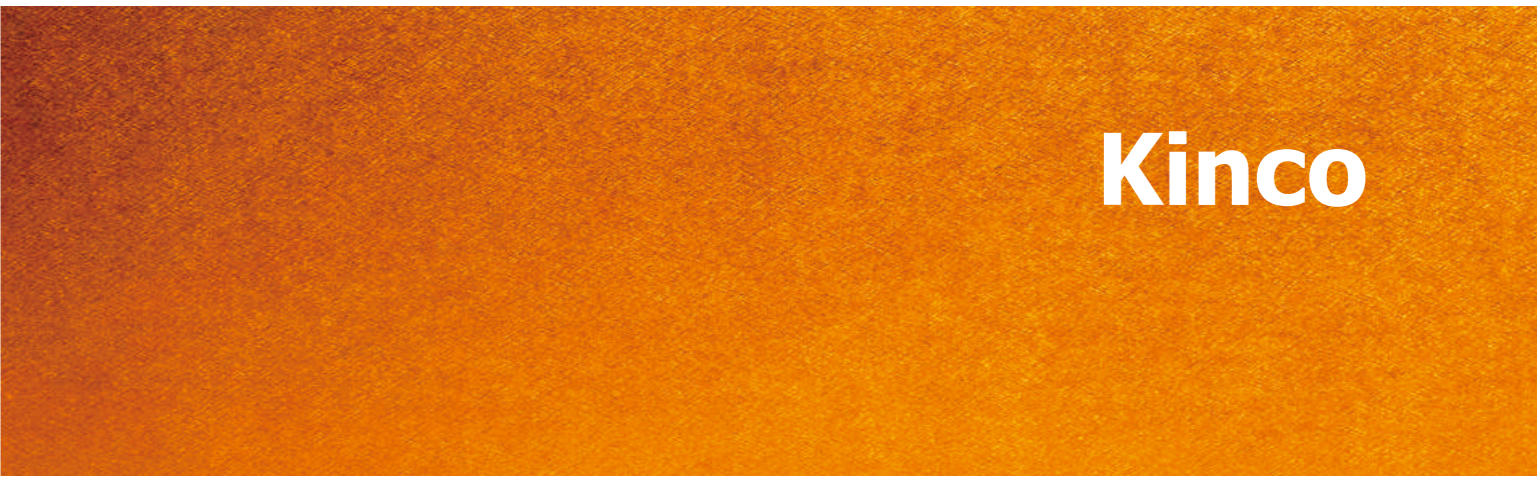


PROVEN PERFORMANCE

Customers in over 50 countries and in diverse markets and sectors.

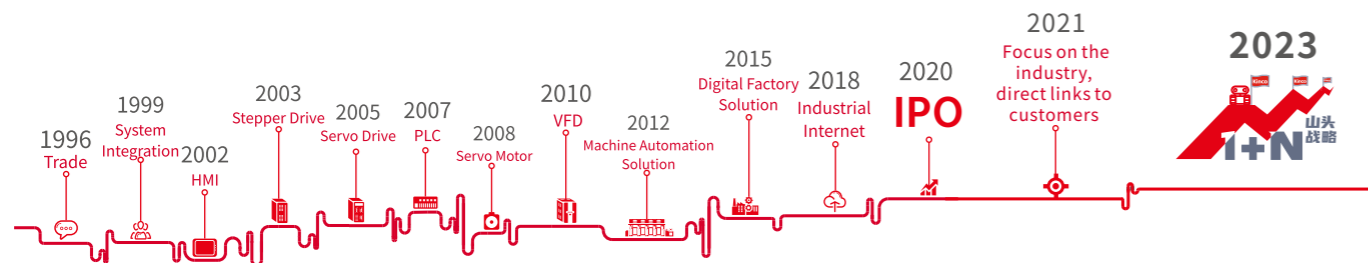


PLC

[Kinco PLC Brochure](#) MK Series Programmable Controller with HMI



About us



Shanghai Kinco Automation Co., Ltd. focuses on R&D, production, sales and technical services of automation standard products and intelligent hardware products, which is a leading supplier of machine automation and intelligent solutions for factories in China.

In 1996, Kinco has been providing total automation solutions for global industrial automation equipment manufacturers by relying on standard automation products such as HMI, servo system, stepping system, PLC, low-voltage inverter, etc. to penetrate into the industry, making China's automation solutions prevail all over the world. The company's HMI products have led the wave of HMI popularization in China, and its market share has maintained a leading position among local brand manufacturers for many years.

