supervisory management systems.

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These input modules are very easy to use. No software is required as the units are configured using any web browser to set operating parameters on embedded configuration menus. An auto-copy function lets users rapidly apply a saved configuration to multiple units. The automatic calibration function uses built-in precision sources and on-demand self-test capability verifies the calibration. Front-panel LEDs provide a visible confirmation of proper operation.

Acromag is an international corporation that has been developing and manufacturing measurement and control products for more than 50 years. They offer a complete line of industrial I/O products including process instruments, signal conditioning equipment, data acquisition boards, distributed I/O modules, and network communication devices.

For more information about Acromag products, call the Inside Sales Department at (248) 295-0880 or Marketing Communications at (248) 295-0865, FAX (248) 624-9234. E-mail sales@acromag.com or write Acromag at P.O. Box 437, Wixom, MI 48393-7037 USA.

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Shown: BusWorks Model 993EN and 994EN analog input modules for Ethernet control networks

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