

ADAM-4118

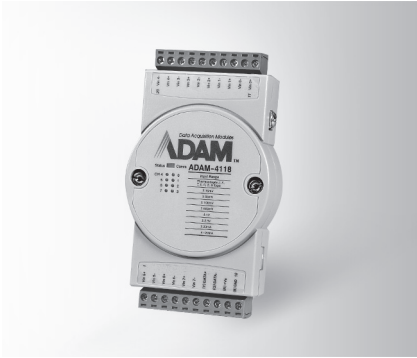
ADAM-4150

ADAM-4168

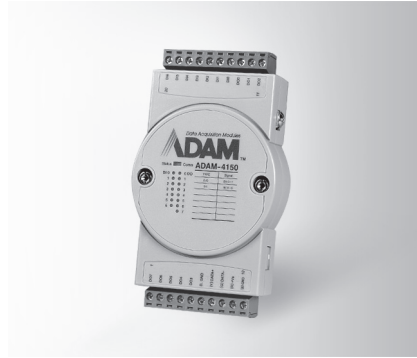
Robust 8-ch Thermocouple Input Module with Modbus

Robust 15-ch Digital I/O Module with Modbus

Robust 8-ch Relay Output Module with Modbus



ADAM-4118



ADAM-4150



ADAM-4168



Specifications

General

- **Certification** FCC, CE
- **Power Consumption** 0.5W @ 24 V_{DC}

Analog Input

- **Channels** 8 differential and independent configuration channels
- **Input Impedance** 20 MΩ
- **Input Type** T/C, mV, V, mA
- **Input Range** Thermocouple

J	0 ~ 760°C	R	500 ~ 1,750°C
K	0 ~ 1,370°C	S	500 ~ 1,750°C
T	-100 ~ 400°C	B	500 ~ 1,800°C
E	0 ~ 1,000°C	N	-200 ~ 1300°C

- Voltage mode 0~15 mV, 0~50 mV, 0~100 mV, 0~500 mV, 0~1 V, 0~2.5 V, ±15 mV, ±50 mV, ±100 mV, ±500 mV, ±1 V, ±2.5 V
- Current mode 0~20mA, ±20 mA, 4~20 mA

- **Accuracy** Voltage mode: ±0.1% or better
Current mode: ±0.2% or better
- **Resolution** 16-bit
- **Sampling Rate** 10/100 samples/sec (selected by Utility)
- **CMR @ 50/60 Hz** 92 dB
- **Overvoltage Protection** ±60 V_{DC}
- **High Common Mode** 200 V_{DC}
- **Span Drift** ±25 ppm/°C (Typical)
- **Zero Drift** ±6μV/°C
- **Built-in TVS/ESD Protection**
- **Burnout Detection**

Specifications

General

- **Certification** FCC, CE
- **Power Consumption** 1.6 W @ 24 V_{DC}

Digital Input

- **Channels** 7
- **Input Level** Dry contact: Logic level 0: Closed to GND
Logic level 1: Open
Wet contact: Logic level 0: 3 V max
Logic level 1: 10 ~ 30 V or floating
Support DO type: Sink (NPN) only

- **Supports 3 kHz Counter Input (32-bit + 1-bit overflow)**
- **Supports 3 kHz Frequency Input**
- **Over Voltage Protection** 40 V_{DC}

Digital Output

- **Channels** 8, open collector to 40 V (0.1A max. per channel)
- **Power Dissipation** 1W load max
- **RON Maximum** 150 mΩ
- **Supports 1 kHz Pulse Output**
- **Supports High-to-Low Delay Output**
- **Supports Low-to-High Delay Output**

Specifications

General

- **Certification** FCC, CE
- **Power Consumption** 2.3 W @ 24 V_{DC}

Relay Output

- **Output Channels** 8 Form A
- **Contact Rating (Resistive)** 0.5 A @ 120 V_{AC}
0.25 A @ 240 V_{AC}
1 A @ 30 V_{DC}
0.3 A @ 110 V_{DC}
- **Breakdown Voltage** 750 V_{AC} (50/60 Hz)
- **Initial Insulation Resistance** 1 G Ω min. @ 500 V_{DC}
- **Relay Response Time (Typical)** On:4ms
Off:4ms
- **Total Switching Time (Typical)** 10 ms
- **Supports 100 Hz pulse output**
- **Maximum Operating Speed** 50 operations/min (at related load)

Common Specifications

General

- **Power Input** Unregulated 10 ~ 48 V_{DC}
- **Watchdog Timer** System (1.6 second) & Communication
- **Connector** 2 x plug-in terminal blocks (#14 ~ 22 AWG)
- **Isolation Voltage** 3,000 V_{DC}
- **Interface (B version)** RS-485, micro USB

- **Supported Protocols** ASCII Command and Modbus/RTU

Environment

- **Operating Humidity** 5 ~ 95% RH
- **Operating Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)