With the mission of "Making China's manufacturing become the top manufacturing in the world", Kinco company insists on investing a large amount of resources in the research and development of automated technology platforms, and sets up R&D facilities in Shanghai, Shenzhen and Changzhou. Kinco company has an automated technology platform that covers all aspects of control, drive, human-machine interaction, communication and electromechanical integration design. In the field of machine automation, Kinco focuses on the industry and has developed special solutions for logistics automation, service robots, medical instruments, professional drones, 3C machine tools, ozone and other industries.

In the field of smart factory, Kinco provides customers with the most easy-to-implement smart factory solutions for manufacturing companies at the field implementation level, PLC control and communication level, Scada and system integration level, and MES management level through its comprehensive automation technology platform and software system developed for smart factory.

With the vision of "creating a better life intelligently" and adhering to the values of "maintain conscience in growth and hold ingenuity in innovation", Kinco is a platform to help employees maximize their creative potential and a partner to help customers succeed in innovative management. We develop products and operate businesses with innovative thinking and practical spirit, adhere to ideals, and expect human creativity to make the world more wonderful.



MK Series Programmable Controller with HMI

Overview

The MK series products are high-performance offerings from Kinco, integrating the three advantageous technologies of HMI, PLC, and IoT.

The MK series products are jointly developed on a new MCU platform, integrating the Dtools software, the KincoBuilder software and the M-IoT technology platform. They offer rich remote operation features such as remote upload/download program, remote transparent PLC communication, VNC monitoring, and device management, providing greater value to a broad range of users.

Features:

Display Section(HMI)

- M-IoT: Support remote operation functions such as upload/download program, remote transparent communication(PLC), VNC monitoring, device management, etc.
- Enhanced Hardware: Industrial-grade CPU with 700MHz main frequency, 128MB Flash + 64MB DDR2 large capacity storage, support Dtools programming software.
- Standard with Ethernet interface: Simultaneously support USB extended storage, making it convenient to connect more peripherals..

Logic Control Section(PLC):

- Expansion: Support the expansion of 8 KS modules, with options for expanding digital I/O, analog I/O, etc.
- 4 high-speed input channels: The highest frequency is 50kHz, supporting single-phase dual-phase (Up/Down), AB phase counting modes.
- 4 high-speed pulse outputs: Support PTO and PWM modes.
- 2 RS485(PORT1 and PORT2): Support communication rates up to 115.2kbps.
- Optional CAN Functionality: Optional support for Kinco motion control, CANopen master station, or free communication functions.

Specifications of MK Series Product

Standard Series(PLC Section)

Standard Series			
Model	MK070E-33DT	MK070E-32DX	MK043E-20DT
Power Supply			
Rated Power Supply	DC24V	DC24V	DC24V
Voltage Range	DC20.4V ~ DC 28.8V	DC20.4V ~ DC28.8V	DC20.4V ~ DC28.8V
Maximum Power	≈10W	≈10W	≈8W
PLC Section			
Built-in DI/DO	DI 16*DC24V(NPN/PNP) DO 14*DC24V(PNP)	DI 16*DC24V(NPN/PNP) DO 4*DC24V(PNP)+12*Relay	DI 9*DC24V(NPN/PNP) DO 9*DC24V(PNP)
Built-in AI/AO	2*AI, 1*AO Support 4-20mA/1-5V/0-20mA/ 0-10V	None	2*AI Support 0-10V
Expansion	Support up to 8 KS modules		
Program Download	USB SLAVE(USB-B)/RS485(PORT1)		
CAN	1 channel Kinco motion control,Free communication	1 channel CANopen master,Free communication	1 channel Free communication
	*The Kinco motion control function and CANopen master function cannot be used simultaneously with the expansion function.		
Serial Port	2*RS485(PORT1/PORT2), support communication rates up to 115.2kbps PORT1 :programming protocol, Modbus RTU master/slave、free communication PORT2 : Modbus RTU master/slave、free communication		
High-speed Inputs	4 channels, support single-phase, dual-phase UP/DOWN, and AB phase mode, support a maximum frequency of 50kHz.		
High-speed Outputs	4 channels	2 channels	4 channels
	Q0.0, Q0.1, Q0.4 :Support a maximum frequency of 50kHz (the load resistance should not exceed 3kΩ when used at the highest frequency). Q0.5 : Support a maximum frequency of 10kHz.		
Interrupts	4(I0.0-I0.3), supporting both rising and falling edge interrupts		
Program Capacity	4k instructions		
Data Capacity	M Area: 1k bytes V Area: 4k bytes		
Data Backup	E2PROM, 448 bytes		
Data Retention	V Area: VB0-VB1907, total 1908 bytes C Area: C0-C63 Lithium battery ,Battery lifetime: 3 years typical, at 25°C		
RTC	Built-in real-time clock, with an error of less than 5 minutes per month at 25°C.		
Configuration Software	KincoBuilder		

