

AH - Automation System for High-level Applications

The new generation AH Series PLC provides automation solutions for high-level applications.

The combination of modularized hardware structure, advanced functions, and the highly integrated software provides a system solution for process control applications.

In addition to various function blocks, excellent performance, and an abundant selection of extension modules, the AH Series PLC also provides exceptional system expandability and full redundant solution, greatly reducing the system cost for a broad range of applications.





AH Series

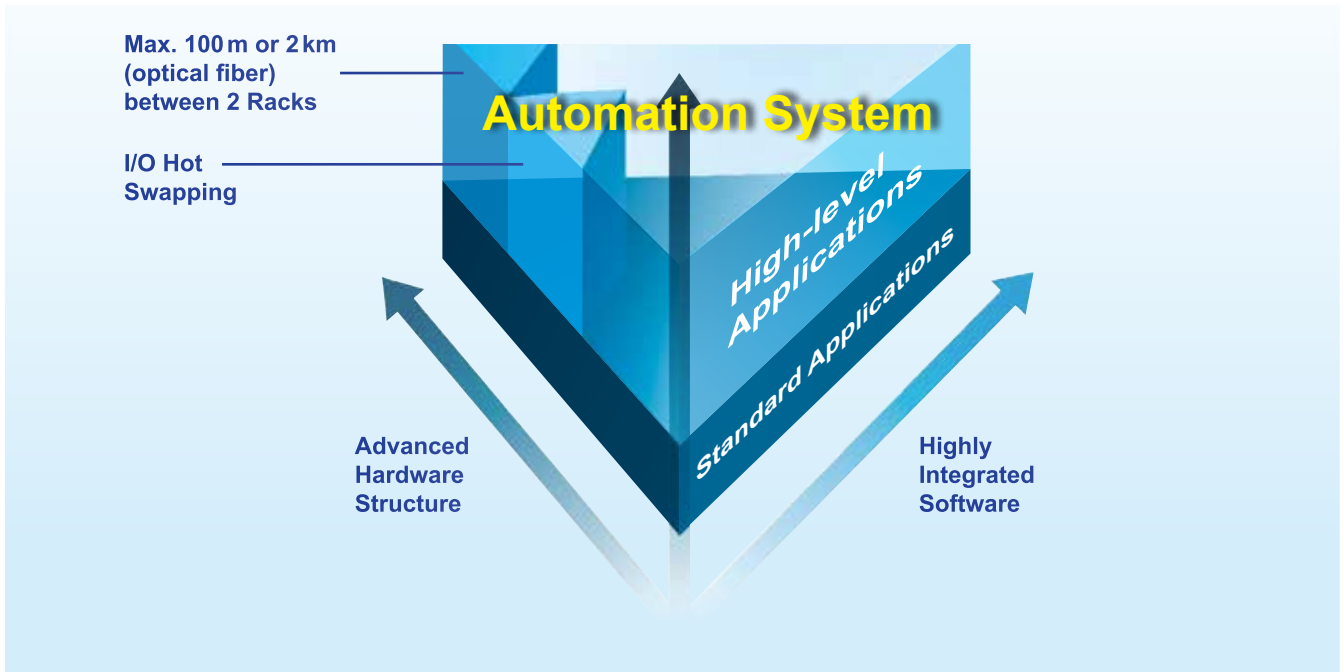
- » Highly integrated software ISPSOft: graphical interface with 5 programming languages
- » Enhanced flexibility: Max. 100m or 2km (optical fiber) between 2 local extension racks
- » Redundant and hot-swapping functions keep the system running for improved maintainability
- » Reliable operations of the supported modules in severe conditions

< Operating condition: -20~60°C/5~95% (Non-condensing)
< Storage condition: -40~70°C/5~95% (Non-condensing)

- ▶ Utilizes 32-bit processor
- ▶ Max. I/O points:
DIO: Max. 4,352 points
AIO: Max. 544 channels
RIO: >100,000 points
- ▶ Program capacity: Max. 1 M steps (4 MB)
Data register (D+L): 512 k words
- ▶ Excellent program execution speed:
LD instruction execution speed: 0.02μs
- ▶ CPU built-in with fully isolated RS-232/422/485, Mini-USB, Ethernet and SDHC card slot
- ▶ Abundant selection of DIO modules, AIO modules, temperature measurement modules, network modules, pulse-train modules and DMCNET/EtherCAT motion control modules

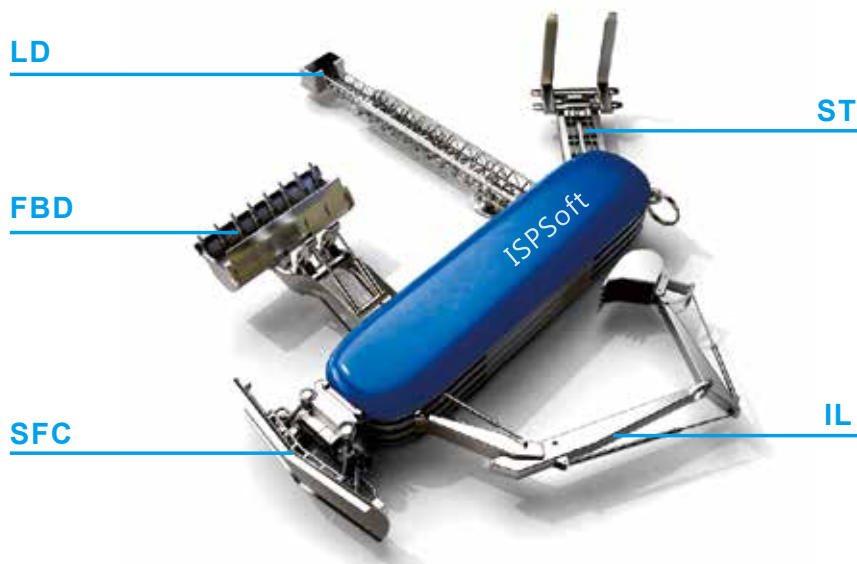


AH Series PLC – Automation System with Fully Integrated Hardware and Software Interfaces



Highly Integrated Software – Excellent Accessibility

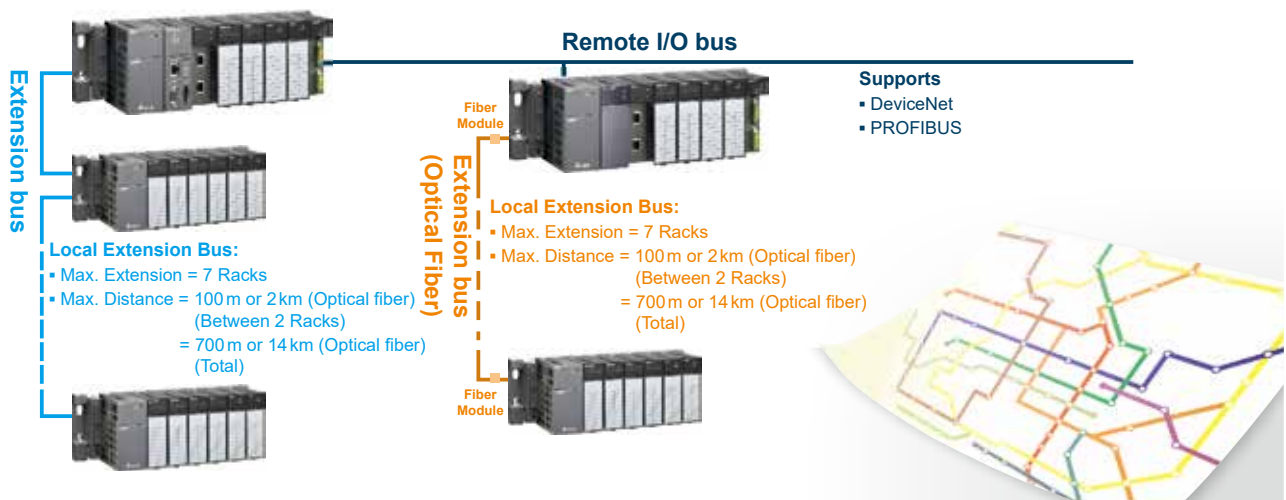
AH PLCs adopt the highly accessible programming software ISPSOft, integrating the main functions that include control process programming, hardware configuration, network configuration, and providing a graphical interface for these functions. In addition, users of ISPSOft can choose their most efficient programming tools from the 5 supported languages: Ladder Diagram (LD), Function Block Diagram (FBD), Sequential Function Chart (SFC), Instruction List (IL) and Structured Text (ST).



Enhanced Flexibility – Extends the System Freely

The length of extension cables between each AH local extension rack can reach a maximum of 100m or 2km (optical fiber), greatly enhancing wiring flexibility. In addition, the AH provides modularized backplanes and modules applicable for not only CPU racks but also for remote I/O racks. This feature improves the flexibility of system planning and reduces the additional cost that might be generated by preparing two different types of spare backplanes and modules.

System Extension Structure



Improved Maintainability – Keeps the System Running

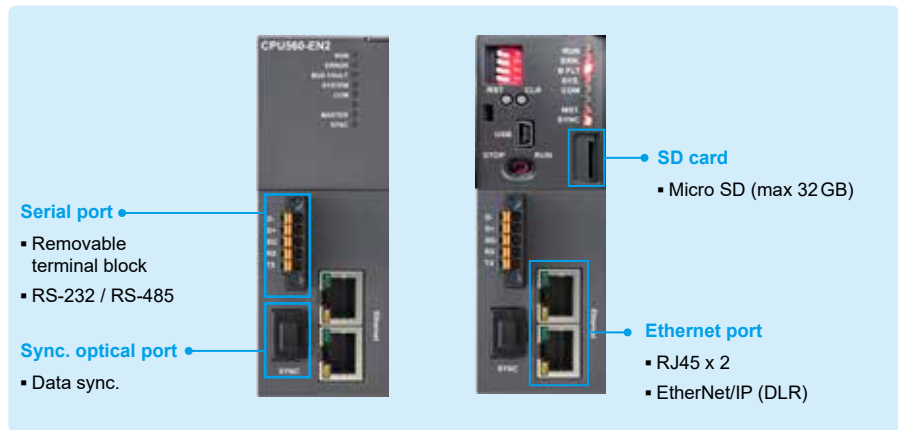
The hot-swap function provided for AIO and DIO modules increases maintainability when I/O modules fail. Users can replace modules without stopping the operation of the CPU module, preventing a possible loss due to a pause in the system's operation.



Redundant CPU

The redundant CPU of the AH Series adopts a reliable redundancy structure, and integrates synchronous modules, Ethernet ports and serial communication interfaces for a more competitive control solution.

AHCPU560-EN2



Redundant Backplane

The redundant backplane of the AH Series provides redundant power supply and communication interfaces for a complete control solution.

Redundant main backplane: AHBP04MR1-5A (4-slot)



Redundant expansion backplane: AHBP06ER1-5A (6-slot), AHBP08ER1-5A (8-slot)



Redundant System

Full Redundancy Structure

| | | | | |
|---------------|--------------------------|-----------------|----------------------|---------------|
| Redundant CPU | Redundant main backplane | Redundant power | Redundant ext. ports | Ring topology |
|---------------|--------------------------|-----------------|----------------------|---------------|

Modules

| Main backplane | Expansion backplane | RTU rack |
|---|--|--|
| <ul style="list-style-type: none"> Ethernet module - AH10EN-5A (V3) Serial module - AH10SCM-5A (V3) | <ul style="list-style-type: none"> DIO AIO (includes temperature modules) Serial modules - AH10SCM-5A, AH15SCM-5A | <ul style="list-style-type: none"> DIO AIO (include temperature modules) |

Tasks

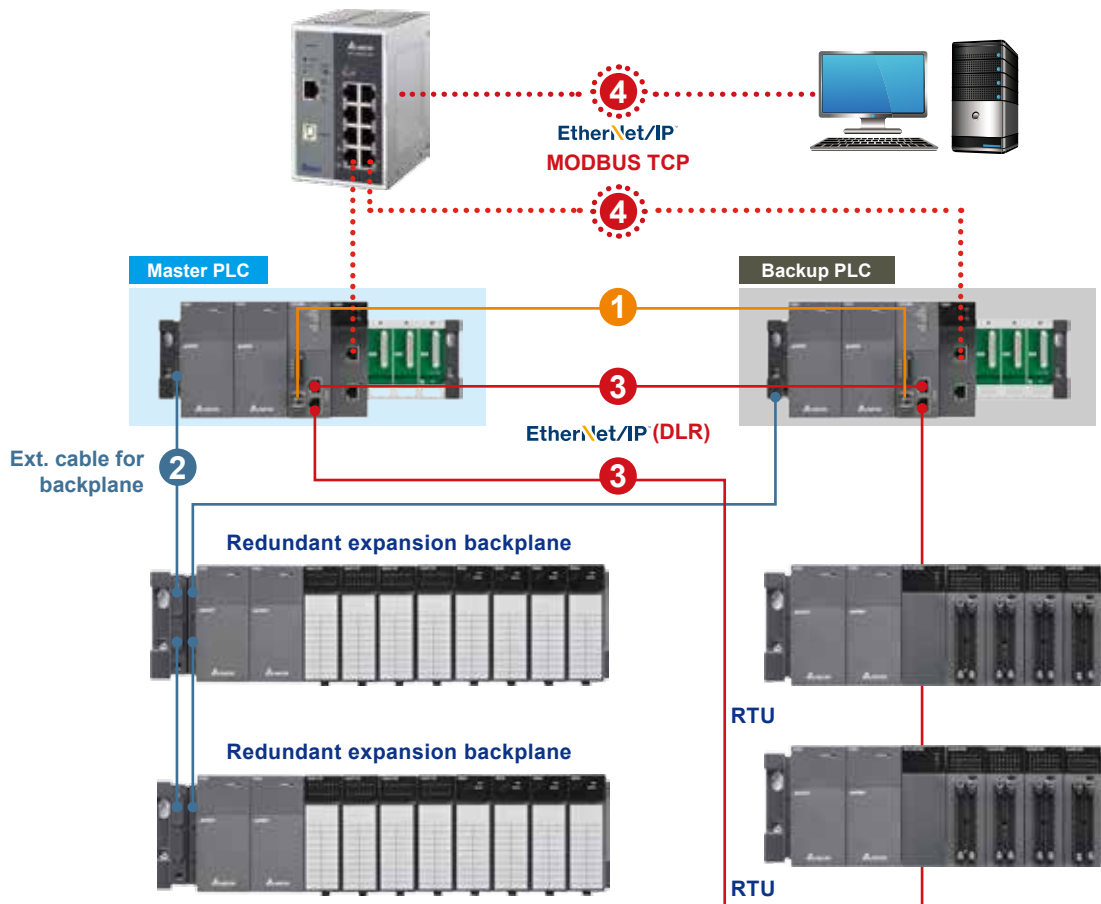
| | |
|--------|-----------------|
| Cyclic | Timer interrupt |
|--------|-----------------|

CPU built-in sync. module

CPU switch-over time: 20 ms

RTU nodes to support expansion backplanes

Standard backplanes available (under some conditions)



1 Sync. optical fiber

3 EtherNet/IP ring topology (DLR)

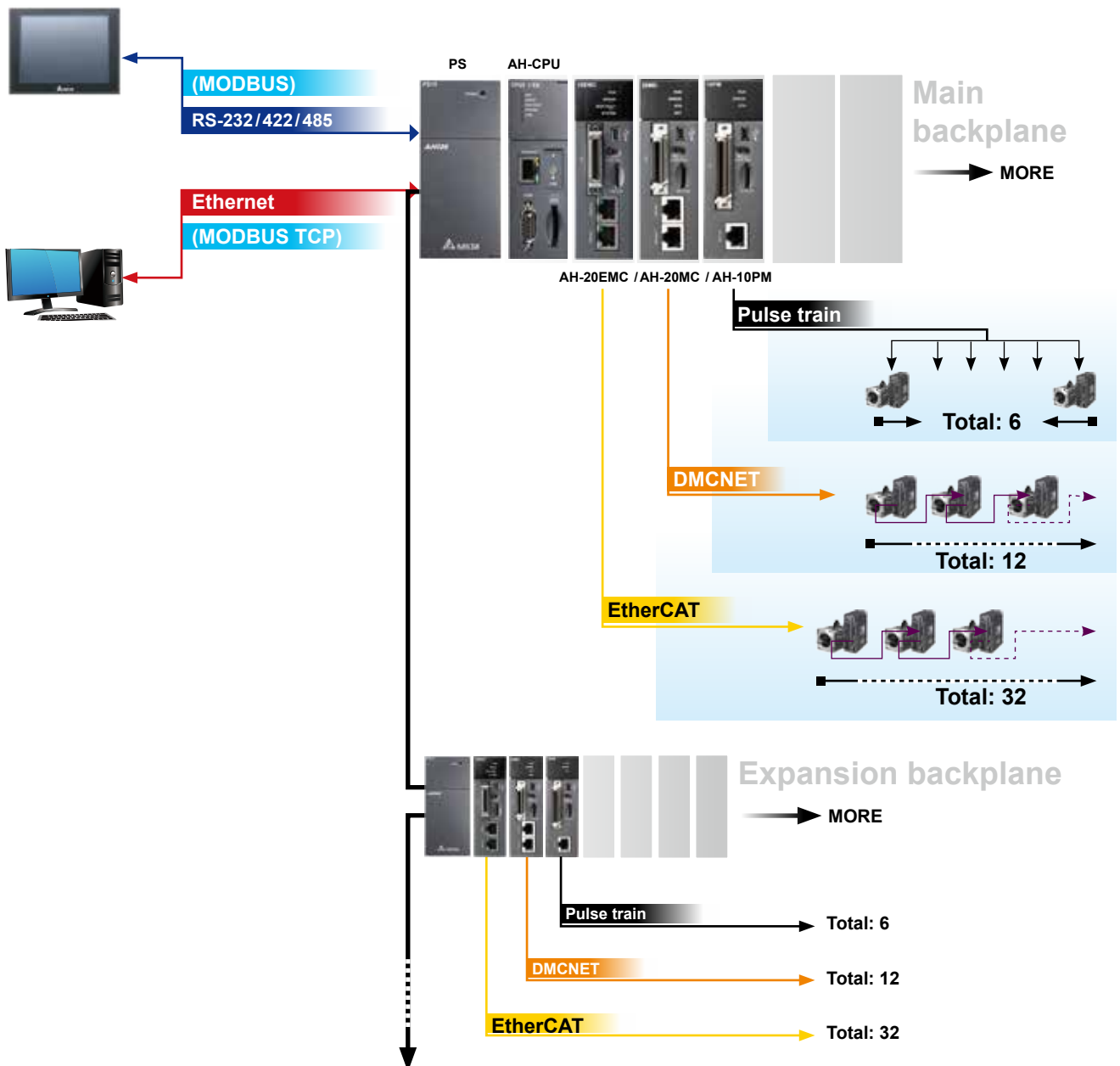
2 Ext. cable for backplane

4 Star topology EtherNet/IP, MODBUS TCP

Standard Motion Control System

- ▶ Provides EtherCAT, DMCNET and pulse train solutions for customers.
- ▶ Motion modules can independently take care of both the logic and motion control. Users can write and download the programs to the motion modules.
- ▶ All motion modules support the standard motion control system.
- ▶ All motion modules can be installed on the local backplanes.
- ▶ Motion control functions:
 - » Performance:
 - Pulse train module: Max. 1 MHz output
 - DMCNET module: Min. synchronization time at 12 axes is 1 ms
 - EtherCAT module: Min. synchronization time at 8/16/32 axes is 0.5/1/2 ms
 - » Supports UD/PD/AB/4AB input modes
 - » Supports MPD inputs/E-Cam/G-code/2~6 axes linear interpolation/2 axes arc interpolation/3 axes helical interpolation

