

# A-Series I/O

## Table of Contents

Overview .....	1
A-Series Specifications .....	2
A-Series RS-485 Serial Modules .....	3
Ethernet A-Series Modules .....	4
Resources .....	6

## Overview

A-Series I/O modules are a family of compact and networkable data acquisition and control modules, with a wide range of available analog and digital input/output signal types. All modules are designed for reliable operation in harsh environments and are equipped with isolation and failure protection, and high resistance against noise-interference. The "robust" serial modules (*Models ASIO-41xx*) can operate in temperatures from -40 to 85°C.

Ethernet modules are available for ModbusTCP (*Models AEIO-60xx*) and EthernetIP (*Models AEIO-61xxEI*) protocols. Dual Ethernet port modules (*Models AEIO-62xx, AEIO-61xxEI*) can be easily daisy-chained without the need for ethernet switches.

The Serial modules (*Models ASIO-4xxx*) use the ModbusRTU protocol via RS-485, the industry's most widely used bi-directional, balanced transmission line standard.

### All modules include these standard features

- Mounting Options - DIN-rail (*side-by-side or piggy-back*) or panel/wall mount
- Removable screw terminals for signal wires to replace module without re-wiring
- Wide input power ranges (*eg: 10-30VDC*)
- Low power consumption
- LED's for ease in troubleshooting wiring and communication network
- Watchdog timer supervisory function automatically resets modules in the event of system failure

All A-Series modules can be used with any [SoftPLC Controllers](#)

# A-Series Specifications

Individual module specifications are on each product's datasheet. All A-Series modules conform to the general specifications below:

	<b>ASIO-40xx RS-485</b>	<b>ASIO-41xx RS-485 Robust</b>	<b>AEIO-60xx ModbusTCP</b>	<b>AEIO-61xx Ethernet/IP</b>	<b>AEIO-62xx ModbusTCP Dual-Port</b>
<b>Module Dimensions</b>	110 x 60 x 27 mm (HxWxD)				
<b>Power Input</b>	10-30 VDC (24VDC standard)				
<b>Operating Temperature</b>	32°F~158°F (0°C~70°C)	-40°F~185°F (-40°C~85°C)	14~158°F (-10~70°C)		
<b>Storage Temperature</b>	-40 ~ 185°F (-40°C~85°C)			-4 ~ 176°F (-20°C~80°C)	
<b>Relative Humidity</b>	0%~95%, non-condensing			20%~95%, non-condensing	
<b>Comm Network Connection</b>	Plug-in screw terminal block		(1) RJ-45 (LAN)	(2) RJ-45 (LAN)	
<b>I/O and Power Connections</b>	(2) Plug-in screw terminal blocks, #14 ~ 22 AWG				
<b>Construction Material</b>	Impact resistant ABS plastic				
<b>Certifications &amp; Compliances</b>	CE, FCC rated, ROHS Compliant Most modules UL, UL-C rated				

# A-Series RS-485 Serial Modules

The available serial RS-485 A-Series modules are listed below. Detailed specifications can be found in the datasheets linked to the module Catalog Number in the table. These modules interface to SoftPLC PAC's using its Modbus Master serial driver or the COMGENIUS TLM.

Modules with Catalog Numbers ASIO-41xx are "robust" for operation in extended temperatures -40°F~185°F (-40°C~85°C).

Type	# Points	Current/Point	Cat #
Analog Input / Thermocouple	8	+/-20 mA, 4~20 mA Type J, K, T, E, R, S, B +/- (15mV, 50mV, 100V, 500mV, 1V, 2.5V)	<a href="#">ASIO-4118</a>
RTD	6	Pt 100/1000, Ni Balco500 2 or 3-wire	<a href="#">ASIO-4015</a>
Analog Input	8	0~150mV, 0~500mV, 0~1V, 0~5V, 0~10V, 0~15V +/- (150mV, 500mV, 1V, 5V, 10V, 15V) 0~20mA, 4~20mA, +/-20mA	<a href="#">ASIO-4117</a>
Analog Output	4	0~20mA, 4~20mA, +/-10V	<a href="#">ASIO-4024</a>
Digital I/O	7/8	(7) Inputs: 10~48 VDC (8) Outputs: 40V, 1A max	<a href="#">ASIO-4150</a>
Digital Input	16	50V max	<a href="#">ASIO-4051</a>
Digital I/O	8/8	(8) Inputs: 10~30 VDC (8) Outputs: 200mA max load	<a href="#">ASIO-4055</a>
Digital Output	12	10~35 VDC, 200mA max load Sourcing	<a href="#">ASIO-4056SO</a>
Relay Output	8	Form A 0.5A @ 120 VAC, 0.25A @ 240 VAC, 1A @ 30 VDC, 0.3A @ 110 VDC	<a href="#">ASIO-4168</a>
Power Relay	8	(4) Form A/(4) Form C 5A @ 250 VAC, 5A @ 30 VDC	<a href="#">ASIO-4069</a>

# Ethernet A-Series Modules

The available Ethernet capable A-Series modules are listed below. Detailed specifications are in the datasheets linked in the right-most column of the tables.

