ADAM-5024 ADAM-5050 ADAM-5051/D/S

4-ch Analog Output Module

16-ch Universal Digital I/O Module

16-ch Digital Input Module



Specifications

General

- Certification
- Connectors
- Enclosure
- (# 14 ~ 22 AWG) ABS+PC Power Consumption 2.9 W (max.)

output

output

4

CF FM

1 x Plug-in screw terminal

±0.1% of FSR for current

±0.2% of FSR for voltage

Analog Output

- Accuracy
- Channels
- Current Load
- Resistor Output Type
- Output Range
- Programmable **Output Slope**
- Resolution
- Resolution
- Span Temperature Coefficient
- Zero Drift

Protection

Isolation Voltage

3,000 V_{DC}

Ordering Information

ADAM-5024

4-ch Analog Output Module



Specifications

General

- Certification
- Connectors
- Enclosure

Digital I/O

Digital Output

ADAM-5050

Power Dissipation 300 mW for each channel

Ordering Information

16-ch Universal Digital Input/Output Module



CE

AWG)

ABS+PC

Input floating

On: Active

ADAM-5051/5051D: 1 x

ÀDAM-5051S: 1 x Plug-in

screw terminal (# 14 ~ 28

On: Input logic level 1

Off: Input logic level 0

Plug-in screw terminal

(# 14 ~ 22 AWG)

Specifications

General

- Certification
- Connectors
- Enclosure
- **LED Indicators** ADAM-5051D

ADAM-5051S

Off: Inactive Power Consumption

ADAM-5051: 0.53 W (max.) ADAM-5051D: 0.84 W (max.) ÀDAM-5051S: 0.8 W (max.)

Digital Input

- Circuit Type
- Channels Input Voltage
- Logic Level ADAM-5051/5051D

ADAM-5051S

Logic level 0: 1 V max. Logic level 1: 3.5 ~ 30 V Logic level 0: 3 V max. Logic level 1: 10 ~ 50 V

ADAM-5051S: 50 V max

Pull-up current: 0.5 mA

(Source Type) -only for

ADAM-5051/5051D

ADAM-5051/5051D:

16

30 V max

2,500 V_{DC}

Protection (Only for ADAM-5051S)

- Optical Isolation Overvoltage
 - 70 Vnc Protection

Ordering Information ADAM-5051

- ADAM-5051D
- ADAM-5051S

16-ch Digital Input Module 16-ch Digital Input Module w/ LED 16-ch Isolated Digital Input Module w/ LED

Online Download www.advantech.com/products

ADVANTECH Last updated : 28-Aug-2013

All product specifications are subject to change without notice

- $0 \sim 500 \Omega$ (source) mA. V 0 ~ 20 mA, 4 ~ 20 mA, 0~10 V 0.125 ~ 128.0 mA/sec. 0.0625 ~ 64.0 V/sec. 12-hit
 - ±0.015% of FSR
 - ±25 PPM/°C
 - Voltage: ±30 µV/°C Current: ±0.2 µA/°C

- Power Consumption 1.2 W (max.) - Channels 16
 - Bit-wise selectable by DIP switch Dry Contact: Logic level 1: open Wet Contact:

CF FM

ABS+PC

- Digital Input

- Channel I/O Type
 - Logic level 0: close to GND Logic level 0: 2 V max. Logic level 1: 4 ~ 30 V Open collector to 30 V. 100 mA and 450 mW max. load

1 x Plug-in screw terminal

(# 14 ~ 22 AWG)

ADAM-5052 **ADAM-5053S ADAM-5055S**

8-ch Isolated Digital Input Module

32-ch Isolated Digital Input Module

16-ch Isolated Digital I/O Module with LED



Specifications

General

- Certification
- Connectors
- Enclosure
- Power Consumption 0.27 W (max.)

Digital Input

- Channels
- 8 3 kΩ/0.5 W

CE. FM

ABS+PC

1 x Plug-in screw terminal

(# 14 ~ 22 AWG)

- Input Resistance Logic Level
- Logic level 0: 1 V max Logic level 1: 3.5 ~ 30 V

Protection

Isolation Voltage 5000 V_{RMS}

Ordering Information

- ADAM-5052
- 8-ch Isolated Digital Input Module



Specifications

General

| Certification | CE, FCC class A | |
|---------------------------------------|-----------------|--|
| Connector | 40 pin | |
| Enclosure | ABS+PC | |
| Power Consumption | 1 W (max.) | |
| Digital Input | | |
| Channels | 32 | |

- Channels Channel I/O Type DI 24 V_{DC} (Sink/Source)

Logic Level

Wet Contact

Protection

Isolation Voltage 2.500 Vpc Overvoltage $35 V_{DC}$ Protection

Note: only for ADAM-5550 & 5560 Series

Ordering Information

- ADAM-5053S
- ADAM-3920
- PCL-10220

32-ch Digital Input Module 20-pin Flat Cable Wiring Board 40-pin IDC to two 20-pin IDC cable, 1 m