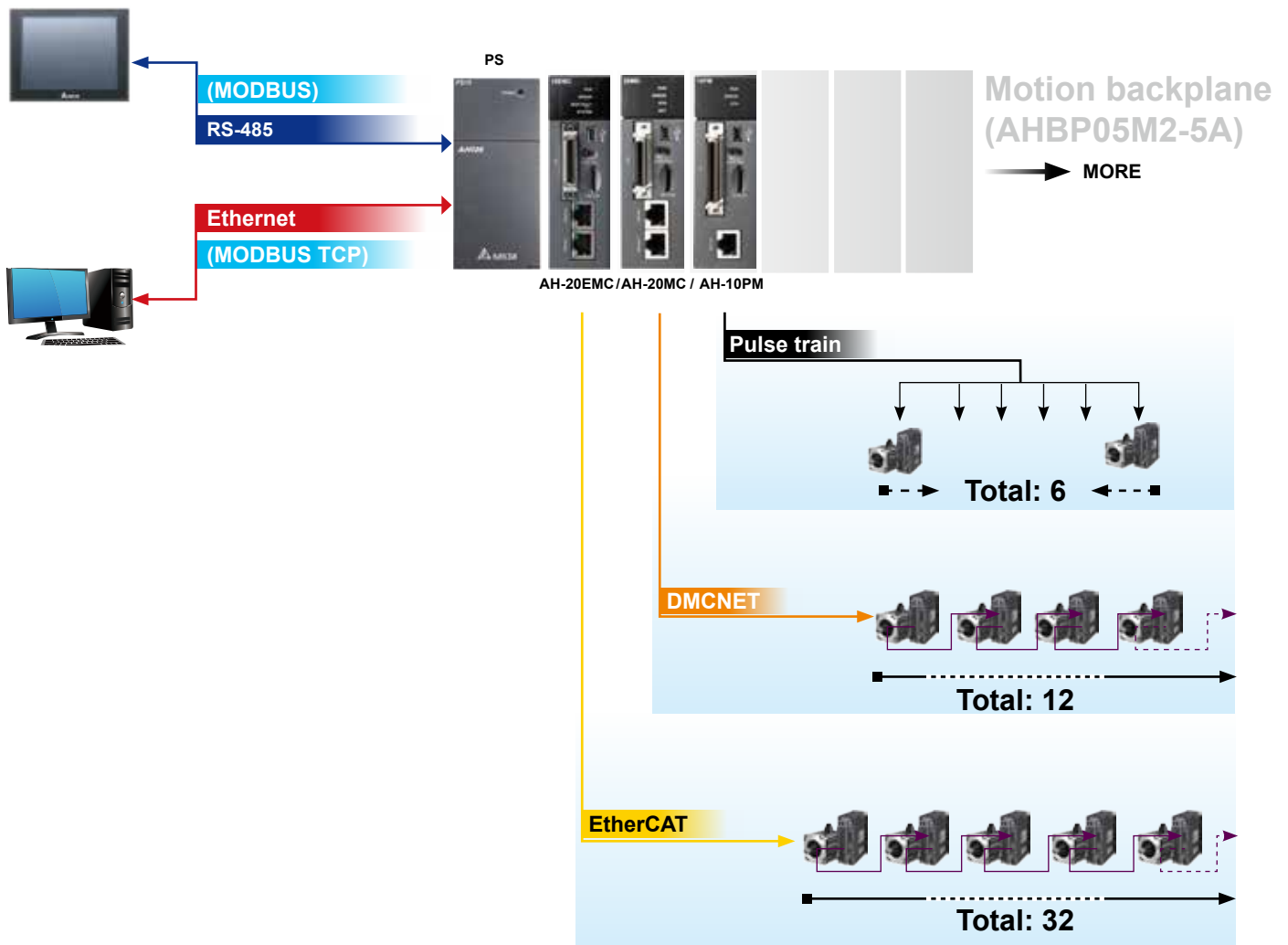
Note: The EtherCAT motion modules (AHxxEMC-5A) do not yet have support installed on the I/O slots.



Compact Motion Control System

- ▶ Provides EtherCAT, DMCNET and pulse train solutions for customers.
- ▶ AHxxEMC-5A motion controller can be installed on the CPU slot of the specific motion backplane and works as a CPU module.
- ▶ Compact motion control system does not support the expansion backplane.
- ▶ Motion modules can be installed on the I/O slot of the motion backplane.
- ▶ Motion control functions:
 - » Performance:
 - Pulse train module: Max. 1 MHz output
 - DMCNET module: Min. synchronization time at 12 axes is 1 ms
 - EtherCAT module: Min. synchronization time at 8/16/32 axes is 0.5/1/2 ms
 - » Supports UD/PD/AB/4AB input modes
 - » Supports MPD inputs/E-Cam/G-code/2~6 axes linear interpolation/2 axes arc interpolation/3 axes helical interpolation

Note: The EtherCAT motion modules (AHxxEMC-5A) do not yet have support installed on the I/O slots.



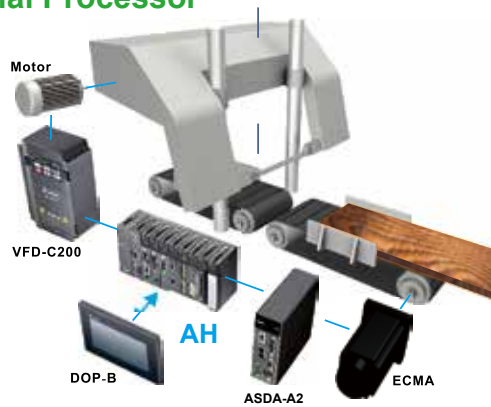


Application Examples

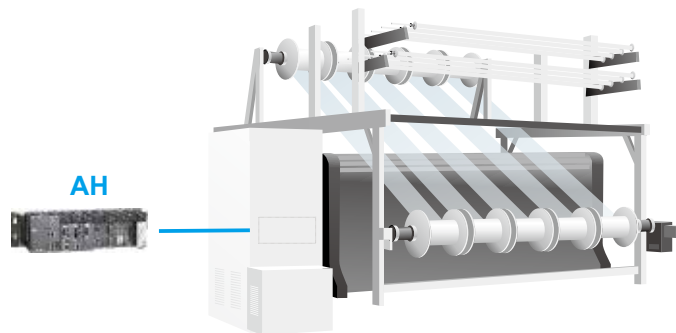
Large Scale Industrial Machines

The features of the AH can easily fulfill the system requirements of large scale industrial machines. By utilizing its unique local extension capability with versatile combinations of I/O modules, the AH can simplify the complex remote I/O system structure in large scale industrial machines with a local I/O system consisting of a single CPU rack and local extension racks, maintaining a high execution speed and lowering the wiring cost.

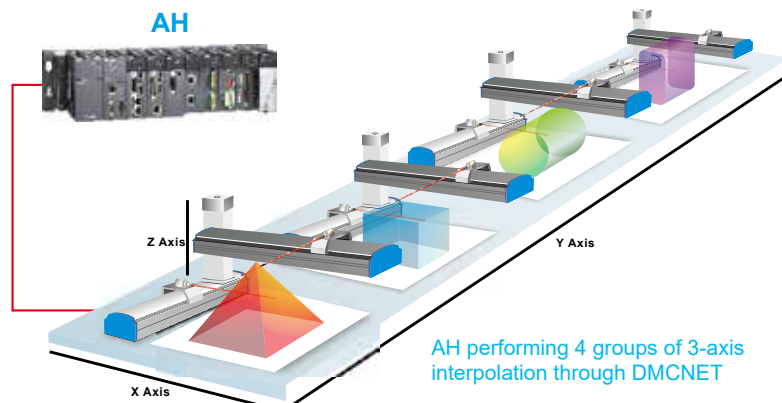
Building Material Processor



Warp Knitting Machine



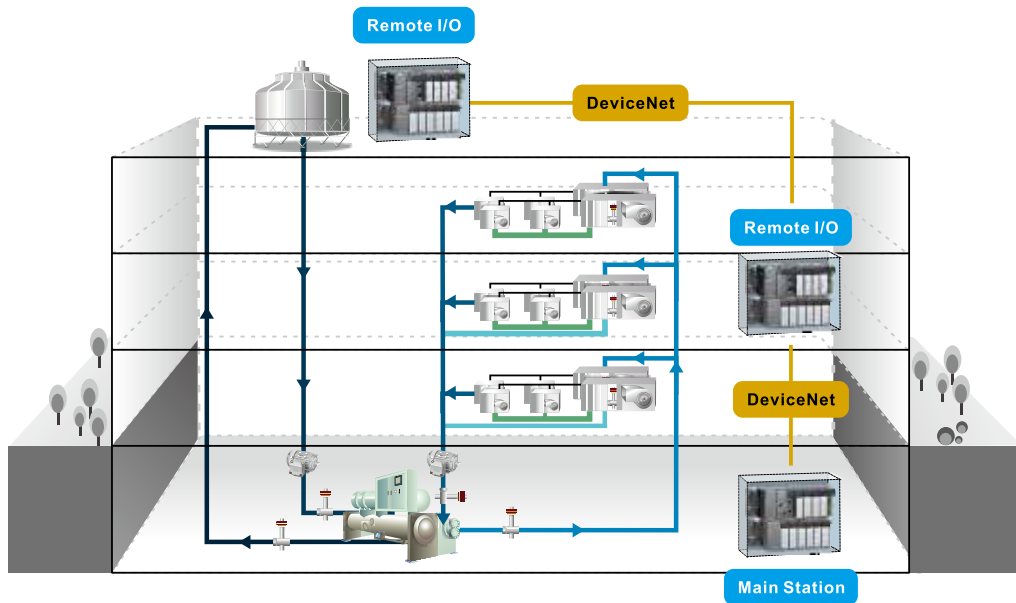
The AH also supports excellent motion control functions including 3-axis linear interpolation, 2-axis arc interpolation, and 3-axis helical interpolation. In addition, the AH is capable of controlling up to 12 axes or 4 groups of 3-axis interpolation synchronously through Delta's high speed motion control network DMCNET.



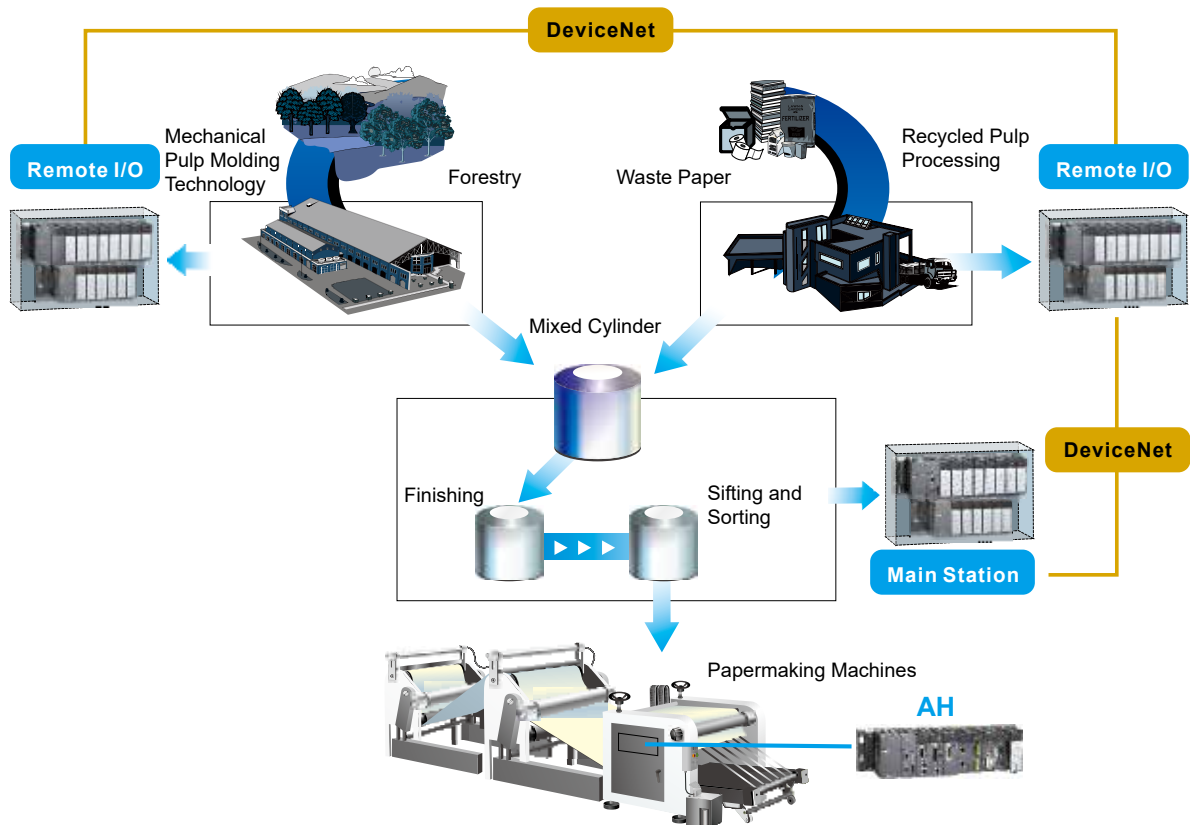
System Applications

The AH is a modular system controller designed for almost all kinds of high-level automation tasks. The abundant selection of I/O modules and the flexible system structure provide the best solutions for all types of system integration requirements. Through the remote I/O expandability, you can build up the AH main station as a central control system and allocate the remote I/O systems on different floors for HVAC applications, or in different processing stations for the paper-making industry. The AH can not only fulfill the application requirements of industrial machines or devices, but it can also provide total solutions for automation systems.

HVAC

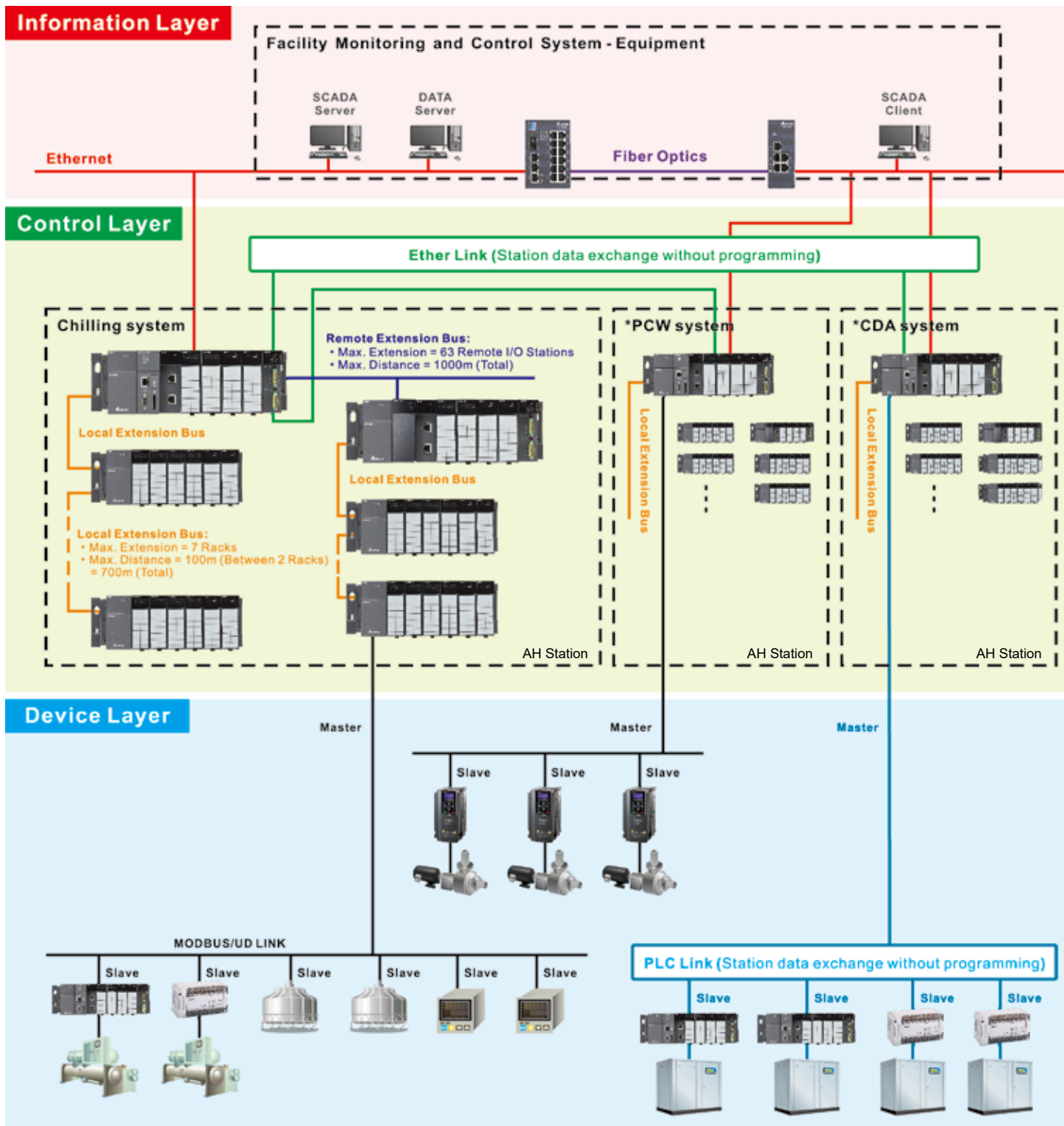


Papermaking Industries



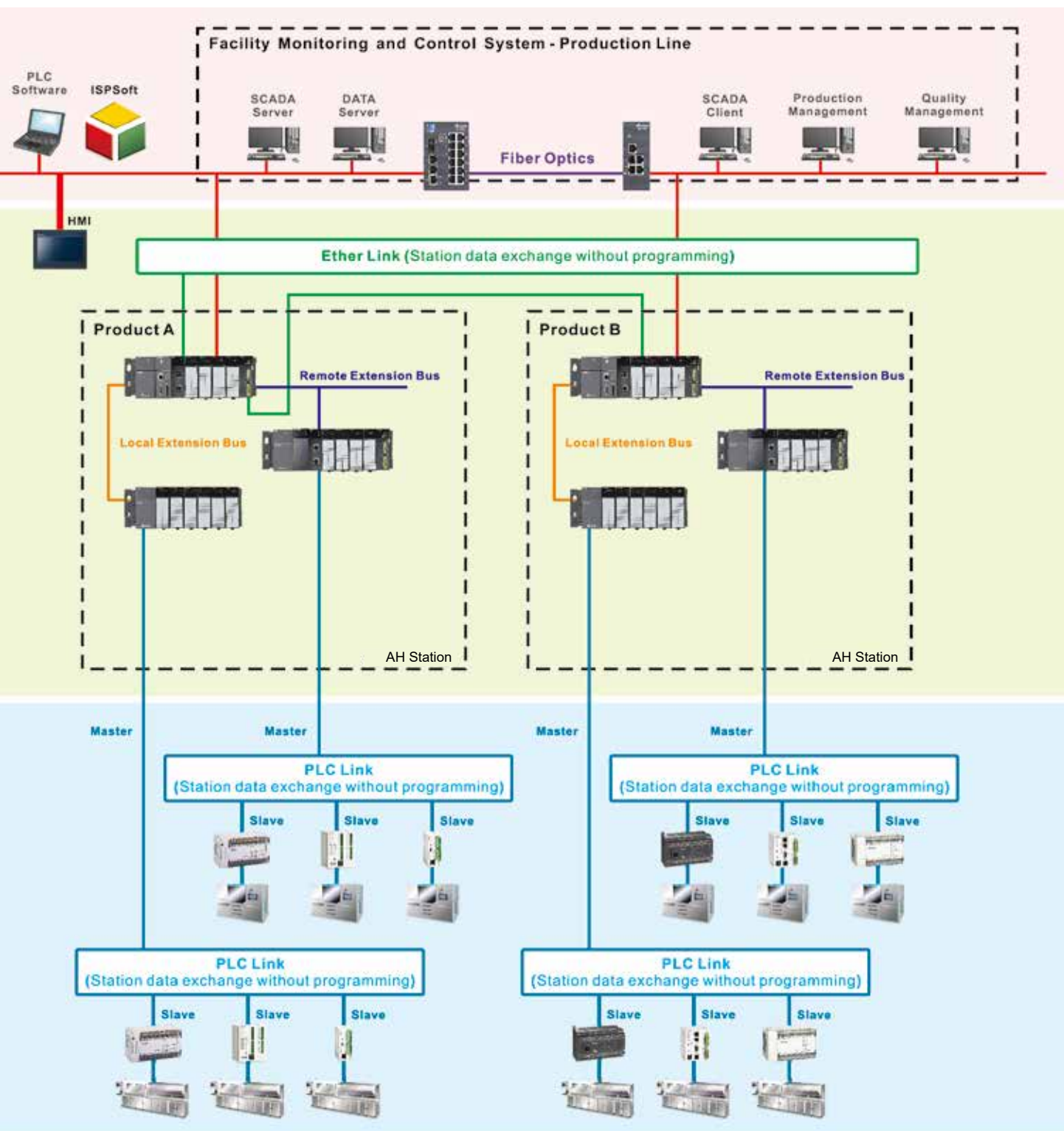
AH System Structure – Facility Monitoring and Control System

