HM Series

Connection Manual

Connection and Setting Explanations

V1.00

2008.03.24

琦勝企業有限公司
CONCH ELECTRONIC CO., LTD.

2. Table of Contents

3. Preface

Thank you for using this product. This manual will provide the instruction of communication between HM series Human-machine Interface (HMI) and linked devices. “Register & Contact Numbering Range” listed in this document is just the maximum value that the software allows. Please don’t exceed the limitation of the linked devices themselves in practice; otherwise, it might cause communication failure. Please read this handbook carefully before you use the product to ensure the correctness and safety in use. Besides, put the handbook at a noticeable location so as to make reference more convenient. Before reading through this manual, please be sure to follow the proceedings as below:

1. Please wire according to the wiring diagram.
2. Grounding must be done for sure.
3. Please do NOT dismount HMI or make any change to the wiring when HMI is electrified.
4. Please do NOT touch the power terminal when HMI is electrified and operating to avoid electric shock.

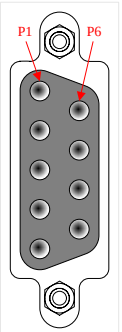
If you still have question when using the product, please contact our sales staff. Because the “Numbering Range of Registers and Contacts” might change when PLC manufacturers launch new models, the contents of this manual need modifying from time to time. Besides, it is difficult to update the information listed in this handbook with the increase of communication modules. If you need the up-to-date documents, please contact our staff or download from our Web site (http://www.conch.com.tw).

4. Pin Definition of Communication Serial Ports

The standard outfit of this product series has 3 serial communication pots, provided with 3 types of communication interface: RS232/RS485/RS422, which make it convenient to link different devices. Besides, the 3 ports can be enabled for communication at the same time to lower the burden of PLC and improve the system communication performance as a whole.

4.1. COM1

The pin definition of COM1 can support communication formats of RS232 & RS485.

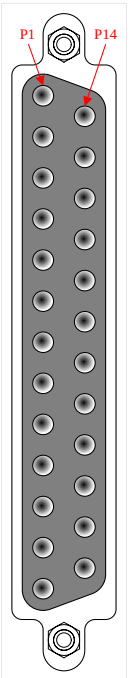


9P
(Female
Adapter)

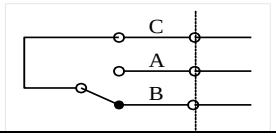
Pin	Function
1	RS485+
2	RS232 RXD
3	RS232 TXD
4	N/A
5	Signal Ground
6	RS485-
7	RS232 RTS
8	RS232 CTS
9	+5V Output (Max. 100mA)

COM2 (COM3)

The communication port COM2 supports 3 communication types: RS232 / RS485 / RS422. COM3 could be enabled if RTS/CTS Handshaking is not employed.



25P
(Female
Adapter)

Pin	COM2 Pin Definition		COM3 Pin Definition*
1	N/A		
2	RS232 TXD		
3	RS232 RXD		
4	RS232 RTS		RS232 TXD
5	RS232 CTS		RS232 RXD
6	+5V Output (Max. 100mA)		+5V Output (Max. 100mA)
7	Signal Ground		Signal Ground
8	Alarm Output (Optional)	Alarm-C	
9	Contact Specifications—	Alarm-A	
10	1A 120VAC / 24VDC	Alarm-B	
11	Terminating resistor for CTS-		Terminating resistor for RX-
12	RS422 CTS+		RS422 RX+
13	RS422 CTS-		RS422 RX-
14	RS422 TX+ / RS485+		
15	RS422 TX- / RS485-		
16	RS422 RX+		
17	RS422 RX-		
18	Terminating resistor for RX-		
19	Signal Ground		Signal Ground
20	N/A		
21	N/A		
22	N/A		
23	RS422 RTS+		RS422 TX+ / RS485+
24	RS422 RTS-		RS422 TX- / RS485-
25	N/A		