Specifications

General

Di

| CE |
|----------------------------|
| 1 x Plug-in screw terminal |
| (# 14 ~ 20 AWG) |
| ABS+PC |
| On: Active |
| Off: Inactive |
| 0.68 W (max.) |
| |
| 16 |
| |

8 DO, 8 DI

2,500 V_{DC}

70 V_{DC} (DI only)

- Channel I/O Type
- Digital Input

Drv contact: Logic level 0: open Logic level 1: close to GND Wet contact: Logic level 0: 3 V max. Logic level 1: 10 ~ 50 V Open collector to 40 V 200 mA max. load Channel : 1 W max. Total : 2.2 W (8 channels)

Protection

- Digital Output

Isolation Voltage

Power Dissipation

 Overvoltage Protection

Ordering Information

ADAM-5055S

16-ch Isolated Digital I/O Module with LED

Programmable Automation Controllers AD\ANTECH

All product specifications are subject to change without notice

Logic level 0: 10 V max

Logic level 1: 19 ~ 35 V

ADAM-5056/D/S **ADAM-5056SO ADAM-5057S**

16-ch Digital Output Module 16-ch Source-type Isolated Digital Output Module with LED

32-ch Isolated Digital Output Module



Specifications

General

- Certification
- Connectors ADAM-5056/5056D

ADAM-5056S

Enclosure

LED Indicators ADAM-5056D

ADAM-5056S

Power Consumption

On: Active Off: Inactive ADAM-5056:0.53 W (max.) ADAM-5056D: 0.84 W (max.) ADAM-5056S: 0.6 W (max.)

Open collector to 30 V,

Open collector to 40 V,

ADAM-5056/5056D:

200 mA max. load (sink)

100 mA max. load

CE. FCC class A

1 x Plug-in screw

1 x Plug-in screw

ABS+PC

16

(ADAM-5056S only)

terminal (# 14 ~ 22 AWG)

terminal (# 14 ~ 28 AWG)

On: Output logic level 1

Off: Output logic level 0

Digital Output

 Channels Digital Output ADAM-5056/5056D

ADAM-5056S

- Operating Voltage
- 30 V max Power Dissipation 300 mW for each channel

Protection (Only for ADAM-5056S)

- -Optical Isolation 2500 Vpc
- -Overvoltage Protection 70 Vpc
- -Power Dissipation 300 mW

Ordering Information

ADAM-5056 16-ch Digital Output Module ADAM-5056D 16-ch Digital Output Module with LED ADAM-5056S 16-ch Sink Type Iso, DO Module w/ LED



Specifications

General

- Certification
- Connectors
- Enclosure
- **LED** Indicator
- Power Consumption 0.6 W (Max.)

Digital Output

=

- Channels
- . Current

Protection

- Optical Isolation Overvoltage
- Protection

Ordering Information

- ADAM-5056SO
- 16-ch Source Type Iso. DO
- Module w/ LED



Specifications

General

- Certification
- Connectors
- Enclosure
- LED Indicator
- Power Consumption 1W (Max.)

32

Digital Output

- Channels
- Digital Output
- Must connect with 2 units of ADAM-3920R

CE. FCC class A

ABS+PC

On: Active

Off: Inactive

1 x 40 pin (wiring line)

Protection

- Optical Isolation 2,500 V_{DC}
- Overvoltage $70 V_{\text{DC}}$ Protection

Relay Spec. of ADAM-3920R

- Contact Rating 10A @ 250 V_{AC}
 - 10A @ 30 V_{DC}
- Contact Resistance $100 \, \text{m}\Omega$
- Operation Time 15 ms
- Relay Type SPST (Form A) .
- Release Time 5 ms max
- Life Expectancy 1.7 x 105 at related load
- Insulation Resistance $1G\Omega @ 500 V_{DC}$
- Power Input $+24 V_{DC}$ Mounting
 - DIN 35 rail, wall, rack (with mounting kit)

Note: ADAM-5057S must connect with 2 units of ADAM-3920R via PCL-10220

Note: only for ADAM-5550 & 5560 Series

Ordering Information

ADAM-5057S 32-ch Digital Output Module ADAM-3920R 20-pin Flat Cable Wiring Relay Board PCL-10220 40-pin IDC to two 20-pin IDC cable, 1m

Online Download www.advantech.com/products

ADVANTECH Last updated : 28-Aug-2013

- 2,500 V_{DC} $70 V_{\text{DC}}$
- Channel : 1 W max. Total : 2.2 W
- 16 10 ~ 35 V_{DC} 200 mA max. (per channel)

CE, FCC class A

(# 14 ~ 28 AWG)