The system configuration of the AH is well demonstrated by the Facility Monitoring and Control System (FMCS). The AH in the control layer connects multiple facility systems and product processing systems and performs data exchange without programming through Delta's convenient PLC Link and Ether Link. PLC Link can be applied for data exchange between masters and slaves, and Ether Link can be applied for data exchange between AH master stations. The smart communication feature can save you time spent in programming.



* [Note] PCW system: Process Cooling Water System ; CDA system: Clean Dry Air System

In addition to AH PLCs, Delta's industrial automation solution includes human machine interfaces (HMI), DVS series industrial Ethernet switches, DVP series PLCs, AC motor drives, AC servo drives and temperature controllers. You can find the best solution for your industry from our product lines across the device layer, control layer and information layer.

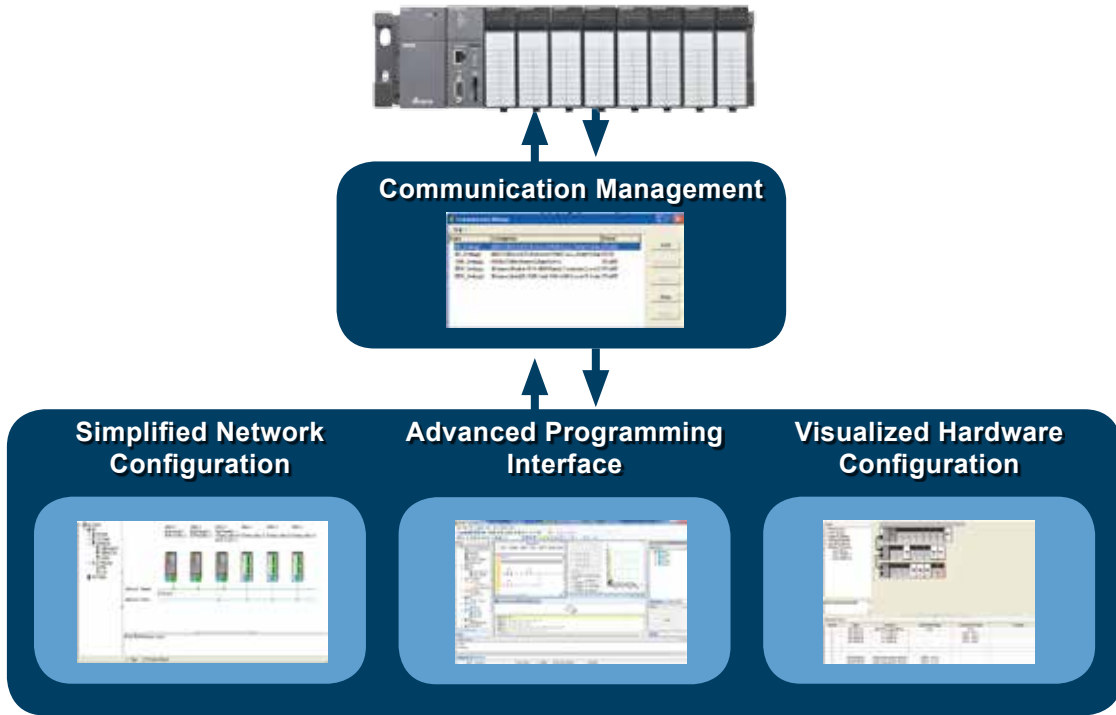


ISPSOft V3.0

Highly Accessible Programming Software

Fully Integrated Interface

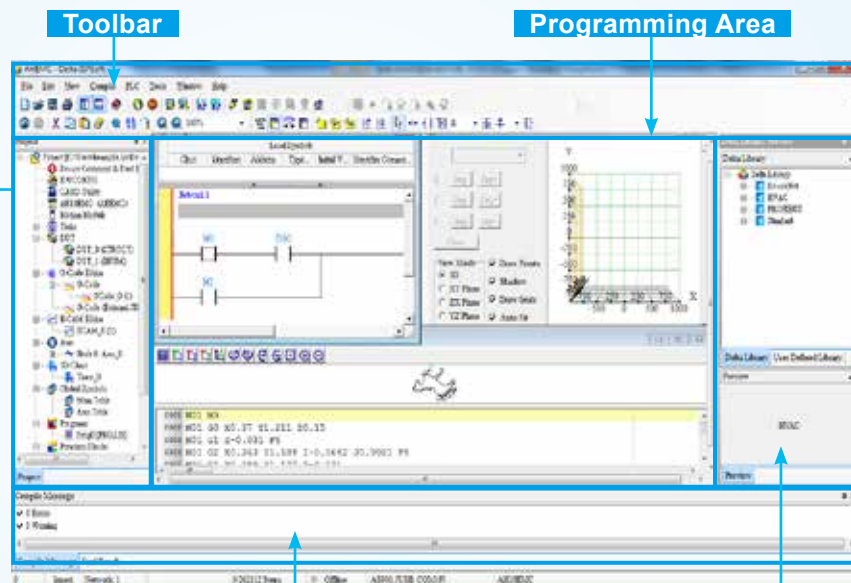
Advanced Programming Interface + Visualized Hardware Configuration + Simplified Network Configuration + Data Tracer & Logger + Motion programming



Advanced Programming Interface

Project Management Window

- **New Functions:** Network configuration, hardware configuration and PLC card.
- Supports 5 programming languages (LD/FBD/SFC/IL/ST)
- **Function Blocks:** Symbols can be introduced in call-by-value or call-by-reference types. Function blocks can be called in function block for up to 32 levels.
- **Monitor Table:** It can be stored and managed separately. Multiple monitor tables can be stored in a single project.
- **User Library:** Users can design frequently used instructions for specific applications in different industries.
- **Task:** Supports cyclic, I/O interrupt, timer interrupt, external interrupt, and more. Software will provide usable tasks for different CPUs.



Message Window

Library Management

Visualized Hardware Configuration

Module Selection

Module Description

Toolbar

- System hardware configuration can be monitored in On-Line mode
- Hardware configuration can be displayed by Scan function

Hardware Configuration Area

- Operations of Cut / Copy / Paste / Delete are available for modules and racks
- Parameters of each module can be directly configured

Rack Information

- I/O device range can be specified by the user

| Slot | Module | Description | Input Device Range | Output Device Range | Comments |
|------|-----------|-------------------------|--------------------|---------------------|----------|
| 1 | AP0500-01 | All Power Supply Module | None | None | |
| 2 | AP0500-02 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |
| 3 | AP0500-03 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |
| 4 | AP0500-04 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |
| 5 | AP0500-05 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |
| 6 | AP0500-06 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |
| 7 | AP0500-07 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |
| 8 | AP0500-08 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |
| 9 | AP0500-09 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |
| 10 | AP0500-10 | 16 x DI, 16 x DO | 000 - 001F | 000 - 001F | |

Simplified Network Configuration

192.168.1.11
Station 11

192.168.1.12
Station 12

192.168.1.13
Station 13

Ethernet

RS-485

Station 21

Station 22

Station 23

FMCS

Network Device Selection

Ether Link

PLC Link

Toolbar

Network Configuration Area

- Master device settings
- Ether Link editing function
- PLC Link editing function

Network Information

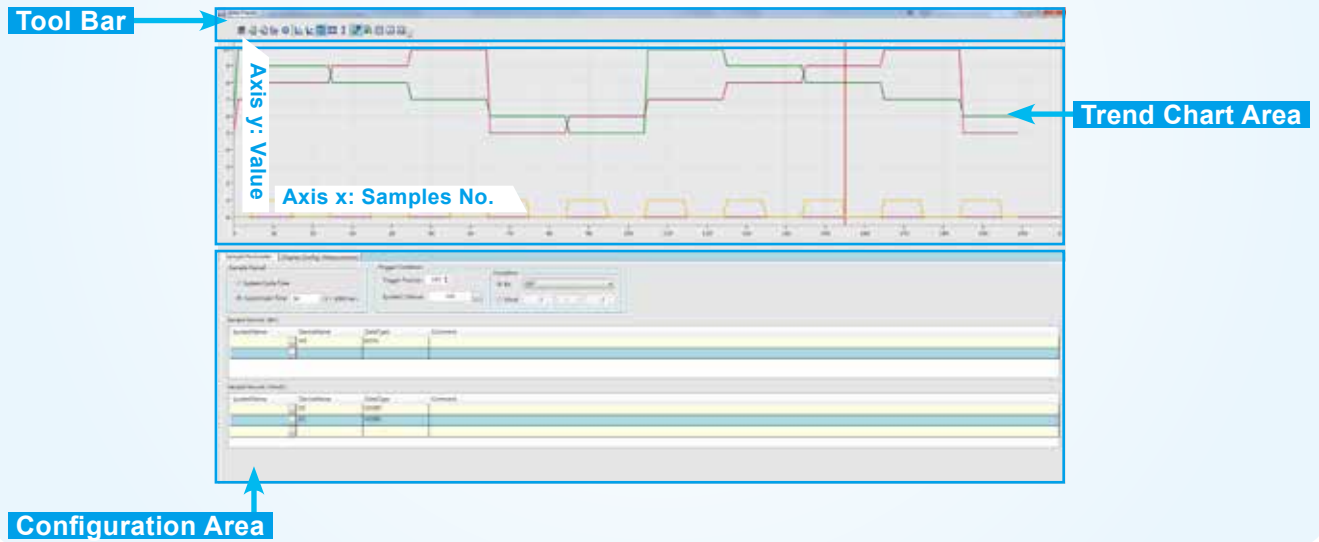
Data Tracer & Logger

Data Tracer

Provides high speed data log ability and the interval could be 1 CPU scan. Users can easily analyze the program logic with this function.

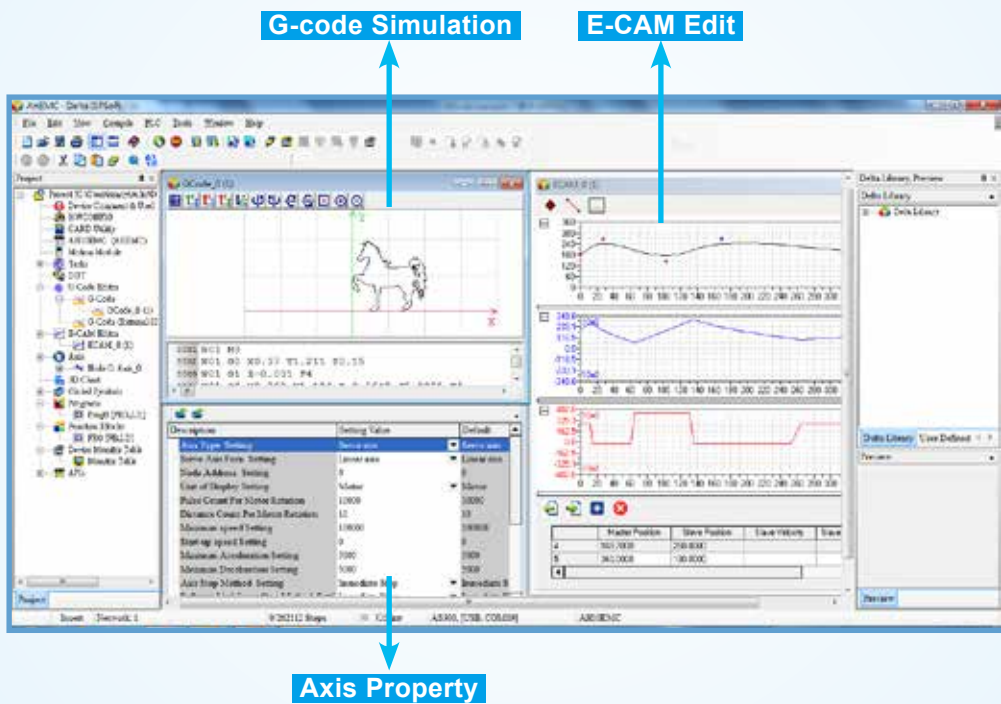
Data Logger

Provides big data log ability and adjustable intervals. Users can log critical system data and then analyze the system operation status.



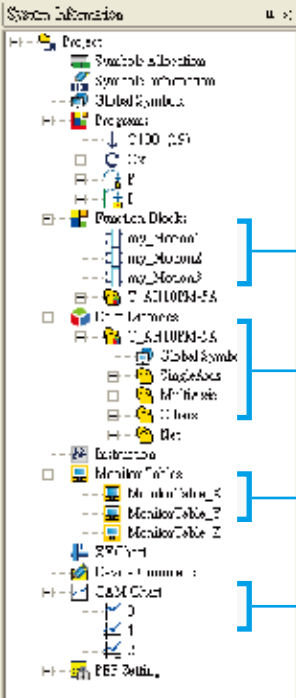
Integrated Motion Programming

ISPSOft V3 integrates the logic and motion program editors into one software



PMSoft V2.0

This programming software is for G-code editing, motion trajectory simulation, positioning route instruction and electronic cam establishment.



Variable Declaration

Separate from the program. The corresponding physical I/O point of the variable is defined only after the program is compiled. Users do not need to modify the program.

Function Block

A complicated project can be divided into many function blocks. A function block can be used repeatedly. The import/export function makes the programming more convenient.

Function Block for Motion Control

Provides function block features specifically for motion control, making programming more convenient

Convenient Monitor Table Management

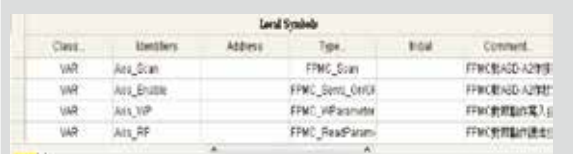
Users can save and manage monitor tables independently according to their needs.

