AcuIOM

Universal I/O Module Datasheet

DESCRIPTION

The AcuIOM is a flexible and scalable input/output solution designed for industrial monitoring, control, and automation applications. Available in four models, the module supports a wide range of analog and digital input and output combinations, allowing system designers to select the optimal model for their specific application requirements.

FEATURES

+ Four models offering different combinations of analog, digital and relay I/O functions
+ Up to 16 AI, 4 AO, 28 DI, 4 DO, and 2 RO on select models
+ Dual Ethernet ports supports Modbus TCP/IP & Modbus RTU via RS485 port
+ Operates independently as a universal I/O module
+ SOE logging capability with 200 FIFO entries
+ Analog input and output accuracies of 0.2% and 0.5%, respectively, at low voltage DC power

KEY FEATURES

Flexible I/O Configurations

+ Four input/output device models support different hardware configurations of analog, digital and relay I/O, making the AcuIOM suitable for monitoring, control and automation applications.

Digital and Relay Control

+ Digital inputs can collect device pulses and monitor statuses. Digital outputs provide reliable control signaling. Additionally, relay outputs can be used for direct switching of external devices.

Dual Communication Interfaces

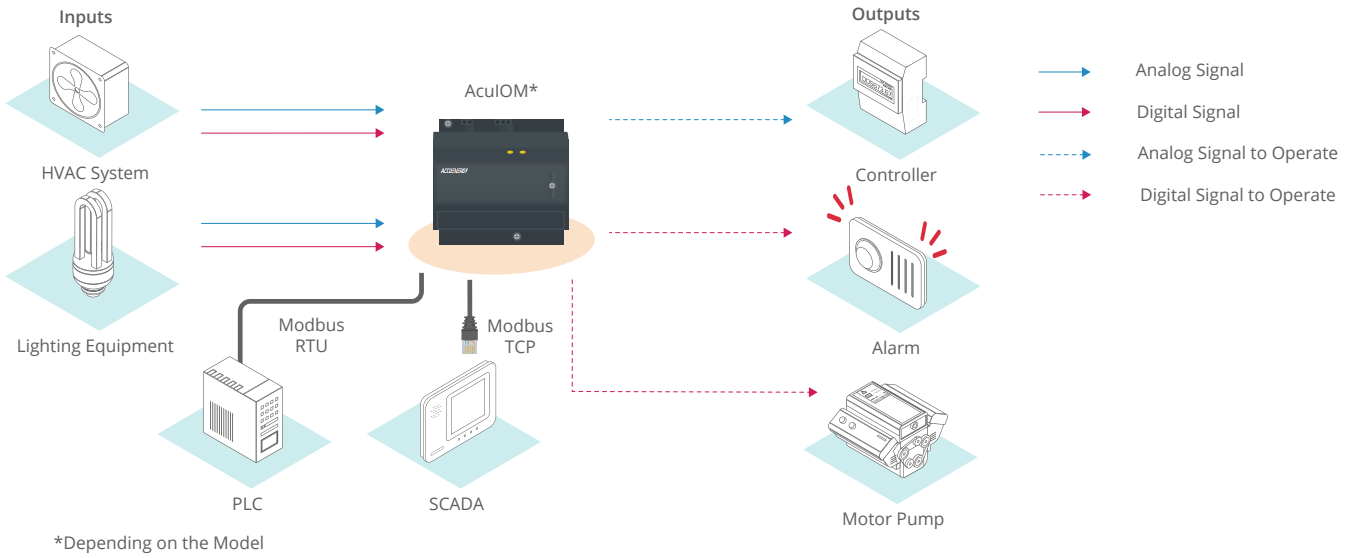
+ RS485 and Ethernet ports support Modbus RTU and Modbus TCP/IP, respectively. It allows easy integration of AcuIOM with SCADA, PLCs, and BMS platforms.

Analog Input and Output Support

+ High density analog inputs can collect multiple sensor signals, while the analog outputs provide control signals and transmit setpoints to connected devices. The AcuIOM is suited for process feedback signals and measurements such as temperature and pressure levels.

Stand-Alone or Meter Integrated Operations

+ The AcuIOM can operate independently as a universal I/O module. It can also be paired with compatible power and energy meters to extend system functionality.



*Depending on the Model

APPLICATIONS

The AcuIOM is designed to support applications across industrial, commercial, and energy-management environments, while enabling integration with Accuenergy meters such as the AcuRev 4100, AcuDC-260, and AcuDC-300.

Energy and Power Monitoring

+ Load Shedding, Alarms, and Control Actions

Building Automation Systems (BAS)

+ HVAC, Lighting, and Building Control Equipment

Data Centers and Critical Facilities

+ Distributed I/O Architectures

Industrial Automation and Process Control

+ SCADA Systems
+ PLCs

Retrofit and System Expansion

+ Building Management Systems (BMS)

SPECIFICATIONS

Communications

RS485	
Baud Rate	1200-115200 bps
Protocols	Modbus RTU
ETHERNET	
Type	10/100 Mbps
Protocols	Modbus TCP/IP

Power Supply

Operating Range	12~36 VDC
Burden	Max 6 W

Analog Input

LOW VOLTAGE DC CONTROL POWER	
External Power Supply	0-20 mA / 0-10 VDC
Accuracy	0.2 %
Isolation Voltage	500 VDC

Analog Output

LOW VOLTAGE DC CONTROL POWER	
External Power Supply	0-20 mA / 0-10 VDC
Accuracy	0.5 %
Isolation Voltage	500 VDC

Digital Input

LOW VOLTAGE DC CONTROL POWER	
External Power Supply	Max 160 VAC/VDC
Frequency	Max 50 Hz with a 50 % Duty Cycle (10 ms ON, 10 ms OFF)
On-State Voltage	Above 15 VDC
Off-State Voltage	Below 5 VDC
Isolation Voltage	2500 VAC

Digital Output

LOW VOLTAGE DC CONTROL POWER	
External Power Supply	0~250 VAC/VDC
Current	Max 100 mA
Output Frequency	Max 25 Hz
Isolation Voltage	2500 VAC

Relay Output

Universal	1 Form A
LOW VOLTAGE DC CONTROL POWER	
Switching Voltage	Max 250 VAC, 30 VDC
Load Current	Max 5 A (Resistive)
Isolation Voltage	2500 VAC

Mechanical Characteristics

IP Degree of Protection	IP20
Impact Rating	Levels Ranging From 1 J to Less Than 5 J

Operating Environment

Operating Temperature	-25 °C to 70 °C -13 °F to 158 °F
Storage Temperature	-40 °C to 85 °C -40 °F to 185 °F
Relative Humidity	0 % to 95 %
Altitude	0~2000 m
Pollution Degree	2
Location/Mounting	Indoor Use Only

Standard Compliance & Certifications

Environmental Standard	CE, RoHS
Safety Standard	IEC/UL 61010-1:2010, IEC 61131-2:2017
EMC Standard	IEC 61000-4/-2-3-4-5-6-8, IEC 61000-6-2, IEC 61326-1, EN 55032 Class B

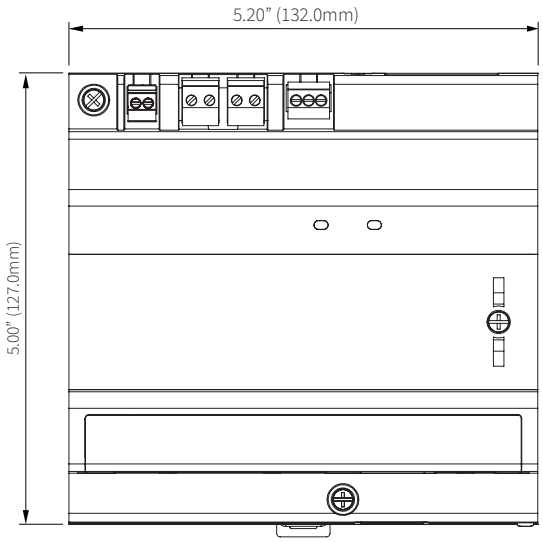
FUNCTION LIST

LED
Power: Power Indicator; Run: Running Indicator
TIMER
Real-Time Clock (Year, Month, Date, Hour, Minute, Second)
SOE LOG
FIFO Recording of 200 Entries
COMMUNICATION PORTS
RS485 Modbus RTU
Ethernet Modbus TCP/IP
USB Modbus RTU
DIGITAL INPUT (DI)
Status Input or Pulse Counter
DIGITAL OUTPUT (DO)
Protocol-Controlled Output
ANALOG INPUT (AI)
Sensor Input of Voltage or Current Signal
ANALOG OUTPUT (AO)
Protocol-Controlled Output, Converted into Voltage or Current Signal
RELAY OUTPUT (RO)
Protocol-Controlled Output
USB
Power Supply for MCU
CONFIGURATION FUNCTION
User Adjustable Settings to Suit On-Site Applications

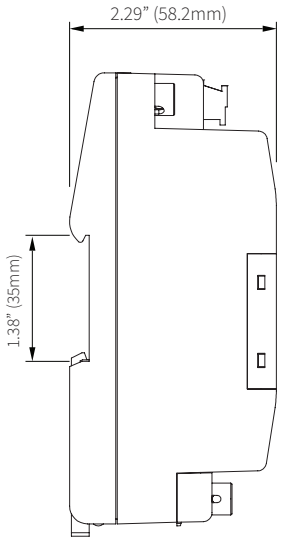
I/O DEVICE MODELS

	AcuIOM-1	AcuIOM-2	AcuIOM-3	AcuIOM-4
				
Analog Inputs	8	16		
Analog Outputs	2	4		
Digital Inputs			14	28
Digital Outputs			2	4
Relay Outputs			2	2

DIMENSIONS



Front View



Side View

ORDERING INFORMATION

Model	Details
AcuIOM	**1:** 8 Analog Inputs, 2 Analog Outputs
	2: 16 Analog Inputs, 4 Analog Outputs
	3: 14 Digital Inputs, 2 Digital Outputs, 2 Relay Outputs
	4: 28 Digital Inputs, 4 Digital Outputs, 2 Relay Outputs
Ordering Example:	**AcuIOM-1**
	AcuIOM-3

Accuenergy Inc.
Los Angeles - Toronto - Pretoria
North America Toll Free: 1-877-721-8908
Web: www.accuenergy.com
Email: marketing@accuenergy.com

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Specs Subject To Change Without Notice.

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