Децентрализованные системы управления перемещением серии AMAX-1 XXX, AMAX-2 XXX

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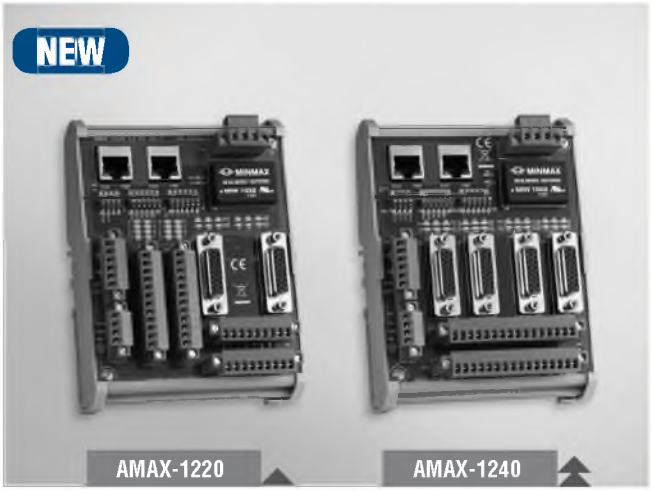
AMAX-1220
AMAX-1240

Open Frame Type 2/ 4-axis AMONet Motion Slave Modules



Features

- End limit logic is switchable (high or low active)
- BoardID is switchable
- Easily visible LED indicators on board to do diagnosis
- Direct wire to servo drive to save terminal board space while installation
- Max. 6.5 MHz, 4-axis pulse output
- 28 bits counter for incremental encoder
- Horizontal installation for for servo or stepping motor driver
- Suitable for DIN-rail mounting

Introduction

AMAX-1220 and AMAX-1240 have compact open frame designs for horizontal placement and an interface connector mounted on the board. With a transfer cable to servo drive, both models can conveniently connect to Mitsubishi J3, Yaskwa Sigma V and Panasonic A4/A5.

The AMAX-1220 is an economic 2-axis AMONet slave module which supports motion functionality in point-to-point (PTP), linear & circular interpolation, simultaneously start/stop among multiple slave modules, and brake signal to servo for emergence consideration. The AMAX-1240 is an advanced 4-axis AMONet slave module which not only supports AMAX-1220 motion functionality, but also supports advanced features in position compare and triggering function. Both linear interval and table setups are supported.

Specifications

Pulse Type Motion Control

- **Motor Driver Support** Pulse-type servo
- **Number of Axes** AMAX-1220: 2
AMAX-1240: 4
- **Interpolation** Linear and circular
- **Max. Output Speed** 6.5 Mpps
- **Step Count Range** ±134, 217, 728
- **Pulse Output Type** OUT/DIR, CW/CCW, A/B phase
- **Position Counter** ±134, 217, 728
- **Home Modes** 13
- **Velocity Profiles** T-Curve, S-Curve
- **Local I/O**
  - Machine Interfaces: EL+/-, ORG and SD (Slow Down) for Each Axis
  - Servo Driver Interfaces: ALM, RDY, SVON, INP, Break for Each Axis
  - Position Compare I/O: LTC, CMP for Each Axis(Only available for AMAX-1240-AE)
  - Simultaneous Move Within Multiple Modules: CSTA/CSTP (Simultaneously Start/Stop) for each model
  - General Purpose I/O: AMAX-1220 supports 8xDI and 8xDO

Encoder Interface

- **Input Type** A/B phase, CW/CCW
- **Counts per Enc. Cycle** x1, x2, x4 (AB phase only)
- **Input Range** Low: 0 ~ 0.5V
High: 3.5 ~ 7V
- **Isolation Protection** 2,500 V_{RMS}
- **Max. Input Frequency** 2 MHz @ 5 V

General

- **Bus Type** AMONet RS-485
- **Certification** CE, FCC Class A
- **Connectors** RJ-45 x 2 are for communication port
DB-26 connector by transfer cable to servo drives. Other are screw terminal type connectors
- **Dimensions (L x W x H)** 141 x 108 x 60 mm (5.6" x 4.3" x 2.4")
- **System Power Consumption** 2 W @ 24 V typical
  - Output Channel Power Consumption: 120W typical, 240W max.
  - Input Channel Power Consumption: AMAX-1220: 8 W @ 24 V external power (max.)
AMAX-1240: 10 W @ 24 V external power (max.)
- **System Power Input** 24 V_{DC} within 200 mV ripple
- **Humidity** 5 ~ 95% RH, non-condensing (IEC 60068-2-3)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)

Ordering Information

- **AMAX-1220-AE** Economic 2-axis AMONet Motion Control Module
- **AMAX-1240-AE** Advanced 4-axis AMONet Motion Control Module