ABS+PC

On: Active

Off. Inactive

1 x Plug-in screw terminal

- Power Dissipation

Digital Output

ADAM-5060 ADAM-5069

6-ch Relay Output Module

8-ch Power Relay Output Module with LED



CE

ABS+PC

1.8 W (max.)

ADAM-5060

Specifications

General

- Certification
- ConnectorsEnclosure
- Power Consumption

Relay Output

- Breakdown Voltage
- Channels
- Contact Rating
- 2 x form A , 4 x form C AC: 125 V @ 0.6 A 250 V @ 0.3 A DC: 30 V @ 2 A 110 V @ 0.6 A 1 GΩ min. @ 500 V_{DC} 2 ms

3 ms

500 V_{AC} (50/60 Hz)

1 x Plug-in screw terminal (# 14 ~ 22 AWG)

- Insulation Resistance
 Relay Off Time
- (typical) Relay On Time
- (typical) • Total Switching Time 10 ms

Ordering Information

ADAM-5060

6-ch Relay Output Module



ADAM-5069

Specifications

General

- Certification CE, FCC class A Connectors 1 x Plug-in screw terminal (# 14 ~ 22 AWG) Enclosure ABS+PC LED Indicator On: Active Off: Inactive Power Consumption 2.2 W (max.) **Relay Output** Breakdown Voltage 750 V_{AC} (50/60 Hz) Channels 8 x form A Contact Rating AC: 250 V @ 5 A DC: 30 V @ 5 A Insulation Resistance 1 GΩ @ 500 V_{DC}
- Relay On Time 5 ms
- (typical) Relay Off Time 5.6 ms (typical)

Ordering Information

• ADAM-5069

8-ch Power Relay Output Module w/ LED



ADAM-5080 ADAM-5081

4-ch Counter/Frequency Module

4/8-ch High Speed Counter/Frequency Module





ADAM-5080

Specifications

General

- Certification
- Connectors
- 1 x Plug-in screw terminal (# 14 ~ 22 AWG) ABS+PC

CE, FM

- Enclosure
- Power Consumption 1.5 W (max.)

Counter/Frequency

 Counter Aux. Function Initial preset, hi-low alarm setting, alarm digital output

Isolated or TTL level

Logic level 0: 1 V_{DC} max

- Channels
- Input Frequency
- Input Level
- Isolation Input Level
 - Logic level 1: 3.5 ~ 30 V_{DC} $1,000 \; V_{\text{RMS}}$
- 4,294,967,295 (32 bits)
- 100 µs (counter mode) Modes Counter (up/down, bi-direction), Frequency
- Filter
 - Logic level 0: 0 ~ 0.8 V_{DC} Logic level 1: 2.3 ~ 5 V_{DC}

Note: Does not support ADAM-5550 & 5560 Series

Ordering Information

ADAM-5080

4-ch Counter/Frequency Module

ADAM-5081

Specifications

General

- Certification
- Connectors
- 1.1 W (Max.)

CE

ABS+PC

1 x plug-in screw terminal (# 14 ~ 18 AWG)

Counter/Frequency

- Channels 4/8 Maximum Count 4,294,967,295 (32 bit) Input Frequency 5 Hz ~ 1 MHz max. (frequency mode)
- Input Level
- Minimum Pulse Width
 - 1usec. (frequency mode) 1µsec. (counter mode)
- Minimum Input Current 2 mA (isolated)
- Isolation Input Level Logic level 0: 3 V_{DC} max,
 - Logic level 1: 10 ~ 30 V_{DC}
- TTL Input Level Logic level 0: 0 ~ 0.8 V_{DC}, Logic level 1: 2.3 ~ 5 V_{DC}
- $2,500 V_{\text{RMS}}$ Isolation voltage
- Modes Counter (up/down, bi-direction, up, A/B Phase),
- Frequency
- Counter Aux. Function Initial preset, hi-low alarm setting, alarm digital output mapping, overflag

1 MHz max. (counter mode)

Isolated or TTL level

• Programmable Digital 1 ~ 65,000 µsec (Noise Filter Function) Filter

Note: Does not support ADAM-5510 KW series

Ordering Information

ADAM-5081

4/8-ch High Speed Counter/Frequency Module



- - Power Consumption

Enclosure

- mapping, overflag 4

0.3 ~ 1,000 Hz max. (frequency mode)

5,000 Hz max. (counter mode) TTL only

- Isolation Voltage
- Maximum Count
- Minimum Input Current 2 mA (isolated)
- Minimum Pulse Width 500 µs (frequency mode)
- Programmable Digital 1 ~ 65,000 µsec (Noise Filter Function)
- TTL Input Level

ADAM-5000/485 **ADAM-5000E**

4-slot Distributed DA&C System for **RS-485** 8-slot Distributed DA&C System for **RS-485**



Features

- RS-485 communication for easy installation and networking
- 4 or 8 slots for up to 128 points data monitoring card control in one module
- Extensive software support, includes windows DLL drivers, OCX drivers, OPC • server and popular HMI/SCADA software drivers
- Seamlessly integrated with easy-to-use ADAMView data acquisition software
- Supports ADAM ASCII protocol or Modbus[®]/RTU protocol
- Supports Modbus/RTU protocol with user-defined Modbus address

Introduction

The ADAM-5000/485 and ADAM-5000E systems conform to the EIA RS-485 communication standard. This is the industry's most widely used, balanced, bidirectional transmission line standard. RS-485 was specifically developed for industrial applications to transmit and receive data at high rates over long distances.

