KOYO DIRECT (K-Sequence)

Supported Series: KOYO DirectLogic series PLC DL05, DL06, DL105, DL205, DL305, and DL405 series

Website: http://www.automationdirect.com

HMI Setting:

Parameters	Recommended	Options	Notes
PLC type	KOYO DIRECT (K-Sequence)		
PLC I/F	RS232	RS232, RS485	
Baud rate	9600	9600, 19200, 38400	
Data bits	8	7, 8	
Parity	Odd	Even, Odd, None	
Stop bits	1	1	
PLC sta. no.	1	1-90	

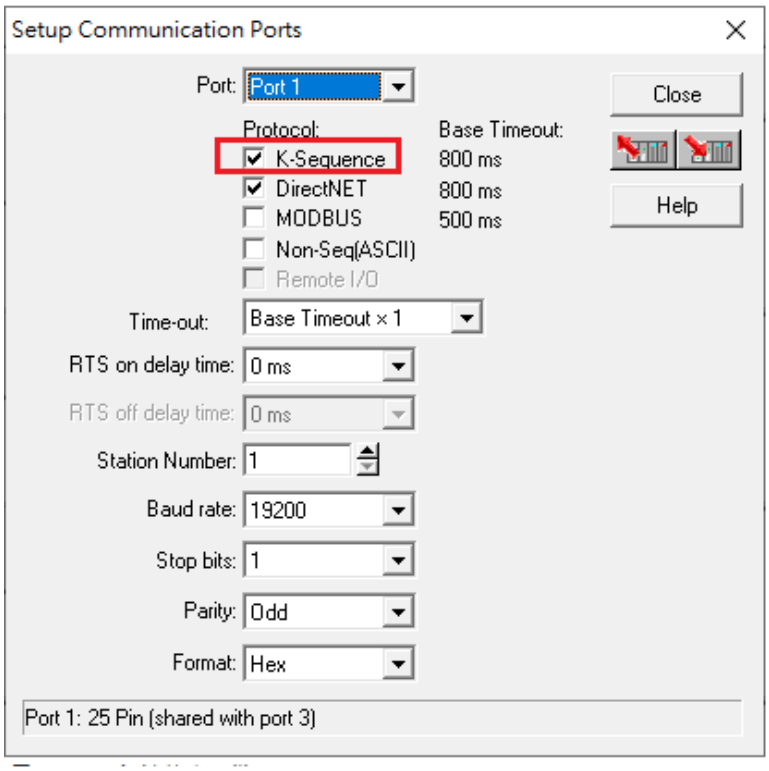
*Support communications between HMI and PLC in pass-through mode

*Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode

*When using pass-through, the driver will stop communication between HMI and PLC.

PLC Setting:

	1. The PLC must not have a password. 2. PLC must be set for Full Duplex operation. 3. PLC must be set for No Hardware Handshaking. 4. The PLC must be set to use the 'K' Sequence Protocol. 5. Set the mode switch to the TERM mode. 6. When using the D4-440 CPU, the station number must be set to 1.



Device Address:

Bit/Word	Device type	Format	Range	Memo
B	X	OOOO	0 ~ 4000	Input Bits
B	Y	OOOO	0 ~ 4000	Output Bits
B	C	OOOOO	0 ~ 10000	Control Relays
B	T	OOOO	0 ~ 1000	Timer Status Bits
B	CT	OOOO	0 ~ 1000	Counter Status Bits
B	S	OOOO	0 ~ 2000	
B	SP	OOOO	0 ~ 2000	
B	GX	OOOOO	0 ~ 10000	
B	GY	OOOOO	0 ~ 10000	
W	V	OOOOO	0 ~ 77777	V Memory
W	Timer	OOOO	0 ~ 1000	
W	Counter	OOOO	0 ~ 1000	

Wiring Diagram:

DL05/DL06/DL105/DL230/DL240/DL250/DL350/DL450 RS232 port (Diagram 1 ~ Diagram 3)

Diagram 1

cMT Series	***cMT3071 / cMT3072 / cMT3090 / cMT3103 / cMT3151***
eMT Series	***eMT3070 / eMT3105 / eMT3120 / eMT3150***
MT-iE	***MT8073iE / MT8102iE***
MT-XE	***MT8092XE***
MT-iP	***MT6103iP / MT8102iP***

HMI				PLC
	COM1	COM3		RS232 6P RJ12 Male
	RS232 9P Female	RS232 9P Female		
Rx	2	8	⟷	4
Tx	3	7	⟷	3
GND	5	5	⟷	1

Diagram 2

cMT Series	***cMT-SVR / cMT-G01 / cMT-G02 / cMT-HDM / cMT-FHD***
mTV	***mTV***
MT-iE	***MT8070iE / MT6070iE / MT8100iE / MT8121iE / MT8150iE / MT8071iE / MT6071iE / MT8072iE / MT6072iE / MT8073iE / MT8101iE / MT8102iE / MT8103iE***
MT-XE	***MT8121XE / MT8150XE / MT8090XE***

HMI		PLC
	COM1 RS232 9P Female	RS232 6P RJ12 Male
Rx	2	4
Tx	3	3
GND	5	1

Diagram 3

MT-iE	***MT8050iE / MT8053iE***
MT-iP	***MT6051iP / MT8051iP / MT6071iP / MT8071iP***

HMI		PLC
	COM1 RS232 9P Female	RS232 6P RJ12 Male
Rx	9	4
Tx	6	3
GND	5	1

CPU unit: DL06/DL250 CPU Port2 RS232 (Diagram 4 ~ Diagram 6)

Diagram 4

cMT Series	***cMT3071 / cMT3072 / cMT3090 / cMT3103 / cMT3151***
eMT Series	***eMT3070 / eMT3105 / eMT3120 / eMT3150***
MT-iE	***MT8073iE / MT8102iE***
MT-XE	***MT8092XE***
MT-iP	***MT6103iP / MT8102iP***

HMI				PLC
	COM1	COM3		RS232 Port2 15P D-Sub Male
	RS232 9P Female	RS232 9P Female		
Rx	2	8	↔	2
Tx	3	7	↔	3
GND	5	5	↔	7
			↔	4
			↔	5