Specifications of MK Series Product

Standard Series(HMI Section)

Standard Series			
Model	MK070E-33DT	MK070E-32DX	MK043E-20DT
HMI Section			
LCD Size	7" TFT	7" TFT	4.3" TFT
Resolution	800*480	800*480	480*272
Color Depth	256k	256k	256k
Brightness	250cd/m2	250cd/m2	400cd/m2
Backlight	LED	LED	LED
Touch Screen	4-Wire Precision resistive network (Surface Hardness 4H)	4-Wire Precision resistive network (Surface Hardness 4H)	4-Wire Precision resistive network (Surface Hardness 4H)
LCE Lifespan	50000h	50000h	50000h
CPU	700MHz RISC	700MHz RISC	700MHz RISC
Serial Port	None	None	None
Ethernet	10M/100M Adaptive	10M/100M Adaptive	10M/100M Adaptive
Memory	128MB Flash + 64MB DDR2	128MB Flash + 64MB DDR2	128MB Flash + 64MB DDR2
Recipe Memory	256KB + RTC	256KB + RTC	256KB + RTC
Expansion Memory	USB HOST(USB-A)	USB HOST(USB-A)	USB HOST(USB-A)
Program Download	USB SLAVE(USB-B)/Ethernet/ USB HOST(USB-A)	USB SLAVE(USB-B)/Etherne/ USB HOST(USB-A)	USB SLAVE(USB-B)/Etherne/ USB HOST(USB-A)
Printing Port	USB SLAVE(USB-B)	USB SLAVE(USB-B)	USB SLAVE(USB-B)
Configuration Software	DTools + EdgeAccess + MIoT		
Outer Dimensions	204*150*33.9 mm	204*150*33.9 mm	132*102*31.5 mm
Installation Dimensions	192*138 mm	192*138 mm	119*93 mm
Certification			
CE Certification	√	√	√

Enhanced Series (PLC Section)

Enhanced Series			
Model	MK070E-27DRT	MK043E-20DTC	MK043E-27DT
Power Supply			
Rated Power Supply	DC24V	DC24V	DC24V
Voltage Range	DC20.4V ~DC 28.8V	DC20.4V ~ DC28.8V	DC20.4V ~ DC28.8V
Maximum Power	≈10W	≈8W	≈8W
PLC Section			
Built-in DI/DO	DI 12*DC24V(NPN/PNP) DO 12*Relay	DI 9*DC24V(NPN/PNP) DO 9*DC24V(PNP)	DI 10*DC24V(NPN/PNP) DIO 4*DC24V
Built-in AI/AO	3*RD Support Pt100 type, measuring temperature in the range of -40°C to 240°C	2*TC Support J/K/E/T types	DO 10*DC24V(PNP) 2*AI, 1*AO Support 4-20mA/1-5V/0-20mA/0-10V
Expansion	Support up to 8 KS modules		
Program Download	USB SLAVE(USB-B)/RS485(PORT1)	USB SLAVE(USB-B)/RS485(PORT1)	USB SLAVE(USB-C)/RS485(PORT1)
CAN	1 channel Free communication	1 channel Free communication	1 channel Kinco motion control, Free communication
	*The Kinco motion control function and CANopen master function cannot be used simultaneously with the expansion function.		
Serial Port	2*RS485(PORT1/PORT2), support communication rates up to 115.2kbps PORT1 :programming protocol, Modbus RTU master/slave, free communication PORT2 : Modbus RTU master/slave, free communication		
High-speed Inputs	4 channels, support single-phase, dual-phase UP/DOWN, and AB phase mode, support a maximum frequency of 50kHz.		
High-speed Outputs	4 channels	4 channels	4 channels
	Q0.0, Q0.1, Q0.4 :Support a maximum frequency of 50kHz (the load resistance should not exceed 3kΩ when used at the highest frequency). Q0.5 : Support a maximum frequency of 10kHz.		
Interrupts	4(I0.0-I0.3), supporting both rising and falling edge interrupts		
Program Capacity	4k instructions		
Data Capacity	M Area:1k bytes V Area:4k bytes		
Data Backup	E2PROM, 448 bytes		
Data Retention	V Area:VB0-VB1907, 1908 bytes C Area:C0-C63 Lithium battery ,Battery lifetime: 3 years typical, at 25°C		
RTC	Built-in real-time clock, with an error of less than 5 minutes per month at 25°C.		
Configuration Software	KincoBuilder		