Specifications

Control System

| • | CPU |
|---|-----------|
| | I/O Slots |

16-bit 80188 microprocessor ADAM-5000/485: 4 ADAM-5000E: 8 Power, CPU, communications

1.6 sec. (System)

- LED Indicators
- Watchdog Timer

Communications

Command Format Communication Distance

Data Format

ASCII command/response protocol, Modbus/RTU RS-485: 1.2 km (4000 feet) Asynchronous. 1 start bit, 8 data bits, 1 stop bit, no

Programming link: RS-232 (3-wire: TX, RX, GND)

Communication error checking with checksum

1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, and 115.2

Communication: RS-485 (2-wire)

128 (in RS-485 daisy-chain network)

Network Protocols

- Reliability Check
- Max. Nodes
- Speeds (kbps)

Power

| Power Consumption | n 3 W @ 24 V _{DC} (ADAM-5000/485) |
|---------------------------------------|--|
| | (not including I/O modules) |
| | 4.0 W @ 24 V _{DC} (ADAM-5000E) |
| | (not including I/O modules) |
| Power Input | Unregulated 10 \sim 30 V _{pc} |

parity

Power Input

Software

- Driver Support Windows DLL, OPC Server, Wonderware InTouch, Intellution, iFIX, Citect, Advantech Studio, ADAMView
- C and .NET Class Library

Protection

- Communication Line 2,500 V_{DC} (ADAM-5000/485) 3,000 V_{DC} (ADAM-5000E)
- Isolation
- I/O Module Isolation
- Transient Protection
- Power Reversal Protection

General

| 1 | Certification | CE, FM |
|---|-----------------------|--|
| | Connectors | 1 x DB9-M/DB9-F/screw terminal for RS-485 (communication) 1 x DB9-F for RS-232 (configuration) 1 x Screw-terminal for power input |
| | Dimensions (WxHxD) | 4-slot: 231 x 110 x 75 mm 8-slot: 355 x 110 x 75 mm |
| 1 | Enclosure Mounting | ABS+PC DIN-rail, wall, rack (with mounting kit) |

3,000 V_{DC}

Yes

RS-485 communication lines, power input

Environment

- Humidity 5~95%, non-condensing
- Operating Temperature -10 ~ 70°C (14 ~ 158°F)
- Storing Temperature -25 ~ 85°C (-13 ~ 185°F)

Ordering Information

- ADAM-5000E
- 4-slot Distributed DA & C System for RS-485 8-slot Distributed DA & C System for RS-485

ADAM-5000/485

ADAM-5000L/TCP ADAM-5000/TCP

4-slot Distributed DA&C System for Ethernet 8-slot Distributed DA&C System for Ethernet



Features

- Cortex M4 CPU
- 10/100Base-T auto-negotiation high-speed communication port
- Supports Modbus/TCP for easy integration
- Supports UDP event handling function
- Up to 100 m communication distance w/o repeater
- Allows remote configuration via Ethernet Allows concurrent access for 16 host PCs
- 4 I/O slots for up to 64 points and 8 I/O slots for up to 128 points data monitoring and control
- 1500 V_{DC} isolation for Ethernet communication
- Built-in watchdog timer for system auto-reset
- Windows utility
- I/O modules configuration and calibration
- Network auto searching
- Data stream setting
 Current status monitoring and alarm trigger
- Provides C and .NET class library to develop applications
- Support GCL function for easy IO interlocking logic

Introduction

The ADAM-5000L/TCP and ADAM-5000/TPC are both Ethernet-based I/O systems. Without a repeater, the ADAM-5000L/TCP and ADAM-5000/TCP can cover a communication distance up to 100 m. This allows remote configuration via Ethernet and sixteen PCs can simultaneously access the data. The ADAM-5000/TCP and ADAM-5000/TCP are the solutions for easy configuration and efficient management. It is an ideal and cost-effective solution for eAutomation architecture.