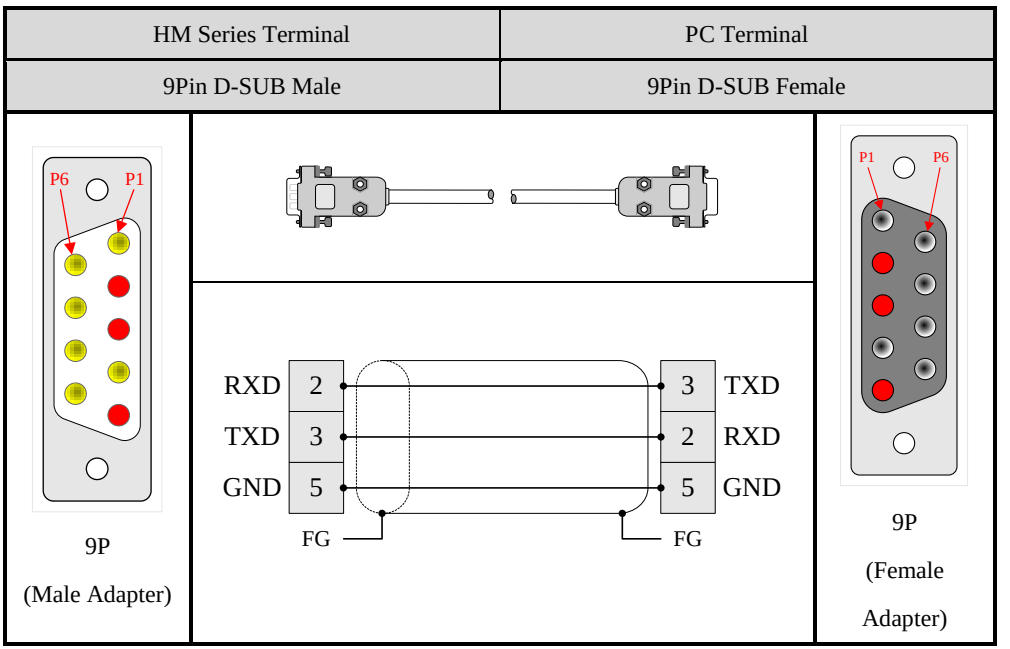
*Note: COM3 will be enabled only when RTS/CTS handshaking of COM2 is set Disable.

5. Make of Download Cable

5.1. To Download Application via Serial Ports

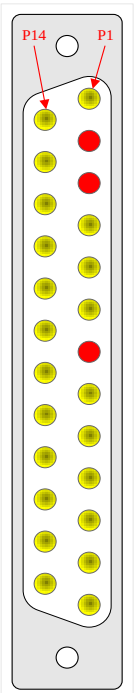
To download application, this mode must be under system utility; otherwise, the editing software will show “Communication Error”. Each of the communication port of HMI can be used. Please see the following wiring diagram for reference:

◆ **COM1 (RS232)**



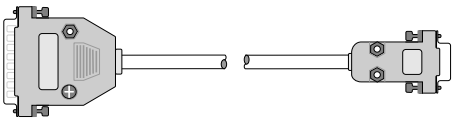
◆ COM2 (RS232)

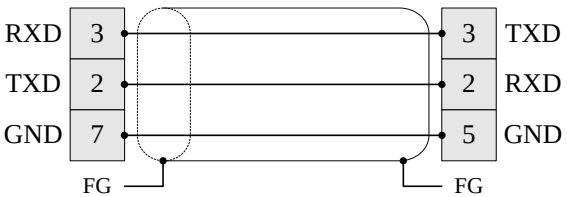
HM Series Terminal	PC Terminal
25Pin D-SUB Male	9Pin D-SUB Female

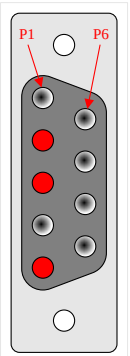


25P

(Male Adapter)







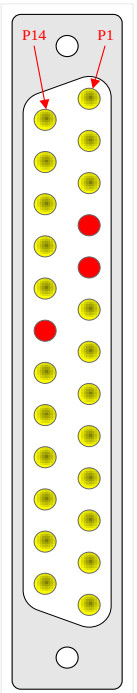
9P

(Female

Adapter)

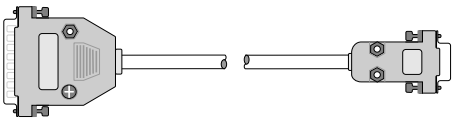
COM3 (RS232)

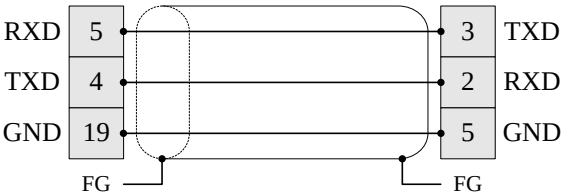
HM Series Terminal	PC Terminal
25Pin D-SUB Male	9Pin D-SUB Female

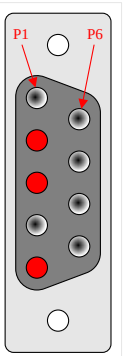


25P

(Male Adapter)