Diagram 5

cMT Series	***cMT-SVR / cMT-G01 / cMT-G02 / cMT-HDM / cMT-FHD***
mTV	***mTV***
MT-iE	***MT8070iE / MT6070iE / MT8100iE / MT8121iE / MT8150iE / MT8071iE / MT6071iE / MT8072iE / MT6072iE / MT8073iE / MT8101iE / MT8102iE / MT8103iE***
MT-XE	***MT8121XE / MT8150XE / MT8090XE***

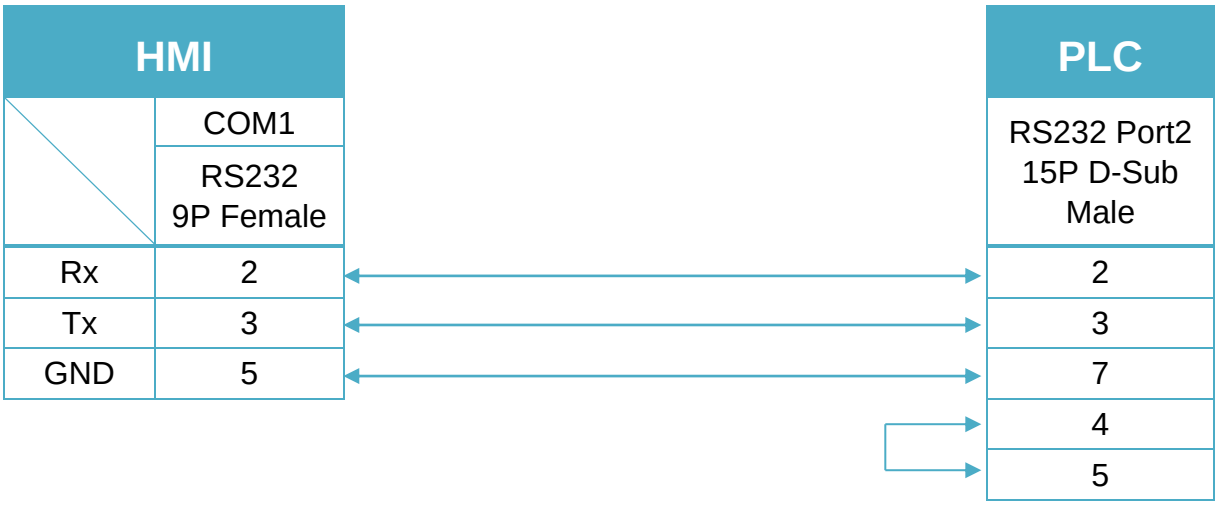
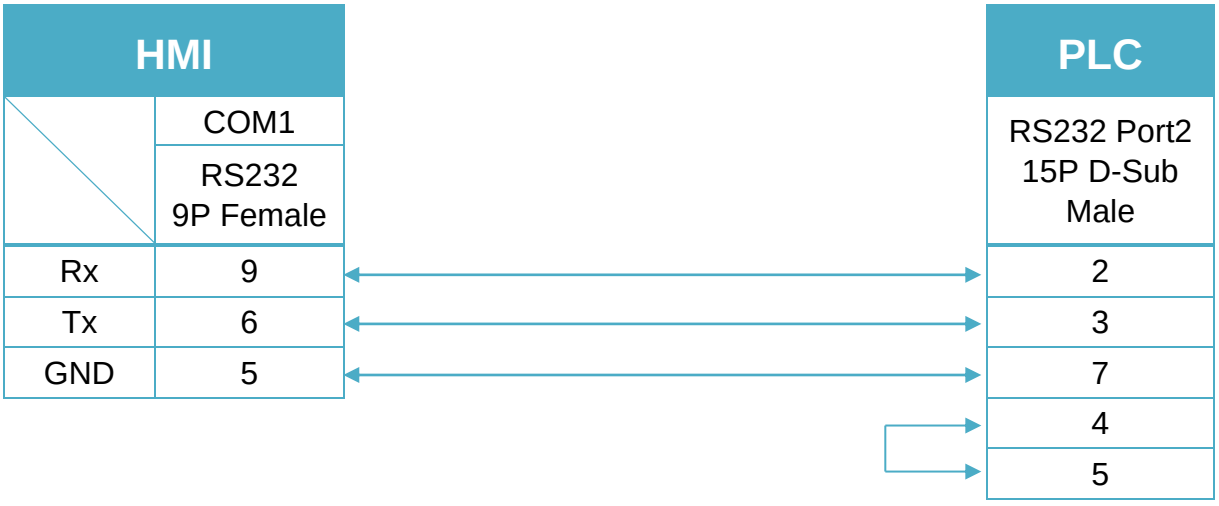


Diagram 6

MT-iE	***MT8050iE / MT8053iE***
MT-iP	***MT6051iP / MT8051iP / MT6071iP / MT8071iP***



CPU unit: DL06/DL250 CPU Port2 RS422 (Diagram 7 ~ Diagram 10)

Diagram 7

cMT Series	***cMT3151***
eMT Series	***eMT3070 / eMT3105 / eMT3120 / eMT3150***
MT-iE	***MT8070iE / MT6070iE / MT8100iE / MT8121iE / MT8150iE***
MT-XE	***MT8121XE / MT8150XE***

HMI		PLC
	COM1 RS485 4W 9P Male	RS422 Port2 15P D-Sub Male
Rx-	1	10
Rx+	2	9
Tx-	3	6
TX+	4	13
GND	5	7
		11
		14
		12
		15

Diagram 8

cMT Series	***cMT-SVR / cMT-G01 / cMT-G02 / cMT-HDM / cMT-FHD***
mTV	***mTV***

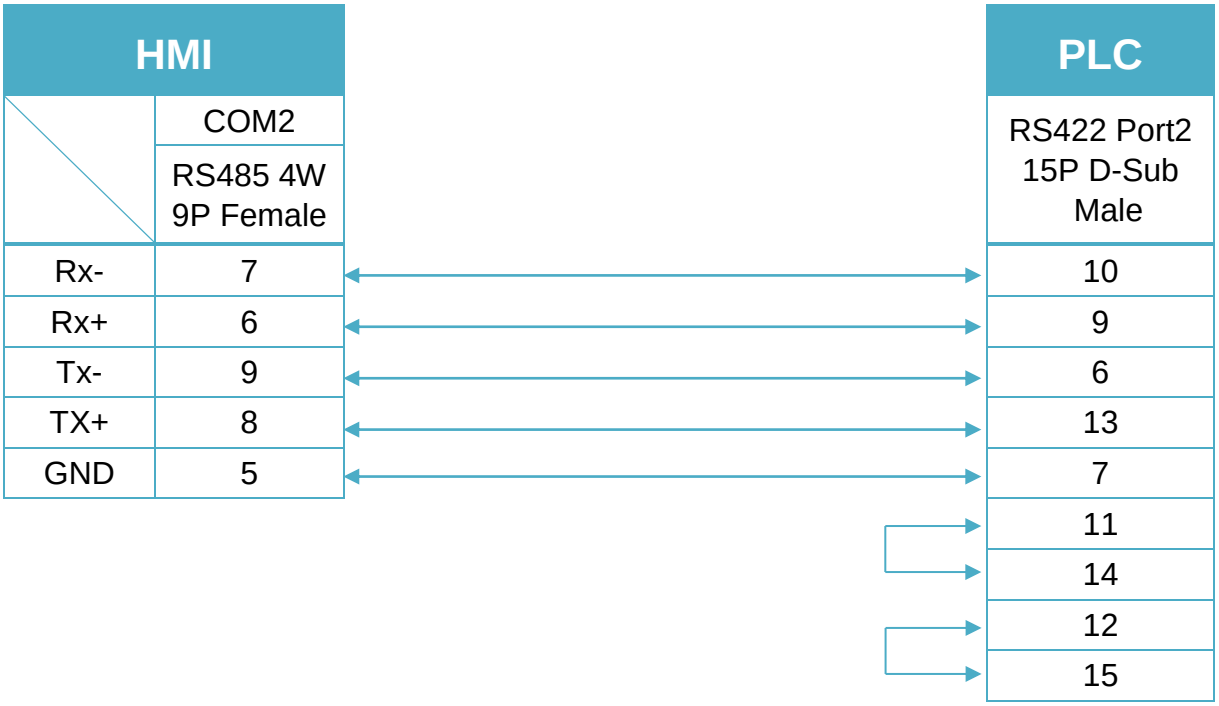


Diagram 9

cMT Series	***cMT3071 / cMT3072 / cMT3090 / cMT3103***
MT-iE	***MT8071iE / MT6071iE / MT8072iE / MT6072iE / MT8073iE / MT8101iE / MT8102iE / MT8103iE***
MT-XE	***MT8090XE / MT8092XE***
MT-iP	***MT6071iP / MT8071iP / MT6103iP / MT8102iP***

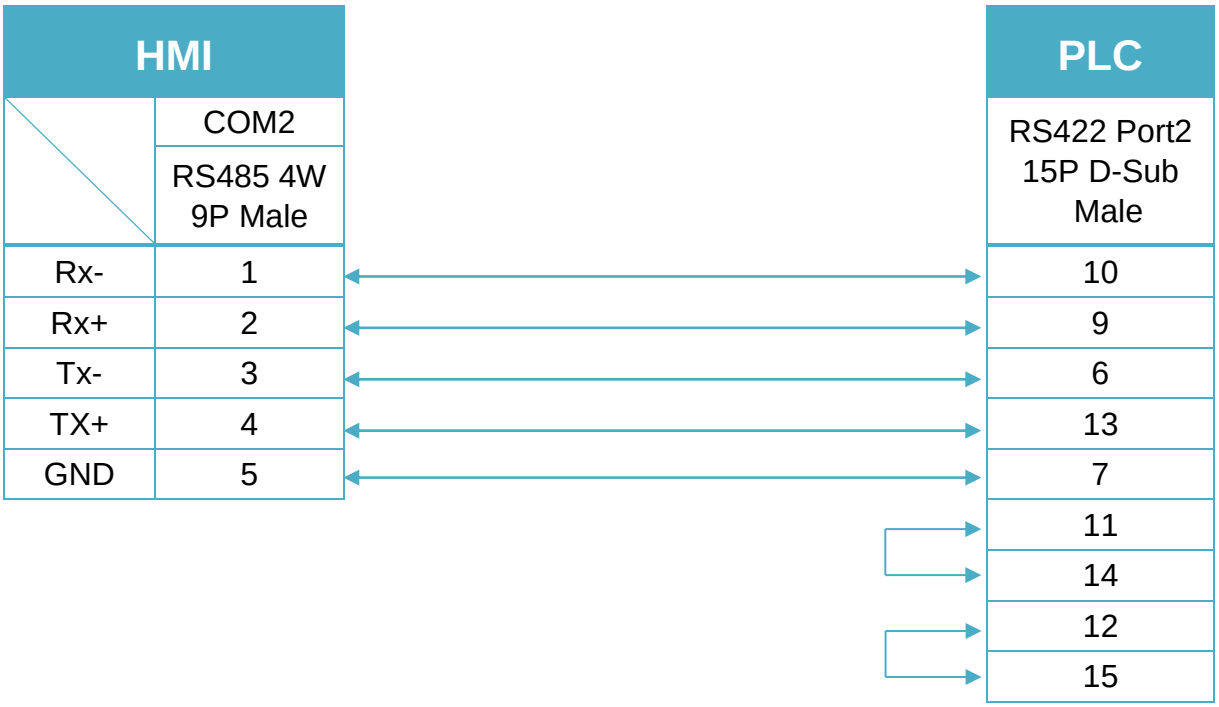
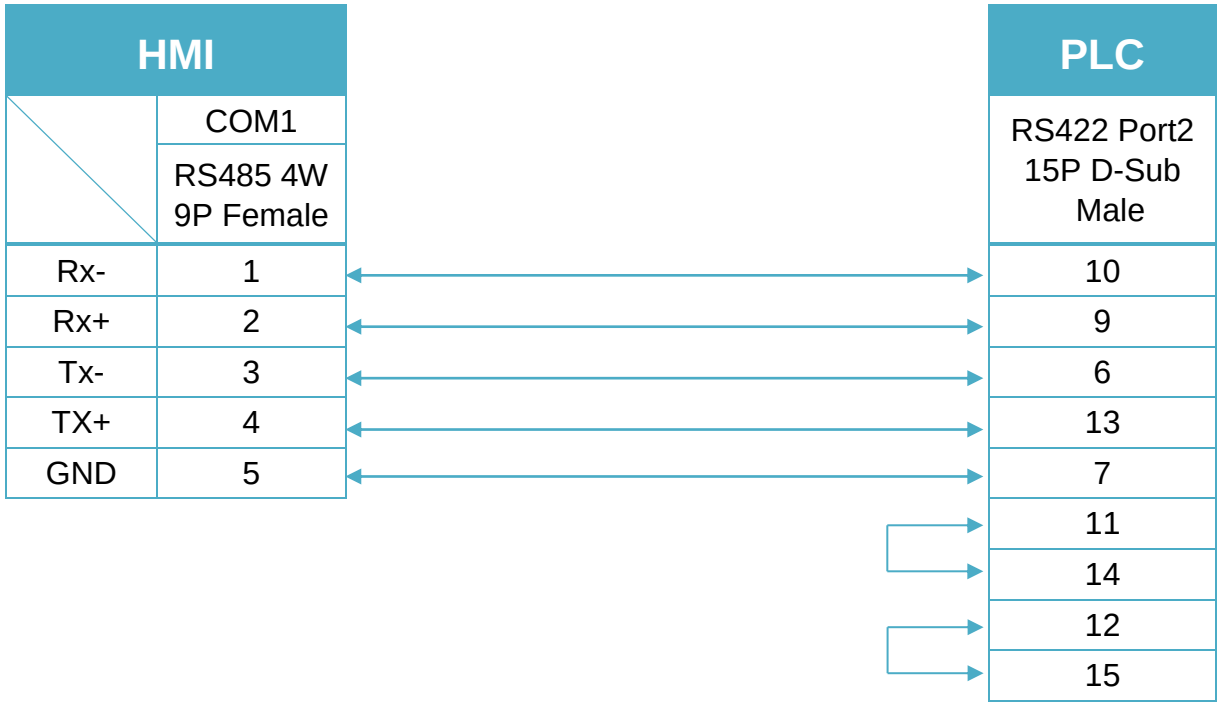


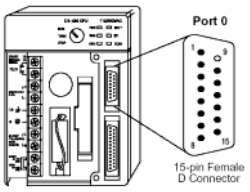
Diagram 10

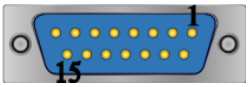
MT-iE	***MT8050iE / MT8053iE***
MT-iP	***MT6051iP / MT8051iP***



Note: DL06/DL250 CPU Port2 include RS232 and RS422

The following is the view from the soldering point of a connector.





DL430/DL440/DL450 CPU unit Port0 RS232
(Diagram 11 ~ Diagram 13)

Diagram 11

cMT Series	***cMT3071 / cMT3072 / cMT3090 / cMT3103 / cMT3151***
eMT Series	***eMT3070 / eMT3105 / eMT3120 / eMT3150***
MT-iE	***MT8073iE / MT8102iE***
MT-XE	***MT8092XE***
MT-iP	***MT6103iP / MT8102iP***

HMI			PLC
	COM1	COM3	RS232 Port0 15P D-Sub Male
	RS232 9P Female	RS232 9P Female	
Rx	2	8	2
Tx	3	7	3
GND	5	5	13
			1
			7
			2
			4
			14

Diagram 12

cMT Series	***cMT-SVR / cMT-G01 / cMT-G02 / cMT-HDM / cMT-FHD***
mTV	***mTV***
MT-iE	***MT8070iE / MT6070iE / MT8100iE / MT8121iE / MT8150iE / MT8071iE / MT6071iE / MT8072iE / MT6072iE / MT8073iE / MT8101iE / MT8102iE / MT8103iE***
MT-XE	***MT8121XE / MT8150XE / MT8090XE***

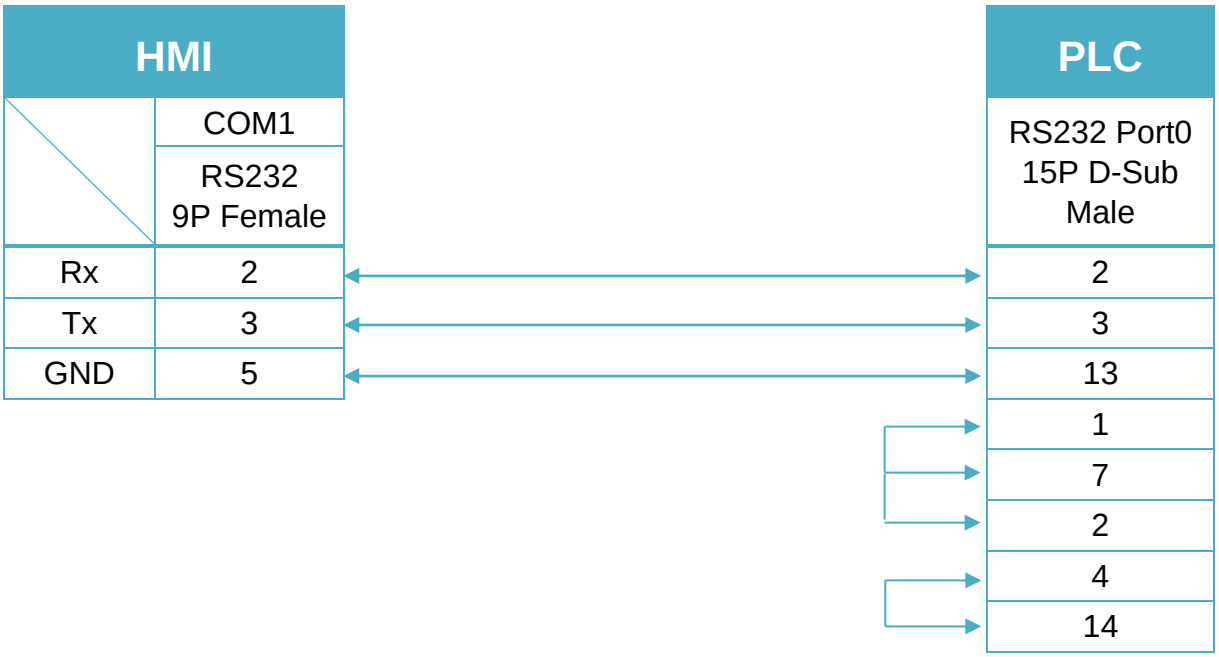
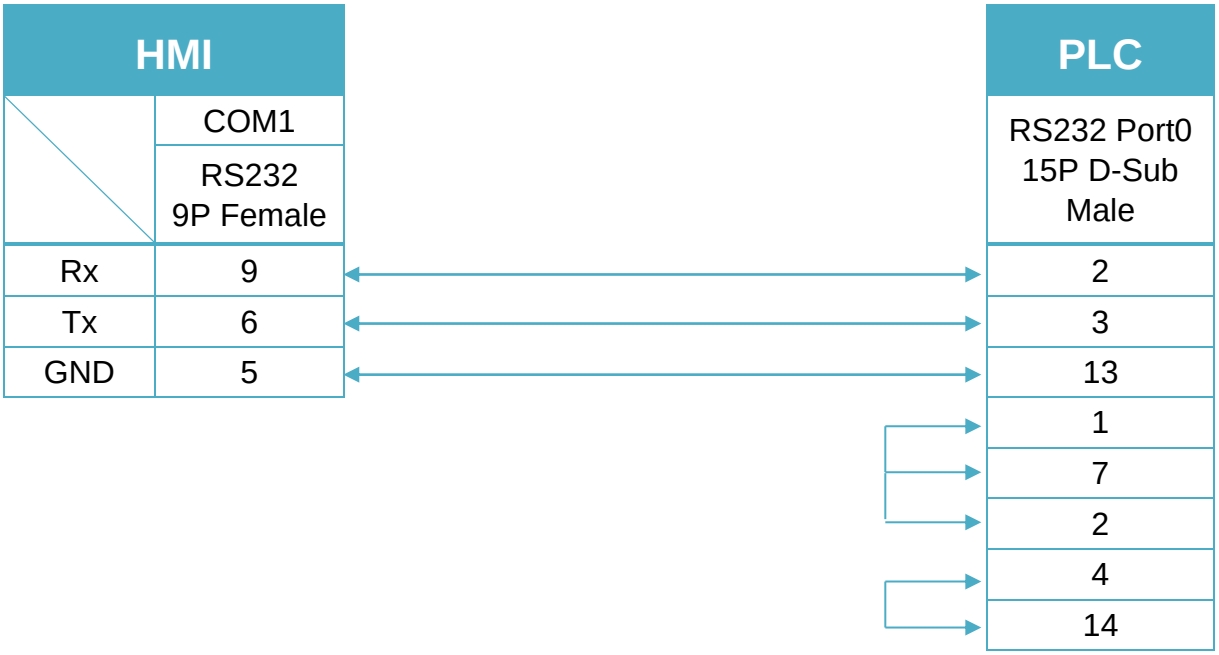
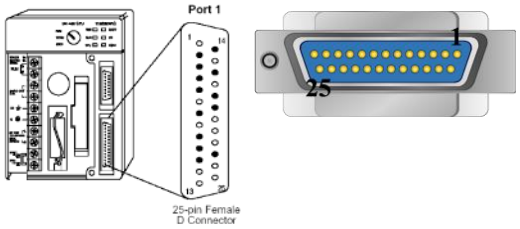


Diagram 13

MT-iE	***MT8050iE / MT8053iE***
MT-iP	***MT6051iP / MT8051iP / MT6071iP / MT8071iP***



The following is the view from the soldering point of a connector.



CPU unit: DL430/DL440/DL450 CPU unit Port1 & DL350 CPU unit Port2 RS232 (Diagram 14 ~ Diagram 16)

Diagram 14

cMT Series	***cMT3071 / cMT3072 / cMT3090 / cMT3103 / cMT3151***
eMT Series	***eMT3070 / eMT3105 / eMT3120 / eMT3150***
MT-iE	***MT8073iE / MT8102iE***
MT-XE	***MT8092XE***
MT-iP	***MT6103iP / MT8102iP***

HMI				PLC
	COM1	COM3		RS232 Port1 25P D-Sub Male
	RS232 9P Female	RS232 9P Female		
Rx	2	8	⟷	2
Tx	3	7	⟷	3
GND	5	5	⟷	7
			⟷	4
			⟷	5

Diagram 15

cMT Series	***cMT-SVR / cMT-G01 / cMT-G02 / cMT-HDM / cMT-FHD***
mTV	***mTV***
MT-iE	***MT8070iE / MT6070iE / MT8100iE / MT8121iE / MT8150iE / MT8071iE / MT6071iE / MT8072iE / MT6072iE / MT8073iE / MT8101iE / MT8102iE / MT8103iE***
MT-XE	***MT8121XE / MT8150XE / MT8090XE***

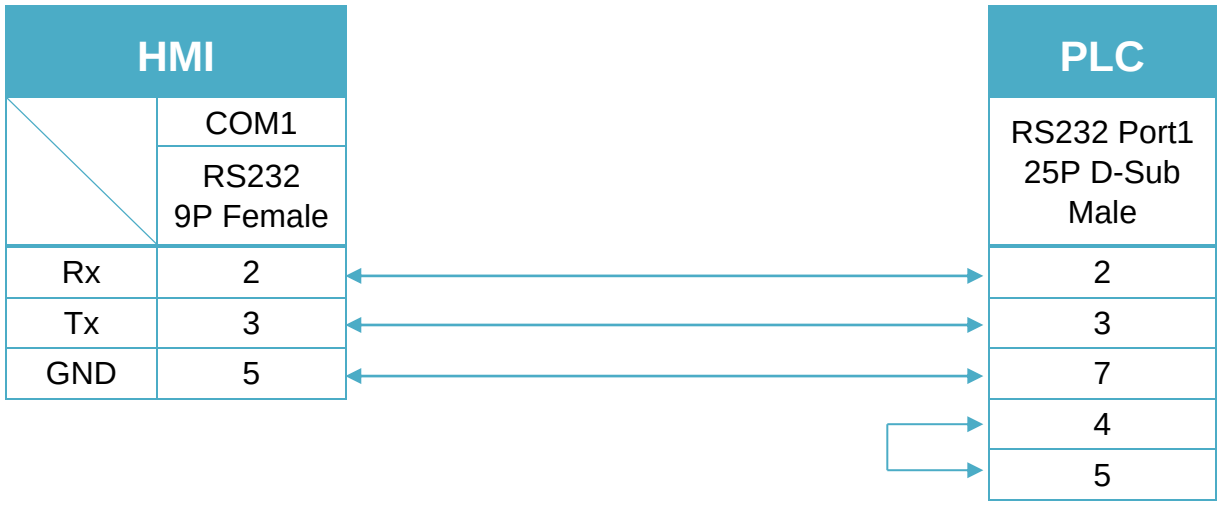
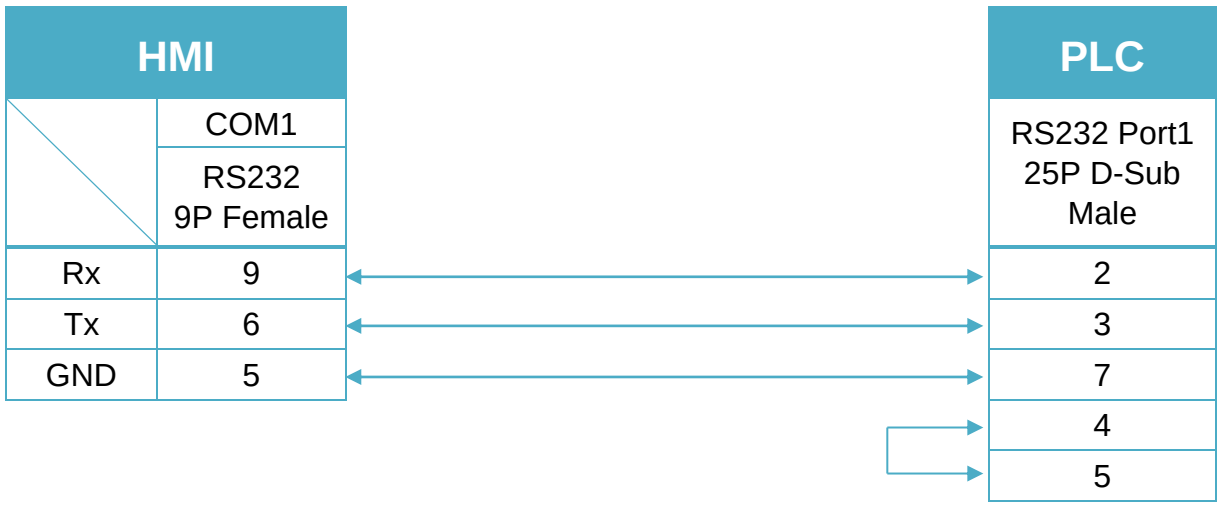


Diagram 16

MT-iE	***MT8050iE / MT8053iE***
MT-iP	***MT6051iP / MT8051iP / MT6071iP / MT8071iP***



CPU unit: DL430/DL440/DL450 CPU unit Port1 & DL350 CPU unit Port2 RS422 (Diagram 17 ~ Diagram 20)

Diagram 17

cMT Series	***cMT3151***
eMT Series	***eMT3070 / eMT3105 / eMT3120 / eMT3150***
MT-iE	***MT8070iE / MT6070iE / MT8100iE / MT8121iE / MT8150iE***
MT-XE	***MT8121XE / MT8150XE***

HMI	COM1 RS485 4W 9P Male		PLC RS422 Port 25P D-Sub Male
Rx-	1	⟷	16
Rx+	2	⟷	14
Tx-	3	⟷	10
TX+	4	⟷	9
GND	5	⟷	7
		↪	19
		↩	11
		↪	18
		↩	23