- [Dual-Port Ethernet ModbusTCP Modules](#)
- [Ethernet ModbusTCP Modules](#)
- [Ethernet/IP Modules](#)

## DUAL-PORT MODBUS/TCP MODULES

Type	# Points	Current/Point	Cat#
Digital Input	16	10~30 VDC, 3kHz counters	<a href="#">AEIO-6251</a>
Digital In/Out	8 In / 7 Out	Inputs: 10~30 VDC, 3kHz counters Outputs: 10~30 VDC Sink, 100mA/pt max	<a href="#">AEIO-6250</a>
Digital In/Power Relay	4 In / 4 Out	Inputs: 10~30 VDC, 3kHz counters Outputs: 4 Form C, 250VAC@5A, 30VDC@5A	<a href="#">AEIO-6266</a>
Digital Output	16	10~30 VDC Sink, 100mA/pt max	<a href="#">AEIO-6256</a>
Power Relay	6	(5) Form C / (1) Form A 250VAC@5A, 30VDC@5A	<a href="#">AEIO-6260</a>
Analog Input	8	+/(150mV,500mV,1V,5V,10V) 0-20mA, 4-20mA, +/-20mA	<a href="#">AEIO-6217</a>
Analog Output	4 AI / 4 DI	0-5,0-10,-10,-5,-10V 0-20, 4-20mA; 4 Dry Contact Inputs	<a href="#">AEIO-6224</a>

## MODBUS/TCP MODULES

Type	# Points	Current/Point	Cat #
Digital In/Out	12/6	Inputs: 10~30 VDC Outputs: 10~30 VDC Sink, 100mA/pt max	<a href="#">AEIO-6050</a>
Digital In/Ctr/Out	12/2/2	Inputs: 10~30 VDC Counters: 3kHz Outputs: 10~35 VDC Sink, 1A/pt max, 5kHz pulse	<a href="#">AEIO-6051</a>
Digital In/Out	8/8	Inputs: 10~30 VDC, 3kHz counters Outputs: 10~30 VDC Source, 100mA/pt max	<a href="#">AEIO-6052</a>
Digital In/Relay	6/6	Inputs: 10~30 VDC, 3kHz counters Outputs: Form A 120VAC@0.5A, 30VDC@1A; 5kHz pulse	<a href="#">AEIO-6060</a>

Type	# Points	Current/Point	Cat #
Digital In/Power Relay	6/6	Inputs: 10~30 VDC, 3kHz counters Outputs: Form C 250VAC@5A, 30VDC@3A	<a href="#">AEIO-6066</a>
RTD	7	Pt 100/1000, Ni 50, 508, Balco	<a href="#">AEIO-6015</a>
Analog Input	8	+/- (150mV, 500mV, 1V, 5V, 10V) 0-20mA, 4-20mA, +/-20mA	<a href="#">AEIO-6017</a>
Thermocouple	8	Type J, K, T, E, R, S, B Outputs: 10~30VDC, 100mA maX	<a href="#">AEIO-6018+</a>
Universal	12	6 AI, 2 AO, 2 DI, 2 DO	<a href="#">AEIO-6024</a>

#### **ETHERNET/IP MODULES**

Type	# Points	Current/Point	Cat #
Digital Input	16	10~30 VDC	<a href="#">AEIO-6151EI</a>
Digital In/Out	8 In / 7 Out	Inputs: 10~30 VDC Outputs: 8~35VDC, 100mA max	<a href="#">AEIO-6150EI</a>
Digital Output	16	8~35VDC, 100mA max	<a href="#">AEIO-6156EI</a>
Power Relay	6	(5) Form C / (1) Form A 250VAC@5A, 30VDC@5A	<a href="#">AEIO-6160EI</a>
Analog Input	8	+/- (150mV, 500mV, 1V, 5V, 10V) 0-20mA, 4-20mA, +/-20mA	<a href="#">AEIO-6117EI</a>

# Resources

Links to individual module's data sheets are in the Modules sections - [Ethernet](#) and [Serial](#). The links below are general specification documents and manuals for the drivers used to connect SoftPLC controllers to A-Series I/O:

## [A-Series Module Dimensions/Mounting](#)

Mounting dimensions and options for A-Series I/O and communication modules.

## [ModbusTCP Master Driver Manual for SoftPLC](#)

SoftPLC's ModbusTCP Master Driver can be used with A-Series modules I/O that support ModbusTCP (*Models AEIO-60xx, AEIO-62xx*).

## [Ethernet/IP Driver Manual for SoftPLC](#)

SoftPLC's Ethernet/IP driver can be used with A-Series modules I/O that support Ethernet/IP (*Models AEIO-61xxEI*).

## [Modbus Serial Master Driver Manual for SoftPLC](#)

SoftPLC's Modbus Serial Master Driver can be used with A-Series modules I/O that support ModbusRTU (*Models ASIO-4xxx*). The [COMGENIUS](#) loadable instructions can be also used for simple Modbus Master requirements.

## [SoftPLC A-Series Driver Manual](#)

SoftPLC drivers for serial RS-485 non-Modbus compatible A-Series modules (*Models ASIO-4xxx*).