Accessories

- **PCL-10153PA5-2E** 50-pin Cable to Panasonic A4 and A5 Servo, 2 m
- **PCL-10153PA5LS-2E** 50-pin Cable to Panasonic MINAS A Servo, 2 m
- **PCL-10153YS5-2E** 50-pin Cable to Yaskawa Sigma V Servo, 2 m
- **PCL-10153MJ3-2E** 50-pin Cable to Mitsubishi J3 Servo, 2 m
- **PCL-10153DA2-2E** 50-pin Cable from ADAM-3955/ADAM-3956 to Delta A2 Servo, 2 m

AMAX-2750SY Series

32-ch Isolated Digital Input/Output Slave Modules

Features

- Max. 20 Mbps transfer rate
- Onboard terminal for direct wiring
- Easy installation with RJ45 phone jack and LED diagnostic
- LED indicator for each IO channel (switch by SW4)
- Selection of I/O-channel configuration (32-ch DI, 32-ch DO or 16/16-ch Digital I/O)
- 2,500 V_{RMS} Isolation voltage
- Suitable for DIN-rail mounting

Introduction

The AMAX-2750SY series consists of digital slave modules for AMONet RS-485 that extend the digital I/O capacity. All the digital I/O slave extension modules are connected serially with a simple Cat.5 cable. This reduces wiring between driver and controller and is very suitable for highly integrated machine automation applications. High speed, scalability and cost-effectiveness ensures a solid solution for machine builders. There are 3 main types of digital I/O slave modules, 32-ch digital input, 32-ch digital output, and 16/16-ch digital input/output. With these slave modules, you can connect actuators/sensors directly with minimum hassle. You can access I/O points nearby or 100 meters away using simple and low-cost wiring, and the high speed of AMONet RS-485 makes it possible to scan 2,048 I/O channels in 1.04 ms.

Specifications

Isolated Digital Input

- **Channels** AMAX-2752SY: 32 (4 ports)
  AMAX-2756SY: 16 (2 ports)
- **Input Type** Dry contact
- **Isolation Protection** 2,500 V_{RMS}
- **Opto-Isolator Response** 18 µs
- **Input Resistance** 1 kΩ @ 0.5 W

Isolated Digital Output

- **Channels** AMAX-2754SY: 32 (4 ports)
  AMAX-2756SY: 16 (2 ports)
- **Output Type** Sink (NPN) (open collector Darlington transistors)
- **Isolation Protection** 2,500 V_{RMS}
- **Output Voltage** 10 ~ 30 V_{DC}
- **Sink Current** 150 mA/ea. for multiple-channel usage, total 1.1 A max. (1 port)

General

- **Bus Type** AMONet RS-485
- **Certification** CE, FCC Class A
- **Connectors** 2 x RJ45 and 2 x 40-pin wiring board
- **Dimensions (L x W x H)** 125 x 47.6 x 151 mm (4.9" x 1.8" x 5.9")
- **Power Consumption** AMAX-2752SY: 1.2 W typical, 5 W max.
  AMAX-2754SY: 1.2 W typical, 5 W max.
  AMAX-2756SY: 1.2 W typical, 5 W max.
- **Power Input** 24 V_{DC} within 200 mA ripple
- **Power Supply for DIO** 10 ~ 30 V_{DC} (Current < 2A)
- **Humidity** 5 ~ 95% RH, non-condensing (IEC 60068-2-3)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)

Ordering Information

- **AMAX-2752SY-AE** 32-ch Isolated Digital Input AMONet Module
- **AMAX-2754SY-AE** 32-ch Isolated Digital Output AMONet Module
- **AMAX-2756SY-AE** 16/16-ch Isolated Digital I/O AMONet Module

AMAX-2240 Series

4-axis AMONet Motion Slave Modules

Features

- Max. 20 Mbps transfer rate
- Max. 6.5 MHz, 4-axis pulse output
- 28 bits counter for incremental encoder
- 2 ~ 4-axis linear interpolation
- 2-axis circular interpolation
- T-Curve and S-Curve velocity profiles support
- Change speed on-the-fly
- Easy installation with RJ45 phone jack and LED diagnostic
- Easy installation for servo or stepping motor driver
- Suitable for DIN-rail mounting

Introduction

AMAX-2240 series is used to increase the number of axes for an AMONet RS-485 decentralized motion control network. These extension slave modules connect serially by a simple and affordable Cat.5 LAN cable, reducing the wiring between driver and controller. This is very suitable for highly integrated machine automation applications. Please select cable 20-pin SCSI and plug this cable into the motor driver and motion slave module.