9P

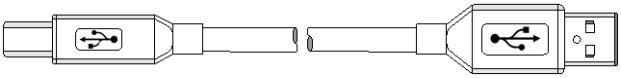
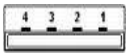
(Female

Adapter)

5.2. Direct Download via USB Port

If the download of application is through the USB port, it is not limited to be under System Utility. Download can be operated even if the application is running. Transfer cable is standard USB cable. See the below for your reference:

◆ **USB Device**

HM Series Device Terminal	PC Host Terminal
USB Type B Plug	USB Type A Plug
	
	

Pin out of the USB Type A/B Connector			
Pin	Name	Cable color	Description
1	VCC	Red	+5V DC
2	D-	White	Data-
3	D+	Green	Data+
4	GND	Black	Ground

6. Instruction of the Wiring & Setting of Supported Communication Devices

The “Numbering Range of Registers and Contacts” may change when PLC manufacturers release new models from time to time, which makes the contents of this handbook would need revising all the time. Moreover, communication modules are increasing all the time; as a result, there is difficulty updating the information listed in this handbook. If the latest version is needed, please contact the sales staff, or visit our Web site: http://www.conch.com.tw to download it.

Compatible brands and models are listed in the following table:

Brand	Model & Type
Conch	HM Series Internal Registers
Allen Bradley	MicroLogix PLC
Delta	DVP PLC
Facon	FBs Series PLC
Fuji	FLEX-PC N Series / SPB
Koyo	DirectNET Host (Direct DL / SU Series)
	Direct205 Series (K-Sequence)
LG	Master-K 120S / 200S
	Master-K CNet
LiYan	LYPLC EX Series
Matsushita	FP Series
Mitsubishi	FX Series
	FX2n Series
	FX / FX2n Computer Link (Format1 / Format4)
	FX3U Series

Brand	Model & Type
	FX3U Computer Link (Format1 / Format4)
	A Series A1SH CPU
	A Series Computer Link (Format1 ~ Format4)
Modbus	Modbus Slave ASCII Mode
	Modbus Slave RTU Mode
	Modbus Slave ASCII Mode (Hexadecimal Address)
	Modbus Slave RTU Mode (Hexadecimal Address)
	Modbus Master ASCII Mode for HM Series
	Modbus Master RTU Mode for HM Series
Omron	C Series (CPM1A / TPM1A)
	CS/CJ Series (including CP1 Series)
Siemens	S7-200 PPI
Vigor	M / VB / VH Series PLC

6.1. HM Series Internal Registers

6.1.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Internal Register	@n	n = 0~8191	Word
Memory Register	@Mn	n = 0~1023	Word
Control Block	CBn	n = 0~31	Word
Status Block	SBn	n = 0~31	Word
Extended Control Block	ECn	n = 0~31	Word
Extended Status Block	ESn	n = 0~31	Word
Recipe Number	RCPNOn	n = 1	Word
Recipe Name	RCPNOn	n = 2 (Max. 8 Bytes)	Word
Recipe Data	RCPWn	n = 0~65535	Word
Parameter Register	PAn	n = 0~65535	Word
System Control Register	SRn	n = 0~31	Byte
Internal Register	*@n	n = 0~8191	Word
Memory Register	*@Mn	n = 0~1023	Word

6.1.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Terminal Block
Internal Register Bit	@n.b	n = 0~8191, b = 0~15	b = 0
Memory Register Bit	@Mn.b	n = 0~1023, b = 0~15	b = 0
Control Block Bit	CBn.b	n = 0~31, b = 0~15	b = 0
Status Block Bit	SBn.b	n = 0~31, b = 0~15	b = 0
Extended Control Block Bit	ECn.b	n = 0~31, b = 0~15	b = 0
Extended Status Block Bit	ESn.b	n = 0~31, b = 0~15	b = 0
Recipe Data Bit	RCPWn.b	n = 0~65535, b = 0~15	b = 0
System Control Contact	SCn.b	n = 0~31, b = 0~7	b = 0
Internal Register Bit	*@n.b	n = 0~8191, b = 0~15	b = 0
Memory Register Bit	*@Mn.b	n = 0~1023, b = 0~15	b = 0

6.1.3. Function Definitions of System Controlling Status Registers:

- System Controlling Area Register: (CB0 ~ CB31; 32 words max.)

Word Register	Function
CB0	Screen Change Control Register (SNCR)
CB1	Screen Command Flag Register (SCFR)
CB2	Control Command Flag Register (CCFR)
CB3	Curve Control Register (CUCR)
CB4	Record Buffer Controlling Register1 (LCR1: LB1 ~ LB4)
CB5	Record Buffer Controlling Register2 (LCR2: LB5 ~ LB8)
CB6	Record Buffer Controlling Register3 (LCR3: LB9 ~ LB12)
CB7	Recipe Group Numbering Registers (RNIR)
CB8 ～ CB31	User-Applying Controlling Register (UACR)

- System Status Area Register: (SB0 ~ SB31; 32 words max.)

Word Register	Function
SB0	Screen Status Register (SNSR)
SB1	Screen Command Status Register (SCSR)
SB2	Controlling Command Status Register (CCSR)
SB3	Curve Controlling Status Register (CUSR)
SB4	Record Buffer Status Register1 (LSR1: LB1 ~ LB4)
SB5	Record Buffer Status Register2 (LSR2: LB5 ~ LB8)
SB6	Record Buffer Status Register3 (LSR3: LB9 ~ LB12)
SB7	Recipe Numbering Status Register (RNSR)
SB8 ～ SB31	User's Applying Status Register (UASR)

- Screen Change Control Register (SNCR): CB0

Bit Mask	Function Definition
CB0 b0 ～ CB0.b12	Screen Switching Number Assignation (0: Disabled)
CB0.b13	(Reserved)
CB0.b14	(Reserved)
CB0.b15	Screen Switching Mode Assignation (0 – Level / 1 – Trigger)

•Screen Status Register (SNSR): SB0

Bit Mask	Function Definition
SB0 b0 ～ SB0.b12	Serial Number of Present Screen
SB0.b13	(Reserved)
SB0.b14	(Reserved)
SB0.b15	Screen Switching Mode (0 – Level / 1 – Trigger)

●Screen Command Flag Register (SCFR): CB1

Bit Mask	Function Definition
CB1 b0 ～ CB1.b5	Display Language Options 1 ~ 7 (0: Disabled)
CB1.b6	(Reserved)
CB1.b7	(Reserved)
CB1.b8	LCD Backlight Off (0－Disabled / 1－Enabled)
CB1.b9	LCD Backlight On (0－Disabled / 1－Enabled)
CB1.b10 ～ CB1.b15	(Reserved)

●Screen Command Status Register (SCSR): SB1

Bit Mask	Function Definition
SB1 b0 ～ SB1.b6	(Reserved)
SB1.b7	LCD Off Status
SB1.b8	LCD Off Completed
SB1.b9	LCD On Completed
SB1.b10 ～ SB1.b15	(Reserved)

●Control Command Flag Register (CCFR): CB2

Bit Mask	Function Definition
CB2 b0	Trigger Control of Alarm History Clearing
CB2.b1	Trigger Control of Alarm Count Clearing
CB2.b2	(Reserved)
CB2.b3	(Reserved)
CB2.b4	Trigger Control of Changing Recipe Group (0 – Disable / 1 – Enable)
CB2.b5	Trigger Control of Recipe Data Retrieving (HMI ← PLC)
CB2.b6	Trigger Control of Recipe Data Write-in (HMI → PLC)
CB2.b7	(Reserved)
CB2.b8 ～ CB2.b12	Buzzer Type Assigning (0 is default setting.)
CB2.b13	Buzzer Output Trigger (0－Disabled / 1－Enabled)
CB2.b14	Alarm Output OFF (0－Disabled / 1－Enabled)
CB1.b15	Alarm Output ON (0－Disabled / 1－Enabled)

●Control Command Status Register (CCSR): SB2

Bit Mask	Function Definition
SB2 b0	Clearing Status of Alarm Records
SB2.b1	Clearing Status of Alarm Counting
SB2.b2	(Reserved)
SB2.b3	(Reserved)
SB2.b4	Triggering Status of Recipe Changing
SB2.b5	Recipe Retrieving Status (HMI ← PLC)
SB2.b6	Recipe Writing-in Status (HMI → PLC)
SB2.b7	(Reserved)
SB2.b8 ～ SB2.b10	Authority Level of Present Operator (0 ~ 7)
SB2.b11	(Reserved)
SB2.b12	Alarm Output Status
SB2.b13	Buzzer Controlling Status
SB2.b14	Alarm Contact OFF Complete
SB2.b15	Alarm Contact ON Complete

●Curve Control Register (CUCR): CB3

Trigger Flag of Curve Sampling – Trigger Flag #1 ~ #8								
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
CUCR	CB3.0	CB3.1	CB3.2	CB3.3	CB3.4	CB3.5	CB3.6	CB3.7
Function	T/S_1	T/S_2	T/S_3	T/S_4	T/S_5	T/S_6	T/S_7	T/S_8
T/S－Triggered by PLC or sampling status of the timer.								

