Instructions of Coolmay TK series HMI communicating with other band PLC

HMI model:

- TK6037FH

Pin number	description
RS232 communication port definition	
RXD	receive
TXD	send
GND	Ground/DC24V-
RS485 communication port definition	
A	485+
B	485-
DC24V power supply	
24V	DC24V+
GND	Ground/DC24V-

RX TX B A GND 24V

- TK6043FH/TK6050FH

COM1/COM2

Pin number	signal	description
RS232 communication port definition		
2	RXD	receive
3	TXD	send
5	GND	ground
RS485 communication port definition		
1	A	485+
6	B	485-

- TK6070FH

Pin number	signal	description
RS232 communication port definition		
2	RXD	receive
3	TXD	send
5	GND	ground
RS485 communication port definition		
	A	485+
	B	485-

1. AD4401 (Japan AIAND weighing controller)

➢ TK software settings

Parameter item	Recommended settings
Protocol	AD-4401 Series
Communication port type	RS232
Communication rate	9600
Synchronization check	Even parity
Number of data	7 digits
Stop digits	1 digit

➢ Variable

> Diagram of TK(COM1)-AD4401 communication cable

Coolmay®

HMI

AD4401

1	
2	RS232 RXD
3	RS232 TXD
4	
5	GND
6	
7	
8	
9	

SH(shell)

RS232 RXD	1
RS232 TXD	2
RTS	3
CTS	4
DSR	5
GND	6
CD	7
DTR	8

SH(shell)
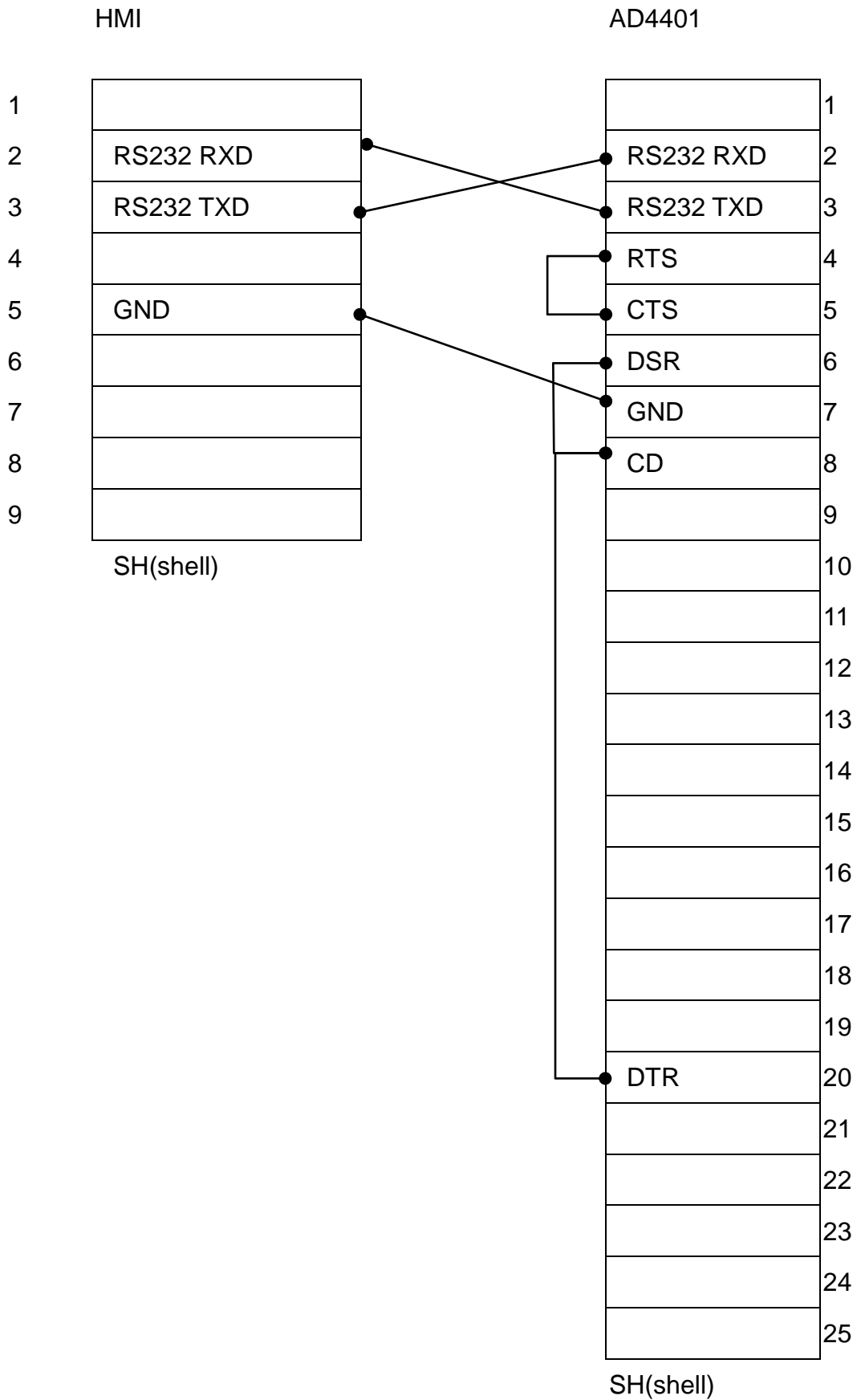
DB9(female)Connector
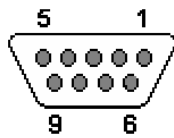
DB25(male)Connector
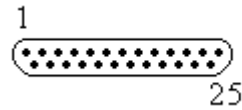
2. Fuji MICREX-SX Series（Fuji）

➤TK software settings

Parameter item	Recommended settings
Protocol	Fuji MICREX-SX Series
Communication port type	RS232
Communication rate	38400
Synchronization check	Even parity
Number of data	8 digits
Stop digits	1 digit

➤Manipulable variable

➤ TK-Fuji MICREX-SX Series Communication cable connection diagram (using 232 crossover cable)
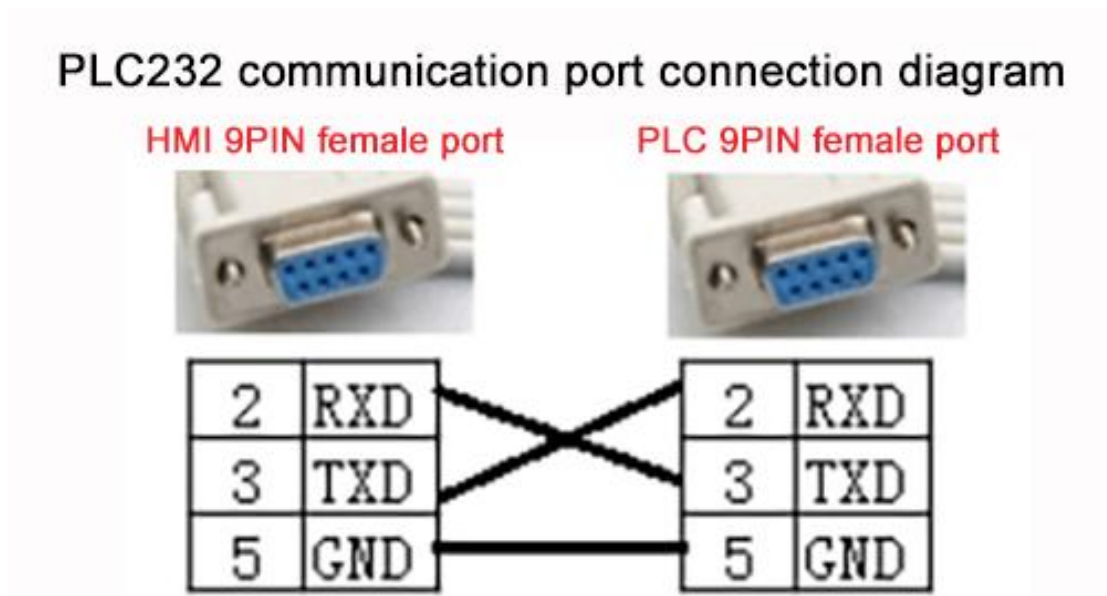
3.Mitsubishi FX series

➤TK software settings

Parameter item	Recommended settings
Protocol	Mitsubishi Fx Series

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Communication	RS232
Communication	9600
Synchronization	Even parity
Number of data	7 digits
Stop digits	1 digit

Protocol

Protocol: Mitsubishi FX Series

Controller:

Company	Model	Des...
Mitsubishi	FX Series	PLC
Mitsubishi	FX1S Series	PLC

Port: Auto Detect(RS232/RS422/RS485)
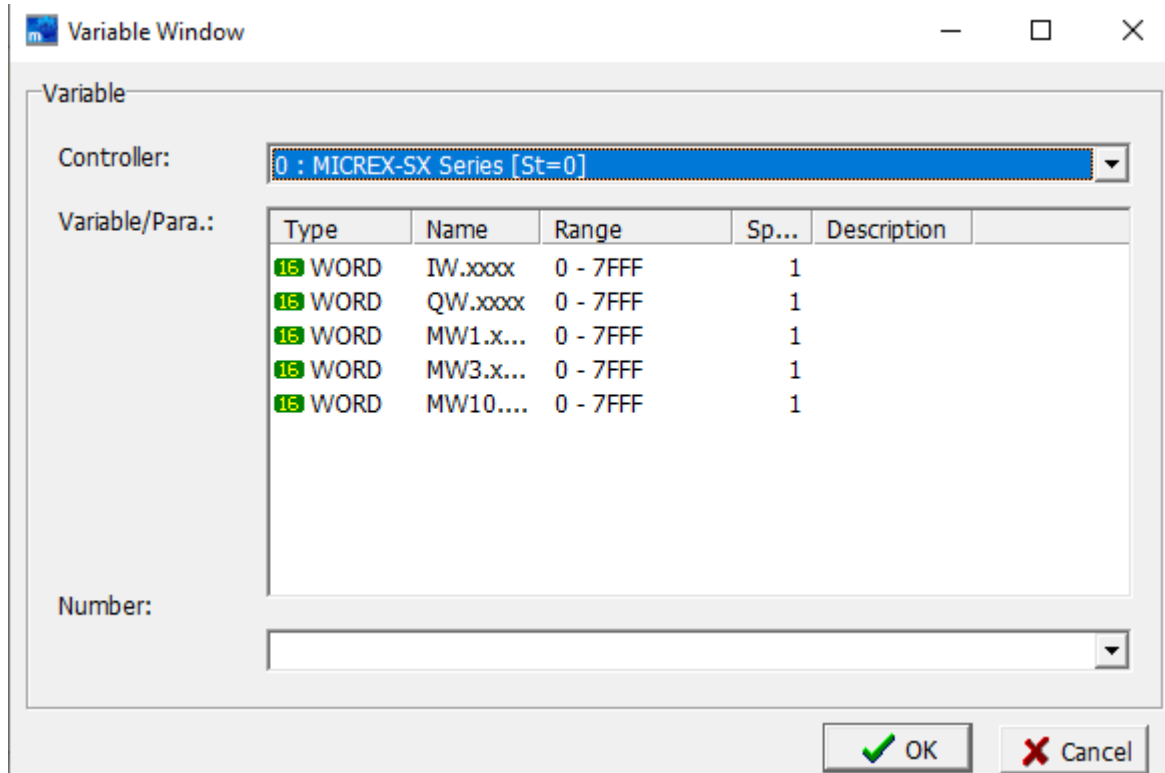
Baud Rate: 9600　　　Data Bit: 7Bits

Parity: Even　　　Stop Bit: 1Bit

Delay: 0ms　　　TimeOut: 1sec

☐ Multi-Station Smart Link　　　Retry Count: Timeout, Repeat

✔ OK　　✘ Cancel

➤Manipulable variable

Variable

Controller: 0 : FX Series [St=1]

Variable/Para.:

Type	Name	Range	Sp...	Description
BIT	Xooo	0 - 177	1	
BIT	Yooo	0 - 177	1	
BIT	Mnnnn	0 - 1023	1	
BIT	Mnnnn	8000 - 8255	1	
BIT	Snnn	0 - 999	1	
BIT	Tnnn	0 - 255	1	
BIT	Cnnn	0 - 255	1	
WORD	RTnnn	0 - 255	1	
WORD	RCnnn	0 - 199	1	
DWORD	DRCnnn	200 - 255	1	

Number:

✔ OK　　✘ Cancel

➤TK-FX Series Communication line connection diagram (using Mitsubishi programming line, namely SC-11/SC-09)

MT series touch side with 9 holes
D-shaped female connector

FX series PLC side with 8-pin
male connector

2	RXD
3	TXD
5	GND

PLC programming port pin definition

PIN number	Signal	Description
1	RXD−	Accept negative
2	RXD+	Accept positive
3	GND	ground
4	TXD−	Send negative
5	+5V	External power supply
6	CCS	Communication direction control line
7	TXD+	Send positive
8	NC	Empty foot

4. Keyence KV series

➤TK software settings

Parameter item	Recommended
Protocol	Keyence KV Series
Communication port type	RS232
Communication rate	9600
Synchronization check	Even parity
Number of data	8 digits
Stop digits	1 digit

➤Manipulable variable

Variable

Controller: 0 : KV Series [St=1]

Variable/Para.:

Type	Name	Range	Sp...	Description
1 BIT	_nnn	0 - 415	1	Input Relay
1 BIT	_nnn	500 - 915	1	Output R...
1 BIT	_nnnn	1000 - 6915	1	Internal R...
1 BIT	Rnnnnn	0 - 99915	1	Relay
1 BIT	Bxxxx	0 - 3FFF	1	Link relay
1 BIT	MRnnnnn	0 - 99915	1	Internal a...
1 BIT	LRnnnnn	0 - 99915	1	Latch relay
1 BIT	CRnnnn	0 - 3915	1	Control relay
1 BIT	VBxxxx	0 - 3FFF	1	Virtual relay
16 WORD	DMnnnnn	0 - 65534	1	Data Mem...
16 WORD	TMnnn	0 - 512	1	Temporar...
16 WORD	EMnnnnn	0 - 65534	1	Extended...
16 WORD	FMnnnnn	0 - 32767	1	File register
16 WORD	ZFnnnnn	0 - 99999	1	File register
16 WORD	Wxxxx	0 - 3FFF	1	Link register
16 WORD	TMnnn	0 - 511	1	Temporar...
16 WORD	Znn	1 - 12	1	Index regi...
16 WORD	CMnnnn	0 - 5999	1	Control m...
16 WORD	VMnnnnn	0 - 59999	1	virtual me...
32 DWORD	Tnnnn	0 - 3999	1	Timer
32 DWORD	TCnnnn	0 - 3999	1	Timer (cu...
32 DWORD	TSnnnn	0 - 3999	1	Timer (se...
32 DWORD	Cnnnn	0 - 3999	1	Counter
32 DWORD	CCnnnn	0 - 3999	1	Counter (...
32 DWORD	CSnnnn	0 - 3999	1	Counter (...
32 DWORD	CTHn	0 - 3	1	High-spee...
32 DWORD	CTCn	0 - 3	1	High-spee...

Number:

✓ OK   ✗ Cancel

➤TK-Keyence KV Communication line connection diagram

	HMI		KV series	
2	RS232 RXD			
3	RS232 TXD		RXD	3
			GND	4
5	GND		TXD	5

DB9(female)Connector   RJ12

(6P6C)
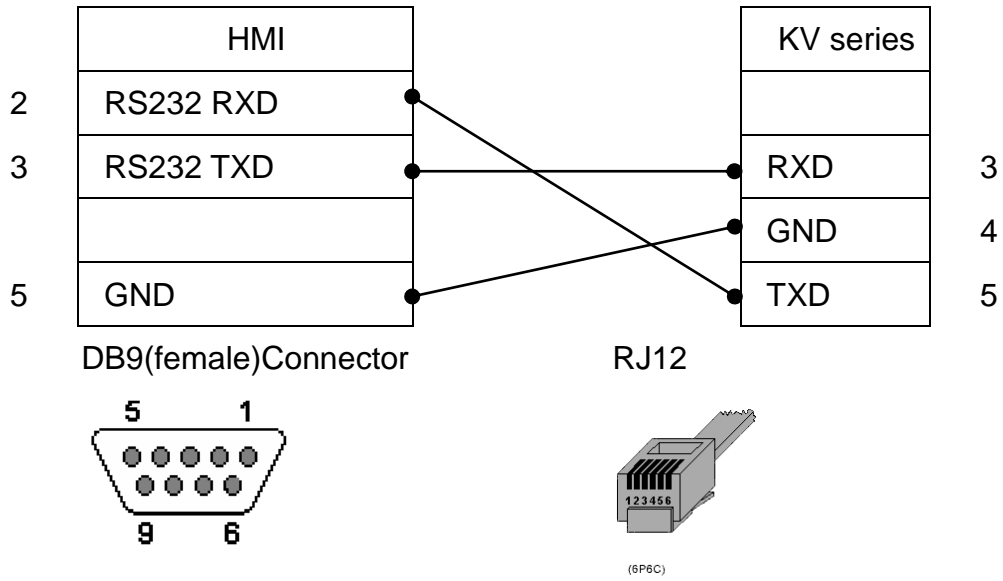
5.Koyo K sequence series

➤TK software settings

Parameter item	Recommended
Protocol	Koyo K sequence
Communication port	RS232
Communication rate	9600
Synchronization check	Odd parity
Number of data	8 digits
Stop digits	1 digit

Protocol

Protocol:	Koyo K sequence

Controller:

Company	Model	Des...
Koyo	Koyo DL Series	PLC

Port: Auto Detect(RS232/RS422/RS485)

Baud Rate:	9600	Data Bit:	8Bits
Parity:	Odd	Stop Bit:	1Bit
Delay:	0ms	TimeOut:	1sec

☐ Multi-Station Smart Link   Retry Count   Timeout, Repeat

✔ OK   ✗ Cancel

➤Manipulable variable

Variable
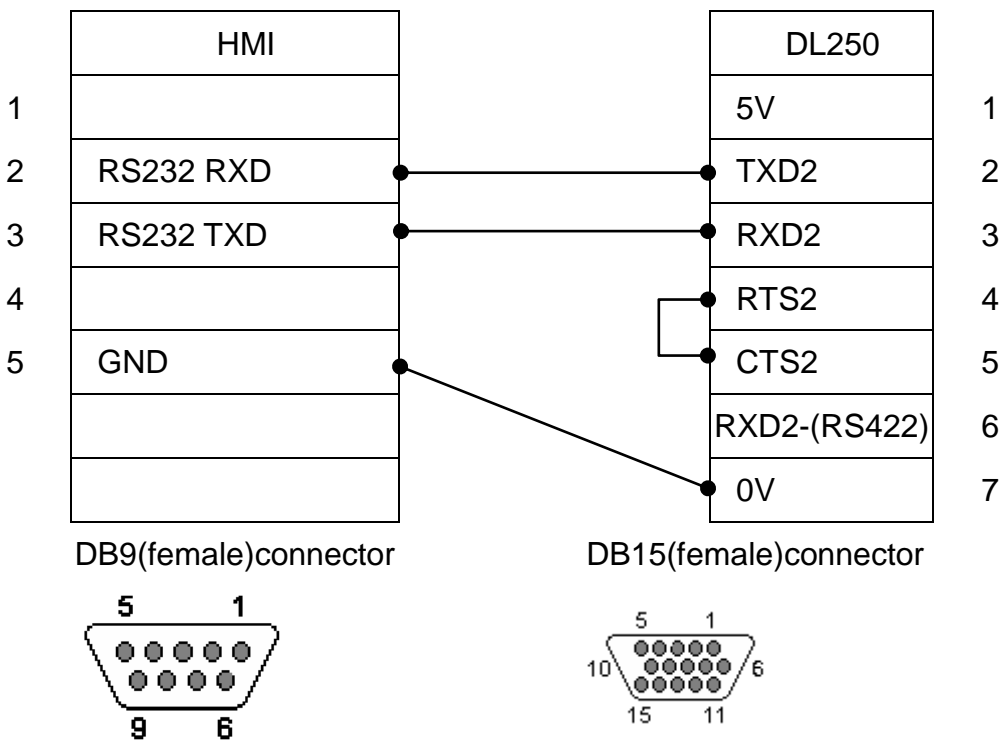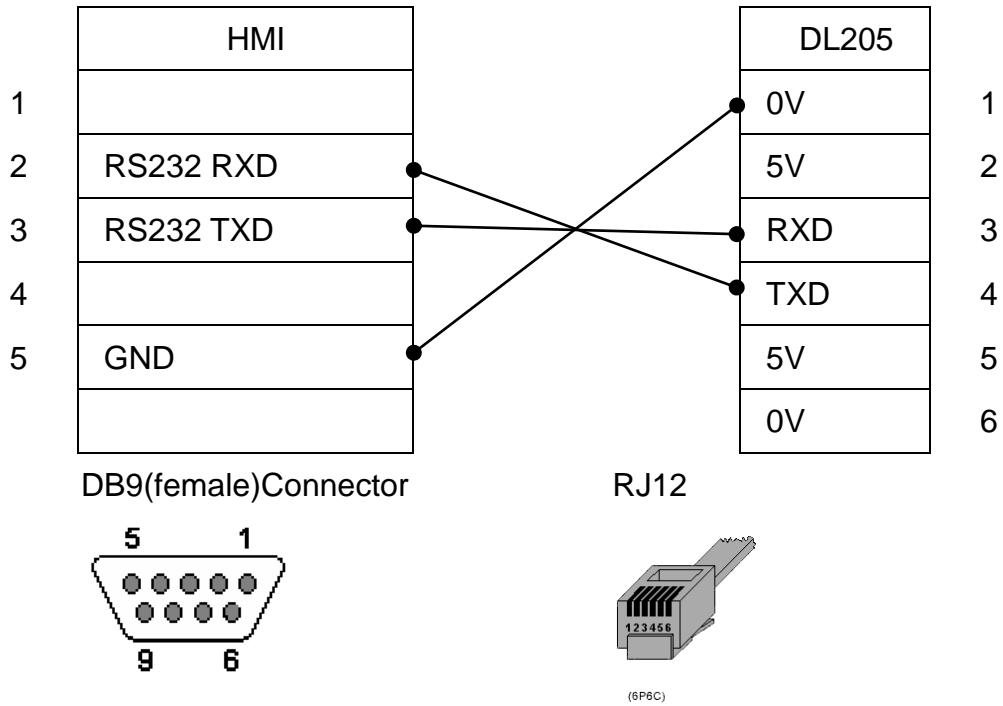
Controller: 0 : Koyo DL Series [St=1]

Variable/Para.:

Type	Name	Range	Sp...	Description
1 BIT	Xoooo	0 - 3777	1	
1 BIT	Yoooo	0 - 3777	1	
1 BIT	Toooo	0 - 3777	1	
1 BIT	Coooo	0 - 3777	1	
1 BIT	Soooo	0 - 3777	1	
1 BIT	Moooo	0 - 3777	1	
1 BIT	Poooo	0 - 7777	1	
1 BIT	SPoooo	0 - 3777	1	
1 BIT	GQoooo	0 - 7777	1	
1 BIT	GXoooo	0 - 7777	1	
16 WORD	Vooooo	0 - 77777	1	

Number:

✔ OK   ✗ Cancel

➤TK-Koyo K sequence Communication line connection diagram

	HMI			DL205	
1				0V	1
2	RS232 RXD			5V	2
3	RS232 TXD			RXD	3
4				TXD	4
5	GND			5V	5
				0V	6

DB9(female)Connector   RJ12

(6P6C)

	HMI			DL250	
1				5V	1
2	RS232 RXD			TXD2	2
3	RS232 TXD			RXD2	3
4				RTS2	4
5	GND			CTS2	5
				RXD2-(RS422)	6
				0V	7

DB9(female)connector   DB15(female)connector

6.LG series

➤TK Software settings

Parameter item	Recommended settings
Protocol	LG Master-K K120S Series
Communication	RS232
Communication	38400
Synchronization	No information
Number of data	8 digits
Stop digits	1 digit

➤Manipulable variable

Variable

	Type	Name	Range	Sp...	Description
Controller:	0 : K120S Series [St=1]				
Variable/Para.:					
	BIT	Pnnx	00 - 63F	1	I/O Relay
	BIT	Mnnnx	00 - 191F	1	Auxiliary R...
	BIT	Knnx	00 - 31F	1	Keep Relay
	BIT	Lnnx	00 - 63F	1	Link Relay
	BIT	Fnnx	00 - 63F	1	Special Re...
	BIT	Tnnn	0 - 255	1	Timer
	BIT	Cnnn	0 - 255	1	Counter
	WORD	TVnnn	0 - 255	1	Timer Value
	WORD	CVnnn	0 - 255	1	Counter V...
	WORD	Dnnnn	0 - 4999	1	Data Regi...

Number:

✓ OK   ✗ Cancel
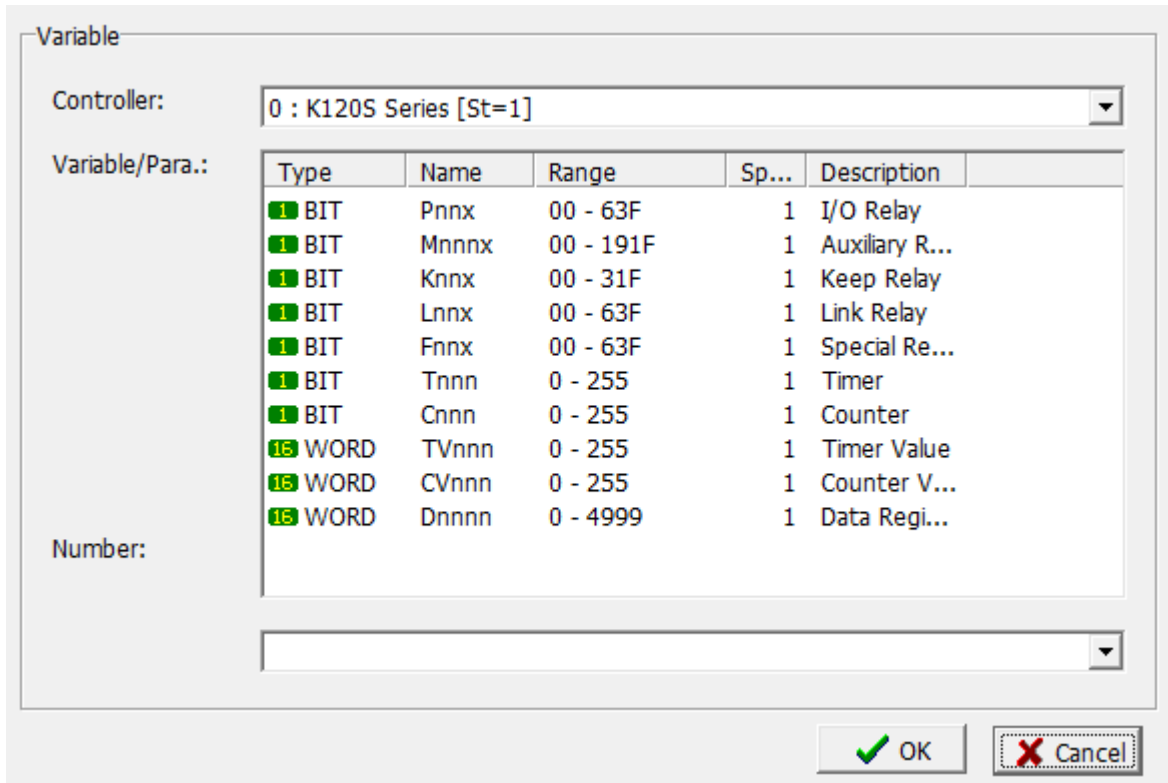
➤TK-LG Master-K120S Communication line connection diagram

	HMI			K120S series	
2	RS232 RXD			RS232 TXD	2
3	RS232 TXD			RS232 RXD	3
5	GND			GND	5

DB9(female)Connector   DB9(male)connector
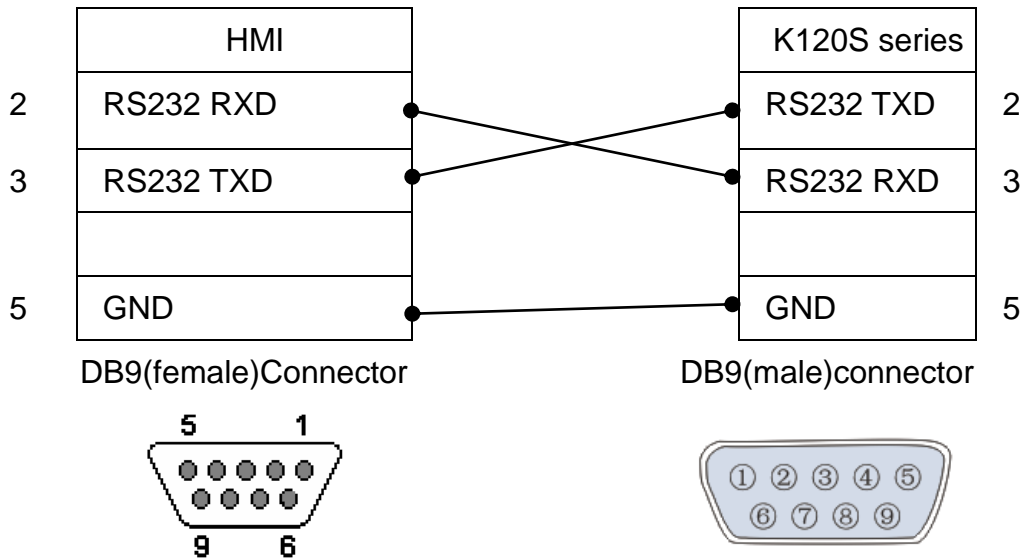
7. OMRON C series

➤TK Software settings

Parameter item	Recommended settings

Protocol	Omron C Series
Communication port	RS232
Communication rate	9600
Synchronization check	Even parity
Number of data	7 digits
Stop digits	2 digits

➤Manipulable variable

Variable

Controller:	0 : C Series [St=0]					

Variable/Para.:

Type	Name	Range	Sp...	Description	
1 BIT	IRnn.nn	0.0 - 511.15	1		
1 BIT	HRnn.nn	0.0 - 99.15	1		
1 BIT	ARn.nn	0.0 - 27.15	1		
1 BIT	LRnn.nn	0.0 - 63.15	1		
16 WORD	PVnnn	0 - 511	1		
16 WORD	DMnnnn	0 - 6655	1		
1 BIT	TCnnn	0 - 511	1		

Number:

$\checkmark$ OK $\times$ Cancel
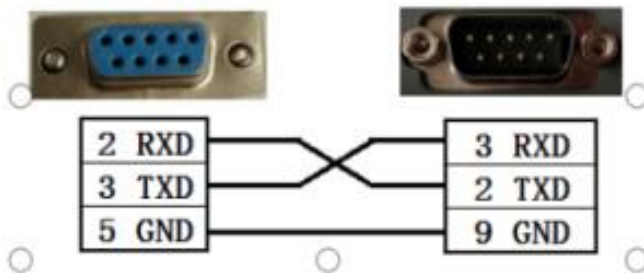
➤TK-OMRON communication cable connection diagram

MT series touch

side with

9 holes D-shaped

female connector

Omron series PLC side 9-pin
D-shaped male connector

2 RXD	3 RXD
3 TXD	2 TXD
5 GND	9 GND

8.Siemens S7-200 series

➤TK Software settings

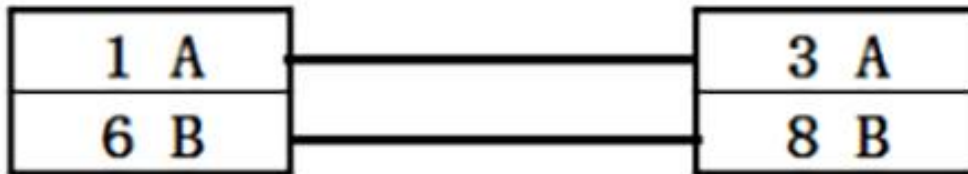| Parameter item	Recommended settings
Protocol	Simatic S7-200 Series
Communication	RS485
Communication	9600
Synchronization	Even parity
Number of data	8 digits
Stop digits	1 digit
Communication	1 second

➤Manipulable variable

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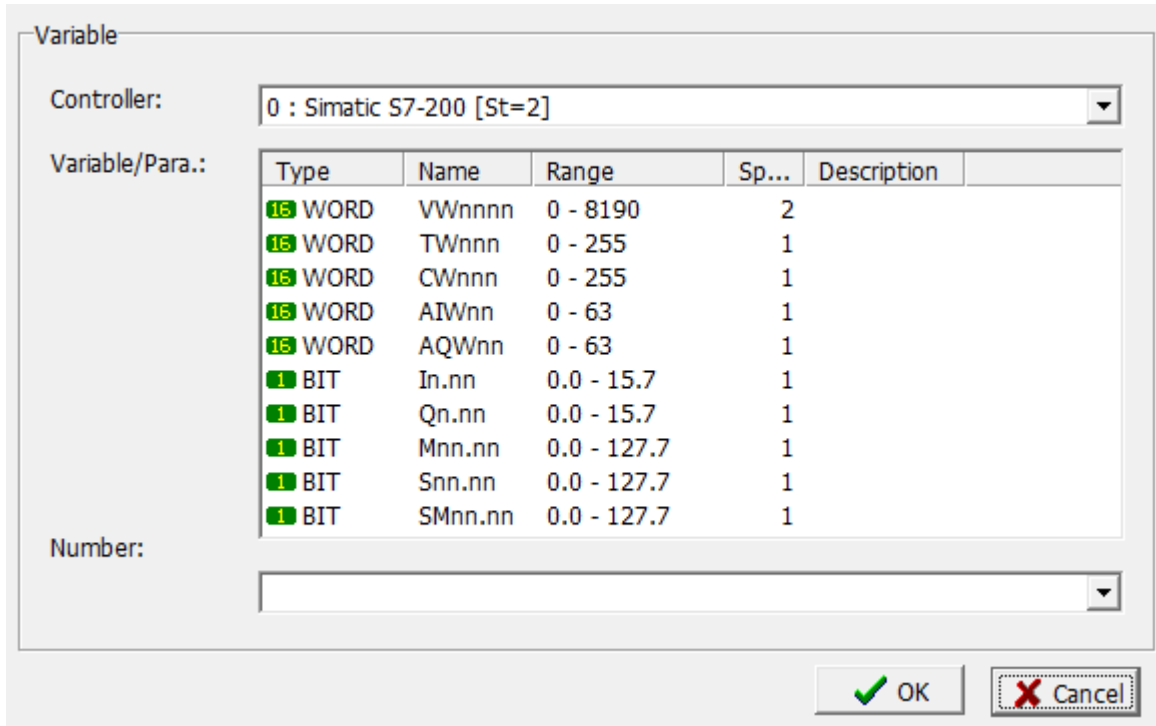
➤TK-Siemens S7-200 communication line connection diagram

MT series touch side with 9 holes
D-shaped female connector

S7-200 series PLC side 9 pin
D type male connector

| 1 A | 3 A |
| 6 B | 8 B |

9.Delta DVP series

➤TK Software settings

Parameter item	Recommended settings
Protocol	DELTA DVP Series

Communication port type	RS232
Communication rate	9600
Synchronization check	Even parity
Number of data	7 digits
Stop digits	1 digit
Communication timeout	1 second

➤Manipulable

variable

Type	Name	Range	Sp...	Description
1 BIT	Xooo	0 - 177	1	Inputs
1 BIT	Yooo	0 - 177	1	Outputs
1 BIT	Mnnnn	0 - 1279	1	Auxiliary r...
1 BIT	Snnn	0 - 127	1	States
1 BIT	TSnnn	0 - 127	1	Timer con...
1 BIT	CSnnn	0 - 127	1	Counter c...
1 BIT	CSnnn	232 - 255	1	Counter c...
16 WORD	TNnnn	0 - 127	1	Timer curr...
16 WORD	CNnnn	0 - 127	1	Counter c...
32 DWORD	CNnnn	232 - 255	1	Counter c...

Controller: 0 : DVP ES/EX/SS Series [St=1]

Number:

OK   Cancel

➤K-Delta DVP communication cable connection diagram

HMI			DVP-ES2
2	RS232 RXD		
3	RS232 TXD	GND	3
		RS232 RXD	4
5	GND	RS232 TXD	5

DB9(female)connector

HMI		DVP-ES2-EX2-SS2-SA2-SX2	
2	RS232 RXD		
3	RS232 TXD	RS232 RXD	4
		RS232 TXD	5
5	GND	GND	8

DB9(female)connector

mini DIN8(male)connector

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