AI SERIES DIN RAIL MOUNTED INDUSTRIAL CONTROL MODULE

PRODUCT INTRODUCTION

D5 series has mounting width of only 22.5mm. AI-7048D5 is the 4 channels PID temperature controller with narrowest width in the world. DIN rail mounted industrial control module is designed for ten years life at least and three-year warranty. It is widely used in occasions that need to save space, collect data and control temperature. Parameter settings can be set by upper machine or YUDIAN handheld display E8.

TYPICAL APPLICATION

RS485

RS485

RS485

PLC

Used as lower machine for AIDCS intelligent distributed control system, paperless data logger/ touch screen control system and PLC.

MODEL SELECTION AND SPECIFICATIONS

Type	Model	Function Specifications
Single channel PID temperature controller	AI-516D5	0.3%FS measuring accuracy, AIBUS/MODBUS dual communication protocol, modular OUTP optional: SSR, relay, single-phase thyristor zero crossing trigger output, single-phase thyristor phase-shift trigger output(inductive load, resistive load), with one alarm relay output and RS485 communication integrated
	AI-516PD5	based on AI-516D5, 30 segments programmable function is added
	AI-519D5	0.25%FS measuring accuracy, AIBUS/ MODBUS dual communication protocol, modular OUTP optional: SSR, relay, single-phase thyristor zero crossing trigger output, single-phase thyristor phase-shift trigger output(inductive load, resistive load), with one alarm relay output and RS485 communication integrated, with hand-auto switching and soft-start
	AI-526D5	0.25%FS measuring accuracy, AIBUS/ MODBUS dual communication protocol, modular OUTP optional: SSR, relay, single-phase thyristor zero crossing trigger output, single-phase thyristor phase-shift trigger output(inductive load, resistive load), with one alarm relay output and RS485 communication integrated, with heating and cooling dual PID output
	AI-526PD5	based on AI-526D5, 30 segments programmable function is added
Two-channel PID temperature controller	AI-7028D5	2-channel PID temperature controller, two channels input (thermocouple: K, S, E, J, B, N, T, WRe5-WRe26 or two-wire Pt100), two channels control output(SSR voltage output, 12VDC/20mA each loop), with RS485 communication interface and input digital correction and digital filtering function, every channel can have different input specification
Four-channel PID temperature controller	AI-7048D5	4-channel PID temperature controller, four channels input (thermocouple: K, S, E, J, B, N, T, WRe5-WRe26 or two-wire Pt100), four channels control output(SSR voltage output, 12VDC/20mA each loop), with RS485 communication interface and input digital correction and digital filtering function, every channel can have different input specification
10-point switch signal input module	AI–3011D5	used as switch signal input for PC control system, paperless logger and touch screen, and can catch the jump from off to on for 4 channels from to adapt switch button input
18-point relay output module	AI–3013D5	used as switching control output for PC control system, paperless logger and touch screen
Switch signal input/ output combination module	AI-301ME5	used as switch signal and frequency input and relay output for PC control system, paperless logger and touch screen. Up to 10 I/O points, one module supports different input/output signal, more flexible than same type I/O module. (Panel type optional: E5, A, B, C, E, F) See table below for model selection.

ATTENTION: All modules except AI-301ME5 are D5 rail mounted type(installation width: 22.5mm).

PRODUCT INTRODUCTION

AI−301ME5 ☐		☐	☐	☐	☐	☐	Specifications
Channel 1 (M1)	I5						dual channel external switch signal or frequency input
	L0						large volume relay contact output (250VAC/2A) (Chinese brand)
	L2						small volume relay contact output (250VAC/1A) (Omron brand)
	L3						dual channel N/O relay contact output (250VAC/2A) (Chinese brand)
	L4						small volume relay contact output (250VAC/2A) (Omron brand)
Channel 2 (M2)		I5					dual channel external switch signal or frequency input
		L0					large volume relay contact output (250VAC/2A) (Chinese brand)
		L2					small volume relay contact output (250VAC/1A) (Omron brand)
		L3					dual channel N/O relay contact output (250VAC/2A) (Chinese brand)
		L4					small volume relay contact output (250VAC/2A) (Omron brand)
Channel 3 (M3)			I5				dual channel external switch signal or frequency input
			L0				large volume relay contact output (250VAC/2A) (Chinese brand)
			L2				small volume relay contact output (250VAC/1A) (Omron brand)
			L3				dual channel N/O relay contact output (250VAC/2A) (Chinese brand)
			L4				small volume relay contact output (250VAC/2A) (Omron brand)
Channel 4 (M4)				I5			dual channel external switch signal or frequency input
				L0			large volume relay contact output (250VAC/2A) (Chinese brand)
				L2			small volume relay contact output (250VAC/1A) (Omron brand)
				L3			dual channel N/O relay contact output (250VAC/2A) (Chinese brand)
				L4			small volume relay contact output (250VAC/2A) (Omron brand)
Channel 5 (M5)					I5		dual channel external switch signal or frequency input
					L0		large volume relay contact output (250VAC/2A) (Chinese brand)
					L2		small volume relay contact output (250VAC/1A) (Omron brand)
					L3		dual channel N/O relay contact output (250VAC/2A) (Chinese brand)
					L4		small volume relay contact output (250VAC/2A) (Omron brand)
Communication (COMM)						S	RS485 communication interface (occupy internal power supply)
						S4	RS485 communication interface (with isolated power supply)