Specifications

Control System

| | CPII |
|---|------|
| - | UFU |

| • | CPU I/O Slots | Cortex M4 ADAM-5000L/TCP: 4 ADAM-5000/TCP: 8 |
|---|------------------|---|
| • | Memory | Flash ROM:1 MB |
| • | Operating System | Real-time OS |
| • | LED Indicators | Power (3.3 V) |
| | | RUN |
| • | Storage | Communication (Link, Active, 10/100 Mbps, Tx, Rx) 1 x MicroSD slot |

Communications (Ethernet)

- Data Transfer Rate Up to 100 Mbps
- Event Response Time < 5 ms
- Interface 2 x RJ-45 sharing one MAC Address Wiring UTP, category 5 or greater

Communications (Serial)

- RS-485: 1.2 km (4000 feet) RS-232: 15 m Modbus/RTU
- Comm. Protocol
 - Up to 115.2 kbps
 - 1 x DB9-M for RS-485
 - 1 x DB9-F for RS-485
 - 1 x DB9-F for RS-232 (System Monitoring)
- 15 (in RS-485 daisy-chain network for Remote I/O Max. Nodes connection)

Power

Power Consumption 4.0 W @ 24 V_{DC} (ADAM-5000L/TCP) (not including I/O modules) 5.0 W @ 24 V_{DC} (ADAM-5000/TCP) (not including I/O modules) Power Input Unregulated 10 ~ 30 V_{DC}

Software

- API VS.NET Llass Library Network setting, I/O configuration & calibration. data Windows Utility stream, alarm setting Modbus/TCP OPC Server Protection 3.000 V_{DC}
- **Communication Line**
- Isolation
- I/O Module Isolation 3.000 V_{DC} 1.500 V_{DC}
- LAN Communication **Overvoltage Protection** Yes
- **Power Reversal** Yes
- Protection

General

- Certification CE, FCC class A
- Connectors 1 x DB9-M/DB9-F/screw terminal for RS-485
 - (communication)
 - 1 x DB9-F for RS-232 (internal use)
 - 1 x Screw-terminal for power input
 - 2 x RJ-45 for LAN
- Dimensions (W x H x D) ADAM-5000L/TCP: 231 x 110 x 75 mm ADAM-5000/TCP: 355 x 110 x 75 mm
- Enclosure
- ABS+PC Mounting DIN-rail, wall

Environment

- **Operating Humidity** 5~95%, non-condensing
- **Operating Temperature** $-10 \sim 70^{\circ}C (14 \sim 158^{\circ}F)$
- Storage Temperature $-25 \sim 85^{\circ}$ C (-13 ~ 185°F)

Ordering Information

- ADAM-5000L/TCP ADAM-5000/TCP
- 4-slot Ethernet-based Distributed DA & C System 8-slot Ethernet-based Distributed DA & C System

- - Comm. Distance

 - Data Transfer Rate

Interface

ADAM-5000L/TCP ADAM-5000/TCP

4-slot Distributed DA&C System for Ethernet 8-slot Distributed DA&C System for Ethernet



Features

- Cortex M4 CPU
- 10/100Base-T auto-negotiation high-speed communication port
- Supports Modbus/TCP for easy integration
- Supports UDP event handling function
- Up to 100 m communication distance w/o repeater
- Allows remote configuration via Ethernet Allows concurrent access for 16 host PCs
- 4 I/O slots for up to 64 points and 8 I/O slots for up to 128 points data monitoring and control
- 1500 V_{DC} isolation for Ethernet communication
- Built-in watchdog timer for system auto-reset
- Windows utility
- I/O modules configuration and calibration
- Network auto searching
- Data stream setting
 Current status monitoring and alarm trigger
- Provides C and .NET class library to develop applications
- Support GCL function for easy IO interlocking logic

Introduction

The ADAM-5000L/TCP and ADAM-5000/TPC are both Ethernet-based I/O systems. Without a repeater, the ADAM-5000L/TCP and ADAM-5000/TCP can cover a communication distance up to 100 m. This allows remote configuration via Ethernet and sixteen PCs can simultaneously access the data. The ADAM-5000/TCP and ADAM-5000/TCP are the solutions for easy configuration and efficient management. It is an ideal and cost-effective solution for eAutomation architecture.

Specifications

Control System

| | CPII |
|---|------|
| - | UFU |

| • | CPU I/O Slots | Cortex M4 ADAM-5000L/TCP: 4 ADAM-5000/TCP: 8 |
|---|------------------|---|
| • | Memory | Flash ROM:1 MB |
| • | Operating System | Real-time OS |
| • | LED Indicators | Power (3.3 V) |
| | | RUN |
| • | Storage | Communication (Link, Active, 10/100 Mbps, Tx, Rx) 1 x MicroSD slot |

Communications (Ethernet)

- Data Transfer Rate Up to 100 Mbps
- Event Response Time < 5 ms
- Interface 2 x RJ-45 sharing one MAC Address Wiring UTP, category 5 or greater

Communications (Serial)