Electronic Cam


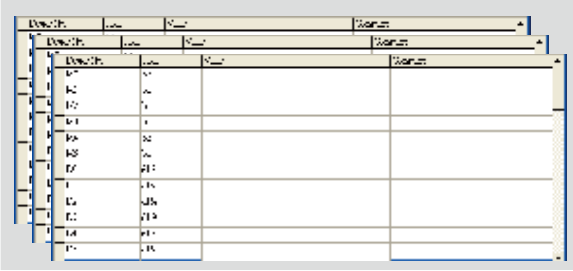
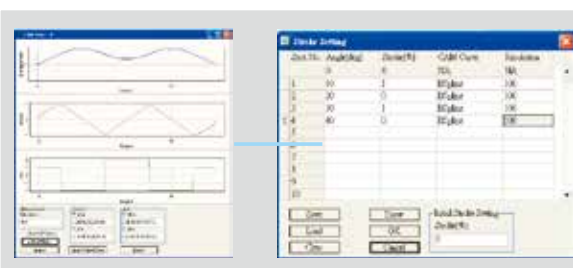
Electronic cam editing

CFC Editor

Supports CFC programming language



| Class | Members | Address | Type | Initial | Comment |
|-------|-------------|---------|------------------|---------|---------|
| VAR | Axis_Scan | | FFMC_Scan | | FFMC轴扫描 |
| VAR | Axis_Enable | | FFMC_Servo_OnOff | | FFMC轴扫描 |
| VAR | Axis_VP | | FFMC_VIParameter | | FFMC轴扫描 |
| VAR | Axis_RF | | FFMC_ReadParam | | FFMC轴扫描 |

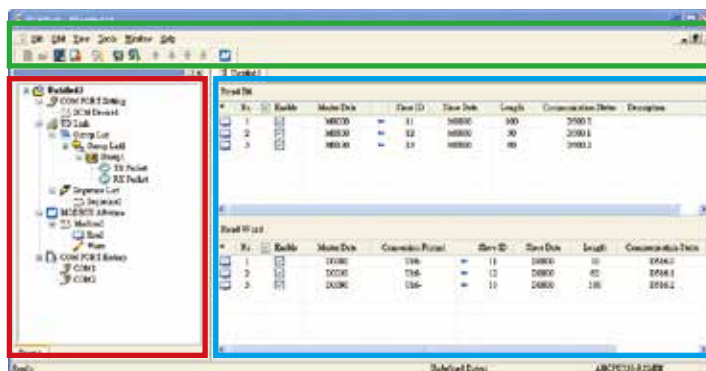
| Order No. | Start Pos. | End Pos. | Start Time | End Time | Speed | Acceleration | Deceleration |
|-----------|------------|----------|------------|----------|-------|--------------|--------------|
| 1 | 0 | 100 | 0 | 100 | 100 | 100 | 100 |
| 2 | 100 | 200 | 100 | 200 | 100 | 100 | 100 |
| 3 | 200 | 300 | 200 | 300 | 100 | 100 | 100 |
| 4 | 300 | 400 | 300 | 400 | 100 | 100 | 100 |

SCMSOft V1.0 Communication Editing Software

Provides SCM module with automatic data exchange setup function

Project Management Interface

- Supports user defined protocol (UD Link)
- Supports MODBUS protocol
- Supports data monitoring for communication ports



Toolbar

- Upload/Download setup files
- Supports wizards

Editing Area

- Data exchange setup
- Status display

Model Name Explanation

AH CPU

AHCPU500-RS2

| AH | CPU | 5 | 0 | 0 | - | RS2 |
|--------|----------------|-------|---|---------|---|--|
| Series | Classification | Model | Function | Version | | Type |
| | CPU | | 0: No expansion rack 1: 1 expansion rack 2: 3 expansion racks 3: 7 expansion racks 6: Redundant CPU | | | RS2: 2 COM ports EN: 1 COM & 1 Ethernet ports EN2: 1 COM & 2 Ethernet ports |

AH RTU Module

AHRTU-DNET-5A

| AH | RTU | - | DNET | - | 5A |
|--------|----------------------|---|--|---|------|
| Series | Classification | | Function | | Type |
| | Remote terminal unit | | DNET: DeviceNet PFBS: PROFIBUS ETHN: EtherNet/IP | | |

AH Digital I/O Module

AH16AM10N-5A

| AH | 16 | AM | 1 | 0 | N | - | 5A |
|--------|---|---|--|---|--|---|---|
| Series | I/O points | Classification | Function | Function | Function | | Type |
| | 16: 16 points 32: 32 points 64: 64 points | AM: Digital input AN: Digital output AP: Digital input/output AR: Digital input with interrupt | 0: No input 1: DC input (24 V) 3: AC input (120~240 V) | 0: No output 1: 0.5A transistor/TRIAC output or 2A relay output 2: 0.1A transistor output | N: No output R: Relay output T: NPN output P: PNP output S: TRIAC output | | 5A: Removable terminal 5B: DB37 connector 5C: MIL |

AH Temperature Module

AH04PT-5A

| AH | 04 | PT | - | 5A |
|--------|--------------------------------|---|---|------|
| Series | I/O channels | Classification | | Type |
| | 04: 4-channel 08: 8-channel | PT: Platinum resistance thermometer TC: Thermocouple PTG: Platinum resistance thermometer (channel isolation) | | |

AH Motion Module

AH02HC-5A

| AH | 02 | HC | - | 5A |
|--------|--|--|---|------|
| Series | Function | Classification | | Type |
| | 02: 2-channel 04: 4-channel 05: Simple type (PM) 10: Standard type (PM) 15: Advanced type (PM) 20: DMCNET 08E: EtherCAT (8-axis) 10E: EtherCAT (16-axis) 20E: EtherCAT (32-axis) | HC: High speed counter PM: Motion controller (Pulse train) MC: Motion controller (Network) | | |

AH Power Supply Module

AHPS05-5A

| AH | PS | 05 | - | 5A |
|--------|----------------|---|---|------|
| Series | Classification | Function | | Type |
| | Power supply | 05: AC input (100~240 V) 15: DC input (24 V) | | |

AH Analog I/O Module

AH04AD-5A

| AH | 04 | AD | - | 5A |
|--------|---|--|---|---|
| Series | I/O Channels | Classification | | Type |
| | 04: 4-channel 06: 6-channel 08: 8-channel | AD: Analog input DA: Analog output XA: Analog input/output | | 5A: Voltage/Current 5B: Voltage 5C: Current |

AH Network Module

AH10EN-5A

| AH | 10 | EN | - | 5A |
|--------|---------------------------|--|--|------|
| Series | Function | Classification | | Type |
| | 10: Basic 15: Advanced | EN: Ethernet SCM: Serial communication DNET: DeviceNet | PFBM: PROFIBUS master PFBS: PROFIBUS slave COPM: CANopen | |

AH Backplane

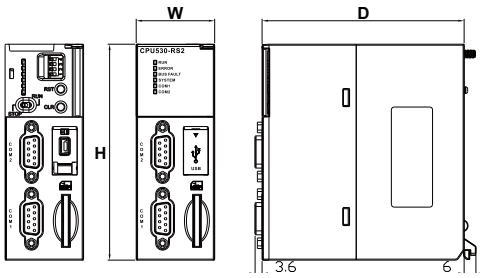
AHBP04M1-5A

| AH | BP | 04 | M1 | - | 5A |
|--------|----------------|---|---|---|------|
| Series | Classification | Function | Function | | Type |
| | Backplane | 03: 3-slot 04: 4-slot 05: 5-slot 06: 6-slot 07: 7-slot 08: 8-slot 12: 12-slot | M1: Main backplane M2: Main backplane for motion E1: Expansion backplane MR1: Redundant main backplane ER1: Redundant expansion backplane | | |

Dimensions Dimensions are in mm

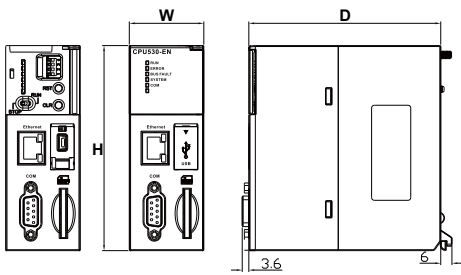
CPU Modules

| Model Name | H | W | D |
|--------------|-----|----|-----|
| AHCPU500-RS2 | 110 | 40 | 103 |
| AHCPU510-RS2 | 110 | 40 | 103 |
| AHCPU511-RS2 | 110 | 40 | 103 |
| AHCPU520-RS2 | 110 | 40 | 103 |
| AHCPU530-RS2 | 110 | 40 | 103 |



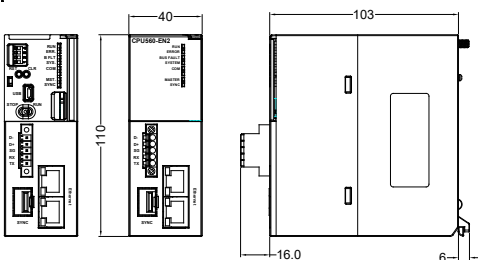
CPU Modules

| Model Name | H | W | D |
|-------------|-----|----|-----|
| AHCPU500-EN | 110 | 40 | 103 |
| AHCPU510-EN | 110 | 40 | 103 |
| AHCPU511-EN | 110 | 40 | 103 |
| AHCPU520-EN | 110 | 40 | 103 |
| AHCPU521-EN | 110 | 40 | 103 |
| AHCPU530-EN | 110 | 40 | 103 |
| AHCPU531-EN | 110 | 40 | 103 |



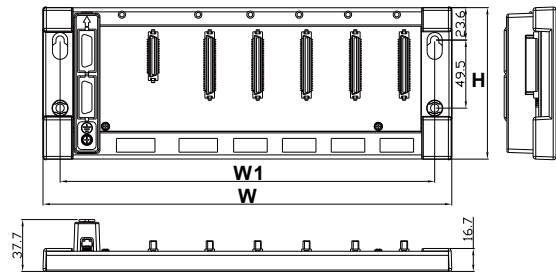
CPU Modules

| Model Name | H | W | D |
|-------------------------|-----|----|-----|
| New AHCPU560-EN2 | 110 | 40 | 103 |



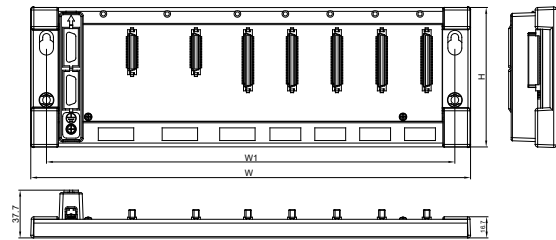
Backplanes

| Model Name | H | W | W1 |
|-------------|-----|-----|-------|
| AHBP04M1-5A | 110 | 298 | 272.5 |
| AHBP06M1-5A | 110 | 369 | 343.5 |
| AHBP08M1-5A | 110 | 440 | 414.5 |
| AHBP12M1-5A | 110 | 582 | 556.5 |
| AHBP03M2-5A | 110 | 257 | 232.4 |
| AHBP05M2-5A | 110 | 328 | 303 |
| AHBP06E1-5A | 110 | 328 | 303 |
| AHBP08E1-5A | 110 | 399 | 374 |



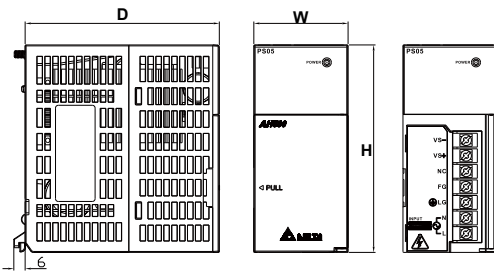
Backplanes

| Model Name | H | W | W1 |
|-------------------------|-----|-----|-----|
| New AHBP04MR1-5A | 110 | 348 | 323 |
| New AHBP06ER1-5A | 110 | 398 | 373 |
| New AHBP08ER1-5A | 110 | 469 | 444 |



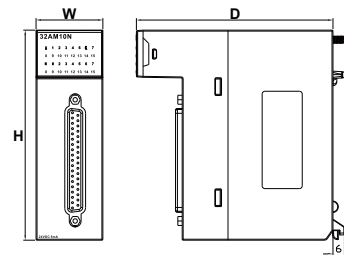
Power Supply Modules

| Model Name | H | W | D |
|------------|-----|----|-----|
| AHPS05-5A | 110 | 50 | 103 |
| AHPS15-5A | 110 | 50 | 103 |



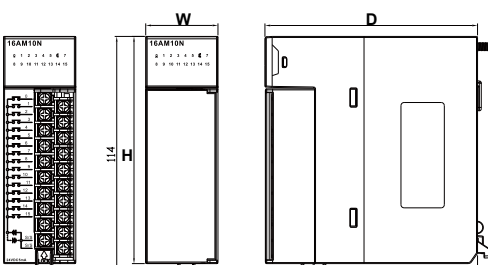
32-point Digital I/O Modules

| Model Name | H | W | D |
|--------------|-----|----|-----|
| AH32AM10N-5B | 110 | 35 | 103 |
| AH32AN02T-5B | 110 | 35 | 103 |
| AH32AN02P-5B | 110 | 35 | 103 |



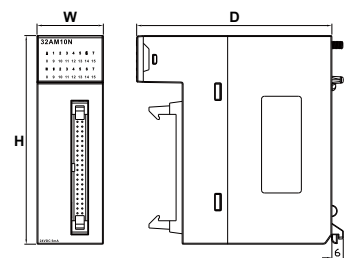
16-point Digital I/O Modules

| Model Name | H | W | D |
|--------------|-----|----|-----|
| AH16AM10N-5A | 110 | 35 | 103 |
| AH16AM30N-5A | 110 | 35 | 103 |
| AH16AN01R-5A | 110 | 35 | 103 |
| AH16AN01T-5A | 110 | 35 | 103 |
| AH16AN01P-5A | 110 | 35 | 103 |
| AH16AN01S-5A | 110 | 35 | 103 |
| AH16AP11R-5A | 110 | 35 | 103 |
| AH16AP11T-5A | 110 | 35 | 103 |
| AH16AP11P-5A | 110 | 35 | 103 |
| AH16AR10N-5A | 110 | 35 | 103 |



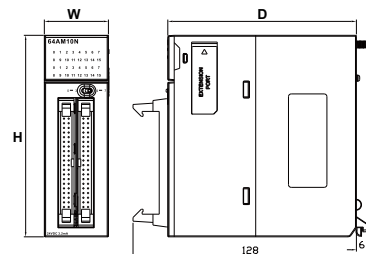
32-point Digital I/O Modules

| Model Name | H | W | D |
|--------------|-----|----|-----|
| AH32AM10N-5C | 110 | 35 | 103 |
| AH32AN02T-5C | 110 | 35 | 103 |
| AH32AN02P-5C | 110 | 35 | 103 |



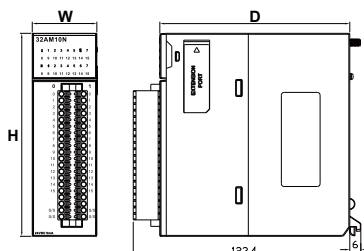
64-point Digital I/O Modules

| Model Name | H | W | D |
|--------------|-----|----|-----|
| AH64AM10N-5C | 110 | 35 | 103 |
| AH64AN02T-5C | 110 | 35 | 103 |
| AH64AN02P-5C | 110 | 35 | 103 |



32-point Digital I/O Modules

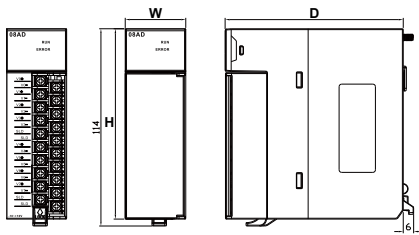
| Model Name | H | W | D |
|--------------|-----|----|-----|
| AH32AM10N-5A | 110 | 35 | 103 |
| AH32AN02T-5A | 110 | 35 | 103 |
| AH32AN02P-5A | 110 | 35 | 103 |



Dimensions Dimensions are in mm

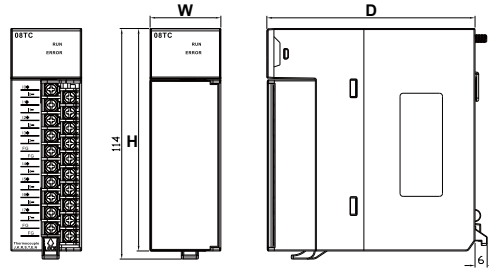
Analog I/O Modules

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH04AD-5A | 110 | 35 | 103 |
| AH08AD-5B | 110 | 35 | 103 |
| AH08AD-5C | 110 | 35 | 103 |
| AH04DA-5A | 110 | 35 | 103 |
| AH08DA-5B | 110 | 35 | 103 |
| AH08DA-5C | 110 | 35 | 103 |
| AH06XA-5A | 110 | 35 | 103 |



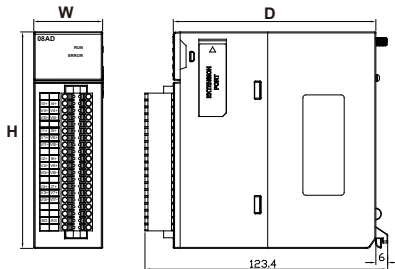
Temperature Measurement Modules

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH04PT-5A | 110 | 35 | 103 |
| AH04TC-5A | 110 | 35 | 103 |
| AH08TC-5A | 110 | 35 | 103 |



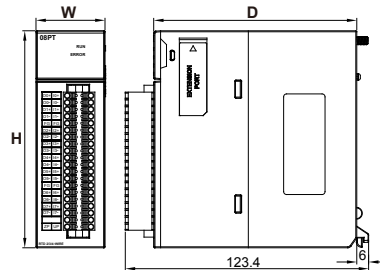
Analog I/O Modules

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH08AD-5A | 110 | 35 | 103 |
| AH08DA-5A | 110 | 35 | 103 |



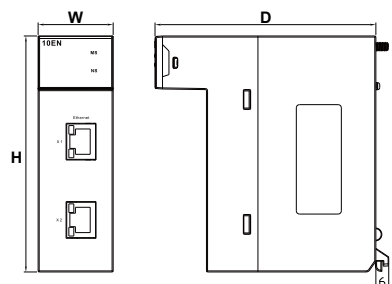
Temperature Measurement Module

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH08PTG-5A | 110 | 35 | 103 |



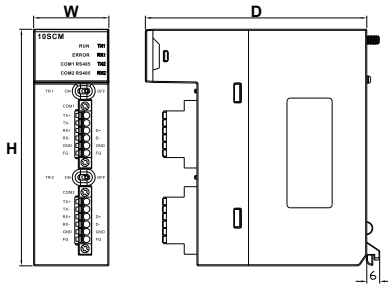
Network Module

| Model Name | H | W | D |
|----------------------|-----|----|-----|
| AH10EN-5A | 110 | 35 | 103 |
| New AH15EN-5A | 110 | 35 | 103 |



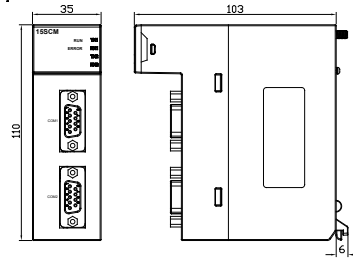
Network Module

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH10SCM-5A | 110 | 35 | 103 |



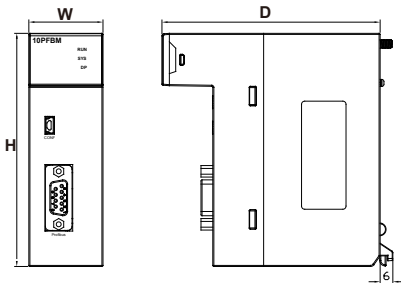
Network Module

| Model Name | H | W | D |
|-----------------------|-----|----|-----|
| New AH15SCM-5A | 110 | 35 | 103 |



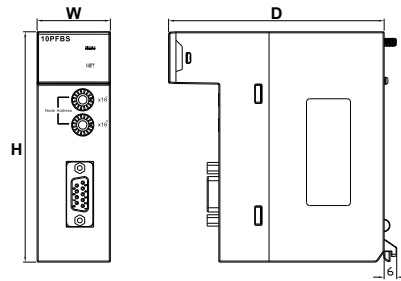
Network Module

| Model Name | H | W | D |
|-------------|-----|----|-----|
| AH10PFBM-5A | 110 | 35 | 103 |



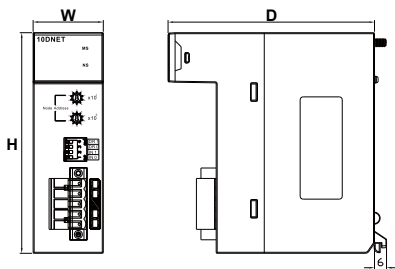
Network Module

| Model Name | H | W | D |
|-------------|-----|----|-----|
| AH10PFBS-5A | 110 | 35 | 103 |



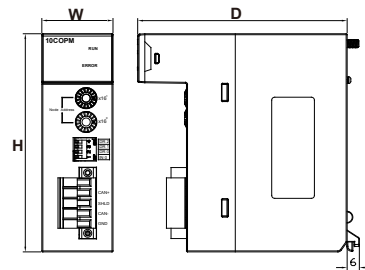
Network Module

| Model Name | H | W | D |
|-------------|-----|----|-----|
| AH10DNET-5A | 110 | 35 | 103 |



Network Module

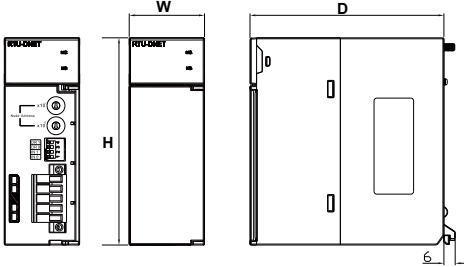
| Model Name | H | W | D |
|-------------|-----|----|-----|
| AH10COPM-5A | 110 | 35 | 103 |



Dimensions Dimensions are in mm

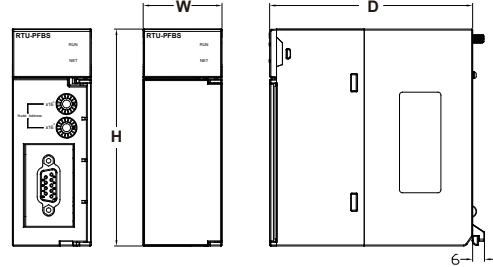
RTU Module

| Model Name | H | W | D |
|---------------|-----|----|-----|
| AHRTU-DNET-5A | 110 | 40 | 103 |



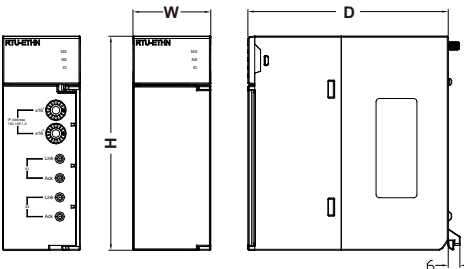
RTU Module

| Model Name | H | W | D |
|---------------|-----|----|-----|
| AHRTU-PFBS-5A | 110 | 40 | 103 |



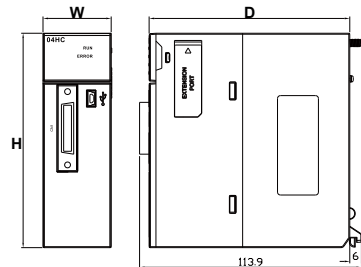
RTU Module

| Model Name | H | W | D |
|---------------|-----|----|-----|
| AHRTU-ETHN-5A | 110 | 40 | 103 |



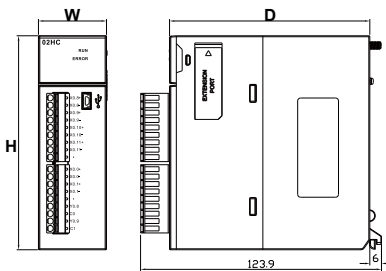
Motion Control Module

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH04HC-5A | 110 | 35 | 103 |



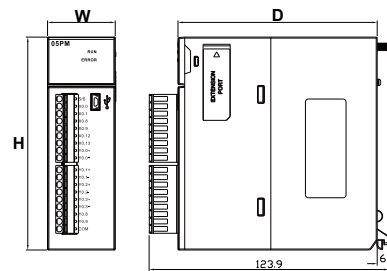
Motion Control Module

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH02HC-5A | 110 | 35 | 103 |



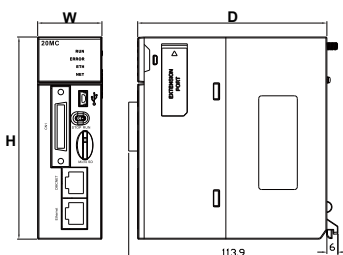
Motion Control Module

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH05PM-5A | 110 | 35 | 103 |



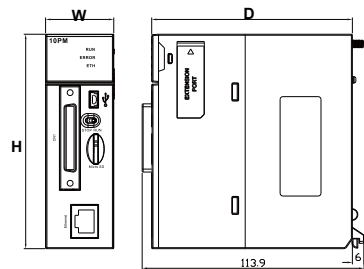
Motion Control Module

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH20MC-5A | 110 | 35 | 103 |
| AH08EMC-5A | 110 | 35 | 103 |
| AH10EMC-5A | 110 | 35 | 103 |
| AH20EMC-5A | 110 | 35 | 103 |



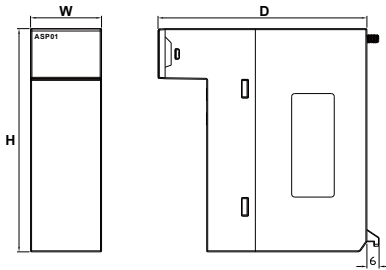
Motion Control Modules

| Model Name | H | W | D |
|------------|-----|----|-----|
| AH10PM-5A | 110 | 35 | 103 |
| AH15PM-5A | 110 | 35 | 103 |



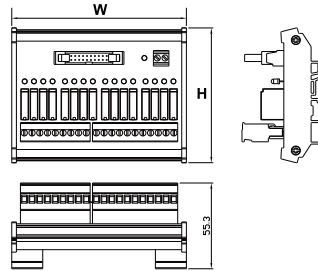
Dummy Module

| Model Name | H | W | D |
|------------|-----|----|-----|
| AHASP01-5A | 110 | 35 | 103 |



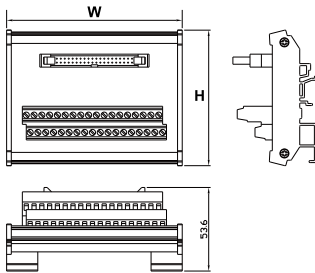
External Terminal Modules

| Model Name | H | W |
|-------------|----|-----|
| UB-10-OR16A | 87 | 113 |
| UB-10-OR16B | 87 | 113 |



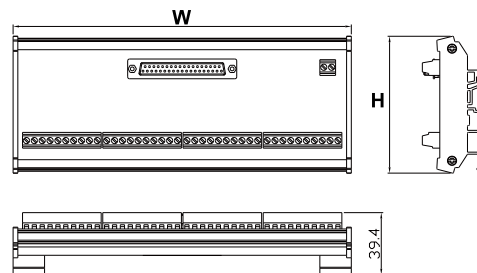
External Terminal Modules

| Model Name | H | W |
|-------------|----|-----|
| UB-10-ID32A | 87 | 113 |
| UB-10-OT32A | 87 | 113 |



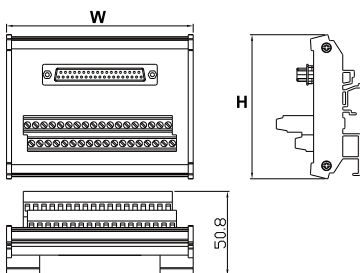
External Terminal Modules

| Model Name | H | W |
|-------------|----|-----|
| UB-10-OR32A | 87 | 215 |
| UB-10-OR32B | 87 | 215 |



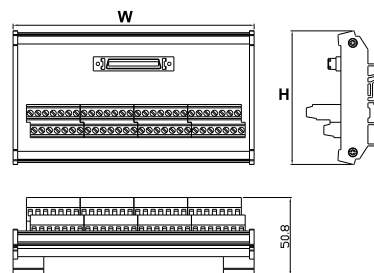
External Terminal Modules

| Model Name | H | W |
|-------------|----|-----|
| UB-10-ID32B | 87 | 113 |
| UB-10-OT32B | 87 | 113 |



External Terminal Modules

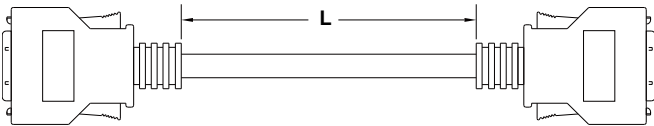
| Model Name | H | W |
|-------------|----|-----|
| UB-10-IO16C | 87 | 125 |
| UB-10-IO22C | 87 | 125 |
| UB-10-IO24C | 87 | 157 |
| UB-10-IO34C | 87 | 157 |



Dimensions Dimensions are in m

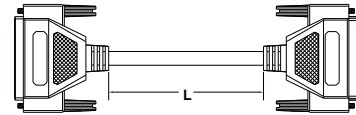
Cables (HDC)

| Model Name | L | Model name | L |
|-------------|------|--------------|-------|
| AHACAB06-5A | 0.6 | AHACABD0-5A | 40.0 |
| AHACAB10-5A | 1.0 | AHACABE0-5A | 50.0 |
| AHACAB15-5A | 1.5 | AHACABF0-5A | 60.0 |
| AHACAB30-5A | 3.0 | AHACABG0-5A | 70.0 |
| AHACAB50-5A | 5.0 | AHACABH0-5A | 80.0 |
| AHACABA0-5A | 10.0 | AHACABJ0-5A | 90.0 |
| AHACABA5-5A | 15.0 | AHACABK0-5A | 100.0 |
| AHACABB0-5A | 20.0 | UC-ET010-13B | 1.0 |
| AHACABC0-5A | 30.0 | UC-ET010-15B | 1.0 |



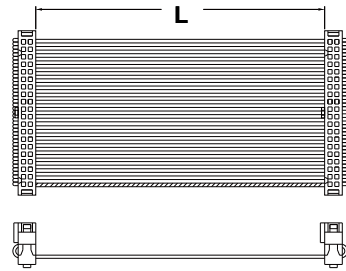
Cable (DB37)

| Model Name | L |
|--------------|-----|
| UC-ET010-33B | 1.0 |



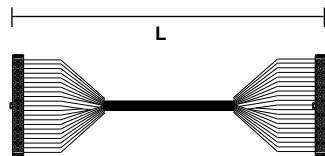
Cable (MIL)

| Model Name | L |
|--------------|-----|
| UC-ET010-24A | 1.0 |



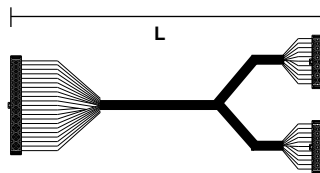
Cable (MIL)

| Model Name | L |
|--------------|-----|
| UC-ET010-24B | 1.0 |
| UC-ET020-24B | 2.0 |
| UC-ET030-24B | 3.0 |



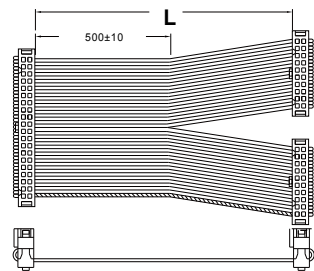
Cable (MIL)

| Model Name | L |
|--------------|-----|
| UC-ET010-24D | 1.0 |
| UC-ET020-24D | 2.0 |
| UC-ET030-24D | 3.0 |



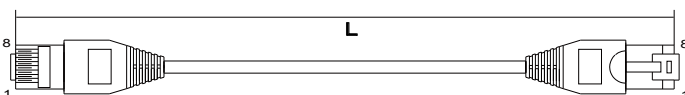
Cable (MIL)

| Model Name | L |
|--------------|-----|
| UC-ET010-24C | 1.0 |



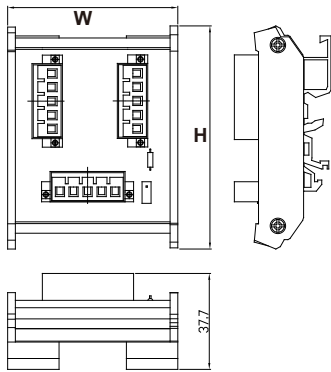
Cables (RJ45)

| Model Name | L | Model name | L | Model Name | L | Model name | L |
|---------------|-----|---------------|------|---------------|-----|---------------|------|
| UC-CMC003-01A | 0.3 | UC-CMC030-01A | 3.0 | UC-EMC003-02A | 0.3 | UC-EMC100-02A | 10.0 |
| UC-CMC005-01A | 0.5 | UC-CMC050-01A | 5.0 | UC-EMC005-02A | 0.5 | UC-EMC200-02A | 20.0 |
| UC-CMC010-01A | 1.0 | UC-CMC100-01A | 10.0 | UC-EMC010-02A | 1.0 | | |
| UC-CMC015-01A | 1.5 | UC-CMC200-01A | 20.0 | UC-EMC020-02A | 2.0 | | |
| UC-CMC020-01A | 2.0 | | | UC-EMC050-02A | 5.0 | | |



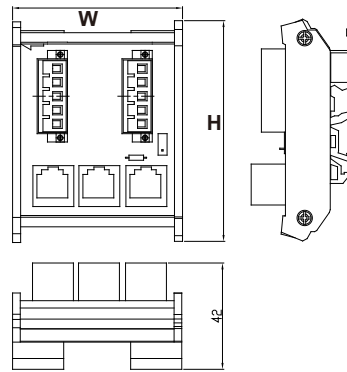
CANopen Distribution Box

| Model Name | H | W |
|------------|----|------|
| TAP-CN01 | 87 | 66.5 |



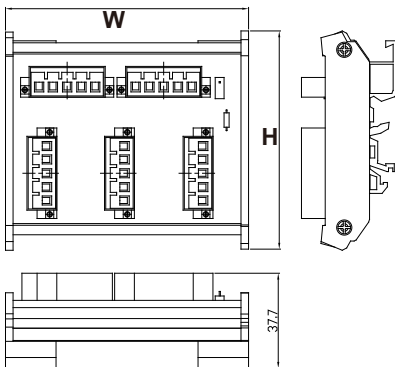
CANopen Distribution Box

| Model Name | H | W |
|------------|----|------|
| TAP-CN03 | 87 | 66.5 |



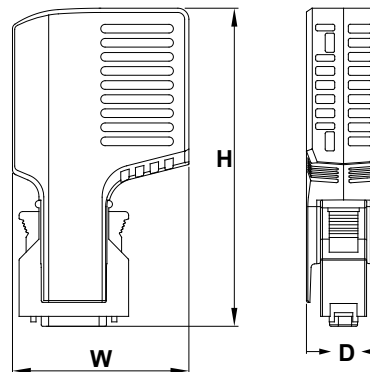
CANopen Distribution Box

| Model Name | H | W |
|------------|----|------|
| TAP-CN02 | 87 | 96.5 |



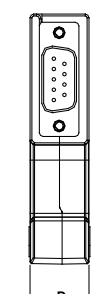
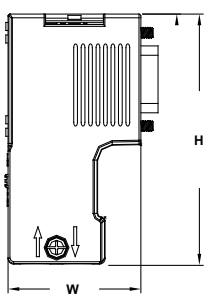
Fiber Optics Modules for Backplanes

| Model Name | H | W | D |
|---------------|------|----|------|
| AHAADP01EF-5A | 86.5 | 48 | 20.2 |
| AHAADP02EF-5A | 86.5 | 48 | 20.2 |



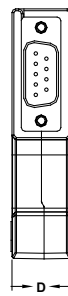
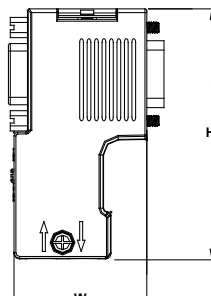
PROFIBUS Connector

| Model Name | H | W | D |
|-------------|----|------|------|
| UN-03PF-01A | 67 | 35.6 | 15.8 |



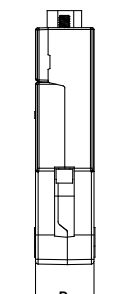
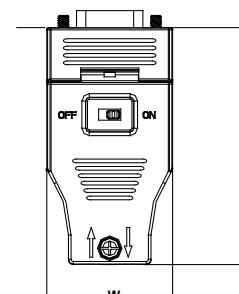
PROFIBUS Connector

| Model Name | H | W | D |
|-------------|----|------|------|
| UN-03PF-02A | 67 | 35.6 | 15.8 |

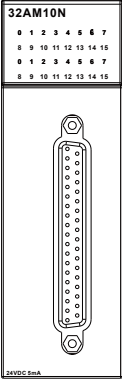

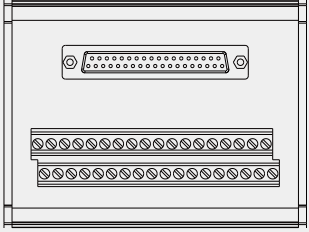


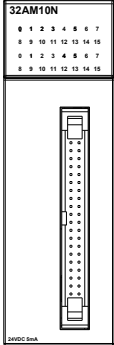
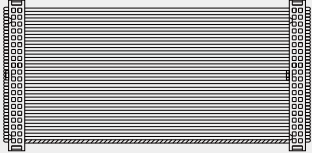
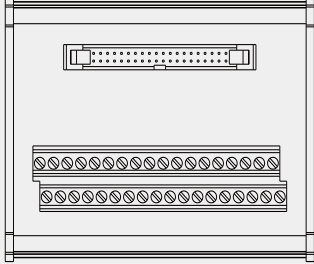

PROFIBUS Connector

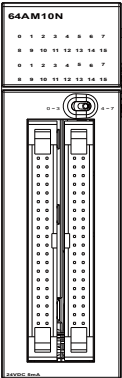
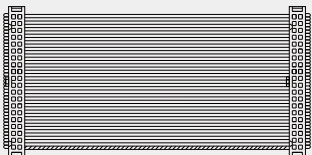
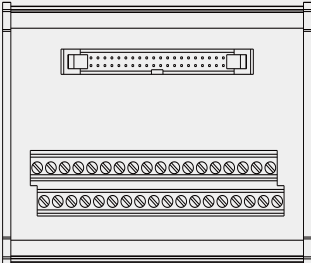

| Model Name | H | W | D |
|-------------|----|------|------|
| UN-03PF-03A | 64 | 35.6 | 15.8 |



Accessory Selection for High-density Modules

| Model name | | |
|---|---|---|
| AH32AM10N-5B | UC-ET010-33B | UB-10-ID32B |
|  |  |  |

| Model name | | |
|---|---|---|
| AH32AM10N-5C | UC-ET010-24A | UB-10-ID32A |
|  |  |  |
| + | UC-ET010-24B / UC-ET020-24B / UC-ET030-24B | + |
| |  | |

| Model name | | |
|---|---|---|
| AH64AM10N-5C | UC-ET010-24A | UB-10-ID32A |
|  |  |  |
| + | UC-ET010-24B / UC-ET020-24B / UC-ET030-24B | + |
| |  | x2 |

