

# Системы распределенного ввода/вывода серии ADAM-6000

## ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

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# ADAM-6060

# ADAM-6066

# ADAM-6015

6 DI/6 Relay Module

6 DI/6 Power Relay Module

7-channel RTD Module



ADAM-6060

CE FCC



ADAM-6066

CE FCC



ADAM-6015

CE FCC

## Specifications

- **Channels** 12
- **I/O Type** 6 Relay & 6 DI
- **Relay Output (Form A)** Contact Rating:  
AC: 120 V @ 0.5 A  
DC: 30 V @ 1 A  
Breakdown voltage: 500 V<sub>AC</sub> (50/60 Hz)  
Relay on time: 7 ms  
Relay off time: 3 ms  
Total switching time: 10 ms  
Insulation resistance: 1000 MΩ minimum at 500V<sub>DC</sub>
- **Digital Input** Dry Contact:  
Logic level 0: close to GND  
Logic level 1: open  
Wet Contact:  
Logic level 0: +3Vmax  
Logic level 1: +10 V to 30 V<sub>DC</sub>
- **Optical Isolation** 2000V<sub>RMS</sub>
- **Power Consumption** 2 W (Typical)

## Specifications

- **Channels** 12
- **I/O Type** 6 Relay & 6 DI
- **Relay Output (Form A)** Contact Rating:  
AC: 250 V @ 5 A  
DC: 30 V @ 5 A  
Breakdown voltage: 500 V<sub>AC</sub> (50/60 Hz)  
Relay on time: 7 ms  
Relay off time: 3 ms  
Total switching time: 10 ms  
Insulation resistance: 1000 MΩ minimum at 500V<sub>DC</sub>
- **Digital Input** Dry Contact:  
Logic level 0: close to GND  
Logic level 1: open  
Wet Contact:  
Logic level 0: +3Vmax  
Logic level 1: +10 V to 30 V<sub>DC</sub>
- **Optical Isolation** 2000V<sub>RMS</sub>
- **Power Consumption** 2.5 W (Typical)

## Specifications

- **Channels** 7 differential
- **Effective Resolution** 16-bit
- **Input Type** Pt, Balco and Ni RTD
- **RTD Types and Temperature Ranges**
  - PT-100 RTD
    - Pt-50° C to 150° C
    - Pt 0° C to 100° C
    - Pt 0° C to 200° C
    - Pt 0° C to 400° C
    - Pt-200° C to 200° C
    - IEC RTD 100 ohms.= 0.00385)
    - JIS RTD 100 ohms.= 0.00392)
  - Pt 1000 RTD
    - Pt -40° C to 160° C
  - Balco 500 RTD
    - 30° C to 120° C
  - Ni 50 RTD
    - 100° C
  - Ni 508 RTD
    - Ni 0° C to 100° C
- **Isolation Voltage** 2000 V<sub>DC</sub>
- **Sampling Rate** 10 samples / sec.
- **Input Impedance** 10 kΩ
- **Input Connections** 2 or 3 wire
- **Accuracy** ± 0.05 % or better
- **Zero Drift** ± 3 μV/° C
- **Span Drift** ± 25 ppm/° C
- **CMR @ 50/60 Hz** 150 dB
- **NMR @ 50/60 Hz** 100 dB
- **Built-in Watchdog Timer**
- **Individual Wire Burn-out Detection**
- **Power Requirements** Unregulated  
+10 ~ +30 V<sub>DC</sub>
- **Power Consumption** 2 W

## Ordering Information

- **ADAM-6060** 6 Isolated Digital Inputs & 6 Relays Module

## Ordering Information

- **ADAM-6066** 6 Isolated Digital Inputs & 6 Power Relays Module

## Ordering Information

- **ADAM-6015** 7-channel RTD Input Module

# ADAM-6017 ADAM-6018 ADAM-6024

8-channel Analog Input w/DO Module

8-channel Thermocouple Input w/DO Module

12-channel Universal Input Output Module



ADAM-6017

CE FCC



ADAM-6018

CE FCC



ADAM-6024

CE FCC

## Specifications

### Analog Input

- **Effective Resolution** 16-bit
- **Channels** 8 differential
- **Input Type** mV, V, mA
- **Input Range**  $\pm 150$  mV,  $\pm 500$  mV,  $\pm 5$  V,  $\pm 10$  V, 0-20 mA, 4-20 mA
- **Isolation Voltage**  $2000 V_{DC}$
- **Fault and Overvoltage Protection** Withstands overvoltage up to  $\pm 35$  V
- **Sampling Rate** 10 samples/sec.
- **Input Impedance**  $20 M\Omega$
- **Bandwidth** 13.1 Hz @ 50 Hz, 15.72 Hz @ 60 Hz
- **Accuracy**  $\pm 0.1\%$  or better
- **Zero Drift**  $\pm 6 \mu V/^{\circ}C$
- **Span Drift**  $\pm 25$  ppm/ $^{\circ}C$
- **CMR @ 50/60 Hz** 92 dB min.

