

ADAM-6200 Series

Vertrieb durch



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Feature

- Daisy chain connection with auto-bypass protection
- Remote monitoring and control with smart phone/pad
- Group configuration capability for multiple module setup
- DI/O LED Indication
- Flexible user-defined Modbus address
- Intelligent control ability by Peer-to-Peer and GCL function
- Multiple protocol support: Modbus TCP, TCP/IP, UDP, HTTP, DHCP
- Web language support: XML, HTML 5, Java Script
- System configuration backup
- User Access Control



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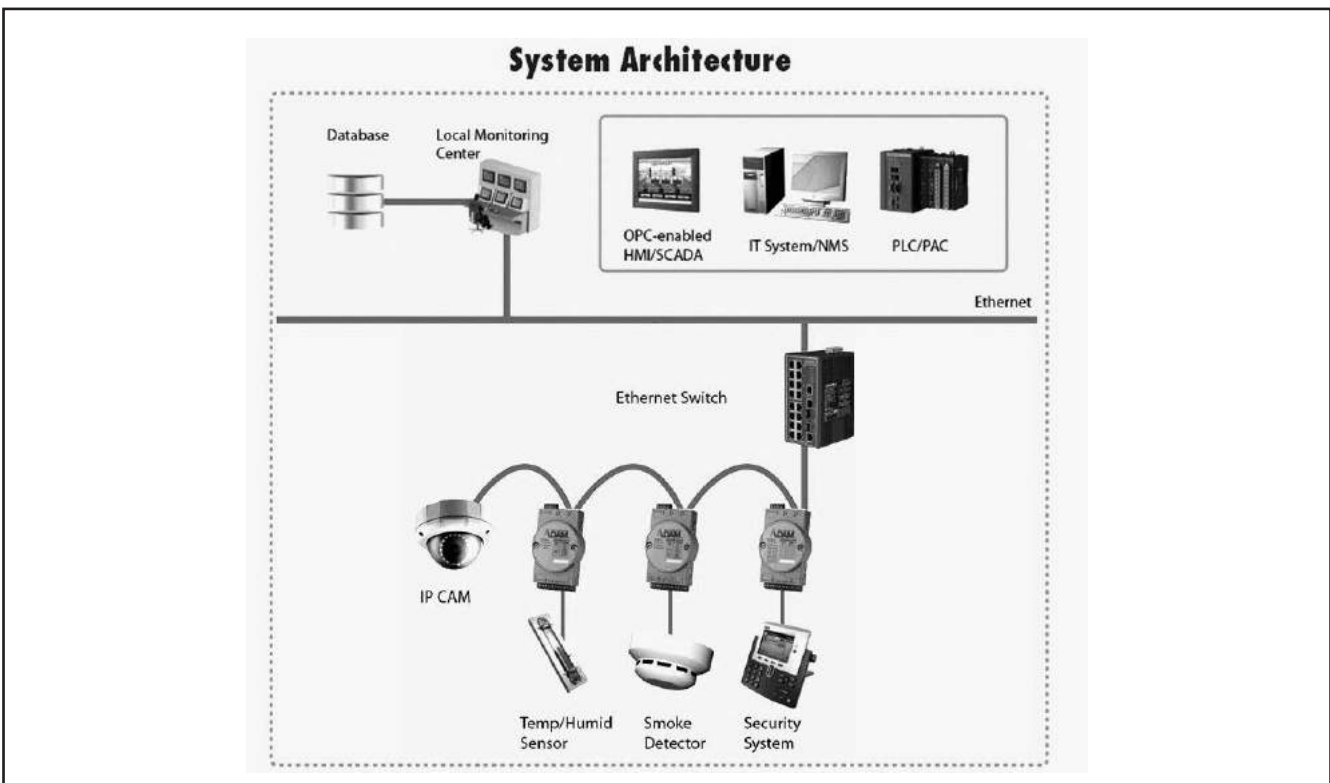
Transition and Vision on Remote DAQ Device

In 2002, Advantech released its first Ethernet I/O module, ADAM-6000 series, which aims to provide ideal remote Ethernet I/O solution for industrial automation environments. It could work as a standalone station to conduct data acquisition, processing and delivery reliably in diverse of automation applications such as factory automation, EFMS and building automation.

However, as of today, the information technologies and network infrastructure are getting well-developed in the world. More and more enterprises not only face the requirement of enhancing their existing automation systems for greater overall equipment effectiveness (OEE), but also need up-to-date information integration, plant management and business systems. In the same way, the remote DAQ modules should be evolved to make it more effective, interoperable, and smarter than before to meet new requirements.

