

Job Name:

Schedule Reference:

Date:



DC-A2IO Advanced HVAC Controller Package

- PAC-IF01AHC AHC M-Net Adapter
- AL2-14MR-D α2 Simple Application Controller

Accessories

- AL2-2DA Analog Output Expansion Module

Required Field Supplied Parts

- 24 VDC Power Supply
- 17-32 VDC M-NET Communication Power (PAC-SC51KUA M-Net power supply provided with EB-50GU-A Standard Package)
- Sensors and Relays depending on application
- Nema rated enclosure
- Wiring

Compatible Controllers

- EB-50GU-A Centralized Controller
- PAR-U01MEDU-J Remote Controller

Software Required

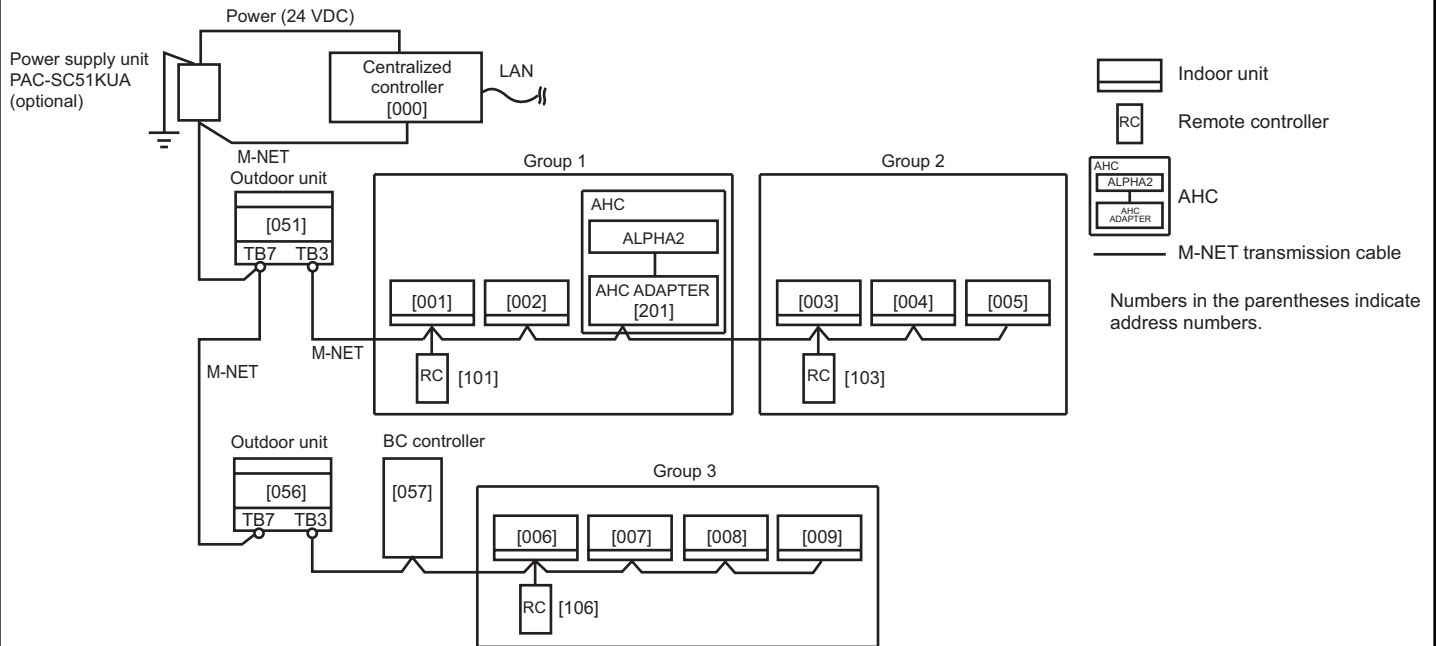
- Maintenance Tool Software Version 5.08 or later (Required for initial settings)
- Alpha 2 custom application programmed by MEUS Controls Engineer
 - Sequence of Operation shall be specified by the end user and programmed by MEUS Controls Engineer (Programming fees may apply).