Accessory Selection for High-density Modules

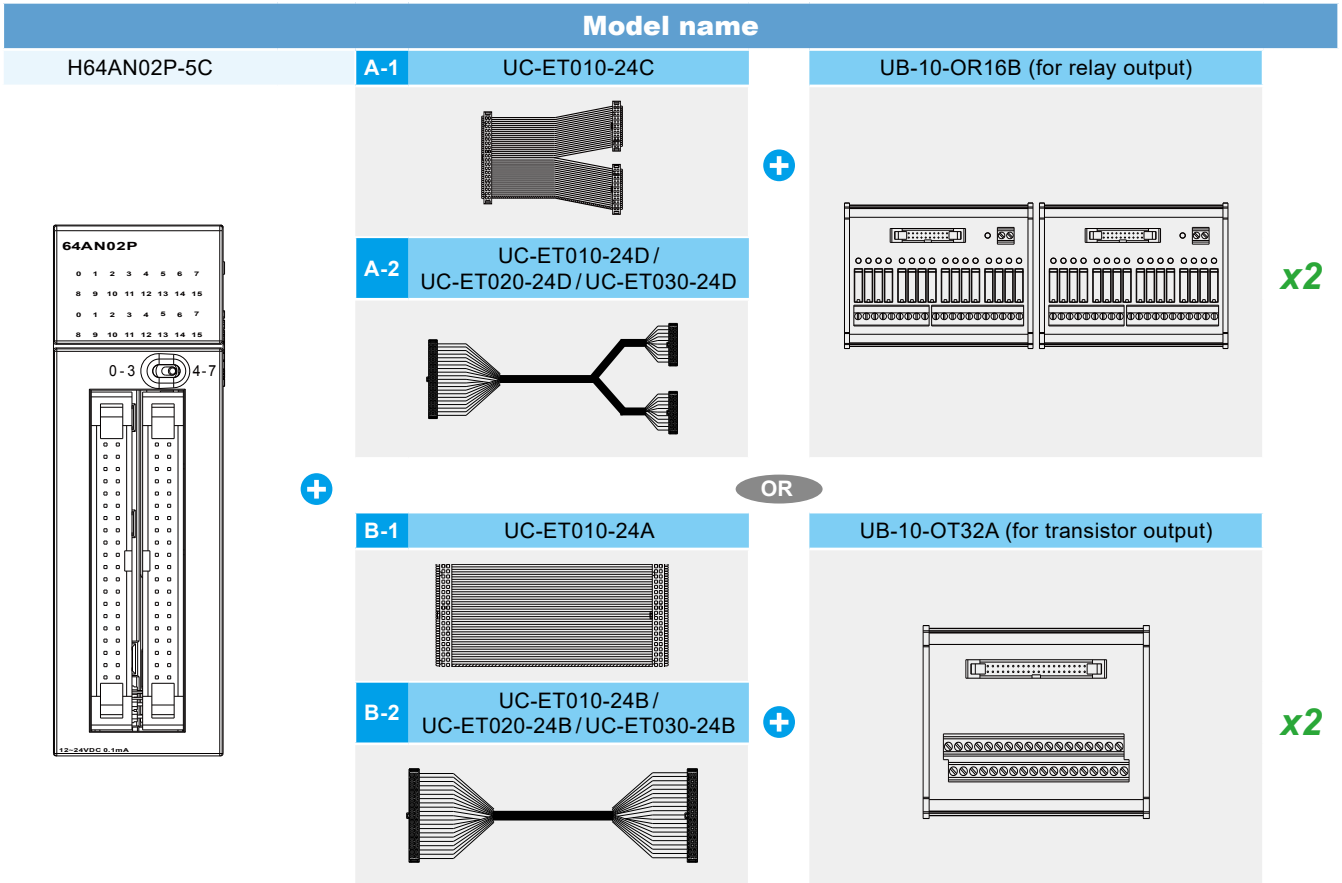
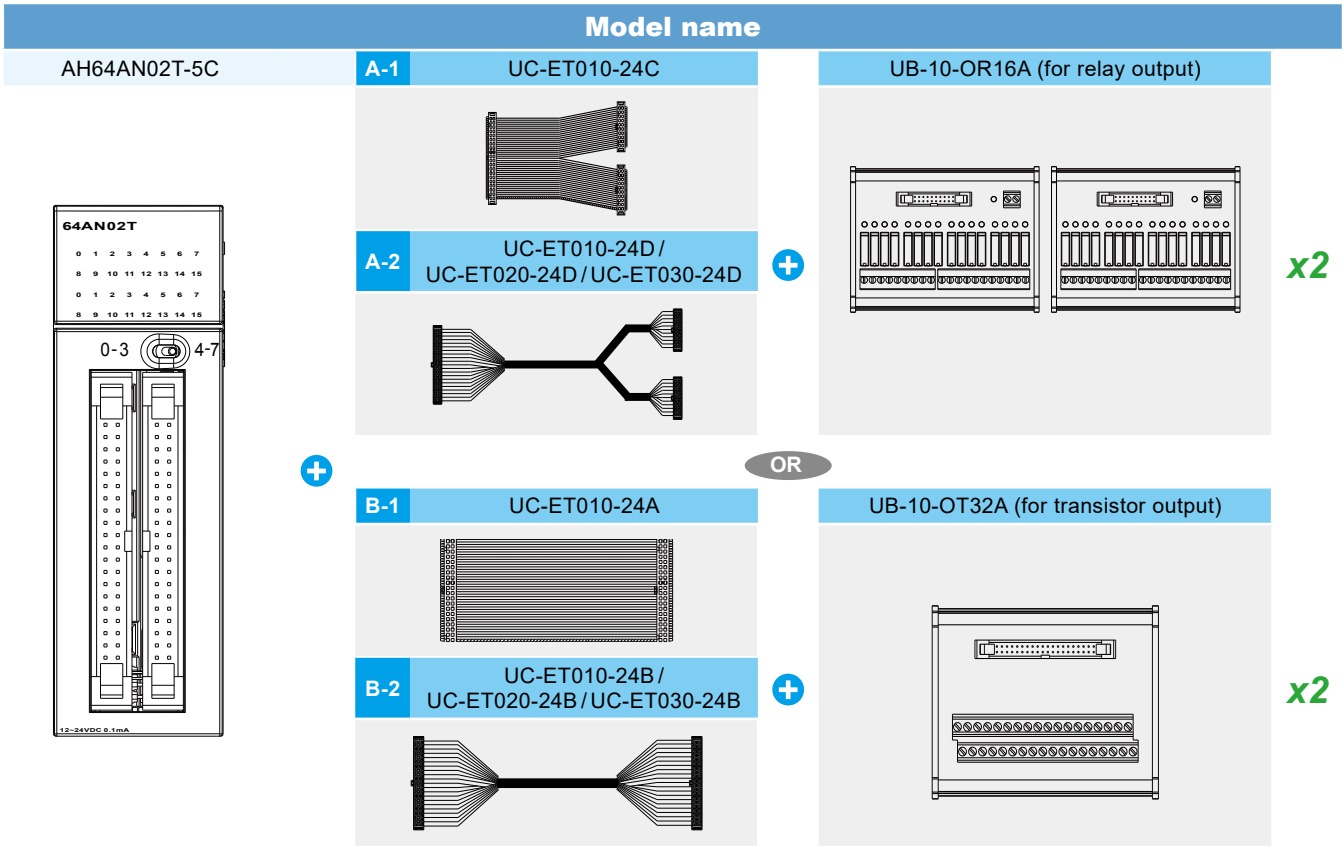
| Model name | | |
|--------------|--------------|---------------------------------------|
| AH32AN02T-5B | UC-ET010-33B | 1 UB-10-OR32A (for relay output) |
| | | |
| | | OR |
| | | 2 UB-10-OT32B (for transistor output) |
| | | |

| Model name | | |
|--------------|--------------|---------------------------------------|
| AH32AN02P-5B | UC-ET010-33B | 1 UB-10-OR32B (for relay output) |
| | | |
| | | OR |
| | | 2 UB-10-OT32B (for transistor output) |
| | | |

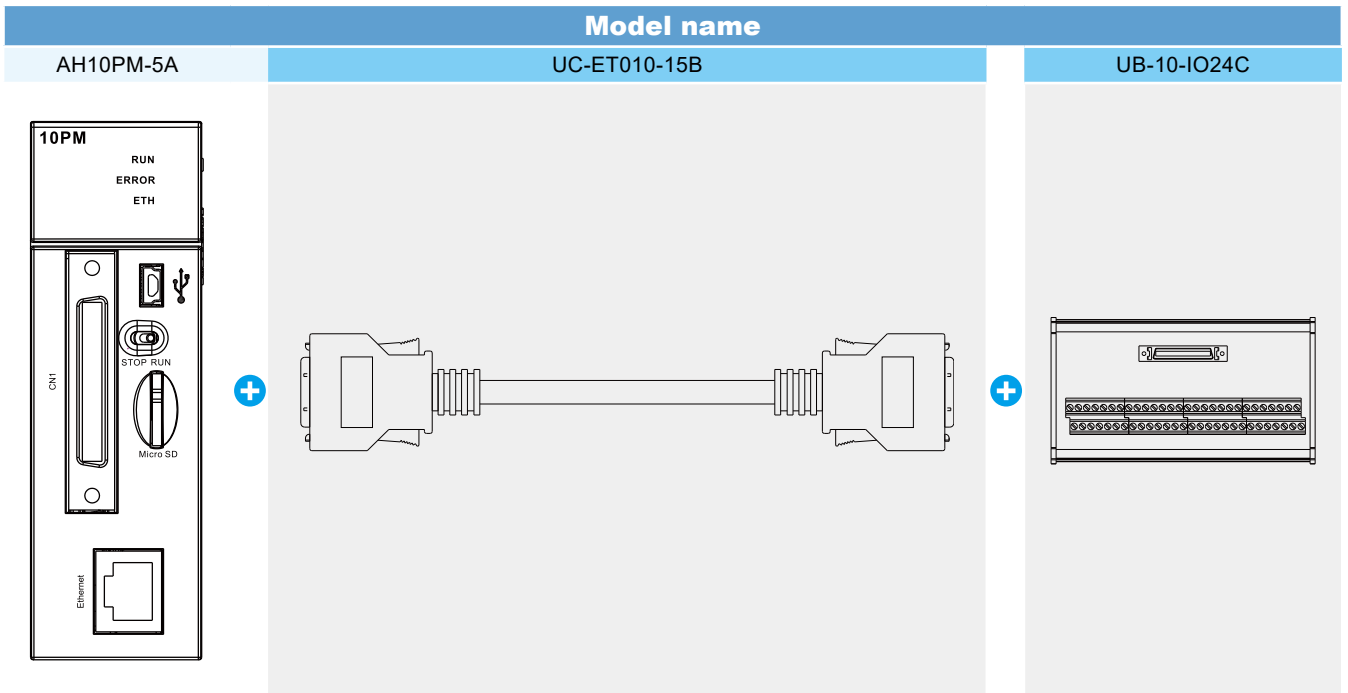
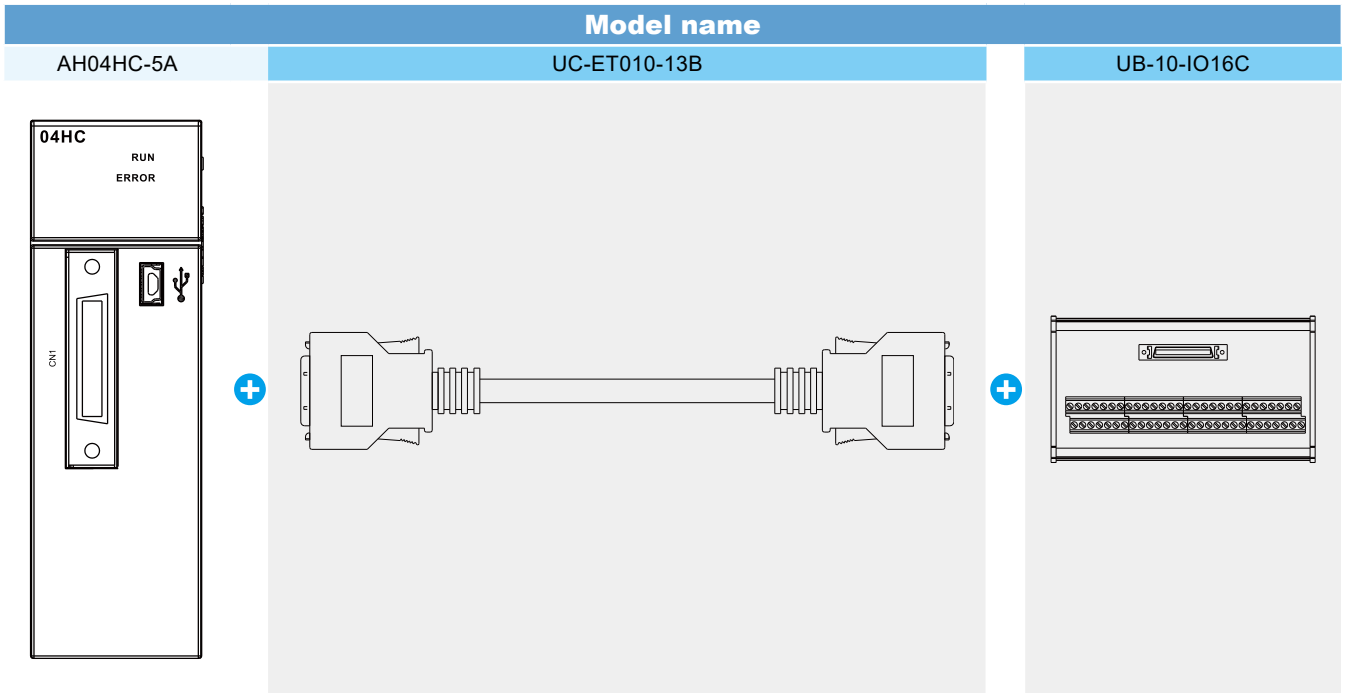
Accessory Selection for High-density Modules

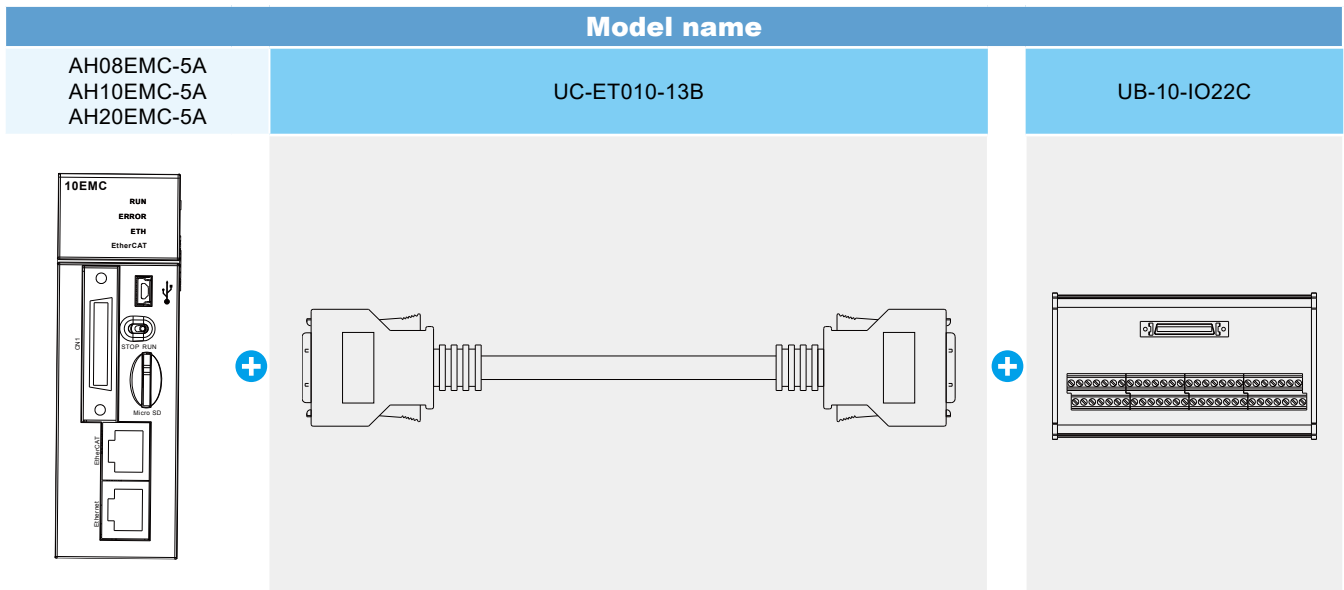
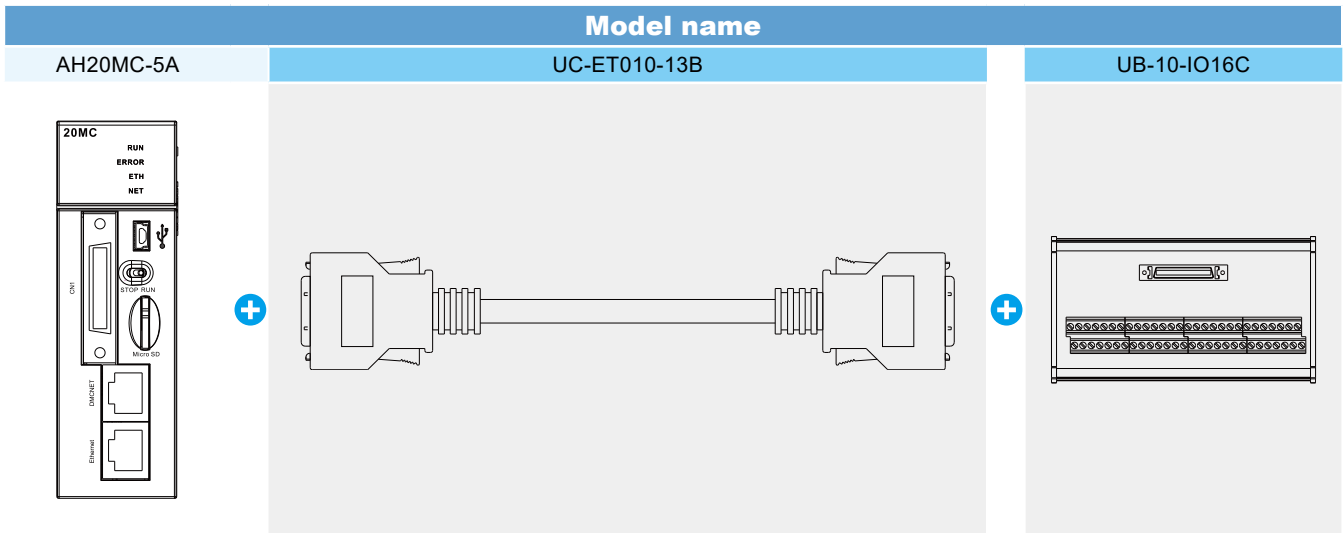
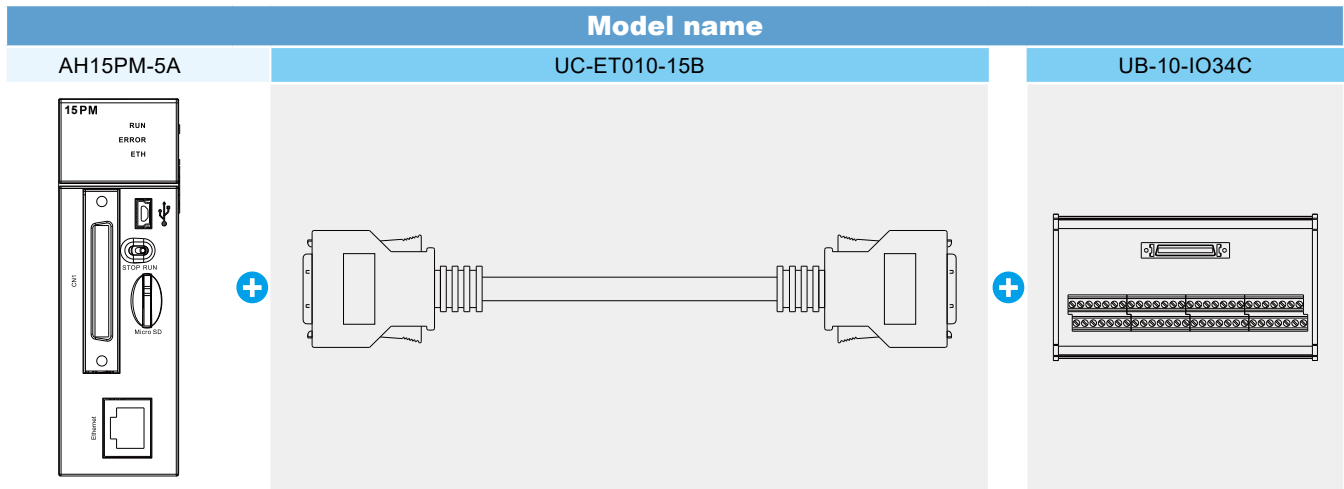
| | | Model name | | | |
|--|------------|---|-----------|---|--|
| <p>AH32AN02T-5C</p> <p>32AN02T</p> <p>0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p> <p>12-24VDC 0.1A</p> | A-1 | UC-ET010-24C | | UB-10-OR16A (for relay output) | |
| | A-2 | UC-ET010-24D / UC-ET020-24D / UC-ET030-24D | | | + |
| | | | OR | | |
| | B-1 | UC-ET010-24A | | | UB-10-OT32A (for transistor output) |
| | B-2 | UC-ET010-24B / UC-ET020-24B / UC-ET030-24B | | | |
| | | | | | |

| | | Model name | | | |
|--|------------|---|-----------|---|--|
| <p>AH32AN02P-5C</p> <p>32AN02P</p> <p>0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p> <p>12-24VDC 0.1A</p> | A-1 | UC-ET010-24C | | UB-10-OR16B (for relay output) | |
| | A-2 | UC-ET010-24D / UC-ET020-24D / UC-ET030-24D | | | + |
| | | | OR | | |
| | B-1 | UC-ET010-24A | | | UB-10-OT32A (for transistor output) |
| | B-2 | UC-ET010-24B / UC-ET020-24B / UC-ET030-24B | | | |
| | | | | | |