In the future, there are plenty of potential key elements like intelligence, energy-efficiency, cloud computing, cyber-security and mobile communication technologies being progressively leveraged in automation market. We believe that these will also contribute to ideal remote DAQ devices in IoT world.

In order to fulfill the transition of requirements and future applications, Advantech releases ADAM-6200 series, a new selection of Ethernet I/O family comprised of analog I/O, digital I/O and relay modules. ADAM-6200 series module possesses plenty of advanced features whatever the evolution of hardware design and what's worth expecting for user is a variety of useful software functions to make it effective in the application field. With new design and strong capabilities, ADAM-6200 can be a well-integrated I/O solution in Ethernet control system.



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ADAM-6200 Key Features

Flexible Deployment with Daisy Chain Networking and Auto-Bypass Protection

ADAM-6200 module has built-in Ethernet switches to allow daisy chain connections in an Ethernet network, making it easier to deploy, saving wiring costs, and helping improve scalability. The two Ethernet ports are fully compliant with IEEE 802.3u 10/100Mbps through standard RJ-45 connectors.

Although daisy chain topology brings attractive benefits for user, it still comes with the risk that once any device in the daisy-chain network suffers power outage, it will cause the disconnection of all devices data stream

Auto-bypass Protection

To prevent this critical issue from happening, Advantech especially refines the hardware design of ADAM-6200 so that it can rapidly recover the network connection in about 2.5 seconds. Therefore, the damage will be greatly minimized.



Remote Monitoring and Control with Smart Phone/Pad

In early stage of automation, it's hard to access or obtain the data of equipments online when conducting on-site inspection. Mostly, the possible way to do that is communicating with engineers in branch or central control room where the SCADA program is running. It always takes extra efforts to complete an on-site checking or debugging.

The ADAM-6200 series module integrates the latest Web language HTML 5, allowing users to remotely monitor the status of all online modules without bridging SCADA system and to perform basic I/O configurations on any built-in HMI devices such as Smart Phone, Smart Pad over the Internet. Moreover, users can further develop its extended applications based on the default HTML 5 file embedded in the module.

HTML 5

HTML is a markup language popularly used to program the content for Web page over the Internet. The fifth revision (HTML 5) is the latest revision which enhances its syntax structure and additionally mixes up with rich Web technologies like CSS, Java Script to implement more Web service, API, interactive applications in mobile communications.



Group Configuration Capability for Multiple Module Setup

In certain application scenario, it requires to set multiple modules with the same settings because these modules are doing the same tasks on different sites. Users have to set configurations of module one after another before onsite deployment. After the modules are installed and the system is running, it will still require repetitive efforts in maintenance when doing firmware update.

ADAM-6200 series module is equipped with group configuration capability to reduce the repetitive efforts and quickly finish the multiple module setups, including firmware upgrade, configuration and HTML 5 file at one time. Users can finish the module installation faster than before as the configuration time tremendously reduced.