ATTENTION: AI−301ME5 supports frequency input only when I2 installed in M1.

MODEL SELECTION SPECIFICATION:

AI-301M have 6 module slots. Communication (COMM) is for installing communication module to communicate with computer; M1, M2, M3, M4, M5 can install dual channel switch input module or 1/2 channels relay output module. M1 can install I2 module for frequency input.

MODEL SELECTION：

Example: AI-301ME5I5I5I5L3L3S-24VDC

AI−301M   E5   I5 I5 I5   L3 L3   S   − 24VDC
  ①   ②   ③   ④   ⑤   ⑥

① Main model for instrument is AI-301M, switch signal input/output module.

② Front panel size is E5 48*96*100mm, DIN rail mounted type.

③ I5 module in M1, M2, M3 means 6 channels switch signal input.

④ L3 module in M4 & M5 means 4 channels relay output.

⑤ S module in COMM means instrument supports RS485 communication with PC.

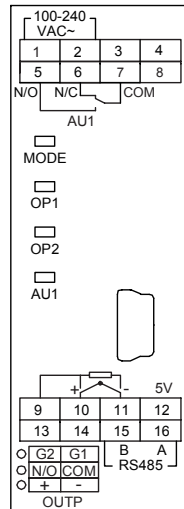⑥ Power supply is 24VDC. If let blank, power supply is 100~240VAC, 50/60Hz.

E8 HANDHELD DISPLAY

- Used for D5/E5 DIN rail mounted series for display and keyboard operation.
- Support hot-plugging.
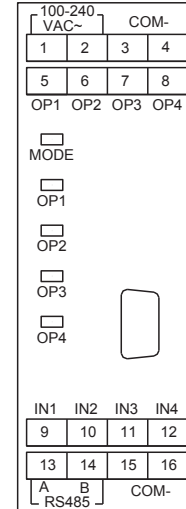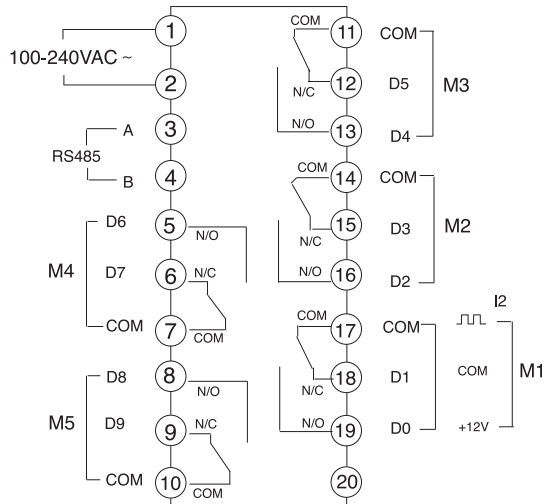- Can be DIN rail mounted or handled operated
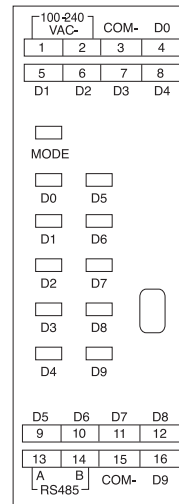
WIRING DIAGRAM

AI-516/516P/519/526/526P

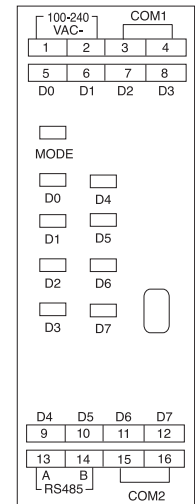
AI-7028D5、AI-7048D5

AI-301ME5 | AI-3011D5 | AI-3013D5

AI-301ME5: M1-M5 is defined by installed module. When single channel relay output module is installed, there will be one channel relay output(NO/NC).