ADVANCED HVAC CONTROLLER (DC-A2IO) SPECIFICATIONS

- Hardware:
 - 8 Digital or Analog Inputs (Sensor data collected in real-time)
 - 6 Digital Outputs
 - 2 Analog Outputs (Requires AL2-2DA)
- Monitoring and Control:
 - *Up to two groups (16 max indoor units/group)
 - Note: * EB-50GU Central Controller or PAR-U01MEDU Smart ME Remote Controller
 - Analog/digital inputs/outputs (M-Net sensor data collected every 70 seconds)
 - Error status up to 50 indoor units
- Application examples include Interlocking indoor units with third party equipments:
 - Heaters
 - Humidifiers
 - Dehumidifiers
 - Fans
 - Ventilators
 - Valves
 - Pumps
 - Dampers
 - Supply water or air temperature reset
 - Windows and door switches
 - Leak detection
 - Gas monitoring, alarming, and occupancy control.

Model: DC-A2IO Advanced HVAC Controller Package - System Configuration

The figure below only shows the transmission cable connections. Power cables are omitted.



*AHC ADAPTER requires either an outdoor unit or a power supply device as a power source for M-Net communication. In addition, the α2 requires a field supplied 24 VDC power supply

Model: DC-A2IO Advanced HVAC Controller Package - Specifications

PAC-IF01AHC AHC M-Net Adapter

Item		Specifications
Power Supply	M-Net	17–32 VDC
	α2	24 VDC
Interface	M-Net transmission terminal	
	Serial Interface	Exclusively for connection to α2
Ambient conditions	M-Net	Operating temperature range
	Temperature	Storage temperature range
	Humidity	30%–90% RH (Non-condensing)
Dimensions (W x H x D)		116 × 90 × 40 mm [4.57 × 3.54 × 1.57 in]
Weight		0.4 kg [1lb]
Installation conditions		Mounted indoors using a NEMA1 rated metal enclosure or better. * To be used in a business office or similar environment

AL2-14MR-D α2 Simple Application Controller

Item			Power Supply Specifications	
Power Supply			24 VDC, +20% -15%	
Maximum Momentary Power Failure			5ms	
In-rush Current			≤7.0A	
Maximum Power Consumption			7.5 W	
Typical Power Consumption (without Special Connection Modules)			I/O all On - 4.0 W; I/O all Off - 1.0 W	
			DC Input Specification	
			Sink ("–" Common)	Source ("+" Common)
Input Current	Main Unit	I01 - I08	5.5mA, 24V DC	6.0mA, 24 VDC
		I09 - I15		5.5mA, 24 VDC
OFF→ON / ON→OFF	Main Unit	I01 - I15	Current: ≥ 4.7mA / ≤ 1.1 mA Voltage: ≤ 4V / ≥ 18V	Voltage: ≥ 18V / ≤ 4V
Isolation Circuit	Main Unit		None	
			Analog Input Specifications	
Number of Input Points			8 (I01 - I08) : AL2 - 14MR - D	
Analog Input Range			0 - 500	
Resolution			9 bit, 20mV (10V/ 500)	
Conversion Speed			8ms	
Input Voltage			0 -10 VDC	
Input Impedance			142kΩ	
Overall Accuracy			± 5% (0.5 VDC)	
Offset/Gain			Offset Value = 0 at 0 VDC Gain Value: 0 - 10V = 0 - 500 These default values can be changed in the Offset/Gain FB	
Temperature Drift			± 3 LSB	
			Relay Output Specifications	
Maximum Resistive Load			8A/COM	
Contact Life Cycle / Resistance Load			100,000 Cycles at 8 A	
Minimum Load			50mW (10mA at 5 VDC)	
Maximum Inductive Load			249 VA (1/3 hp)	
Response Time			≤ 10 ms	
Operation Indication			Liquid Crystal Display	
Isolation Circuit			By Relay	
			Environmental and Electrical General Specifications	
Programming Method			Function Block	
Program Capacity			200 Function Blocks or 5000 bytes	
Device Backup			20 Days at 25° C / 77° F (by capacitor)	
Operating Temperature			Controller Hardware: (-25) - 55° C / (-13) -131° F Controller Display: (-10) -55° C / 14 - 131° F	
Humidity			35 - 85% Relative Humidity, no condensation	