ADAM-6200 Series Selection Guide

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Model	ADAM-6217	ADAM-6218	ADAM-6224	ADAM-6250	ADAM-6251	ADAM-6256	ADAM-6260	ADAM-6266
Interface	10/100Mbps Ethernet							
Analog Input	Channels	8	6	-	-	-	-	-
	Input Impedance	>10MΩ (voltage) 120 Ω (current)	>1MΩ (voltage) 120 Ω (current)	-	-	-	-	-
	Voltage Input	± 150mV, ± 500mV, ± 1V, ± 5V, ± 10V	± 50mV, ± 100mV, ± 500mV, ± 1V, ± 2.5V	-	-	-	-	-
	Current Input	0 ~ 20 mA, 4 ~ 20mA, ± 20mA	0 ~ 20mA, 4 ~ 20mA, ± 20mA	-	-	-	-	-
	Sampling Rate (sample/second)	10	10	-	-	-	-	-
	Direct Sensor Input	-	J, K, T, E, R, S, B Thermocouple	-	-	-	-	-
	Burn-out Detection	Yes (4~20 mA)	Yes (TC, 4~20 mA)	-	-	-	-	-
	Resolution	16-bit	16-bit	-	-	-	-	-
	Accuracy	± 0.1% of FSR (Voltage) at 25°C ± 0.2% of FSR (Current) at 25°C		-	-	-	-	-
Analog Output	Channels	-	-	4	-	-	-	-
	Voltage Output	-	-	0 ~ 5V, 0 ~ 10V, ± 5V, ± 10V	-	-	-	-
	Current Output	-	-	0 ~ 20mA, 4 ~ 20mA	-	-	-	-
	Resolution	-	-	12-bit	-	-	-	-
Digital Input/Output	Input Channels	-	-	4 (Dry contact only)	8	16	-	4
	Output Channels	-	-	-	7 (Sink)	-	16 (Sink)	-
	Relay Output	-	-	-	-	-	-	6 (5 Form C + 1 Form A) 4 (Form C)
	Contact Rating	-	-	-	-	-	-	250 V _{ac} @ 5A 30 V _{dc} @ 5A
	Counter Input	-	-	-	3kHz	3kHz	-	3kHz
	Frequency Input	-	-	-	3kHz	3kHz	-	3kHz
	Pulse Output	-	-	-	5kHz	-	5kHz	5kHz
LED Indicator	-	-	-	8 DI, 7 DO	16 DI	16 DO	6 RL	4 DI, 4 RL
Power Consumption	3.5W	3.5W	6W	3W	2.7W	3.2W	4.5W	4.2W
Isolation Voltage	2,500 V _{dc}							
Watchdog Timer	System (1.6 seconds) Communication (Programmable)							
Communication Protocol	Modbus TCP, TCP/IP, UDP, HTTP, DHCP							
Power Requirement	10 - 30 V _{dc} (24 V _{dc} standard)							
Operation Temperature	-10 ~ 70°C (14 ~ 158°F)							
Storage Temperature	-20 ~ 80°C (-4 ~ 176°F)							
Operating Humidity	20 ~ 95% RH (non-condensing)							
Storage Humidity	0 ~ 95% RH (non-condensing)							
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ADAM-6217 ADAM-6218 ADAM-6224

8-ch Isolated Analog Input Modbus TCP Module

6-ch Thermocouple Input Modbus TCP Module

4-ch Isolated Analog Output Modbus TCP Module



Specifications

Analog Input

- Channels 8 (differential)
- Input Impedance > 10 MΩ (voltage)
120 Ω (current)
- Input Type mV, V, mA
- Input Range ±150 mV, ±500 mV, ±1 V,
±5 V, ±10 V, 0~20 mA,
4~20 mA, ±20 mA
- Span Drift ± 30 ppm/°C
- Zero Drift ± 6 μV/°C
- Resolution 16-bit
- Accuracy ± 0.1% of FSR (Voltage) at 25°C
± 0.2% of FSR (Current) at 25°C
- Sampling Rate 10 sample/second (total)
- CMR @ 50/60 Hz 92 dB
- NMR @ 50/60 Hz 60 dB
- Common Mode 200 V_{DC}

Ordering Information

- ADAM-6217 8-ch Isolated Analog Input Modbus TCP Module

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Specifications

Analog Input

- Channels 6 (differential)
- Input Impedance > 1 MΩ (voltage)
120 Ω (current)
- Input Type mV, V, mA, Thermocouple
- Temperature Range

J	-210 ~ 1,200°C	R	0 ~ 1,768°C
K	-270 ~ 1,372°C	S	0 ~ 1,768°C
T	-270 ~ 400°C	B	200 ~ 1,820°C
E	-270 ~ 1,000°C		
- Voltage/Current Input Range ±50 mV, ±100 mV,
±500 mV, ±1 V, ±2.5 V,
±20 mA, 0~20 mA,
4~20 mA
- Span Drift ± 30 ppm/°C
- Zero Drift ± 6 μV/°C
- Resolution 16-bit
- Accuracy ± 0.1% of FSR (Voltage) at 25°C
± 0.2% of FSR (Current) at 25°C
- Sampling Rate 10 sample/second (total)
- CMR @ 50/60 Hz 92 dB
- NMR @ 50/60 Hz 60 dB
- High Common Mode 200 V_{DC}

Ordering Information

- ADAM-6218 6-ch Isolated Thermocouple Input Modbus TCP Module

Specifications

Analog Output

- Channels 4
- Output Impedance 2.1 Ω
- Output Settling Time 20 μs
- Driving Load Voltage: 2kΩ
Current: 500 Ω
- Programmable Output Slope 0.125 ~ 128 mA/sec
0.0625 ~ 64 V/sec
- Output Type V, mA
- Output Range 0 ~ 5 V, 0 ~ 10 V, ±5 V, ±10 V
0 ~ 20 mA, 4 ~ 20 mA
- Accuracy ± 0.3% of FSR (Voltage) at 25°C
± 0.5% of FSR (Current) at 25°C
- Resolution 12-bit
- Current Load Resistor 0 ~ 500 Ω
- Drift ± 50 ppm/°C
- Digital Input
 - Channels 4 (Dry Contact only)
 - Dry Contact Logic 0: Open
Logic 1: Closed to DGND
- Support DI Filter
- Support Inverted DI Status
- Support Trigger to Startup or Safety Value