- RS-485: 1.2 km (4000 feet) RS-232: 15 m Modbus/RTU
- Comm. Protocol
 - Up to 115.2 kbps
 - 1 x DB9-M for RS-485
 - 1 x DB9-F for RS-485
 - 1 x DB9-F for RS-232 (System Monitoring)
- 15 (in RS-485 daisy-chain network for Remote I/O Max. Nodes connection)

Power

Power Consumption 4.0 W @ 24 V_{DC} (ADAM-5000L/TCP) (not including I/O modules) 5.0 W @ 24 V_{DC} (ADAM-5000/TCP) (not including I/O modules) Power Input Unregulated 10 ~ 30 V_{DC}

Software

- API VS.NET Llass Library Network setting, I/O configuration & calibration. data Windows Utility stream, alarm setting Modbus/TCP OPC Server Protection 3.000 V_{DC}
- Communication Line
- Isolation
- I/O Module Isolation 3.000 V_{DC} 1.500 V_{DC}
- LAN Communication **Overvoltage Protection** Yes
- **Power Reversal** Yes
- Protection

General

- Certification CE, FCC class A
- Connectors 1 x DB9-M/DB9-F/screw terminal for RS-485
 - (communication)
 - 1 x DB9-F for RS-232 (internal use)
 - 1 x Screw-terminal for power input
 - 2 x RJ-45 for LAN
- Dimensions (W x H x D) ADAM-5000L/TCP: 231 x 110 x 75 mm ADAM-5000/TCP: 355 x 110 x 75 mm
- Enclosure
- ABS+PC Mounting DIN-rail, wall

Environment

- **Operating Humidity** 5~95%, non-condensing
- **Operating Temperature** $-10 \sim 70^{\circ}C (14 \sim 158^{\circ}F)$
- Storage Temperature $-25 \sim 85^{\circ}$ C (-13 ~ 185°F)

Ordering Information

- ADAM-5000L/TCP ADAM-5000/TCP
- 4-slot Ethernet-based Distributed DA & C System 8-slot Ethernet-based Distributed DA & C System

- - Comm. Distance

 - Data Transfer Rate

Interface

ADAM-5000/485 **ADAM-5000E**

4-slot Distributed DA&C System for **RS-485** 8-slot Distributed DA&C System for **RS-485**



Features

- RS-485 communication for easy installation and networking
- 4 or 8 slots for up to 128 points data monitoring card control in one module
- Extensive software support, includes windows DLL drivers, OCX drivers, OPC server and popular HMI/SCADA software drivers
- Seamlessly integrated with easy-to-use ADAMView data acquisition software
- Supports ADAM ASCII protocol or Modbus®/RTU protocol
- Supports Modbus/RTU protocol with user-defined Modbus address

Introduction

The ADAM-5000/485 and ADAM-5000E systems conform to the EIA RS-485 communication standard. This is the industry's most widely used, balanced, bidirectional transmission line standard. RS-485 was specifically developed for industrial applications to transmit and receive data at high rates over long distances.

Specifications

Control System

| • | CPU |
|---|-----------|
| | I/O Slots |

16-bit 80188 microprocessor ADAM-5000/485: 4 ADAM-5000E: 8

1.6 sec. (System)

Power, CPU, communications

- LED Indicators
- Watchdog Timer

Communications

Command Format Communication Distance

RS-485: 1.2 km (4000 feet) Asynchronous. 1 start bit, 8 data bits, 1 stop bit, no parity

Communication: RS-485 (2-wire)

128 (in RS-485 daisy-chain network) 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, and 115.2

ASCII command/response protocol, Modbus/RTU

Programming link: RS-232 (3-wire: TX, RX, GND)

Communication error checking with checksum

Network Protocols

- Reliability Check
- Max. Nodes

Data Format

Speeds (kbps)

Power

```
    Power Consumption

                                  3 W @ 24 V<sub>DC</sub> (ADAM-5000/485)
                                  (not including I/O modules)
                                  4.0 W @ 24 V<sub>DC</sub> (ADAM-5000E)
                                  (not including I/O modules)
                                  Unregulated 10 ~ 30 V<sub>DC</sub>

    Power Input
```

Software

- Driver Support Windows DLL, OPC Server, Wonderware InTouch, Intellution, iFIX, Citect, Advantech Studio, ADAMView
- C and .NET Class Library

Protection

- Communication Line 2,500 V_{DC} (ADAM-5000/485) 3,000 V_{DC} (ADAM-5000E)
- Isolation
- I/O Module Isolation
- **Transient Protection**
- Power Reversal Protection

General

| Certification | CE, FM |
|-----------------------|--|
| Connectors | 1 x DB9-M/DB9-F/screw terminal for RS-485 (communication) 1 x DB9-F for RS-232 (configuration) 1 x Screw-terminal for power input |
| Dimensions (WxHxD) | 4-slot: 231 x 110 x 75 mm 8-slot: 355 x 110 x 75 mm |
| Enclosure Mounting | ABS+PC DIN-rail, wall, rack (with mounting kit) |