Accessory Selection for High-density Modules





Ordering Information



CPU Modules

| Model | Local I/O points | Program capacity | Data register D/L/B (note) | Function blocks | Extension backplane | LD execution speed (µs) | Power consumption (Internal) | Specifications | Certificates |
|--------------|------------------|----------------------|----------------------------|-----------------|---------------------|-------------------------|------------------------------|---|--------------|
| AHCPU500-RS2 | 768 | 32k steps (128KB) | 16K/16K/512k words | 128 | 0 | 0.1 | 2w | <ul style="list-style-type: none"> ▪ Built-in RS-232/422/485 multi-modes communication port x 2 (RS-232: 115.2kbps/RS-422/485: 921.6kbps) ▪ Built-in SD card slot (supports max. 2 GB for AHCPU5x0 or 32 GB for AHCPU5x1) ▪ Built-in Mini-USB programming port ▪ System diagnosis / status light / online editing and debug functions ▪ PLC Link automatic data exchange function ▪ MODBUS RTU/ASCII ▪ LD/SFC/FBD/IL/ST languages ▪ 256 interrupts (Timed/IO/External/Low voltage/Communication) ▪ 2048 timers and counters ▪ No battery required ▪ RTC function (max. 30 days after power off) | |
| AHCPU510-RS2 | 1280 | 64 k steps (256KB) | 32K/32K/1024 k words | 256 | 1 | 0.1 | 2w | | |
| AHCPU511-RS2 | 1280 | 96 k steps (384 KB) | 48K/48K/1024 k words | 1024 | 1 | 0.02 | 2.9w | | |
| AHCPU520-RS2 | 2304 | 128 k steps (512KB) | 64K/64K/2048 k words | 512 | 3 | 0.1 | 2w | | |
| AHCPU530-RS2 | 4352 | 256 k steps (1 MB) | 64K/64K/4096 k words | 1024 | 7 | 0.1 | 2w | | |
| AHCPU500-EN | 768 | 32 k steps (128KB) | 16K/16K/512k words | 128 | 0 | 0.1 | 2w | <ul style="list-style-type: none"> ▪ Built-in RS-232/422/485 multi-modes communication port x1 (RS-232:115.2kbps/RS-422/485: 921.6kbps) ▪ Built-in Ethernet communication port (100Mbps) ▪ Built-in SD card slot (supports max. 2 GB for AHCPU5x0 or 32 GB for AHCPU5x1) ▪ Built-in Mini-USB programming port ▪ System diagnose / status light / online editing and debug functions ▪ PLC Link automatic data exchange function ▪ MODBUS RTU/ASCII, MODBUS TCP ▪ EtherNet/IP (AHCPU5x1 only) <ul style="list-style-type: none"> - Scanner & Adapter mode - Supports I/O connection & explicit message - Connections: TCP= 32 ~ 128; CIP=64 ~ 256 - RPI: 1 ~ 1,000ms - 250 words/connection ▪ LD/SFC/FBD/IL/ST languages ▪ 256 interrupts (Timed/IO/External/Low voltage/Communication) ▪ 2048 timers and counters ▪ No battery required ▪ RTC function (max. 30 days after power off) ▪ NTP network time correction function ▪ WEB/E-mail/IP Filter function | |
| AHCPU510-EN | 1280 | 64 k steps (256KB) | 32K/32K/1024 k words | 256 | 1 | 0.1 | 2w | | |
| AHCPU511-EN | 1280 | 96 k steps (384KB) | 48K/48K/1024 k words | 1024 | 1 | 0.02 | 2.9w | | |
| AHCPU520-EN | 2304 | 128 k steps (512KB) | 64K/64K/2048 k words | 512 | 3 | 0.1 | 2w | | |
| AHCPU521-EN | 2304 | 192 k steps (768KB) | 96K/96K/2048 k words | 2048 | 3 | 0.02 | 2.9w | | |
| AHCPU530-EN | 4352 | 256 k steps (1MB) | 64K/64K/4096 k words | 1024 | 7 | 0.1 | 2w | | |
| AHCPU531-EN | 4352 | 384 k steps (1.5 MB) | 128K/128K/4096 k words | 4096 | 7 | 0.02 | 2.9w | | |





Note: Data Register B is for the use of function blocks

Redundant CPU Modules


| Model | Local I/O points | Program capacity | Data register D/L/B (note) | Function blocks | Extension backplane | LD execution speed (μs) | Power consumption (Internal) | Specifications | Certificates |
|----------------------------|------------------|------------------|----------------------------|-----------------|---------------------|-------------------------|------------------------------|--|--|
| New AHCPU560-EN2 | 4352 | 1M steps (4MB) | 256 k/256 k/4096 k words | 4096 | 7 | 0.02 | 4.5w | <ul style="list-style-type: none"> Built-in RS-232/485 multi-modes communication port x1 (RS-232:115.2 kbps / RS-485: 921.6 kbps) Built-in Ethernet communication port (100Mbps) Built-in SD card slot (supports max. 32 GB) Built-in Mini-USB programming port System diagnosis /status light/online editing and debug functions PLC Link automatic data exchange function MODBUS RTU/ASCII, MODBUS TCP EtherNet/IP <ul style="list-style-type: none"> Scanner & Adapter mode Supports I/O connection & explicit message Connections: <ul style="list-style-type: none"> TCP=32~128; CIP=64~256 RPI: 1~1,000ms 250 words/connection LD/SFC/FBD/IL/ST languages 256 interrupts (Timed/IO/External/Low voltage/Communication) Redundant mode only supports timed interrupt 2048 timers and counters No battery required RTC function (max. 30 days after power off) NTP network time correction function WEB/E-mail/IP Filter function Supports redundant system <ul style="list-style-type: none"> CPU switch-over time: 20 ms Built-in sync. module |   |

Digital I/O Modules (Input)


| Model | Points | Signals | Terminal block type | Power consumption (Internal/External) | Accessories (optional) | Specifications | Certificates |
|--------------|--------|-----------------------------------|------------------------------|---------------------------------------|---|---|--|
| AH16AM10N-5A | 16 | 24V _{DC} 5mA | JIS removable terminal block | 0.1w/1.9w | - | <ul style="list-style-type: none"> PNP/NPN mixed mode design Supports hot-swapping function Individual LED status indicator |   |
| AH16AM30N-5A | 16 | 120~240V _{AC} 4.5~9mA | JIS removable terminal block | 0.1w/- | - | | |
| AH32AM10N-5A | 32 | 24V _{DC} 5mA | EU removable terminal block | 0.2w/3.8w | - | | |
| AH32AM10N-5B | 32 | 24V _{DC} 5mA | DB37 | 0.2w/3.8w | UC-ET010-33B UB-10-ID32B | | |
| AH32AM10N-5C | 32 | 24V _{DC} 5mA | MIL | 0.2w/3.8w | UC-ET010-24A UC-ET010-24B UC-ET030-24B UB-10-ID32A | | |
| AH64AM10N-5C | 64 | 24V _{DC} 3.2mA | MIL | 0.2w/4.9w | | <ul style="list-style-type: none"> PNP/NPN mixed mode design Supports hot-swapping function Individual LED status indicator (32 points) | |
| AH16AR10N-5A | 16 | 24V _{DC} 5mA | JIS removable terminal block | 0.5w/1.9w | - | <ul style="list-style-type: none"> PNP/NPN mixed mode design Supports hot-swapping function Individual LED status indicator Supports I/O interrupts Supports rising/falling-edge trigger modes Supports signal time-delay setting for 0.1/0.5/3/15/20ms Provides user-defined option for signal time-delay setting (Unit: 0.1ms) | |

Ordering Information


Digital I/O Modules (Output)

| Model | Points | Signals | Terminal block type | Power consumption (Internal/ External) | Accessories (optional) | Specifications | Certificates |
|--------------|--------|--|------------------------------|--|---|--|--|
| AH16AN01R-5A | 16 | Relay 240V _{AC} /24V _{DC} 2A | JIS removable terminal block | 2.1w/- | - | <ul style="list-style-type: none"> Supports hot-swapping function Individual LED status indicator Supports keep-last-value function when CPU shuts down |  |
| AH16AN01T-5A | 16 | NPN (Sink) 12~24V _{DC} 0.5A | JIS removable terminal block | 0.2w/0.4w | - | | |
| AH16AN01P-5A | 16 | PNP (Source) 12~24V _{DC} 0.5A | JIS removable terminal block | 0.2w/0.4w | - | | |
| AH16AN01S-5A | 16 | TRIAC 120/240V _{AC} 0.5A | JIS removable terminal block | 0.6w/- | - | | |
| AH32AN02T-5A | 32 | NPN (Sink) 12~24V _{DC} 0.1A | EU removable terminal block | 0.4w/0.8w | - | | |
| AH32AN02P-5A | 32 | PNP (Source) 12~24V _{DC} 0.1A | EU removable terminal block | 0.4w/0.8w | - | | |
| AH32AN02T-5B | 32 | NPN (Sink) 12~24V _{DC} 0.1A | DB37 | 0.4w/0.8w | UC-ET010-33B UB-10-OR32A UB-10-OT32B | | |
| AH32AN02P-5B | 32 | PNP (Source) 12~24V _{DC} 0.1A | DB37 | 0.4w/0.8w | UC-ET010-33B UB-10-OR32B UB-10-OT32B | | |
| AH32AN02T-5C | 32 | NPN (Sink) 12~24V _{DC} 0.1A | MIL | 0.4w/0.8w | UC-ET010-24A UC-ET010-24D UC-ET010-24B UC-ET020-24D UC-ET020-24B UC-ET030-24D UC-ET030-24B UB-10-OR16A UC-ET010-24C UB-10-OT32A | | |
| AH32AN02P-5C | 32 | PNP (Source) 12~24V _{DC} 0.1A | MIL | 0.4w/0.8w | UC-ET010-24A UC-ET010-24D UC-ET010-24B UC-ET020-24D UC-ET020-24B UC-ET030-24D UC-ET030-24B UB-10-OR16B UC-ET010-24C UB-10-OT32A | | |
| AH64AN02T-5C | 64 | NPN (Sink) 12~24V _{DC} 0.1A | MIL | 0.6w/1.5w | UC-ET010-24A UC-ET010-24D UC-ET010-24B UC-ET020-24D UC-ET020-24B UC-ET030-24D UC-ET030-24B UB-10-OR16A UC-ET010-24C UB-10-OT32A | <ul style="list-style-type: none"> Supports hot-swapping function Individual LED status indicator (32 points) Supports keep-last-value function when CPU shuts down | |
| AH64AN02P-5C | 64 | PNP (Source) 12~24V _{DC} 0.1A | MIL | 0.6w/1.5w | UC-ET010-24A UC-ET010-24D UC-ET010-24B UC-ET020-24D UC-ET020-24B UC-ET030-24D UC-ET030-24B UB-10-OR16B UC-ET010-24C UB-10-OT32A | | |


Digital I/O Modules (Mixed)

| Model | Inputs | Outputs | Input signals | Output signals | Terminal block type | Power consumption (Internal/ External) | Specifications | Certificates |
|--------------|--------|---------|--------------------------|--|------------------------------|--|--|---|
| AH16AP11R-5A | 8 | 8 | 24V _{DC} 5mA | Relay 240V _{AC} /24V _{DC} 2A | JIS removable terminal block | 1.1w/- | <ul style="list-style-type: none"> PNP/ NPN mixed mode design Supports hot-swapping function Individual LED status indicator Supports keep-last-value function when CPU shuts down |  |
| AH16AP11T-5A | 8 | 8 | 24V _{DC} 5mA | NPN (Sink) 12~24V _{DC} 0.5A | JIS removable terminal block | 0.2w/0.2w | | |
| AH16AP11P-5A | 8 | 8 | 24V _{DC} 5mA | PNP (Source) 12~24V _{DC} 0.5A | JIS removable terminal block | 0.2w/0.2w | | |


Analog I/O Modules (Input)

| Model | Channels | Signals | Terminal block type | Power consumption (Internal/ External) | Specifications | Certificates |
|-----------|----------|---|------------------------------|--|---|---|
| AH04AD-5A | 4 | 0/1V~5V, ±5V, 0V~10V, ±10V 0/4mA~20mA ±20mA | JIS removable terminal block | 0.35w/1w | <ul style="list-style-type: none"> Hardware resolution: 16-bit Conversion time: 150 μs/channel Base error (ambient temp.): Voltage mode ±0.1% Current mode ±0.1% Base error (full temp. range): Voltage mode ±0.45% Current mode ±0.2% Linearity error (ambient temp.): Voltage mode ±0.07% Current mode ±0.05% Linearity error (full temp. range): Voltage mode ±0.12% Current mode ±0.23% Supports hot-swapping function Isolated signal design Diagnosis function Module status LED indicator Supports interrupt function |  |
| AH08AD-5A | 8 | 0/1V~5V, ±5V, 0V~10V, ±10V 0/4mA~20mA, ±20mA | EU removable terminal block | 1.5w/- | | |
| AH08AD-5B | 8 | 0/1V~5V, ±5V, 0V~10V, ±10V | JIS removable terminal block | 1.9w/- | | |
| AH08AD-5C | 8 | 0/4mA~20mA, ±20mA | JIS removable terminal block | 1.6w/- | | |

Analog I/O Modules (Output)

| Model | Channels | Signals | Terminal block type | Power consumption (Internal/ External) | Specifications | Certificates |
|-----------|----------|---|------------------------------|--|---|---|
| AH04DA-5A | 4 | 0/1V~5V, ±5V, 0V~10V, ±10V 0/4mA~20mA | JIS removable terminal block | 0.34w/2.6w | <ul style="list-style-type: none"> Hardware resolution: 16-bit Conversion time: 150 μs/channel Base error (ambient temp.): Voltage mode ±0.02% Current mode ±0.06% Base error (full temp. range): Voltage mode ±0.04% Current mode ±0.07% Linearity error (ambient temp.): Voltage mode ±0.004% Current mode ±0.01% Linearity error (full temp. range): Voltage mode ±0.004% Current mode ±0.01% Supports hot-swapping function Isolated signal design Diagnosis function Module status LED indicator Supports interrupt function Supports keep-last-value function when CPU shuts down |  |
| AH08DA-5A | 8 | 0/1V~5V, ±5V, 0V~10V, ±10V 0/4mA~20mA | EU removable terminal block | 1w/5w | | |
| AH08DA-5B | 8 | 0/1V~5V, ±5V, 0V~10V, ±10V | JIS removable terminal block | 0.25w/2.2w | | |
| AH08DA-5C | 8 | 0/4mA~20mA | JIS removable terminal block | 0.25w/3.7w | | |

Analog I/O Modules (Mixed)

| Model | Channels | Signals | Terminal block type | Power consumption (Internal/ External) | Specifications | Certificates |
|-----------|-------------------------|---|------------------------------|--|--|---|
| AH06XA-5A | Inputs: 4 Outputs: 2 | Input: 0/1V~5V, ±5V, 0V~10V, ±10V 0/4mA~20mA, ±20mA Output: 0/1V~5V, ±5V, 0V~10V, ±10V 0/4mA~20mA | JIS removable terminal block | 0.34w/1.4w | <ul style="list-style-type: none"> Hardware resolution: 16-bit Conversion time: 150 μs/channel Input accuracy: same as AH04AD-5A Output accuracy: same as AH04DA-5A Supports hot-swapping function Isolated signal design Diagnosis function Module status LED indicator Supports interrupt function Supports keep-last-value function when CPU shuts down |  |

Ordering Information

Remote I/O Modules

| Model | Power consumption (Internal/ External) | Specifications | Certificates |
|---------------|--|--|--|
| AHRTU-DNET-5A | 0.75w/0.72w | <ul style="list-style-type: none"> DeviceNet remote I/O module Supports max. speed of 1 Mbps Supports AH DIO modules, AIO modules, temperature measurement modules, and the serial communication module AH10SCM | <ul style="list-style-type: none"> Installing on the main backplane required Supports up to 7 extension racks Diagnosis function Module status LED indicator |
| AHRTU-PFBS-5A | 1.9w/- | <ul style="list-style-type: none"> PROFIBUS-DP remote I/O module Max. speed: 12 Mbps Supports AH digital I/O modules, analog I/O modules, temperature measurement modules Installs on main backplane | <ul style="list-style-type: none"> Supports 7 extension backplanes Diagnosis function Module status LED indicator Configurable I/O capacity: 122 words for input/ 122 words for output |
| AHRTU-ETHN-5A | 2.2w / - | <ul style="list-style-type: none"> EtherNet/IP remote I/O module Supports I/O connection & explicit message Connections: TCP=48 ; CIP=96 RPI: 1 ~ 1,000ms PPS: 10,000 250 words / connection Supports AH digital I/O modules, analog I/O modules, temperature measurement modules | <ul style="list-style-type: none"> Installed on main backplane Supports 7 extension backplanes Diagnosis function Module status LED indicator 2 Ethernet ports (switch function) Configurable I/O capacity: 234 words IN ; 234 words OUT |