Ordering Information

- ADAM-6224 4-ch Isolated Analog Output Modbus TCP Module

Common Specifications

General

- Ethernet 2-port 10/100 Base-TX (for Daisy Chain)
- Protocol Modbus/TCP, TCP/IP, UDP, HTTP, DHCP
- Connector Plug-in 5P/15P screw terminal blocks
- Power Input 10 ~ 30 V_{DC} (24 V_{DC} standard)
- Watchdog Timer System (1.6 seconds)
Communication (Programmable)
- Dimensions 110 x 60 x 27 mm
- Protection Built-in TVS/ESD protection
Power Reversal protection
Over Voltage protection: +/- 35V_{DC}
Isolation protection: 2500 V_{DC}
ADAM-6217: 3.5W @ 24 V_{DC}
ADAM-6218: 3.5W @ 24 V_{DC}
ADAM-6224: 6W @ 24 V_{DC}
- Power Consumption

Features

- Daisy chain connection with auto-bypass protection
- Remote monitoring and control with smart phone/pad
- Group configuration capability for multiple module setup
- Flexible user-defined Modbus address
- Intelligent control ability by Peer-to-Peer and GCL function
- Multiple protocol support: Modbus TCP, TCP/IP, UDP, HTTP, DHCP
- Web language support: XML, HTML 5, JavaScript
- System configuration backup
- User Access Control

Environment

- Operating Temperature -10 ~ 70°C (14 ~ 158°F)
- Storage Temperature -20 ~ 80°C (-4 ~ 176°F)
- Operating Humidity 20 ~ 95% RH (non-condensing)
- Storage Humidity 0 ~ 95% RH (non-condensing)

ADAM-6250 ADAM-6251 ADAM-6256

15-ch Isolated Digital I/O Modbus TCP Module

16-ch Isolated Digital Input Modbus TCP Module

16-ch Isolated Digital Output Modbus TCP Module

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NEW

ADAM-6250



NEW

ADAM-6251



NEW

ADAM-6256



Specifications

Digital Input

- **Channels** ADAM-6250: 8
ADAM-6251: 16
- **Dry Contact** Logic 0: Open
Logic 1: Closed to DGND
- **Wet Contact** Logic 0: 0 ~ 3 V_{DC} or 0 ~ -3 V_{DC}
Logic 1: 10 ~ 30 V_{DC} or -10 ~ -30 V_{DC}
(Dry/Wet Contact decided by Switch)
- **Input Impedance** 5.2 kΩ (Wet Contact)
- **Transition Time** 0.2 ms
- **Frequency Input Range** 0.1 ~ 3kHz
- **Counter Input** 3kHz (32 bit + 1 bit overflow)
- **Keep/Discard Counter Value when power off**
- **Supports Inverted DI Status**

Digital Output

- **Channels** ADAM-6250: 7 (Sink Type)
ADAM-6256: 16 (Sink Type)
- **Output Voltage Range** 10 ~ 30 V_{DC}
- **Normal Output Current** 100 mA (per channel)
- **Pulse Output** Up to 5kHz
- **Delay Output** High-to-Low and Low-to-High

Ordering Information

- **ADAM-6250** 15-ch Isolated Digital I/O Modbus TCP Module
- **ADAM-6251** 16-ch Isolated Digital Input Modbus TCP Module
- **ADAM-6256** 16-ch Isolated Digital Output Modbus TCP Module



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Common Specifications

General

- **Ethernet** 2-port 10/100 Base-TX (for Daisy Chain)
- **LED Indication** ADAM-6250: 8 DI + 7 DO
ADAM-6251: 16 DI
ADAM-6256: 16 DO
- **Protocol** Modbus/TCP, TCP/IP, UDP, HTTP, DHCP
- **Connector** Plug-in 5P/15P screw terminal blocks
- **Power Input** 10 - 30 V_{DC} (24 V_{DC} standard)
- **Watchdog Timer** System (1.6 seconds)
Communication (Programmable)
- **Dimensions** 110 x 60 x 27 mm
- **Protection** Built-in TVS/ESD protection
Power Reversal protection
Over Voltage protection: +/- 35V_{DC}
Isolation protection: 2500 V_{DC}
- **Power Consumption** ADAM-6250: 3 W @ 24 V_{DC}
ADAM-6251: 2.7 W @ 24 V_{DC}
ADAM-6256: 3.2 W @ 24 V_{DC}