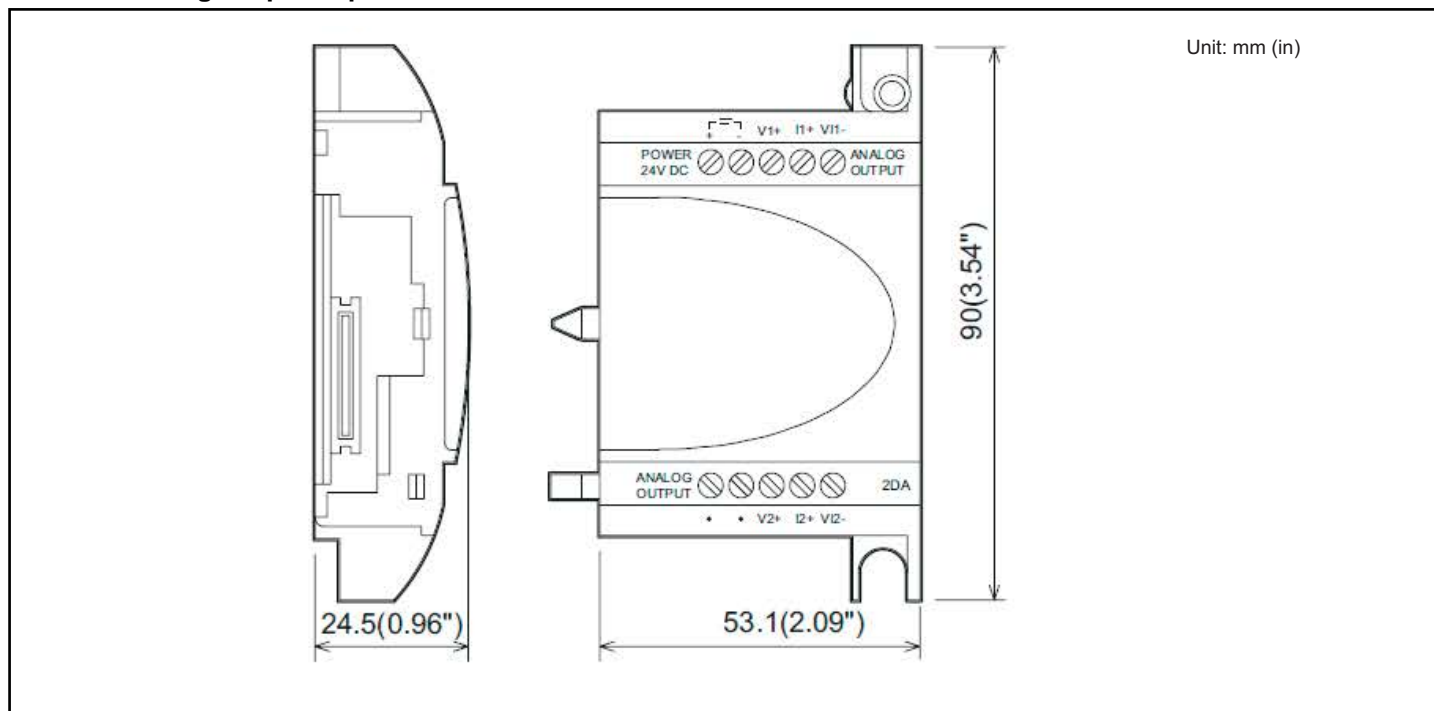
Accessories: **AL2-2DA Analog Output Expansion Module - Specifications**

AL2-2DA Analog Output Expansion Module

Item	Power Specifications	
Integrated Power Supply	Supply from the α2 Main Unit	
External Supply for Analog output	24 VDC	
External Supply for current consumption	70 mA	
	Hardware Specification	
	Voltage	Current
Analog Output Range	0 - 10 VDC (External load resistance 5k - 1M)	4 - 20 mA (External load resistance less than 500→)
Digital Input	0 to 4000	0 to 2000
Resolution	2.5mV (10V / 4000)	8μA ([20-4]mA / 2000)

Accessories: AL2-2DA Analog Output Expansion Module - Dimensions

AL2-2DA Analog Output Expansion Module



Notes: