

TK series HMI User Manual

Thank you for purchasing Coolmay TK series HMI. This manual provides instructions of product characteristics, general specifications, hardware interface and software settings, etc. Detailed programming, please refer to "Coolmay TK series HMI Programming User Manual" TK series HMI main features:

- 1、Resistive touch panel with high precision and reliability
- 2、60,000 TFT true color display, all series support vertical display
- 3、Supports any-format static images and GIF animation
- 4、Supports all fonts in Windows
- 5、Provide a large number of vector libraries and component libraries
- 6、Button sound and alarm sound can be set by yourself
- 7、Convenient drawing components and full-featured editing components allow users to quickly design screens at will
- 8、Multi-language, support to display multiple languages in the same screen, and have the function of translator
- 9、Multiple communication protocols, support each communication port to connect with multiple controllers

Product Information

◆ Naming Rules TK 6070 FH - WIFI
① ② ③ ④ ⑤

- 1、Coolmay product series TK Series HMI
- 2、Version TK Series : 32bit CPU 408MHz
- 3、HMI size 37: 3.5inch 43: 4.3inch 50: 5inch 70: 7inch 100: 10inch
- 4、Version and cutout Fh: basic version Hd: high resolution version (1024*600) KFh: cutout size is different from FH series
- 5、WiFi Except for 3.5inch, other sizes can be added WIFI (will occupy RS485)

◆ Specifications and parameters

Diagram 1 TK series

Model	TK6037FH	TK6043FH	TK6050FH	TK6070FH/HD	TK6070KFH	TK6100FH
Display panel	3.5" TFT LCD	4.3" TFT LCD	5.0" TFT LCD	7.0" TFT LCD	7.0" TFT LCD	10.1" TFT LCD
Resolution	320*240	480*272	800*480	800*480/1024*600	800*480	1024*600
Dimension	88*88*25	134*102*34	151*96*36	200*146*36	226*163*35.6	275*194*36
cut-out size	72*72mm	120*94mm	143*86mm	192*138mm	217*154mm	262*180mm
Display	73*56mm	97*56mm	108*65mm	154*87mm	154*87mm	222*125mm
Power consumption	42mA/24V	72mA/24V	85mA/24V	107mA/24V	110mA/24V	145mA/24V
weight	0.3kg	0.33kg	0.33kg	0.54kg	0.6kg	0.7kg
Brightness	300cd/m ²	400cd/m ²	300cd/m ²			
ROM	NOR Flash 8MB		NOR Flash 16MB			
RAM	64MB					
CPU	32bit CPU 408MHz					
com ports	Comes with 1 RS232, 1 RS485; except TK6037FH, others can be added WIFI (occupied Rs485)					
color	65536 true color					
Power	12-24VDC ±10% <150mA@24VDC					
Backlight type	LED					
Backlight life	60000 hours					
Shell material	ABS+PC	PET+PC		ABS+PC		
Electric stress test	500VAC 1 min					
IP level	Ip65 (front panel)					
Environmental Temp	0~50°C					
Environmental Humidity	20~90%RH					
Storage Temp	-20~70°C					
Cooling	Natural cooling					
Contrast	400:1					
Allow power down	within 20ms					
Calendar	Yes					
System diagnosis	Power effect test					
Certificate	CE					
FCC	Conform to FCC Class A					
Anti interference test	1500Vp-p, pulse period 1μs, continue 1s					
Quakeproof test	10-25Hz (X Y Z direction 2G 30mins)					
Insulation resistance	More than 10MΩ@500VDC					
Touch panel programming software	4-wire resistance panel mView 1.39					

Mechanical Design

◆ Mounting Size

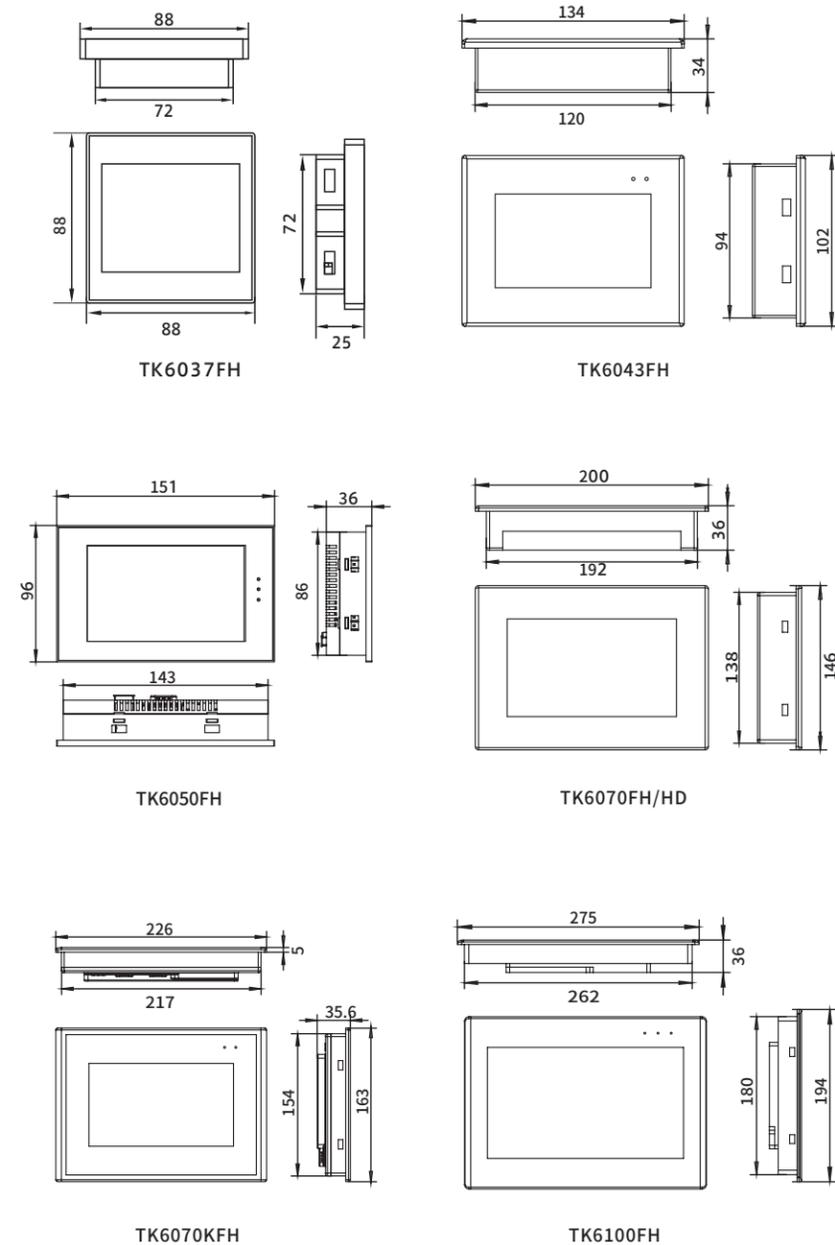


Diagram 1 Mounting size

Diagram 2 Mounting size

Model	Mounting Size		Dimension W*H*D(mm)
	A(mm)	B(mm)	
TK6037FH	72	72	88*88*25
TK6043FH	120	94	134*102*34
TK6050FH	143	86	151*96*36
Tk6070FH/HD	192	138	200*146*36
TK6070KFH	217	154	226*163*35.6
TK6100FH	262	180	275*194*36

※ More specification can be customized.

Electrical Design

◆ Apperance

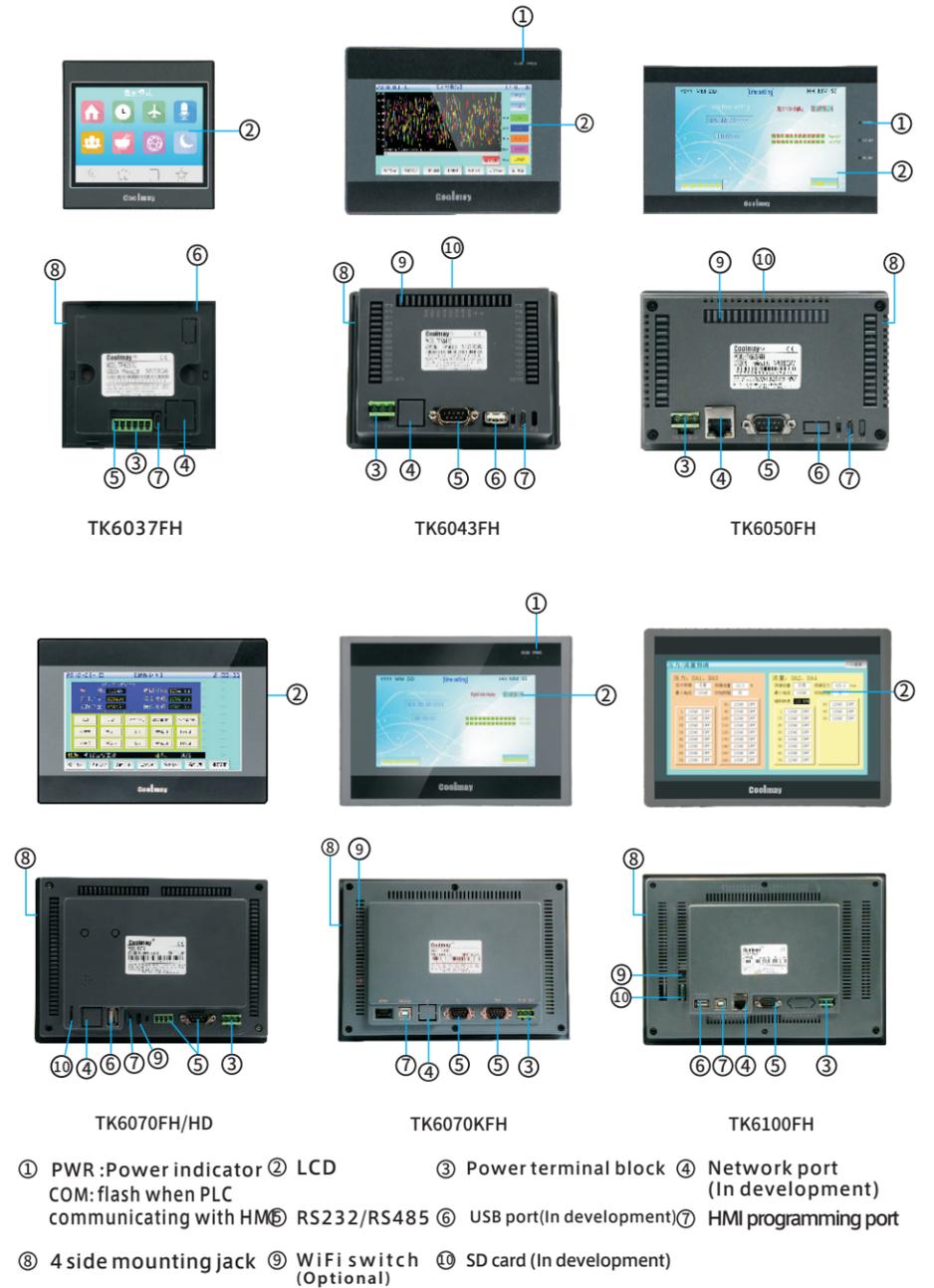
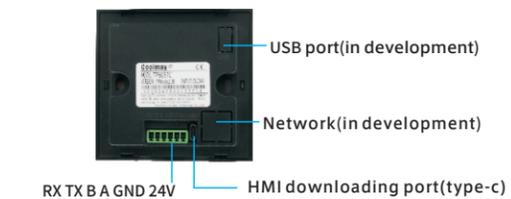


Diagram 2 Product Structure

◆ Hardware Interface

TK6037FH

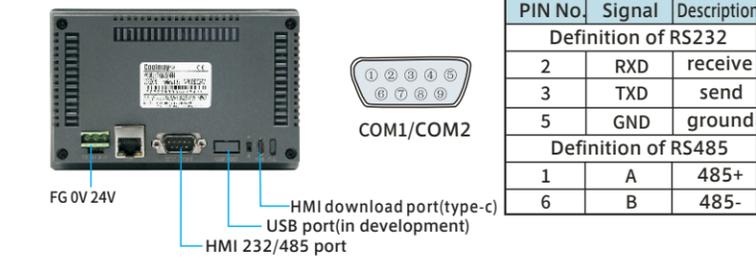


PIN NO.	Description
Definition of RS232	
RXD	Receive
TXD	Send
GND	Ground/DC24V-
Definition of RS485	
A	485+
B	485-
DC24V Power supply	
24V	DC24V+
GND	Ground/DC24V-