Enhanced Series (HMI Section)

Enhanced Series			
Model	MK070E-27DRT	MK043E-20DTC	MK043E-27DT
HMI Section			
LCD Size	7" TFT	4.3" TFT	4.3" TFT
Resolution	800*480	480*272	480*272
Color Depth	256k	256k	256k
Brightness	250cd/m2	400cd/m2	400cd/m2
Backlight	LED	LED	LED
Touch Screen	4-Wire Precision resistive network (Surface Hardness 4H)	4-Wire Precision resistive network (Surface Hardness 4H)	4-Wire Precision resistive network (Surface Hardness 4H)
LCE Lifespan	50000h	50000h	50000h
CPU	700MHz RISC	700MHz RISC	700MHz RISC
Serial Port	None	None	1*RS232(COM2)
Ethernet	10M/100M Adaptive	10M/100M Adaptive	10M/100M Adaptive
Memory	128MB Flash + 64MB DDR2	128MB Flash + 64MB DDR2	128MB Flash + 64MB DDR2
Recipe Memory	256KB + RTC	256KB + RTC	256KB + RTC
Expansion Memory	USB HOST(USB-A)	USB HOST(USB-A)	USB HOST(USB-A)
Program Download	USB SLAVE(USB-B)/Ethernet/ USB HOST(USB-A)	USB SLAVE(USB-B)/Ethernet/ USB HOST(USB-A)	USB SLAVE(USB-C)/Ethernet/ USB HOST(USB-A)
Printing Port	USB SLAVE(USB-B)	USB SLAVE(USB-B)	USB SLAVE(USB-C)
Configuration Software	DTools + EdgeAccess + MIoT		
Outer Dimensions	204*150*33.9 mm	132*102*31.5 mm	132*102*45.42 mm
Installation Dimensions	192*138 mm	119*93 mm	119*93 mm
Certification			
CE Certification	√	√	√

Basic Series(PLC Section)

Basic Series		
Model	MK070C-33DT	MK043C-20DT
Power Supply		
Rated Power Supply	DC24V	DC24V
Voltage Range	DC20.4V ~ DC 28.8V	DC20.4V ~ DC28.8V
Maximum Power	≈10W	≈8W
PLC Section		
Built-in DI/DO	DI 16*DC24V(NPN/PNP) DO 14*DC24V(PNP)	DI 9*DC24V(NPN/PNP) DO 9*DC24V(PNP)
Built-in AI/AO	2*AI, 1*AO Support 4-20mA/1-5V/0-20mA	2*AI Support 0-10V
Expansion	None	
Program Download	USB SLAVE(USB-B)	USB SLAVE(USB-B)
CAN	None	
Serial Port	1*RS485(PORT1), support communication rates up to 115.2kbps PORT1 :programming protocol, Modbus RTU master/slave, free communication	
High-speed Inputs	4 channels, support single-phase, dual-phase UP/DOWN, and AB phase mode, support a maximum frequency of 50kHz.	
High-speed Outputs	Q0.0, Q0.1, Q0.4 :Support a maximum frequency of 50kHz (the load resistance should not exceed 3kΩ when used at the highest frequency). Q0.5 : Support a maximum frequency of 10kHz.	
Interrupts	4(I0.0-I0.3), supporting both rising and falling edge interrupts	
Program Capacity	4k instructions	
Data Capacity	M Area: 1k bytes V Area: 4k bytes	
Data Backup	E2PROM, 448 bytes	
Data Retention	V Area: VB0-VB1907, 1908 bytes C Area: C0-C63 Lithium battery ,Battery lifetime: 3 years typical, at 25°C	
RTC	Built-in real-time clock, with an error of less than 5 minutes per month at 25°C.	
Configuration Software	KincoBuilder	