3,000 V_{DC}

Yes

RS-485 communication lines, power input

Environment

- Humidity 5~95%, non-condensing
- Operating Temperature -10 ~ 70°C (14 ~ 158°F)
- Storing Temperature -25 ~ 85°C (-13 ~ 185°F)

Ordering Information

- ADAM-5000/485
- ADAM-5000E
- 4-slot Distributed DA & C System for RS-485 8-slot Distributed DA & C System for RS-485

ADAM-5013 ADAM-5017 **ADAM-5017P**

3-ch RTD Input Module

8-ch Analog Input Module

8-ch Analog Input Module with **Independent Input Range**



Specifications

G

| G | eneral | l | | | | |
|---|--------------------------------|--------------------|-------------|-----------------|------------------|--|
| • | Certifi | cation | | CE | | |
| | Conne | ectors | | 1 x Plug-in | screw terminal | |
| | | | | (# 14 ~ 22 | AWG) | |
| | Enclos | sure | | ABS+PC | , | |
| | Power | r Consum | ntion | 1.1 W (may | () | |
| | 1 0 10 0 | oonoum | ption | 1.1 11 (110) | (.) | |
| R | TD Inp | ut | | | | |
| • | Accur | acy | | ±0.1% or b | ±0.1% or better | |
| | Bandv | vidth | | 13.1 Hz @ 50 Hz | | |
| | | | | 15.72 Hz @ | 15.72 Hz @ 60 Hz | |
| • | Chanr | iels | | 3 | | |
| | CMR (| @ 50/60 H | lz | 150 dB | 150 dB | |
| | Input | Connectio | ons | 2. 3 or 4 w | 2.3 or 4 wire | |
| | Innut | Imnedand | :e | 2 MO | 2 MO | |
| | Innut | Tvne | | PT100 or N | PT100 or Ni RTD | |
| | NMD @ 50/60 U- | | 100 dR | | | |
| 2 | Docol | e JU/UU I ution | 12 | | | |
| 2 | Resolution | | | | | |
| KID types and temperature Ka IEC BTD 100 obms | | | Jeralure Ra | inges | | |
| | Pt | -100°C | to | +100°C | a=0.00385 | |
| | Pt | 0°C | to | +100°C | a=0.00385 | |
| | Pt | 0°C | to | +200°C | a=0.00385 | |
| | Pt | 0°C | to | +600°C | a=0.00385 | |
| | JIS R | FD 100 oh | ims | | | |
| | Pt | -100°C | to | +100°C | a=0.00392 | |
| | Pt | 0°C | to | +100°C | a=0.00392 | |
| | Pt | 0°C | to | +200°C | a=0.00392 | |
| | PI N: DT | 0~0 | to | +600°C | a=0.00392 | |
| | | 0000 | to | .10000 | | |
| | INI Ni | -00 U | to | +100 C | | |
| _ | Comm | U U Line Dote | ιυ | +100 0 | (and (total) | |
| 1 | • Sampling Kate IU samples/sec | | | | | |
| • | Span | Drift | | ±0.01°C/°C | | |
| | Zero L | Jrift | | ±0.015°C/ | °C | |
| P | rotect | ion | | | | |
| | Isolat | ion Volta | ae | 3000 Vpc | | |

Ordering Information

ADAM-5013

3-ch RTD Input Module





CE. FM

ABS+PC

better

better

1 x Plug-in screw terminal

Voltage mode: ±0.1% or

Current mode: ±0.2% or

120 Ω resistor for Current

±150 mV, ±500 mV, ±1 V,

±5 V, ±10 V; ±20 mA

10 samples/sec. (total)

Withstands overvoltage

13.1 Hz @ 50 Hz

15.72 Hz @ 60 Hz

8 differential

Voltage: 2 M Ω Current: 120 (Build-in

92 dB min.

input)

16-bit

+25 PPM/°C

±6 µV/°C

3,000 VDC

(# 14 ~ 22 AWG)

Specifications

General

- Certification
- Connectors
- Enclosure
- Power Consumption 1.25 W (max.)