Temperature Measurement Modules

| Model | Channels | Signals | Resolution | Conversion time | Terminal block type | Power consumption (Internal/ External) | Specifications | Certificates |
|------------|----------|---|----------------------------------|--|------------------------------|--|--|--------------|
| AH04PT-5A | 4 | (2/3/4-wire RTD input) Pt100, Pt1000, Ni100, Ni1000, 0Ω~300Ω | 0.1°C/0.1°F 0.1% (0Ω~300Ω) | 2/4-wire: 150 ms/channel 3-wire: 300 ms/channel | JIS removable terminal block | 2w / - | <ul style="list-style-type: none"> Effective resolution: 16-bit Accuracy: ±0.6% (Full Scale) Supports hot-swapping function | |
| AH04TC-5A | 4 | Thermocouple input J,K,R,S,T,E,N, ±150mV | 0.1°C/0.1°F | 200 ms/channel | JIS removable terminal block | 1.5w / - | <ul style="list-style-type: none"> Signal isolated design Diagnosis function PID function | |
| AH08TC-5A | 8 | Thermocouple input J,K,R,S,T,E,N, ±150mV | 0.1°C/0.1°F | 200 ms/channel | JIS removable terminal block | 1.5w / - | <ul style="list-style-type: none"> Module status LED indicator Supports interrupt function | |
| AH08PTG-5A | 8 | (2/3/4-wire RTD input) Pt100, Pt1000, Ni100, Ni1000, 0Ω~300Ω | 0.1°C/0.1°F 0.1% (0Ω~300Ω) | 2/4-wire: 20 ms (fast) ~ 100 ms (normal)/channel 3-wire: 200 ms/channel | EU removable terminal block | 0.7w/4w | <ul style="list-style-type: none"> Supports disconnection detection function Fully isolated channel design (AH08PTG-5A) | |


Power Supply Modules

| Model | Power input | Output | Specifications | Certificates |
|-----------|------------------------------------|--------|---|--------------|
| AHPS05-5A | 100~240 V _{AC} 50/60Hz | 60W | <ul style="list-style-type: none"> Power supply for the modules on the racks LED power indicator | |
| AHPS15-5A | 24 V _{DC} | 36W | <ul style="list-style-type: none"> Provides external DC power abnormal signal detection input and triggered interrupt function | |

Network Modules



| Model | Power consumption (Internal/External) | Specifications | | Certificates |
|--------------------------|---------------------------------------|---|---|--|
| AH10EN-5A | 1.6w/- | <ul style="list-style-type: none"> Ethernet communication module (Master/Slave) 100 Mbps communication port × 2 (switch function available) Ether Link function MODBUS TCP function Automatic data exchange function NTP network time correction function | <ul style="list-style-type: none"> SNMP/E-mail/IP Filter function EtherNet/IP - Scanner & Adapter mode - Supports I/O connection & explicit message - Connections: TCP=64 ; CIP=64 - RPI: 1~1,000ms - PPS: 6,400 - 250 words/connection |  |
| New AH15EN-5A | 1.6w/- | <ul style="list-style-type: none"> Ethernet communication module (Master/Slave) 100 Mbps communication port × 2 (switch function available) Ether Link function MODBUS TCP function Automatic data exchange function NTP network time correction function | <ul style="list-style-type: none"> SNMP/E-mail/IP Filter function Supports IEC60870 | |
| AH10SCM-5A | 1.2w/- | <ul style="list-style-type: none"> Serial communication module (Master/Slave) Full isolation design in power & signal circuits Built-in RS-422/RS-485 with communication port × 2 (multiple modes, 460.8Kbps) Supports PLC Link function | <ul style="list-style-type: none"> Supports user defined communication format (UD Link) MODBUS RTU/ASCII function available | |
| New AH15SCM-5A | 1w/- | <ul style="list-style-type: none"> Serial communication module (Master/Slave) Full isolation design in power & signal circuits Built-in RS-232 with communication port × 2 (multiple modes, 460.8Kbps) Supports PLC Link function | <ul style="list-style-type: none"> Supports automatic data exchange function Supports BACnet Slave function | |
| AH10DNET-5A | 0.9w/0.72w | <ul style="list-style-type: none"> DeviceNet communication module (Master/Slave) Supports max. speed of 1 Mbps Switchable between master and slave modes | <ul style="list-style-type: none"> Connects up to 63 slave stations in master mode RIO capacity in master mode: 490 words IN/OUT | |
| AH10PFBM-5A | 2w/- | <ul style="list-style-type: none"> PROFIBUS-DP master module Supports DPV0/DPV1 Max. speed: 12Mbps | <ul style="list-style-type: none"> Connects up to 124 slaves Configurable I/O capacity: 2880 words for input/2880 words for output | |
| AH10PFBS-5A | 1w/- | <ul style="list-style-type: none"> PROFIBUS-DP slave module Supports DPV0 Max. speed: 12Mbps | <ul style="list-style-type: none"> Configurable I/O capacity: 100 words for input/100 words for output | |
| AH10COPM-5A | 1w/- | <ul style="list-style-type: none"> CANopen module (Master/Slave) Max. speed: 1Mbps Connects up to 100 slaves in master mode | | |

General Modules Specifications


| Item | Specifications |
|----------------------|--|
| Operating Conditions | <ul style="list-style-type: none"> Temperature: -20~60°C Relative Humidity: 5~95% (Non-Condensing) |
| Storage Conditions | <ul style="list-style-type: none"> Temperature: -40~70°C Relative Humidity: 5~95% (Non-Condensing) |
| Certificates |  |

Ordering Information

Main Backplanes

| Model | Slot | Power consumption (Internal) | Specifications | Certificates |
|----------------------------|------|------------------------------|--|---|
| AHBP04M1-5A | 4 | 0.01 w | <ul style="list-style-type: none"> Supports CPU modules Supports remote I/O communication modules (RTU) Built-in communication port for extension backplanes Slot spaces are not occupied by Power/CPU/RTU modules Supports redundant power (AHBPxxMR1-5A only) |  |
| AHBP06M1-5A | 6 | 0.01 w | | |
| AHBP08M1-5A | 8 | 0.01 w | | |
| AHBP12M1-5A | 12 | 0.01 w | | |
| New AHBP04MR1-5A | 4 | 0.2 w | <ul style="list-style-type: none"> Supports AHxxEMC-5A installed on CPU slot only (Do not support CPU/RTU modules) Built-in serial communication port Slot spaces are not occupied by Power/CPU |  |
| AHBP03M2-5A | 3 | 1.41 w | | |
| AHBP05M2-5A | 5 | 1.41 w | | |

Extension Backplanes

| Model | Slot | Power consumption (Internal) | Specifications | Certificates |
|----------------------------|------|------------------------------|--|---|
| AHBP06E1-5A | 6 | 1.41 w | <ul style="list-style-type: none"> For main backplane extension Built-in communication port for extension backplanes Slot spaces are not occupied by power modules Supports redundant ext. ports (AHBPxxER1-5A only) Supports redundant power (AHBPxxER1-5A only) |  |
| AHBP08E1-5A | 8 | 1.41 w | | |
| New AHBP06ER1-5A | 6 | 1 w | | |
| New AHBP08ER1-5A | 8 | 1 w | | |



Software

| Software | Model | License | Descriptions | Compatible Products |
|------------------------|---------------|------------------------|-------------------------------------|---|
| ISPSOft [V3] | - | Free | PLC programming software | AH series , DVP series PLCs |
| COMMGR [V1] | - | Free | Communication management software | AH series , DVP series PLCs |
| PMSOft [V2] | - | Free | Motion control programming software | AH series , DVP series motion controllers |
| DCISOft [V1] | - | Free | Ethernet configuration software | AH series Ethernet/serial communication modules, DVP series built-in Ethernet PLCs, DVP series Ethernet/serial communication modules, IFD series Ethernet modules, CMC series Ethernet cards for Delta motor drives |
| DeviceNet Builder [V2] | - | Free | DeviceNet configuration software | AH series DeviceNet modules, DVP series DeviceNet modules, CMC series DeviceNet cards for Delta motor drives |
| CANopen Builder [V2] | - | Free | CANopen configuration software | AH series CANopen modules, DVP series built-in CANopen PLCs, DVP series CANopen modules, DVP10MC motion controller |
| SYCON.net [V1] | - | Free | PROFIBUS DP configuration software | AH series PROFIBUS DP modules |
| Delta OPC [V1] | HASP-20-OPC01 | Hardware license (USB) | Delta OPC server | AH series PLCs |
| ECAT Builder [V1] | - | Free | EtherCAT configuration software | AH series , DVP series PLCs |
| EIP Builder [V1] | - | Free | EtherNet/IP configuration software | AH series , DVP series PLCs |

Ethernet Connection Information

| Connection type | AHCPU500/510/520/530-EN | AHCPU511/521/531-EN AHCPU560-EN2 New | AH08/10/20EMC-5A | AH10EN-5A | AHRTU-ETHN-5A |
|-------------------|-------------------------|--|------------------|-----------|---------------|
| MODBUS (Server) | 32 | 32 | 32 | 128 | --- |
| MODBUS (Client) | 16/32/64/128 | 32/64/128 | 128 | 64 | --- |
| EtherNet/IP (TCP) | - | 32/64/128 | 16 | 64 | 48 |
| EtherNet/IP (CIP) | - | 64/128/256 | 32 | 64 | 96 |


Motion Control Modules

| Model | Channels / Axes | Terminal block type | Power consumption (Internal) | Accessories (optional) | Specifications | Certificates |
|------------|-----------------|-----------------------------|------------------------------|-----------------------------|---|--|
| AH02HC-5A | 2 | EU removable terminal block | 2.4 w | - | <ul style="list-style-type: none"> High speed counter |   |
| AH04HC-5A | 4 | HDC | 2.4 w | UC-ET010-13B UB-10-IO16C | <ul style="list-style-type: none"> High speed counter | |
| AH05PM-5A | 2 | EU removable terminal block | 2.7 w | - | <ul style="list-style-type: none"> Pulse train motion control module Supports 1MHz output Supports 2-axis linear interpolation, 2-axis arc interpolation | |
| AH10PM-5A | 6 | HDC | 2.7 w | UC-ET010-15B UB-10-IO24C | <ul style="list-style-type: none"> Pulse train motion control module Supports 1MHz output (4 axes) 200kHz output (2 axes) Supports 2~6-axis linear interpolation, 2-axis arc interpolation and 3-axis helical interpolation Built in Ethernet communication port Supports Micro SD card | |
| AH15PM-5A | 4 | HDC | 2.7 w | UC-ET010-15B UB-10-IO34C | <ul style="list-style-type: none"> Pulse type motion control module Supports 1MHz output Supports 2~4-axis linear interpolation, 2-axis arc interpolation, 3-axis helical interpolation Built-in Ethernet communication port Supports Micro SD card Supports limit switch (LSP / LSN) input | |
| AH20MC-5A | 12 | HDC | 3 w | UC-ET010-13B UB-10-IO16C | <ul style="list-style-type: none"> DMCNET communication motion control module (10 Mbps) Min. synchronization time at 12 axes is 1ms Supports 2~6-axis linear interpolation, 2-axis arc interpolation and 3-axis helical interpolation Built in Ethernet communication port Supports Micro SD card | |
| AH08EMC-5A | 8 | HDC | 3.3 w | UC-ET010-13B UB-10-IO22C | <ul style="list-style-type: none"> EtherCAT communication motion control (100 Mbps) Min. synchronization time at 8/16/32 axes is 0.5/1/2 ms Supports 2~6-axis linear interpolation, 2-axis arc interpolation and 3-axis helical interpolation | |
| AH10EMC-5A | 16 | | | | <ul style="list-style-type: none"> Built in Ethernet communication port Supports Micro SD card Supports EtherNet/IP <ul style="list-style-type: none"> Adapter mode Supports I/O connection & explicit message Connections: TCP= 16 ; CIP= 32 RPI: 2 ~ 1,000 ms PPS: 3,200 250 words / connection | |
| AH20EMC-5A | 32 | | | | <ul style="list-style-type: none"> CPU execution speed: LD instruction @ 0.08 μs | |

Note: Supports DIO(except interrupt module), AIO, MC, PM, HC, COPM and SCM modules in the first stage.

Ordering Information

Accessories

| Products | Descriptions | Models | Specifications | Applicable Modules | Certificates |
|----------|--|---------------|-------------------------------|--|---|
| Cables | Extension cable for connecting extension backplane | AHACAB06-5A | 0.6m | AHBP04M1-5A AHBP06M1-5A AHBP08M1-5A AHBP12M1-5A AHBP06E1-5A AHBP08E1-5A |  |
| | | AHACAB10-5A | 1.0m | | |
| | | AHACAB15-5A | 1.5m | | |
| | | AHACAB30-5A | 3.0m | | |
| | | AHACAB50-5A | 5.0m | | |
| | | AHACABA0-5A | 10.0m | | |
| | | AHACABA5-5A | 15.0m | | |
| | | AHACABB0-5A | 20.0m | | |
| | | AHACABC0-5A | 30.0m | | |
| | | AHACABD0-5A | 40.0m | | |
| | | AHACABE0-5A | 50.0m | | |
| | | AHACABF0-5A | 60.0m | | |
| | | AHACABG0-5A | 70.0m | | |
| | | AHACABH0-5A | 80.0m | | |
| | AHACABJ0-5A | 90.0m | | | |
| | AHACABK0-5A | 100.0m | | | |
| | I/O extension cable for connecting external terminal modules | UC-ET010-24A | 1.0m/MIL | AH32AM10N-5C | |
| | | UC-ET010-24B | 1.0m/MIL (Shielded) | AH32AN02T-5C | |
| | | UC-ET020-24B | 2.0m/MIL (Shielded) | AH32AN02P-5C AH64AM10N-5C AH64AN02T-5C AH64AN02P-5C | |
| | | UC-ET030-24B | 3.0m/MIL (Shielded) | AH32AN02T-5C AH32AN02P-5C | |
| | | UC-ET010-24C | 1.0m/MIL | AH32AN02T-5C | |
| | | UC-ET010-24D | 1.0m/MIL (Shielded) | AH32AN02P-5C | |
| | | UC-ET020-24D | 2.0m/MIL (Shielded) | AH64AN02T-5C | |
| | | UC-ET030-24D | 3.0m/MIL (Shielded) | AH64AN02P-5C | |
| | | UC-ET010-33B | 1.0m/DB37 | AH32AM10N-5B AH32AN02T-5B AH32AN02P-5B | |
| | | UC-ET010-13B | 1.0m/HDC | AH04HC-5A AH20MC-5A AH08EMC-5A AH10EMC-5A AH20EMC-5A | |
| | UC-ET010-15B | 1.0m/HDC | AH10PM-5A AH15PM-5A | | |
| | CANopen/DeviceNet cables | UC-DN01Z-01A | 305.0m (Thick/Trunk Cable) | AH10COPM-5A AH10DNET-5A | |
| | | UC-DN01Z-02A | 305.0m (Thin/Drop Cable) | AHRTU-DNET-5A TAP-CN01 TAP-CN02 TAP-CN03 | |
| | CANopen/DeviceNet/DMCNET cables | UC-CMC003-01A | 0.3m/RJ45 | AH20MC-5A TAP-CN03 | |
| | | UC-CMC005-01A | 0.5m/RJ45 | | |
| | | UC-CMC010-01A | 1.0m/RJ45 | | |
| | | UC-CMC015-01A | 1.5m/RJ45 | | |
| | | UC-CMC020-01A | 2.0m/RJ45 | | |
| | | UC-CMC030-01A | 3.0m/RJ45 | | |
| | | UC-CMC050-01A | 5.0m/RJ45 | | |
| | | UC-CMC100-01A | 10.0m/RJ45 | | |
| | UC-CMC200-01A | 20.0m/RJ45 | | | |
| | New EtherCAT cables | UC-EMC003-02A | 0.3m/RJ45 | AH08EMC-5A AH10EMC-5A AH20EMC-5A | |
| | | UC-EMC005-02A | 0.5m/RJ45 | | |
| | | UC-EMC010-02A | 1.0m/RJ45 | | |
| | | UC-EMC020-02A | 2.0m/RJ45 | | |
| | | UC-EMC050-02A | 5.0m/RJ45 | | |
| | | UC-EMC100-02A | 10.0m/RJ45 | | |
| | UC-EMC200-02A | 20.0m/RJ45 | | | |
| | PROFIBUS cables | UC-PF01Z-01A | 305.0m | AH10PFBM-5A AH10PFBS-5A AHRTU-PFBS-5A | |

Accessories

| Products | Descriptions | Models | Specifications | Applicable Modules | Certificates |
|-------------------------------------|--|----------------------------|--|---|--------------|
| External terminal modules | For digital input modules | UB-10-ID32A | MIL | AH32AM10N-5C AH64AM10N-5C | CE |
| | | UB-10-ID32B | DB37 | AH32AM10N-5B | |
| | | UB-10-OR16A | 16 points relay output (240 V _{AC} /24 V _{DC} , 2A) MIL | AH32AN02T-5C AH64AN02T-5C | |
| | For digital output modules | UB-10-OR16B | 16 points relay output (240 V _{AC} /24 V _{DC} , 2A) MIL | AH32AN02P-5C AH64AN02P-5C | |
| | | UB-10-OR32A | 32 points relay output (240 V _{AC} /24 V _{DC} , 2A) DB37 | AH32AN02T-5B | |
| | | UB-10-OR32B | 32 points relay output (240 V _{AC} /24 V _{DC} , 2A) DB37 | AH32AN02P-5B | |
| | | UB-10-OT32A | Transistor output MIL | AH32AN02T-5C AH32AN02P-5C AH64AN02T-5C AH64AN02P-5C | |
| | | UB-10-OT32B | Transistor output DB37 | AH32AN02T-5B AH32AN02P-5B | |
| | | For motion control modules | UB-10-IO16C | HDC | |
| | UB-10-IO22C | | HDC | AH08EMC-5A AH10EMC-5A AH20EMC-5A | |
| | UB-10-IO24C | | HDC | AH10PM-5A | |
| | UB-10-IO34C | | HDC | AH15PM-5A | |
| | Connectors | PROFIBUS connectors | UN-03PF-01A | 90° connector | |
| UN-03PF-02A | | | 90° connector with programming port | | |
| UN-03PF-03A | | | 180° connector | | |
| Terminal resistors | DMCNET terminal resistors (RJ45) | ASD-TR-DM0008 | | | |
| | CANopen/DeviceNet terminal resistors (RJ45) | TAP-TR01 | | | |
| Distribution box | CANopen/ DeviceNet distribution Box | TAP-CP01 | Power distribution box | | CE |
| | | TAP-CN01 | 1 for 2 | | |
| | | TAP-CN02 | 1 for 4 | | |
| | | TAP-CN03 | 1 for 4 (RJ45) | | |
| Dummy modules | To protect empty slots | AHASP01-5A | | | |
| DIN rail | Used on DIN rail for rack installation | AHADINADP1-5A | | | |
| Fiber optics modules for backplanes | Used for backplane extension via fiber optics (installs at the backplane's lower extension port) | AHAADP01EF-5A | <ul style="list-style-type: none"> Optical fiber connector: SC Supported optical fiber types: multi-modes, 62.5/125 μm or 50/125 μm Optical fiber max. length: 2 km | AHBP04M1-5A AHBP06M1-5A AHBP08M1-5A AHBP12M1-5A AHBP06E1-5A AHBP08E1-5A | CE UL US |
| | Used for backplane extension via fiber optics (installs at the backplane's upper extension port) | AHAADP02EF-5A | | AHBP06E1-5A AHBP08E1-5A | |
| Memory card | SD card: 1 GB | FMC-SD001G | <ul style="list-style-type: none"> Capacity: 1 GB Overwrite: 10,000 times | <ul style="list-style-type: none"> Speed (Read/Write) : Max. 18/15 MB/s Operation temperature: -40 ~ 85°C | |