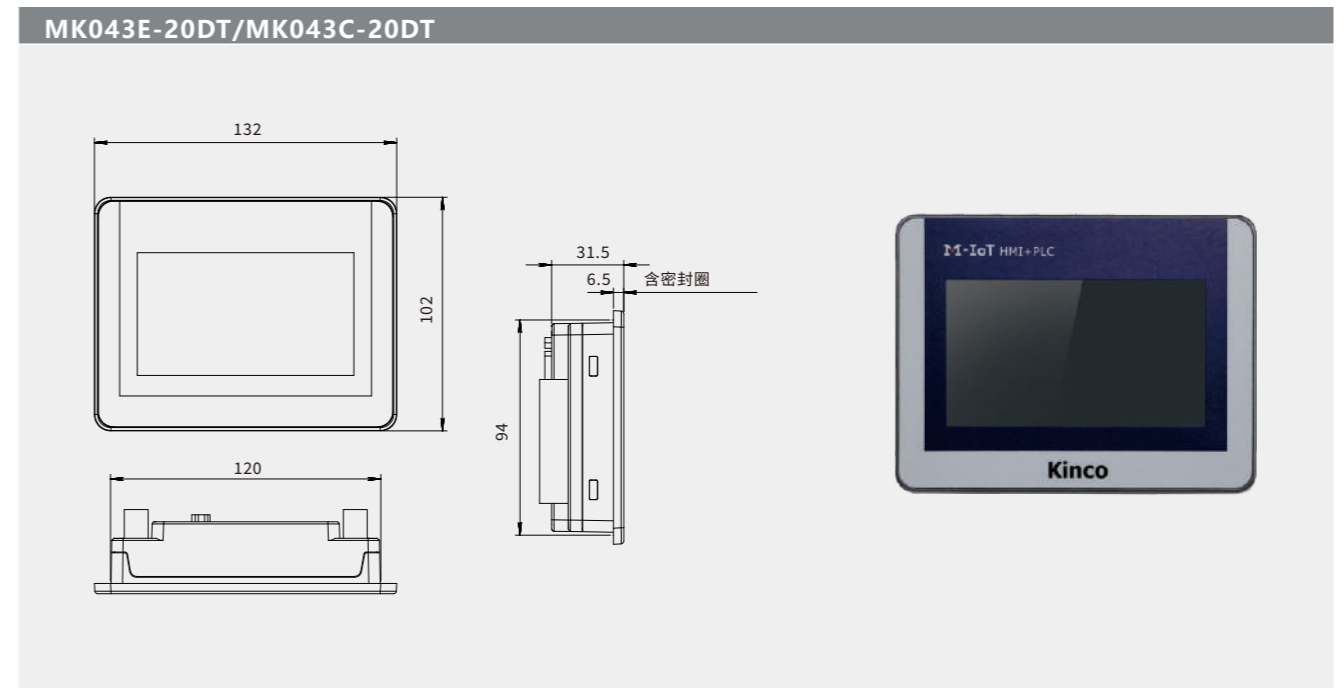
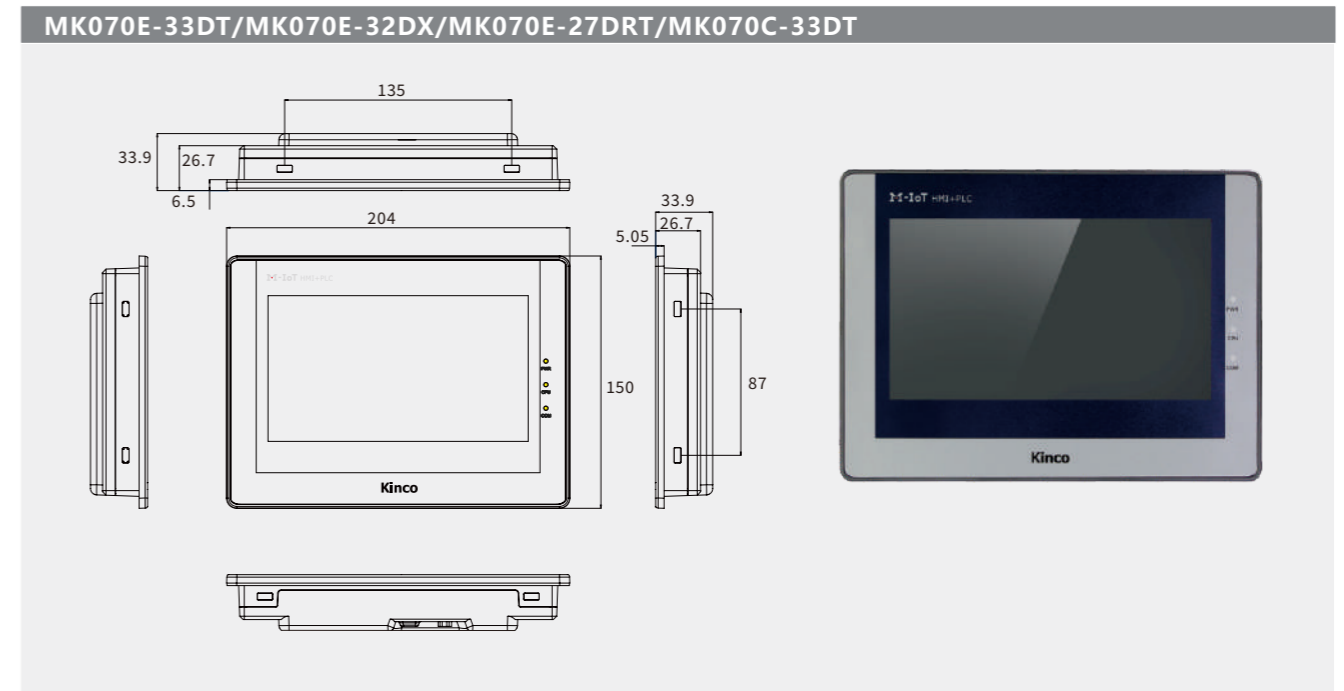
Basic Series(HMI Section)