Reset Controlling Flag of Curves Reset Flag #1 ~ #8								
Bit Mask	b8	b9	b10	b11	b12	b13	b14	b15
CUCR	CB3.8	CB3.9	CB3.10	CB3.11	CB3.12	CB3.13	CB3.14	CB3.15
Function	RS_1	RS_2	RS_3	RS_4	RS_5	RS_6	RS_7	RS_8
RS－ Reset Controlling of Curves								

●Curve Control Status Register (CUSR): SB3

Triggered Status of Curve Sampling #1 ~ #8								
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
CUSR	SB3.0	SB3.1	SB3.2	SB3.3	SB3.4	SB3.5	SB3.6	SB3.7
Function	TS_1	TS_2	TS_3	TS_4	TS_5	TS_6	TS_7	TS_8
TS－Triggered by PLC or sampling status of the timer.								

Reset Status of Curves #1 ~ #8								
Bit Mask	b8	b9	b10	b11	b12	b13	b14	b15
CUSR	SB3.8	SB3.9	SB3.10	SB3.11	SB3.12	SB3.13	SB3.14	SB3.15
Function	RS_1	RS_2	RS_3	RS_4	RS_5	RS_6	RS_7	RS_8
RS－Reset Status of Curves								

●Record Buffer Controlling Register (LCR1 ~ LCR3): CB4 ~ CB6

Item	Buffer #1				Buffer #2			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LCR1	CB4.0	CB4.1	CB4.2	CB4.3	CB4.4	CB4.5	CB4.6	CB4.7
Function	T/S	RS	0	0	T/S	RS	0	0

Item	Buffer #3				Buffer #4			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LCR2	CB4.8	CB4.9	CB4.10	CB4.11	CB4.12	CB4.13	CB4.14	CB4.15
Function	T/S	RS	0	0	T/S	RS	0	0

Item	Buffer #5				Buffer #6			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LCR2	CB5.0	CB5.1	CB5.2	CB5.3	CB5.4	CB5.5	CB5.6	CB5.7
Function	T/S	RS	0	0	T/S	RS	0	0

Item	Buffer #7				Buffer #8			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LCR2	CB5.8	CB5.9	CB5.10	CB5.11	CB5.12	CB5.13	CB5.14	CB5.15
Function	T/S	RS	0	0	T/S	RS	0	0

Item	Buffer #9				Buffer #10			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LCR3	CB6.0	CB6.1	CB6.2	CB6.3	CB6.4	CB6.5	CB6.6	CB6.7
Function	T/S	RS	0	0	T/S	RS	0	0

Item	Buffer #11				Buffer #12			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LCR3	CB6.8	CB6.9	CB6.10	CB6.11	CB6.12	CB6.13	CB6.14	CB6.15
Function	T/S	RS	0	0	T/S	RS	0	0

T/S ─ Triggered by PLC or sampling status of the timer.

RS ─ Reset controlling of buffer.

●Record Buffer Status Register (LSR1 ~ LSR3): SB4 ~ SB6

Item	Buffer #1				Buffer #2			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LSR1	SB4.0	SB4.1	SB4.2	SB4.3	SB4.4	SB4.5	SB4.6	SB4.7
Function	T/S	RS	FS	0	T/S	RS	FS	0

Item	Buffer #3				Buffer #4			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LSR1	SB4.8	SB4.9	SB4.10	SB4.11	SB4.12	SB4.13	SB4.14	SB4.15
Function	T/S	RS	FS	0	T/S	RS	FS	0

Item	Buffer #5				Buffer #6			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LSR2	SB5.0	SB5.1	SB5.2	SB5.3	SB5.4	SB5.5	SB5.6	SB5.7
Function	T/S	RS	FS	0	T/S	RS	FS	0

Item	Buffer #7				Buffer #8			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LSR2	SB5.8	SB5.9	SB5.10	SB5.11	SB5.12	SB5.13	SB5.14	SB5.15
Function	T/S	RS	FS	0	T/S	RS	FS	0

Item	Buffer #9				Buffer #10			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LSR3	SB6.0	SB6.1	SB6.2	SB6.3	SB6.4	SB6.5	SB6.6	SB6.7
Function	T/S	RS	FS	0	T/S	RS	FS	0