Analog Input

- Accuracy
- Bandwidth
- Channels

- Input Range
- Resolution
- Sampling Rate
- .
- Isolation Voltage Fault and Overvoltage

Note: The voltage difference between any two pins must not exceed ±15 V

Ordering Information

ADAM-5017 8-ch Analog Input Module



Specifications

| General | |
|---------------------------------------|---|
| Certification | CE, FCC Class A |
| Connectors | 1 x Plug-in terminal block (#14 ~ 22 AWG) |
| Enclosure | ABS+PC |
| Power Consumption | 1.25 W (max.) |
| Analog Input | |
| Accuracy | Voltage mode : ±0.1% or better Current mode : ±0.2% or better |
| Channels | 8 (differential, each channel can be configured with different range) |
| CMR @ 50/60 Hz | 92 dB min. |
| Input Impedance | $\begin{array}{l} \mbox{Voltage: 800K } \Omega \\ \mbox{Current: 120 } \Omega \mbox{ (Build-in } \\ \mbox{120 } \Omega \mbox{. resistor for Current } \\ \mbox{Input)} \\ \mbox{for Current Input)} \end{array}$ |
| Input Range | $\begin{array}{l} 0 \sim 150 \text{ mV}, \ 0 \sim 500 \text{ mV}, \\ 0 \sim 1 \text{ V}, \ 0 \sim 5 \text{ V}, \ 0 \sim 10 \\ \text{V}, \ 0 \sim 15 \text{ V}, \pm 150 \text{ mV}, \pm 500 \\ \text{mV}, \ \pm 1 \text{ V}, \ \pm 5 \text{ V}, \ \pm 10 \text{ V}, \\ \pm 15 \text{ V}, \ \pm 20 \text{ mA}, \\ 4 \sim 20 \text{ mA} \end{array}$ |
| Resolution | 16-bit |
| Sampling Rate | 10 samples/sec. (total) |
| Span Drift | +25 ppm/°C |
| Zero Drift | +6 IIV/°C |
| High Common Mode | 200 V _{pc} |
| | 200.00 |

Protection

- Over Voltage Protection
- Built-in TVS/ESD Protection
- Isolation Voltage 3,000 VDC

Note: Does not support ADAM-5510KW series

Ordering Information

ADAM-5017P

8-ch Analog Input Module w/ Ind. Input Range

Online Download www.advantech.com/products

AD\ANTECH Last updated : 28-Aug-2013

All product specifications are subject to change without notice

CMR @ 50/60 Hz Input Impedance

- Span Drift
- Zero Drift

Protection

- up to ±35 V Protection

ADAM-5017UH ADAM-5018 ADAM-5018P

8-ch Ultra High Speed Analog Input Module

7-ch Thermocouple Input Module 7-ch Thermocouple Input Module with Independent Input Range



Note:

1) The voltage difference between any two pins must not exceed 15 V

2) Distinct range settings allowed on each channel Note: Not support ADAM-5510KW series

Ordering Information

- ADAM-5017UH
 - 8-ch Ultra High Speed Analog Input Module

| otection | |
|-------------|---------------------------|
| Fault and | Withstands overvoltage up |
| Overvoltage | to ±35 V |
| Protection | |

Isolation Voltage 3,000 V_{DC}

Fau

.

Ordering Information

ADAM-5018 7-ch Thermocouple Input Module ADAM-5018SK ADAM-5018 with CJC kit/ external



Specifications

CE, FCC class A 1 x Plug-in screw terminal (# 14 ~ 22 AWG) ÀBS+PC

| Accuracy | | Voltage mode: ±0.1% or better | | |
|------------------|---------------|----------------------------------|------------|--|
| | | Current mode: | ±0.2% or | |
| Bandwid | th | better 13 1 Hz @ 50 Hz | | |
| | | 15 72 Hz @ 60 | H7 | |
| Channels | | 7 (differential each channel | | |
| •••••• | | can be configu | red with | |
| | | different range |) | |
| CMR @ 50/60 Hz | | 92 dB min | | |
| Input Impedance | | 20 MΩ. (Build-in 120 Ω | | |
| | | Register for Current Input) | | |
| Input Rai | nge and Type | es | . , | |
| Thermoco | uple | | | |
| J | 0 | ~ | 760°C | |
| K | 0 | ~ | 1,370°C | |
| T | -100 | ~ | 400°C | |
| E | 0 | ~ | 1,000°C | |
| R | 500 | ~ | 1,750°C | |
| S | 500 | ~ | 1,750°C | |
| В | 500 | ~ | 1,800°C | |
| Current | | ±20 mA, 4 ~ 20 |) mA | |
| Voltage | | ±15 mV (0.2%) |), ±50 mV, | |
| | | ±100 mV, ±500 |) mV | |
| B | | ±1 V, ±2.5 V | | |
| Kesolution | | | | |
| Sampling | j kate | TO Samples/Sec. (total) | | |
| Spail Dri | 1L + | | | |
| Linh Com | l mon Mode | ±0 µ v/ °C | | |
| migh common wode | | ZUU V _{DC} | | |

Protection

- Fault and **Overvoltage** Protection
 - **Isolation Voltage** 3,000 V_{DC} Yes
- Filter function
- **Built-in TVS/ESD Protection**

Note: Not support ADAM-5510KW series

Ordering Information

- ADAM-5018P
- 7-ch Thermo. Input Module w/ Ind. Input Range

Withstands overvoltage up

to ±35 V

All product specifications are subject to change without notice.

Last updated: 5-Nov-2020