Ordering Information

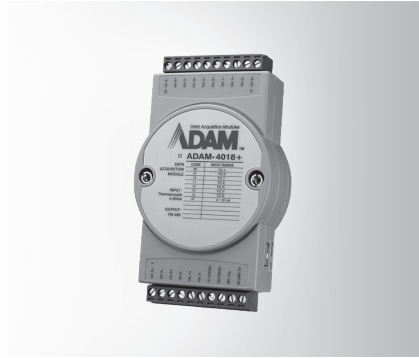
- **ADAM-4118-C** Robust 8-ch Thermocouple Input Module w/ Modbus
- **ADAM-4150-C** Robust 15-ch Digital I/O Module with Modbus
- **ADAM-4168-C** Robust 8-ch Relay Output Module with Modbus

ADAM-4017+ ADAM-4018+ ADAM-4019+

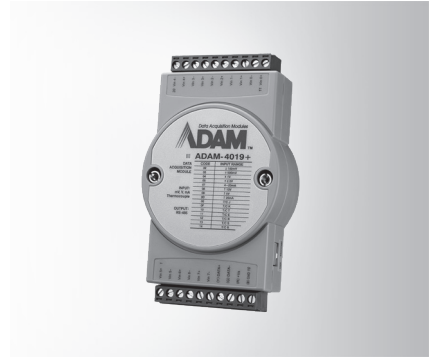
8-ch Analog Input Module with Modbus
8-ch Thermocouple Input Module with Modbus
8-ch Universal Analog Input Module with Modbus



ADAM-4017+ CE FCC RoHS COMPLIANT 2002/95/EC



ADAM-4018+ CE FCC RoHS COMPLIANT 2002/95/EC



ADAM-4019+ CE FCC RoHS COMPLIANT 2002/95/EC

Specifications

General

- **Power Consumption** 1.2 W @ 24 V_{DC}
- **Watchdog Timer** System (1.6 second) & Communication
- **Supported Protocols** ASCII command and Modbus/RTU

Analog Input

- **Channels** 8 differential
- **Channel Independent Configuration** Yes
- **Input Impedance** Voltage: 20 MΩ
Current: 120 Ω
- **Input Type** mV, V, mA
- **Input Range** 0 ~ 150 mV, 0 ~ 500 mV, 0 ~ 1 V, 0 ~ 5 V, 0 ~ 10 V, ± 150 mV, ± 500 mV, ± 1 V, ± 5 V, ± 10 V, ± 20 mA, 0 ~ 20 mA, 4 ~ 20 mA

Specifications

General

- **Power Consumption** 0.8 W @ 24 V_{DC}
- **Watchdog Timer** System (1.6 second) & Communication
- **Supported Protocols** ASCII command and Modbus/RTU

Analog Input

- **Channels** 8 differential
- **Channel Independent Configuration** Yes
- **Input Impedance** Voltage: 20 MΩ
Current: 120 Ω
- **Input Type** Thermocouple, mA
- **Input Range** ± 20 mA, 4 ~ 20 mA
- **T/C Types and Temperature Ranges**

J	0 ~ 760°C	R	500 ~ 1,750°C
K	0 ~ 1,370°C	S	500 ~ 1,750°C
T	-100 ~ 400°C	B	500 ~ 1,800°C
E	0 ~ 1,000°C		

- **Burnout Detection** All T/C

Specifications

General

- **Power Consumption** 1.0 W @ 24 V_{DC}
- **Watchdog Timer** System (1.6 second) & Communication
- **Supported Protocols** ASCII command and Modbus/RTU

Analog Input

- **Channels** 8 differential channels for individual input type
- **Channel Independent Configuration** Yes
- **Input Impedance** Voltage: 20 MΩ
Current: 120 Ω
- **Input Type** T/C, mV, V, mA
- **Input Range** 0 ~ 100 mV, 0 ~ 500 mV, 0 ~ 1 V, 0 ~ 2.5 V, 0 ~ 5 V, 0 ~ 10 V, ± 100 mV, ± 500 mV, ± 1 V, ± 2.5 V, ± 5 V, ± 10 V, ± 20 mA, 0 ~ 20 mA, 4 ~ 20 mA,

- **T/C Types and Temperature Ranges**

J	0 ~ 760°C	R	500 ~ 1,750°C
K	0 ~ 1,370°C	S	500 ~ 1,750°C
T	-100 ~ 400°C	B	500 ~ 1,800°C
E	0 ~ 1,000°C	N	-200 ~ 1,300°C

- **Burnout Detection** 4 ~ 20 mA & all T/C

Common Specifications

General

- **Power Input** Unregulated 10 ~ 30 V_{DC}
- **Connectors** 2 x plug-in terminal block (#14 ~ 22 AWG)

Analog Input*

- **Accuracy** Voltage mode: ±0.1% or better
Current mode: ±0.2% or better
- **Resolution** 16-bit
- **Sampling Rate** 10 sample/second (total)

- **Isolation Voltage** 3,000 V_{DC}
- **Overvoltage Protection** ±35 V_{DC}
- **CMR @ 50/60 Hz** 120 dB
- **NMR @ 50/60 Hz** 100 dB
- **Span Drift** ±25 ppm/°C (Typical)
- **Zero Drift** ±6 µV/°C
- **Built-in TVS/ESD Protection**