### Digital Output

- **Channels** 2  
Open Collector to 30 V  
100 mA max. load
- **Optical Isolation**  $2000V_{RMS}$

### Power

- **Power Requirements** Unregulated  $+10 \sim +30 V_{DC}$
- **Power Consumption** 2 W
- **Built-in Watchdog Timer**

## Ordering Information

- **ADAM-6017** 8-channel Analog Input with DO Module

## Specifications

### Analog Input

- **Effective Resolution** 16-bit
- **Channels** 8 differential
- **Input Type** Thermocouple
- **Thermocouple Type and Range:**

J	0	~	760° C
K	0	~	1370° C
T	-100	~	400° C
E	0	~	1000° C
R	500	~	1750° C
S	500	~	1750° C
B	500	~	1800° C
- **Isolation Voltage**  $2000 V_{DC}$
- **Fault and Overvoltage Protection** Withstands overvoltage up to  $\pm 35$  V
- **Sampling Rate** 10 samples/sec.
- **Input Impedance**  $10 k\Omega$
- **Bandwidth** 13.1 Hz @ 50 Hz, 15.72 Hz @ 60 Hz
- **Accuracy**  $\pm 0.1\%$  or better
- **Zero Drift**  $\pm 6 \mu V/^{\circ}C$
- **Span Drift**  $\pm 25$  ppm/ $^{\circ}C$
- **CMR @ 50/60 Hz** 92 dB min.

### Digital Output

- **Channels** 8  
Open Collector to 30 V  
100 mA max. load
- **Optical Isolation**  $2000 V_{RMS}$

### Power

- **Power Requirements** Unregulated  $+10 \sim +30 V_{DC}$
- **Power Consumption** 2 W
- **Built-in Watchdog Timer**

## Ordering Information

- **ADAM-6018** 8-ch. Thermocouple Input with DO Module

## Specifications

### Analog Input

- **Channels** 6 differential
- **Effective Resolution** 16-bit
- **Input Range**  $\pm 10 V_{DC}$ , 0 ~ 20 mA, 4 ~ 20 mA,  $2,000 V_{DC}$
- **Isolation Voltage**  $2,000 V_{DC}$
- **Sampling Rate** 10 samples/sec.
- **Input Impedance**  $20 M\Omega$
- **Bandwidth** 13.1 Hz @ 50 Hz, 15.72 Hz @ 60 Hz
- **Accuracy**  $\pm 0.1\%$  or better
- **Zero Drift**  $\pm 6 \mu V/^{\circ}C$
- **Span Drift**  $\pm 25$  ppm/ $^{\circ}C$
- **CMR @ 50/60 Hz** 92 dB min.

### Analog Output

- **Channels** 2
- **Effective Resolution** 12-bit
- **Output Range**  $0 \sim 10 V_{DC}$ , 4 ~ 20 mA,  $0 \sim 20 mA$
- **Drive Voltage**  $15 V_{DC}$  (for current output)
- **Isolation Voltage**  $2,000 V_{DC}$
- **Accuracy** 0.05% of FSR
- **Drift**  $\pm 50$  ppm/ $^{\circ}C$

### Digital Inputs

- **Channels** 2  
Dry Contact  
logic level 0: close to GND  
logic level 1: open  
Wet Contact:  
Logic level 0:  $+3V_{max}$   
Logic level 1:  $+10$  V to  $30 V_{DC}$

### Digital Outputs

- **Channels** 2  
Open Collector to 30 V  
100 mA max. load

### Power

- **Power Consumption** 4 W (typical)

## Ordering Information

- **ADAM-6024** 12-channel Universal Input/Output Module

# ADAM-6050

# ADAM-6051

# ADAM-6052

18-channel Isolated Digital I/O Module

16-channel Isolated Digital I/O w/Counter Module

16-channel Source Type Digital I/O Module



ADAM-6050

CE FCC



ADAM-6051

CE FCC



ADAM-6052

CE FCC

## Specifications

- **Channels** 18
- **I/O Type** 12 DI & 6 DO
- **Digital Input** Dry Contact:  
Logic level 0: close to GND  
Logic level 1: open  
Wet Contact:  
Logic level 0 : +3 V max  
Logic level 1 : +10 V to 30 VDC
- **Digital Output** Open Collector to 30 V  
200 mA max. load
- **Optical Isolation** 2000 V<sub>RMS</sub>
- **Power Consumption** 2 W (typical)