Diagram 18

cMT Series	***cMT-SVR / cMT-G01 / cMT-G02 / cMT-HDM / cMT-FHD***
mTV	***mTV***

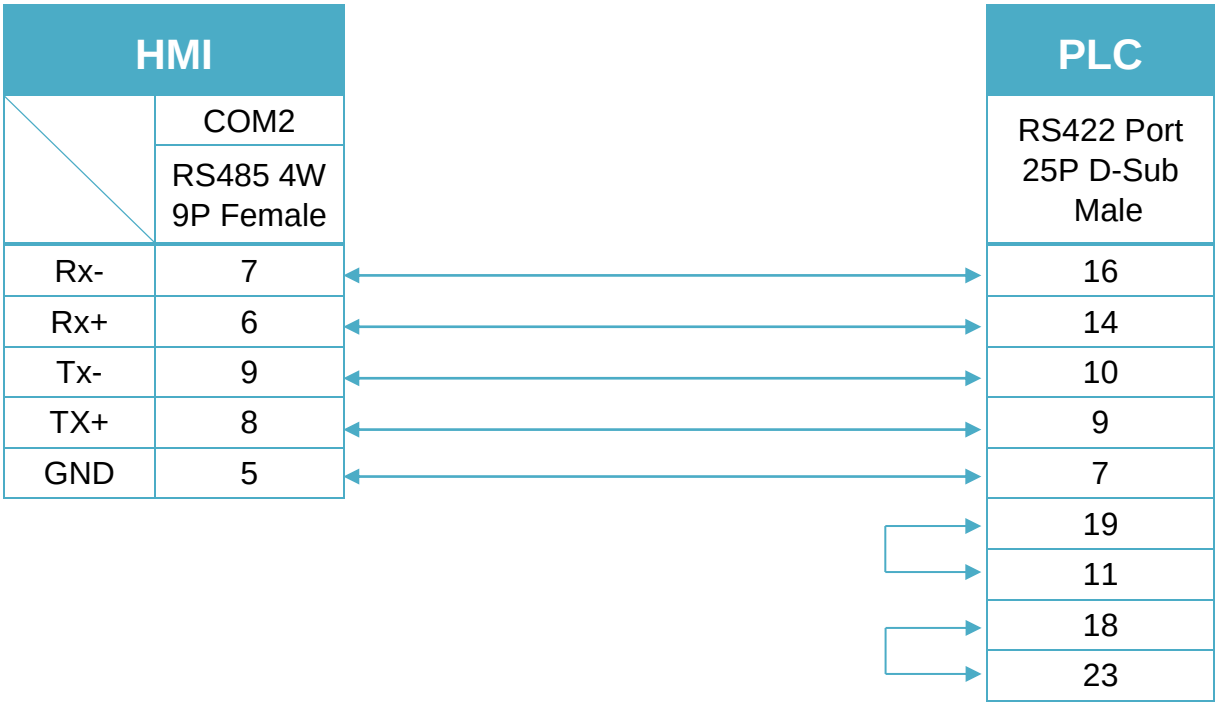


Diagram 19

cMT Series	***cMT3071 / cMT3072 / cMT3090 / cMT3103***
MT-iE	***MT8071iE / MT6071iE / MT8072iE / MT6072iE / MT8073iE / MT8101iE / MT8102iE / MT8103iE***
MT-XE	***MT8090XE / MT8092XE***
MT-iP	***MT6071iP / MT8071iP / MT6103iP / MT8102iP***

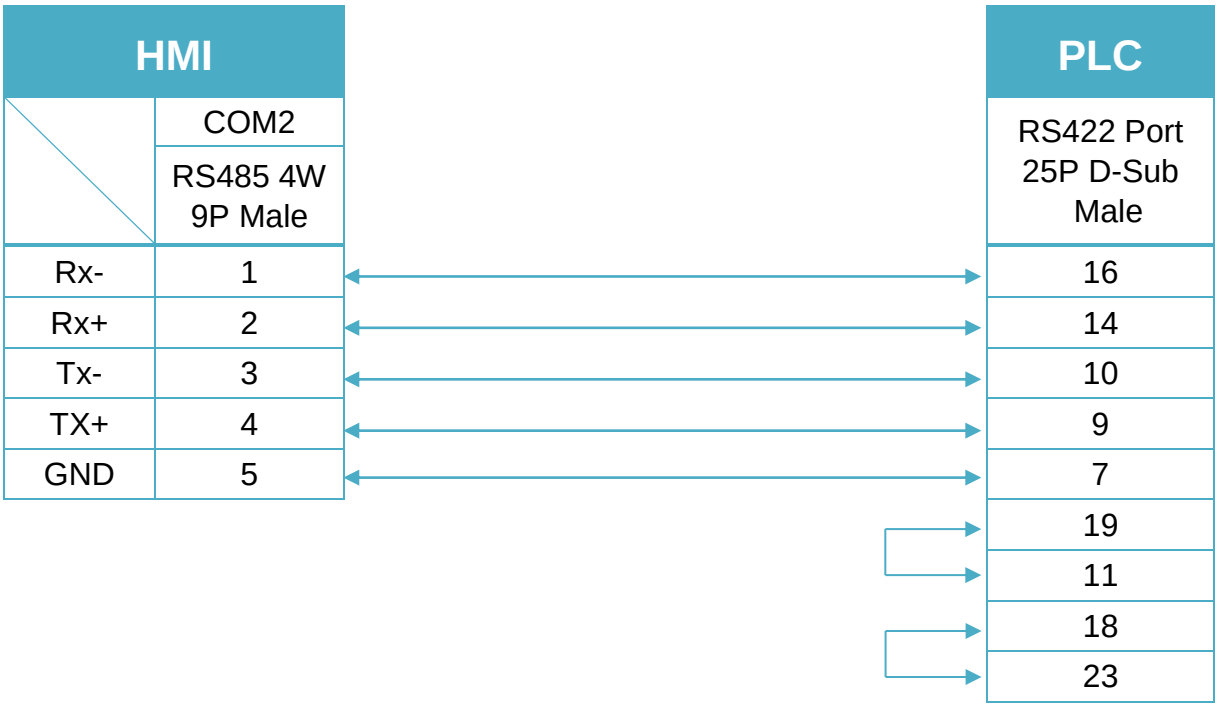
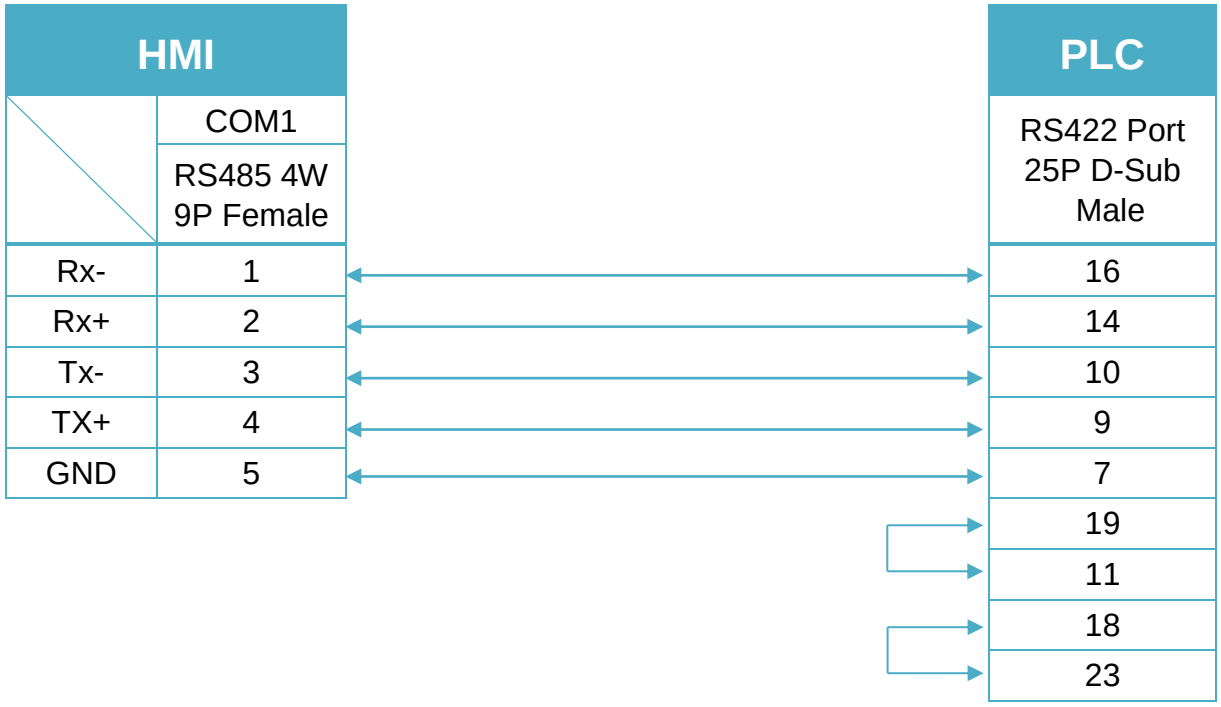