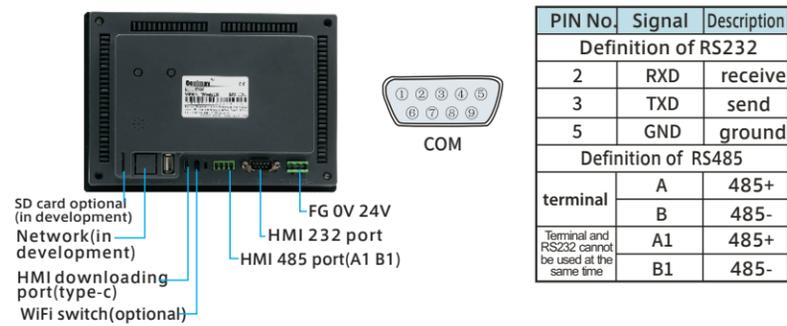
TK6043FH



TK6050FH



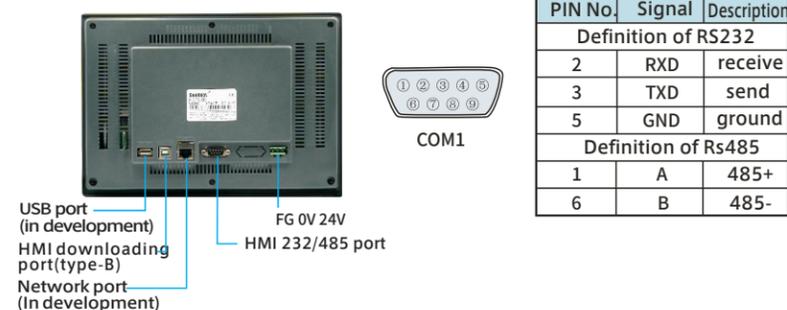
TK6070FH/HD



TK6070KFH



TK6100FH



Instructions of HMI connecting with all brand PLC

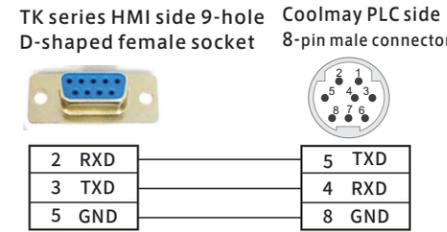
1. Coolmay CX series

Rs232 connect:

1) TK software setting

parameter	setting
PLC type	CoolMay PLC(3U/3G)/FX3U
com port type	RS232
Data bits	7
Stop bits	1
Sync check	Even parity
Communication rate	9600

2) Wiring diagram TK with Coolmay CX series PLC RS232 using "CX2N downloading cable"

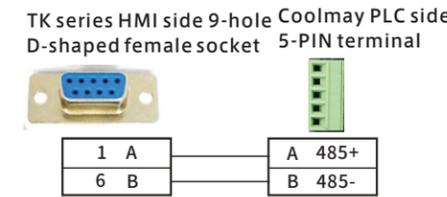


Rs485 connect:

1) TK software setting

parameter	setting
PLC type	CoolMay PLC(3U/3G)/FX3U
com port type	RS485
data bits	7
Stop bits	1
Sync check	Even parity
Communication rate	9600

2) TK and Coolmay CX series PLC Rs485 communication diagram



Note: TK6037FH Communication cables configuration:

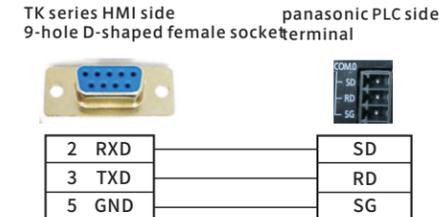
- used for communication with Coolmay FX3GC series/FX2NC series/DX2N series/Mitsubishi PLC" and DX2N(FX2NC) PLC communication customized cable";
- used for communication with Coolmay CX3G series/CX2N series/DCX2N series PLC" and CX2N PLC communication customized cable

2 Matsushita Fp series

1) TK software setting

parameter	setting
PLC type	Matsushita FP Series
com port type	RS232
data bits	8
stop bits	1
Sync check	Odd parity
communication rate	9600

2) TK and panasonic series PLC communication connection diagram

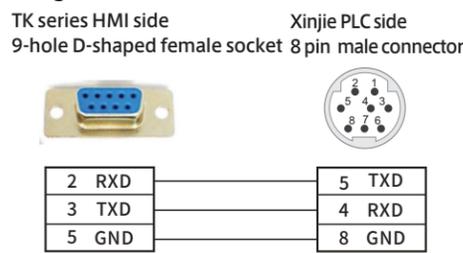


3. Xinjie PLC series

1) TK software setting

parameter	setting
PLC type	Xinjie PLC Series
com port type	RS232
data bits	8
Stop bits	1
sync check	Even parity
communication rate	19200

2) TK with Xinjie series PLC communication diagram

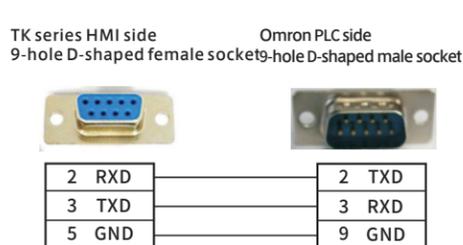


4. Omron C series

1) TK software setting

parameters	setting
plc type	Omron C Series
com port type	RS232
data bits	7
stop bits	2
sync check	Odd parity
communication rate	9600

2) TK with Omron series PLC communication diagram

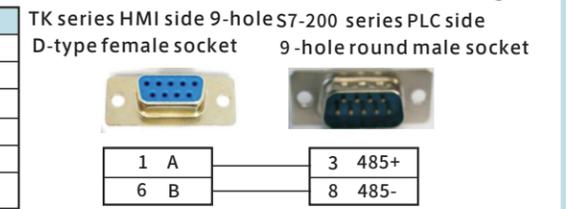


5. Siemens S7-200 series

1) TK software setting

parameter	setting
PLC type	Simatic S7-200 Series
com port type	RS485
data bits	8
stop bits	1
sync check	odd parity
communication rate	9600

2) TK with S7-200 series PLC communication diagram

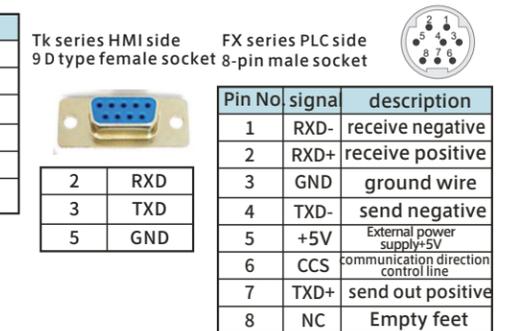


6. Mitsubishi FX series

1) TK software setting

parameters	setting
plc type	Mitsubishi FX Series
com port type	Rs232
data bits	7
stop bits	1
sync check	even parity
communication rate	9600

2) TK with Mitsubishi FX series PLC communication diagram using Mitsubishi programmable cables (SC-11)



Programming software Coolmay mView HMI programming software
More detail information please refers to <Coolmay TK series HMI programming manual>

TIPS --- Please read carefully the related manuals before using our products, and use this product under the environmental conditions specified in this manual.

- Power on after confirmed the voltage (24VDC, >18W) and right wiring to avoid damage
- Tighten the screws or the rail while mounting the product to avoid falling off.
- Avoid wiring or plug the cable with electricity, or it is easy to cause electric shock or circuit damage. When the product emits odor or abnormal sound, please immediately switch off the power. While processing screw holes or wiring, do not drop the metal chips and wire head into the ventilation hole or the controller, which may cause product failure and disoperation
- Ground terminals FG on HMI must right ground connection to improve anti-interference ability.
- Please do not disassemble the product or modify the wiring. Or it may cause malfunction, loss or fire
- While installing or disassembling the product, ensure to turn off all power. Or it may cause malfunction and breakdown.

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Any updates will be updated on our website www.coolmay.com

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