Basic Series		
Model	MK070C-33DT	MK043C-20DT
HMI Section		
LCD Size	7" TFT	4.3" TFT
Resolution	800*480	480*272
Color Depth	256k	256k
Brightness	250cd/m2	400cd/m2
Backlight	LED	LED
Touch Screen	4-Wire Precision resistive network (Surface Hardness 4H)	4-Wire Precision resistive network (Surface Hardness 4H)
LCE Lifespan	50000h	50000h
CPU	700MHz RISC	700MHz RISC
Serial Port	None	None
Ethernet	None	None
Memory	128MB Flash + 64MB DDR2	128MB Flash + 64MB DDR2
Recipe Memory	256KB + RTC	256KB + RTC
ExpansionMemory	USB HOST(USB-A)	USB HOST(USB-A)
Program Download	USB SLAVE(USB-B)/USB HOST(USB-A)	USB SLAVE(USB-B)/USB HOST(USB-A)
Printing Port	USB SLAVE(USB-B)	USB SLAVE(USB-B)
Configuration Software	DTools>(*The economic series does not support IoT functionality.)	
Outer Dimensions	204*150*33.9 mm	132*102*31.5 mm
Installation Dimensions	192*138 mm	119*93 mm
Certification		
CE Certification	√	√

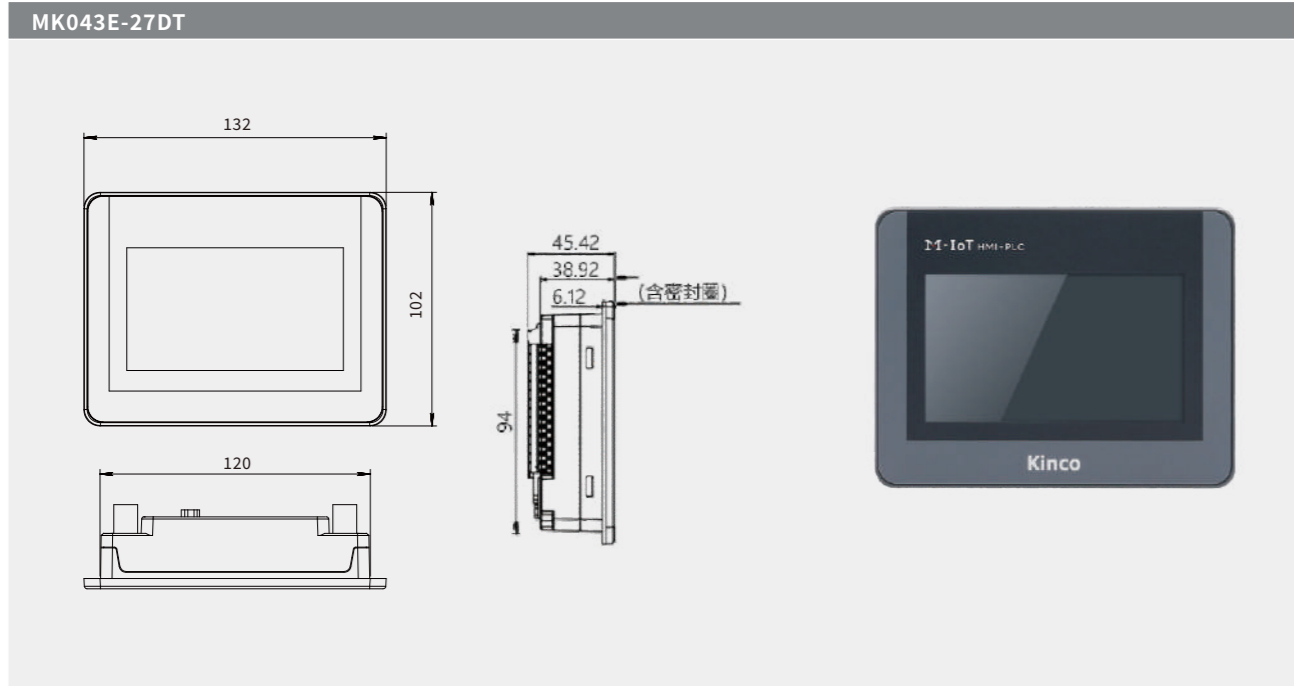
Quick Selection List

Quick Selection List		
Type	Module	Description
Standard Series	MK070E-33DT	Powered by DC24V, 1*USB SLAVE (USB-B, shared by PLC and HMI), supporting programming protocols; PLC Section: DI 16*DC24V (NPN/PNP), DO 14*DC24V (PNP), AI 2*IV, AO 1*IV, 2*RS485, 1*Expansion interface (support up to 8 KS modules); HMI Section: 7" TFT, 1*USB HOST (USB-A), 1*Ethernet interface, supports M-IoT functionality.
	MK070E-32DX	Powered by DC24V, 1*USB SLAVE (USB-B, shared by PLC and HMI), supporting programming protocols; PLC Section: DI 16*DC24V (NPN/PNP), DO 4*DC24V (PNP)+12*Relay, 2*RS485, 1*Expansion interface (support up to 8 KS modules); HMI Section: 7" TFT, 1*USB HOST (USB-A), 1*Ethernet, supports M-IoT functionality.
	MK043E-20DT	Powered by DC24V, 1*USB SLAVE (USB-B, shared by PLC and HMI), supporting programming protocols; PLC Section: DI 9*DC24V, DO 9*Relay, AI 2*Vol tage, 2*RS485, 1*Expansion interface (support up to 8 KS modules); HMI Section: 4.3" TFT, 1*USB HOST (USB-A), 1*Ethernet, supports M-IoT functionality.