Features

- Daisy chain connection with auto-bypass protection
- Remote monitoring and control with smart phone/pad
- Group configuration capability for multiple module setup
- DI/O LED Indication
- Flexible user-defined Modbus address.
- Intelligent control ability by Peer-to-Peer and GCL function
- Multiple protocol support: Modbus TCP, TCP/IP, UDP, HTTP, DHCP
- Web language support: XML, HTML 5, Java Script
- System configuration backup
- User Access Control

Environment

- **Operating Temperature** -10 ~ 70°C (14 ~ 158°F)
- **Storage Temperature** -20 ~ 80°C (-4 ~ 176°F)
- **Operating Humidity** 20 ~ 95% RH (non-condensing)
- **Storage Humidity** 0 ~ 95% RH (non-condensing)

ADAM-6260

ADAM-6266

6-ch Relay Output Modbus TCP Module
4-ch Relay Output Modbus TCP Module with 4-ch DI

NEW



NEW



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ADAM-6260



ADAM-6266



Specifications

Relay Output

- **Channels** ADAM-6260: 5 Form C and 1 Form A
ADAM-6266: 4 Form C
- **Contact Rating** 250 V_{AC} @ 5A
30 V_{DC} @ 5A
- **Max. Switching Voltage** 400 V_{AC}
300 V_{DC}
- **Breakdown Voltage** 500 V_{AC} (50/60Hz)
- **Max. Breakdown Capacity** 1250 VA
- **Frequency of Operation** 360 operations/hour with load
72,000 operations/hour without load
- **Set/Reset Time** 8 ms/8 ms
- **Mechanical Endurance** > 15 x 10⁶ operations
- **Isolation between Contact** 1000 V_{rms}
- **Insulation Resistance** > 10 GΩ @ 500 V_{DC}

Digital Input

- **Channels** ADAM-6266: 4
- **Dry Contact** Logic 0: Open
Logic 1: Closed to DI COM
- **Wet Contact** Logic 0: 0 ~ 3 V_{DC} or 0 ~ -3 V_{DC}
Logic 1: 10 ~ 30 V_{DC} or -10 ~ -30 V_{DC}
(Dry/Wet Contact decided by Switch)
- **Input Impedance** 5.2 kΩ (Wet Contact)
- **Transition Time** 0.2 ms
- **Frequency Input Range** 0.1 ~ 3kHz
- **Counter Input** 3kHz (32 bit + 1 bit overflow)
- **Keep/Discard Counter Value when power off**
- **Supports Inverted DI Status**

Ordering Information

- **ADAM-6260** 6-ch Relay Output Modbus TCP Module
- **ADAM-6266** 4-ch Relay Output Modbus TCP Module with 4-ch DI

Common Specifications

General

- **Ethernet** 2-port 10/100 Base-TX (for Daisy Chain)
- **LED Indication** ADAM-6260: 6 RL
ADAM-6266: 4 RL + 4 DI
- **Protocol** Modbus/TCP, TCP/IP, UDP, HTTP, DHCP
- **Connector** Plug-in 5P/15P screw terminal blocks
- **Power Input** 10 - 30 V_{DC} (24 V_{DC} standard)
- **Watchdog Timer** System (1.6 seconds)
Communication (Programmable)
- **Dimensions** 110 x 60 x 27 mm
- **Protection** Built-in TVS/ESD protection
Power Reversal protection
Over Voltage protection: +/- 35V_{DC}
Isolation protection: 2500 V_{DC}
- **Power Consumption** ADAM-6260: 4.5 W @ 24 V_{DC}
ADAM-6266: 4.2 W @ 24 V_{DC}

Features

- Daisy chain connection with auto-bypass protection
- Remote monitoring and control with smart phone/pad
- Group configuration capability for multiple module setup
- DI/O LED Indication
- Flexible user-defined Modbus address.
- Intelligent control ability by Peer-to-Peer and GCL function
- Multiple protocol support: Modbus TCP, TCP/IP, UDP, HTTP, DHCP
- Web language support: XML, HTML 5, Java Script
- System configuration backup
- User Access Control

Environment

- **Operating Temperature** -10 ~ 70°C (14 ~ 158°F)
- **Storage Temperature** -20 ~ 80°C (-4 ~ 176°F)
- **Operating Humidity** 20 ~ 95% RH (non-condensing)
- **Storage Humidity** 0 ~ 95% RH (non-condensing)