Diagram 20

MT-iE	***MT8050iE / MT8053iE***
MT-iP	***MT6051iP / MT8051iP***



CPU unit: DL450 CPU unit Port3 RS422 (Diagram 21 ~ Diagram 24)

Diagram 21

cMT Series	***cMT3151***
eMT Series	***eMT3070 / eMT3105 / eMT3120 / eMT3150***
MT-iE	***MT8070iE / MT6070iE / MT8100iE / MT8121iE / MT8150iE***
MT-XE	***MT8121XE / MT8150XE***

HMI			PLC
	COM1 RS485 4W 9P Male		RS422 Port3 25P D-Sub Male
Rx-	1	↔	13
Rx+	2	↔	15
Tx-	3	↔	25
TX+	4	↔	24
GND	5	↔	7

Diagram 22

cMT Series	***cMT-SVR / cMT-G01 / cMT-G02 / cMT-HDM / cMT-FHD***
mTV	***mTV***

HMI			PLC
	COM2 RS485 4W 9P Female		RS422 Port3 25P D-Sub Male
Rx-	7	↔	13
Rx+	6	↔	15
Tx-	9	↔	25
TX+	8	↔	24
GND	5	↔	7

Diagram 23

cMT Series	***cMT3071 / cMT3072 / cMT3090 / cMT3103***
MT-iE	***MT8071iE / MT6071iE / MT8072iE / MT6072iE / MT8073iE / MT8101iE / MT8102iE / MT8103iE***
MT-XE	***MT8090XE / MT8092XE***
MT-iP	***MT6071iP / MT8071iP / MT6103iP / MT8102iP***

HMI			PLC
	COM2 RS485 4W 9P Male		RS422 Port3 25P D-Sub Male
Rx-	1	⟷	13
Rx+	2	⟷	15
Tx-	3	⟷	25
TX+	4	⟷	24
GND	5	⟷	7

Diagram 24

MT-iE	***MT8050iE / MT8053iE***
MT-iP	***MT6051iP / MT8051iP***

HMI			PLC
	COM1 RS485 4W 9P Female		RS422 Port3 25P D-Sub Male
Rx-	1	⟷	13
Rx+	2	⟷	15
Tx-	3	⟷	25
TX+	4	⟷	24
GND	5	⟷	7

Communication unit: DL205 series D2-DCM and DL405 series D4-DCM RS232 (Diagram 25 ~ Diagram 27)

Diagram 25

cMT Series	***cMT3071 / cMT3072 / cMT3090 / cMT3103 / cMT3151***
eMT Series	***eMT3070 / eMT3105 / eMT3120 / eMT3150***
MT-iE	***MT8073iE / MT8102iE***
MT-XE	***MT8092XE***
MT-iP	***MT6103iP / MT8102iP***

HMI				PLC
	COM1	COM3		RS232 Port 25P D-Sub Male
	RS232 9P Female	RS232 9P Female		
Rx	2	8	⟷	2
Tx	3	7	⟷	3
GND	5	5	⟷	7
			⟷	4
			⟷	5

Diagram 26

cMT Series	***cMT-SVR / cMT-G01 / cMT-G02 / cMT-HDM / cMT-FHD***
mTV	***mTV***
MT-iE	***MT8070iE / MT6070iE / MT8100iE / MT8121iE / MT8150iE / MT8071iE / MT6071iE / MT8072iE / MT6072iE / MT8073iE / MT8101iE / MT8102iE / MT8103iE***
MT-XE	***MT8121XE / MT8150XE / MT8090XE***

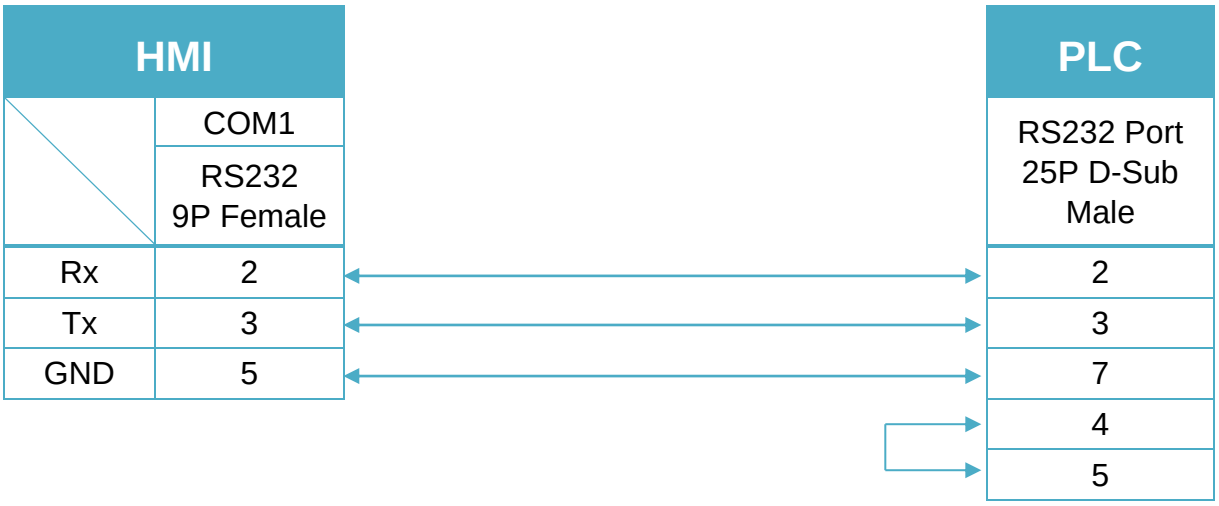


Diagram 27

MT-iE	***MT8050iE / MT8053iE***
MT-iP	***MT6051iP / MT8051iP / MT6071iP / MT8071iP***