Enhanced Series	MK043E-27DT	Powered by DC24V, 1*USB SLAVE (USB-C, shared by PLC and HMI), supporting programming protocols; PLC Section: DI 10*DC24V (NPN/PNP), DO 10*DC24V (PNP), DIO 4*DC24V, AI 2*IV, AO 1*IV, 2*RS485, 1*Expansion interface (support up to 8 KS modules); HMI Section: 4.3" TFT, 1*USB HOST (USB-A), 1*RS232 (COM2), 1*Ethernet, supports M-IoT functionality.
	MK043E-20DTC	Powered by DC24V, 1*USB SLAVE (USB-B, shared by PLC and HMI), supporting programming protocols; PLC Section: DI 9*DC24V (NPN/PNP), DO 9*DC24V (PNP), AI 2*TC (Supports J/K/E/T type thermocouples, with optional internal and external cold junction compensation), 2*RS485, 1*Expansion interface (support up to 8 KS modules); HMI Section: 4.3" TFT, 1*USB HOST (USB-A), 1*Ethernet, supports M-IoT functionality.
	MK070E-27DRT	Powered by DC24V, 1*USB SLAVE (USB-B, shared by PLC and HMI), supporting programming protocols; PLC Section: DI 12*DC24V (NPN/PNP), DO 12*DC24V (PNP), AI 3*RD (support Pt100 type, measuring temperature in the range of -40°C to 240°C), 2*RS485, 1*Expansion interface (support up to 8 KS modules); HMI Section: 7" TFT, 1*USB HOST (USB-A), 1*Ethernet, supports M-IoT functionality.
Basic Series	MK070C-33DT	Powered by DC24V, 1*USB SLAVE (USB-B, shared by PLC and HMI), supporting programming protocols; PLC Section: DI 16*DC24V (NPN/PNP), DO 14*DC24V (PNP), AI 2*IV, AO 1*IV, 1*RS485; HMI Section: 7" TFT, 1*USB HOST (USB-A).
	MK043C-20DT	Powered by DC24V, 1*USB SLAVE (USB-B, shared by PLC and HMI), supporting programming protocols; PLC Section: DI 9*DC24V (NPN/PNP), DO 9*DC24V (PNP), AI 2*Vol tage, 1*RS485; HMI Section: 4.3" TFT, 1*USB HOST (USB-A). No M-IoT Functionality.
Quick Selection List		
Expansion module	KS122-12XR	DC 20.4V~28.8V, DO 12*Relay, can communicate as a modbus slave
	KS123-14DR	DC 20.4V~28.8V, DI 8*DC 24V, DO 6*Relay, can communicate as a modbus slave
	KS133-06IV	DC 20.4V~28.8V, AI*4 + AO *2, 4~20mA/1~5V/0~20mA/0~10V, can communicate as a modbus slave
	KS121-16DX	DC 20.4V~28.8V, DI 16* DC24V, can communicate as a modbus slave
	KS122-14DT	DC 20.4V~28.8V, DO 14* DC24V (PNP), can communicate as a modbus slave
	KS131-04RD	DC 20.4V~28.8V, RTD*4, Pt100/Cu50/Pt1000/resistance, two-wire/three-wire, can communicate as a modbus slave