## Specifications

- **Channels** 16
- **I/O Type** 12 DI / 2 DO / 2 Counter
- **Digital Input** Dry Contact:  
Logic level 0: close to GND  
Logic level 1: open  
Wet Contact:  
Logic level 0 : +3 V max  
Logic level 1 : +10 V to 30 V<sub>DC</sub>
- **Digital Output** Open Collector to 30 V  
200 mA max. load
- **Optical Isolation** 2000V<sub>RMS</sub>
- **Counter** Maximum Count:  
4,294,967,285(32 bit)  
Input frequency:  
0.3 ~ 1000 Hz max.  
(frequency mode)  
5000 Hz max. (counter mode)  
Isolation voltage: 2000 V<sub>RMS</sub>  
Mode: Counter, Frequency
- **Power Consumption** 2 W (typical)

## Specifications

- **Channels** 16
- **I/O Type** 8 DI/ 8 DO
- **Digital Input** Dry Contact:  
Logic level 0: close to GND  
Logic level 1: open  
Wet Contact:  
Logic level 0 : +3 V max  
Logic level 1 : +10 V to 30 V<sub>DC</sub>
- **Digital Output: (Source Type)** V<sub>DC</sub>: 35 V  
Current: 1 A
- **Optical Isolation** 2000 V<sub>RMS</sub>
- **Power Consumption** 2 W (typical)

## Ordering Information

- **ADAM-6050** 18-channel isolated Digital I/O module

## Ordering Information

- **ADAM-6051** 16-channel isolated Digital I/O with counter module

## Ordering Information

- **ADAM-6052** 16-channel Source Type Digital I/O module

# ADAM-6150

# ADAM-6151/6156

# ADAM-6160

15-ch Isolated Digital I/O Real-time Ethernet Module

16-ch Isolated Digital Input/ Digital Output Real-time Ethernet Module

6-ch Relay Real-time Ethernet Module



ADAM-6150/6151/6156



ADAM-6160



## Specifications

### Digital Input

- Channels ADAM-6150: 8  
ADAM-6151: 16
- Dry Contact Logic level 0: open  
Logic level 1: close to DGND
- Wet Contact Logic level 0: 0 ~ 3 V<sub>DC</sub> or 0 ~ -3 V<sub>DC</sub>  
Logic level 1: 10 ~ 30 V<sub>DC</sub> or -10 ~ -30 V<sub>DC</sub>  
(Dry/Wet Contact decided by switch)
- Input Impedance 5.2 kΩ (Wet Contact)
- Transition Time From logic level 0 to 1: 0.2 ms  
From logic level 1 to 0: 0.2 ms

### Digital Output

- Channels ADAM-6150: 7  
ADAM-6156: 16
- Output Voltage Range 8 ~ 35 V<sub>DC</sub>
- Normal Output Current 100 mA (per channel)

## Ordering Information

- ADAM-6150EI 15-ch Isolated DI/O EtherNet/IP Module
- ADAM-6151EI 16-ch Isolated DI EtherNet/IP Module
- ADAM-6156EI 16-ch Isolated DO EtherNet/IP Module
- ADAM-6150PN 15-ch Isolated DI/O PROFINET Module
- ADAM-6151PN 16-ch Isolated DI PROFINET Module
- ADAM-6156PN 16-ch Isolated DO PROFINET Module

## Specifications

### Relay Output

- Channels 5 Form C and 1 Form A
- Contact Rating 250 V<sub>AC</sub> @ 5A  
30 V<sub>DC</sub> @ 5A
- Max. Switching Voltage 400 V<sub>AC</sub>  
300 V<sub>DC</sub>
- Breakdown Voltage 500 V<sub>AC</sub> (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 10<sup>6</sup> operations
- Isolation between Contact 1000 V<sub>ms</sub>
- Insulation Resistance > 10 GΩ @ 500 V<sub>DC</sub>

## Ordering Information

- ADAM-6160EI 6-ch Relay EtherNet/IP Module
- ADAM-6160PN 6-ch Relay PROFINET Module

## Common Specifications

### General

- LAN 10/100Base-T(X)
- Power Consumption ADAM-6150: 3 W @ 24 V<sub>DC</sub>  
ADAM-6151: 2.7 W @ 24 V<sub>DC</sub>  
ADAM-6156: 3.2 W @ 24 V<sub>DC</sub>  
ADAM-6160: 4.5 W @ 24 V<sub>DC</sub>
- Connectors 2 x RJ-45 LAN, (Daisy Chain)  
Plug-in screw terminal block (I/O and power)
- Watchdog System (1.6 second)
- Power Input 10 ~ 30 V<sub>DC</sub>

### Protection

- Over Voltage Protection ±35 V<sub>DC</sub>
- Isolation Protection 2,500 V<sub>DC</sub>
- Power Reversal Protection

### 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)

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