Item	Buffer #11				Buffer #12			
Bit Mask	b0	b1	b2	b3	b4	b5	b6	b7
LSR3	SB6.8	SB6.9	SB6.10	SB6.11	SB6.12	SB6.13	SB6.14	SB6.15
Function	T/S	RS	FS	0	T/S	RS	FS	0

T/S－Triggered by PLC or sampling status of the timer

RS－ Reset status of buffer

FS－Full status of buffer

6.2. Allen Bradley MicroLogix PLC

6.2.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address		Data Length
		Word No.	Bit No.	
Output file	O:0.n	n = 0~3	0	Word
Input file	I:1.n	n = 0~3	0	Word
Status file	S2:n	n = 0~65	0	Word
Bit file	B3:n	n = 0~254	0	Word
Timer flag	T4:n.0	n = 0~254	0	Word
Timer Preset Value	T4:n.PRE	n = 0~254	0	Word
Timer Accumulator Value	T4:n.ACC	n = 0~254	0	Word
Counter flag	C5:n.0	n = 0~254	0	Word
Counter Preset Value	C5:n.PRE	n = 0~254	0	Word
Counter Accumulator Value	C5:n.ACC	n = 0~254	0	Word
Control file	R6:n.0	n = 0~254	0	Word
Control Size of Bit Array	R6:n.LEN	n = 0~254	0	Word
Control Reserved file	R6:n.POS	n = 0~254	0	Word
Integer file	N7:n	n = 0~254	0	Word

6.2.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address		Block
		Word No.	Bit No.	
Output file	O:0.n/b	n = 0~3	b = 0~15	b = 0
Input file	I:1.n/b	n = 0~3	b = 0~15	b = 0
Status file	S2:n/b	n = 0~65	b = 0~15	b = 0
Bit file	B3:n/b	n = 0~254	b = 0~15	b = 0
Timer flag	T4:n.0/b	n = 0~254	b = 0~15	b = 0
	T4:n.0/EN		EN = 15	
	T4:n.0/TT		TT = 14	
	T4:n.0/DN		DN = 13	
Timer Preset Value	T4:n.PRE/b	n = 0~254	b = 0~15	
Timer Accumulator Value	T4:n.ACC/b	n = 0~254	b = 0~15	
Counter flag	C5:n.0/b	n = 0~254	b = 0~15	b = 0
	C5:n.0/CU		CU = 15	
	C5:n.0/CD		CD = 14	
	C5:n.0/DN		DN = 13	
	C5:n.0/OV		OV = 12	
	C5:n.0/UN		UN = 11	
	C5:n.0/UA		UA = 10	
Counter Preset Value	C5:n.PRE/b	n = 0~254	b = 0~15	
Counter Accumulator Value	C5:n.ACC/b	n = 0~254	b = 0~15	
Control file	R6:n.0/b	n = 0~254	b = 0~15	b = 0
	R6:n.0/EN		EN = 15	
	R6:n.0/DN		DN = 13	
	R6:n.0/ER		ER = 11	
	R6:n.0/UL		UL = 10	
Control file	R6:n.0/IN		IN = 9	

	R6:n.0/FD		FD = 8	
Control Size of Bit Array	R6:n.LEN/b	n = 0~254	b = 0~15	
Control Reserved file	R6:n.POS/b	n = 0~254	b = 0~15	
Integer file	N7:n.0/b	n = 0~254	b = 0~15	b = 0

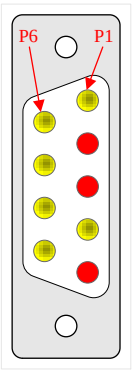
6.2.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	1	
Communication Mode	RS232C	
Baud Rate	19200 bps	
Data Length	8 bits	
Parity Check	None	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	0	

6.2.4. Explanation of Communication Wiring:

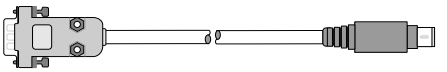
- **COM1 (RS232)**

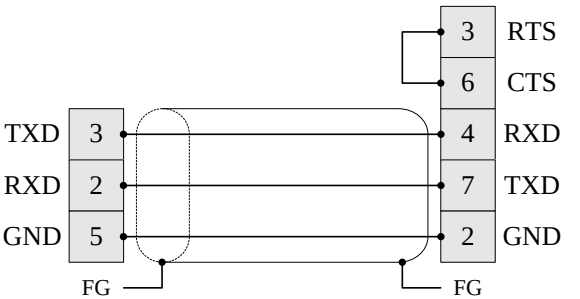
HM Series Terminal	PLC CPU Port Terminal
9Pin D-SUB Male	8Pin Mini DIN Male

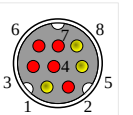


9P

(Male Adapter)







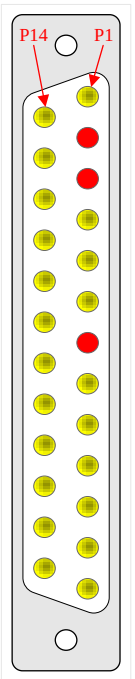
8P

(Male

Adapter)

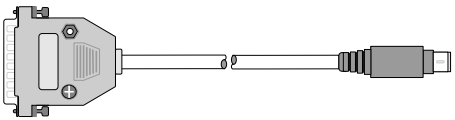
- **COM2 (RS232)**

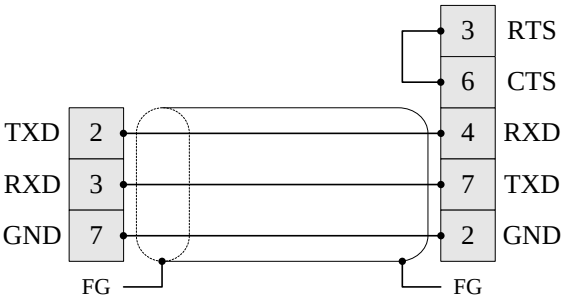
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	8Pin Mini DIN Male

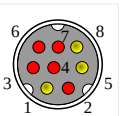


25P

(Male Adapter)





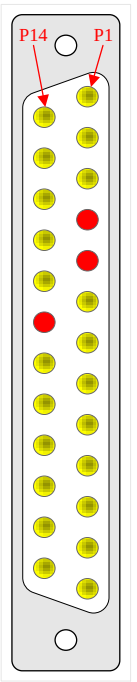


8P

(Male Adapter)

- **COM3 (RS232)**

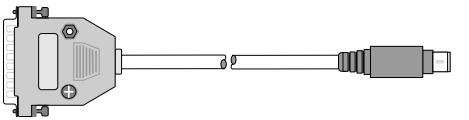
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	8Pin Mini DIN Male

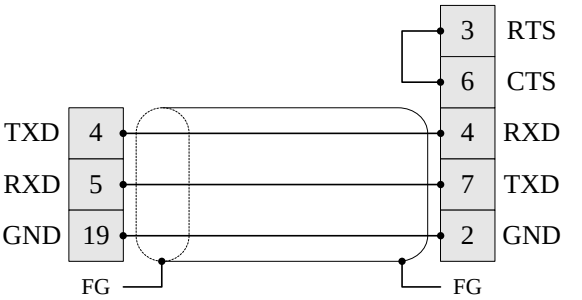


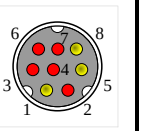
25P

(Male

Adapter)







8P

(Male

Adapter)

6.3. Delta DVP PLC

6.3.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Step relay	Sn	n = 0~1008 (must be multiples of 16)	Word
Input relay	Xn	n = 0~360 (Octal system, Multiples of 20)	Word
Output relay	Yn	n = 0~360 (Octal system, Multiples of 20)	Word
Internal relay	Mn	n = 0~4080 (must be multiples of 16)	Word
Timer current value	Tn	n = 0~255	Word
Counter current value	Cn	n = 0~199	Word
Data register	Dn	n = 0~9999	Word
Counter 32 bits	Cn	n = 200~255	DWord

6.3.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Step relay	Sn	n = 0~1023	Multiples of 16
Input relay	Xn	n = 0~377 (Octal system)	Multiples of 20
Output relay	Yn	n = 0~377 (Octal system)	Multiples of 20
Internal relay	Mn	n = 0~4095	Multiples of 16
Timer relay	Tn	n = 0~255	
Counter relay	Cn	n = 0~255	

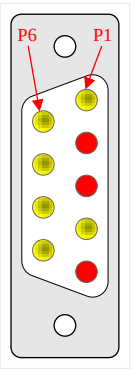
6.3.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	1	
Communication Mode	RS232	RS232 / RS485
Baud Rate	9600 bps	
Data Length	7 bits	
Parity Check	Even	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.3.4. Explanation of Communication Wiring:

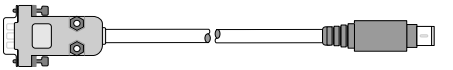
- **COM1 (RS232)**

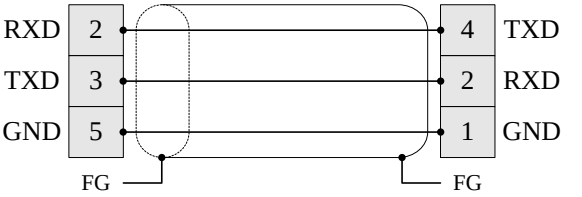
HM Series Terminal	PLC CPU Port Terminal
9Pin D-SUB Male	8Pin Mini DIN Male