Specifications

Pulse Type Motion Control

- **Motor Driver Support** Pulse-type servo
- **Number of Axis** 4
- **Interpolation** Linear and circular
- **Max. Output Speed** 6.5 Mpps
- **Step Count Range** ±134, 217, 728
- **Pulse Output Type** OUT/DIR, CW/CCW, A/B phase
- **Position Counter** ±134, 217, 728
- **Home Modes** 13
- **Velocity Profiles** T-Curve, S-Curve
- **Local I/O**
  Machine Interfaces: EL+ x 4, EL- x 4, ORG x 4, SD x 4
  Servo Driver Interfaces: ALM x 4, RDY x 4, SVON x 4, INP x 4, ERC x 4
  Position Compare I/O: LTC x 4, CMP x 4

Encoder Interface

- **Input Type** A/B phase, CW/CCW
- **Counts per Enc. Cycle** x1, x2, x4 (AB phase only)
- **Input Range** Compatible with TIA/EIA-422 differential line driver
  I : ±20 mA, VOD : ±2 V/min
- **Isolation Protection** 2,500 V_{RMS}
- **Max. Input Frequency** 2 MHz @ 5 V

General

- **Bus Type** AMONet RS-485
- **Certification** CE, FCC Class A
- **Connectors** AMAX-2242/J2S: 2 x RJ45 and 8 x 20-pin SCSI
  AMAX-2241/PMA & AMAX-2243/YS2: 4 x 50-pin SCSI
- **Dimensions (L x W x H)** 125 x 47.6 x 151 mm (4.9" x 1.8" x 5.9")
- **Power Consumption** 5 W @ 24 V typical
- **Power Input** 24 V_{DC} within 200 mV ripple
- **Humidity** 5 ~ 95% RH, non-condensing (IEC 60068-2-3)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)

Ordering Information

- **AMAX-2241/PMA-AE** 4-axis AMONet Motion Module for Panasonic MINAS A
- **AMAX-2242/J2S-AE** 4-axis AMONet Motion Module for Mitsubishi MR-J2S
- **AMAX-2243/YS2-AE** 4-axis AMONet Motion Module for Yaskawa Sigma-II

Accessories

- **PCL-10220M-2E** 20-pin SCSI Cable, 2 m (for AMAX-2242/J2S)
- **PCL-10150M-2E** 50-pin SCSI Cable, 2 m (for AMAX-2241/PMA and AMAX-2243/YS2)
- **ADAM-3940-AE** 40-pin Flat Cable Wiring Board with LED

AMAX-1752
AMAX-1754
AMAX-1756

Open Frame Type 32-ch Isolated Digital Input/Output Slave Modules

Features

- Communication baud rate, 2.5Mbps, 5Mbps, 10Mbps and 20Mbps are supported and switchable
- Onboard screw terminal for direct wiring
- 2,500 VRMS Isolation voltage
- Suitable for DIN-rail mounting
- BoardID is switchable
- Easily visible LED indicators on board to do diagnosis

Introduction

The AMAX-1752, AMAX-1754 and AMAX-1756 are compact open frame designs for horizontal placement, on-board screw terminal for direct wiring and on-board easily-visible LED indicators are for system diagnosis. All the digital I/O slave modules could be connected and distributed by standard LAN cables thereby saving wiring costs and maintenance. Three models are introduced: 32-ch digital input (AMAX-1752), 32-ch digital output (AMAX-1754) and 16-ch digital input/output (AMAX-1756). According to maximum communication baud rate, 2048 I/O points can be scanned and updated within 1.04 ms.

Specifications

Isolated Digital Input

- **Channels** AMAX-1752: 32
AMAX-1756: 16
- **Input Type** Dry contact
- **Isolation Protection** 2,500 V_{RMS}
- **Opto-Isolator Response** 100 µs (max.)
- **Input Resistance** 3.2kΩ

Isolated Digital Output

- **Channels** AMAX-1754: 32
AMAX-1756: 16
- **Output Type** Sink (NPN) (open collector Darlington transistors)
- **Isolation Protection** 2,500 V_{RMS}
- **Output Voltage** 10 ~ 30 V_{DC}
- **Sink Current** 1 ch: 500 mA (1 port)

General

- **Bus Type** AMONet RS-485
- **Certification** CE, FCC Class A
- **Connectors** (1) RJ-45 x 2 are for communication port
(2) I/O points use screw terminal type connector
- **Dimensions** 141 x 95 x 60 mm (5.6" x 3.7" x 2.4")
- **Power Consumption** 600mW typical, 2 W max.
- **Power Input** 24 V_{DC} within 200 mA ripple
- **Power Supply for DIO** 10 ~ 30 V_{DC} (2A max)
- **Humidity** 5 ~ 95% RH, non-condensing (IEC 60068-2-3)
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)

Ordering Information

- **AMAX-1752-AE** Open Frame Type 32-ch Isolated Digital Input AMONet Module
- **AMAX-1754-AE** Open Frame Type 32-ch Isolated Digital Output AMONet Module
- **AMAX-1756-AE** Open Frame Type 16/16-ch Isolated Digital I/O AMONet Module

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