Dimensional Drawing (Unit:mm)



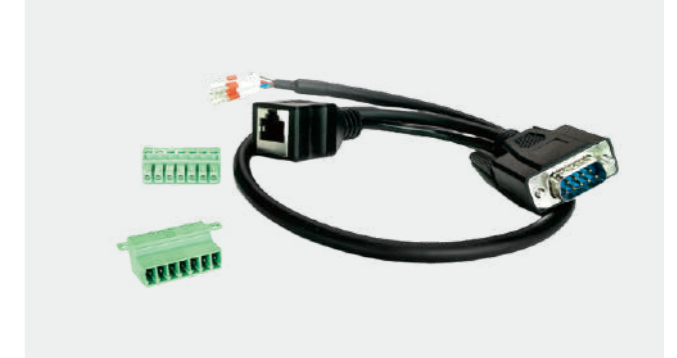
Dimensional Drawing (Unit:mm)



MKC-C050S

Hybrid Cable (COM+Exp/CAN)
 - DB9 (male) → RJ45 (female) +
 7-core cable (with a set of 7PIN mating connectors)
 - CATE Shielded Cat5e Cable, Black, 24AWG, Total Length: 160±10mm
 - UL2464 26AWG Shielded Cable with Wire Numbering
 Tubes and Cylindrical Terminals, Total Length: 510±15mm

MKC-C050S			
	Communication	Label	Color
COM	RS485 (Port1)	A1	Green
		B1	Brown
	RS485 (Port2)	A2	Violet
		B2	Orange
	RS232 (Port0)	TX	Blue
		RX	Red
		GND	Yellow
RJ45(female)	CAN/Expansion		



MKC-X050S

Serial Cable
 - DB9 (male) → 7-core cable (with a set of 7PIN mating connectors)
 - UL2464 26AWG Shielded Cable with Wire Numbering Tubes and
 Cylindrical Terminals, Total Length: 510±15mm

MKC-X050S			
	Communication	Label	Color
COM	RS485 (Port1)	A1	Green
		B1	Brown
	RS485 (Port2)	A2	Violet
		B2	Orange
	RS232 (Port0)	TX	Blue
		RX	Red
		GND	Yellow



MKC-C000S

Expansion Cable (Exp/CAN)
 - DB9 (male) - RJ45 (female)
 - CATE Shielded Cat5e Cable, Black, 24AWG, Total Length 160±10mm

MKC-C000S	
RJ45(female)	CAN/Expansion