Environment

- **Operating Humidity** 5 ~ 95% RH
- **Operating Temperature** -10 ~ 70°C (14 ~ 158°F)
- **Storage Temperature** -25 ~ 85°C (-13 ~ 185°F)

Ordering Information

- **ADAM-4017+-F** 8-ch Analog Input Module with Modbus
- **ADAM-4018+-F** 8-ch Thermocouple Input Module w/Modbus
- **ADAM-4019+-F** 8-ch Universal Analog Input Module w/Modbus

*Please reference the user manual for the range accuracy of the thermocouple

ADAM-4053 ADAM-4055 ADAM-4080

16-ch Digital Input Module

16-ch Isolated Digital I/O Module with Modbus

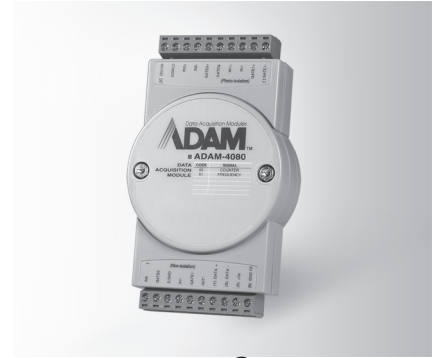
2-ch Counter/Frequency Module



ADAM-4053



ADAM-4055



ADAM-4080



Specifications

General

- **Connectors** 2 x plug-in terminal blocks (#14 ~ 22 AWG)
- **Power Consumption** 0.4 W @ 24 V DC typ.
0.7 W @ 24 V DC max.
- **Watchdog Timer** System (1.6 second)
- **Supported Protocols** ASCII command and Modbus/RTU

Digital Input

- **Channels** 16
- **Input Level**
 - Dry contact: Logic level 0: Closed to GND
 - Logic level 1: Open
 - Wet contact: Logic level 0: 2 V
 - Logic level 1: 4 ~ 30 V or floating
 - Support DO type: Sink (NPN) only
- **Effective Distance** 500 m max. (dry contact only)

Specifications

General

- **Connectors** 2 x plug-in terminal blocks (#14 ~ 28 AWG)
- **Power Consumption** 1 W @ 24 V DC typ.
1.7 W @ 24 V DC max.
- **Watchdog Timer** System (1.6 second) & Communication
- **Supported Protocols** ASCII command and Modbus/RTU
- **Isolation Voltage** 2,500 V_{DC}
- **LED Indicators** Yes

Digital Input

- **Channels** 8
Dry/Wet Contact decided by switch or jumper
- **Input Level**
 - Dry Contact: Logic level 0: Open
 - Logic level 1: Closed to GND
 - Wet Contact: Logic level 0: 0 ~ 3 V max. or floating
 - Logic level 1: 10 ~ 50 V
 - Support DO type: Sink (NPN) and Source (PNP)
 - 70 V_{DC}
- **Overvoltage Protection**

Digital Output

- **Channels** 8, open collector to 40 V (1 channel 200 mA max. load, total channel 800 mA max. load)
- **Power Dissipation** Channel: 1 W max.
Total: 2.2 W (8 Channels)

Specifications

General

- **Connectors** 2 x plug-in terminal blocks (#14 ~ 22 AWG)
- **Power Consumption** 2.0 W @ 24 V_{DC}
- **Watchdog Timer** System (1.6 second)
- **Supported Protocols** ASCII command
- **LED Indicators** 5-digit readout, Ch 0 or Ch 1 (programmable)

Counter Input

- **Channels** 2 independent counters (32-bit + 1-bit overflow)
- **Input Frequency** 50 kHz max.
- **Input Pulse Width** >10 μs.
- **Input Mode** Isolated or non-isolated
- **Isolated Input Level** Logic level 0: 1 V max.
Logic level 1: 3.5~30 V
- **Isolation Voltage** 2,500 V_{RMS}
- **Non-isolated Input Level** Programmable threshold:
Logic level 0: 0.8 V_{max}.
Logic level 1: 2.4 ~ 5.0 V
- **Maximum Count** 4,294,967,295 (32 bits)
- **Preset Type** Absolute or relative
- **Programmable Digital Noise Filter** 2 μs ~ 65 ms
- **Alarm** Alarm comparators on each counter
- **Frequency Measurement Range** 5 Hz ~ 50 kHz
- **Programmable Built-in Gate Time** 1 or 0.1 second

Digital Output

- **Channels** 2, open collector to 30 V, 30 mA max. load
- **Power Dissipation** 300 mW for each channel

Common Specifications

General

- **Power Input** Unregulated 10 ~ 30 V_{DC}

Environment

- **Humidity** 5 ~ 95% RH
- **Operating Temperature** -10 ~ 70°C (14 ~ 158°F)
- **Storage Temperature** -25 ~ 85°C (-13 ~ 185°F)

Ordering Information

- **ADAM-4053-F** 16-ch Digital Input Module
- **ADAM-4055-C** 16-ch Isolated Digital I/O Module with Modbus
- **ADAM-4080-E** 2-ch Counter/Frequency Modules