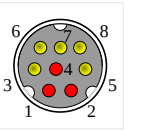


9P

(Male Adapter)





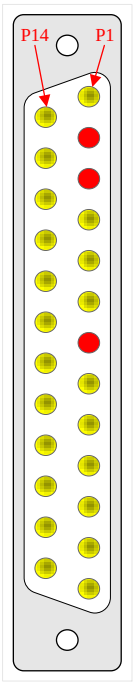


8P

(Male Adapter)

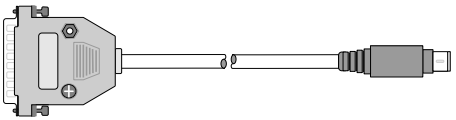
- **COM2 (RS232)**

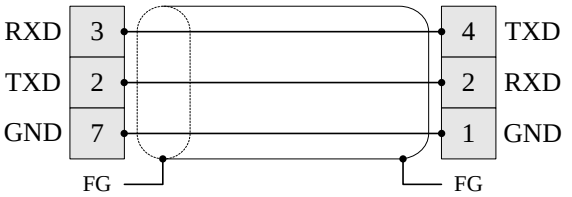
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	8Pin Mini DIN Male

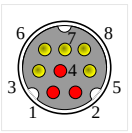


25P

(Male Adapter)





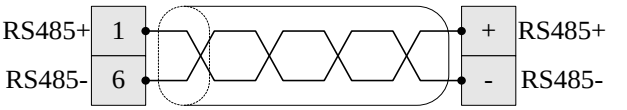


8P

(Male Adapter)

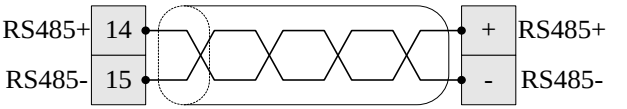
- **COM1 (RS485)**

HM Series Terminal	PLC RS485Terminal



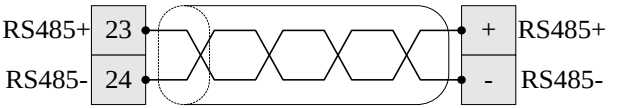
- **COM2 (RS485)**

HM Series Terminal	PLC RS485Terminal



- **COM3 (RS485)**

HM Series Terminal	PLC RS485Terminal



6.4. Facon FBs Series PLC

6.4.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Input Relay	WXn	n = 0~9984 (Must be multiples of 8)	Word
Output Relay	WYn	n = 0~9984 (Must be multiples of 8)	Word
Internal Relay	WMn	n = 0~9984 (Must be multiples of 8)	Word
Special Relay	WMn	n = 0~9984 (Must be multiples of 8)	Word
Step Relay	WSn	n = 0~9984 (Must be multiples of 8)	Word
Timer Present Value	RTn	n = 0~9999	Word
Counter Present Value	RCn	n = 0~9999	Word
Data Register	Rn	n = 0~65534	Word
32-bit Counter Present Value	DRCn	n = 200~255	DWord
Data Register	Dn	n = 0~65534	Word

6.4.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Input Relay	Xn	n = 0~9999	Multiples of 8
Output Relay	Yn	n = 0~9999	Multiples of 8
Internal Relay	Mn	n = 0~9999	Multiples of 8
Special Relay	Mn	n = 0~9999	Multiples of 8
Step Relay	Sn	n = 0~9999	Multiples of 8
Timer Flag	Tn	n = 0~9999	
Counter Flag	Cn	n = 0~9999	

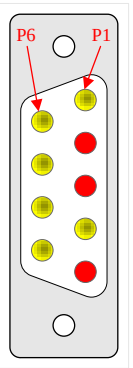
6.4.3. Settings of Communication Parameters: (According to Linked Device)

Parameter	Default Value	Setting Range
Device Address	1	1 ~ 254
Communication Mode	RS232	RS232 / RS485
Baud Rate	9600 bps	9600 bps ~ 115200 bps
Data Length	7 bits	7 bits / 8 bits
Parity Check	Even	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.4.4. Explanation of Communication Wiring:

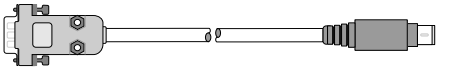
- **COM1 (RS232)**

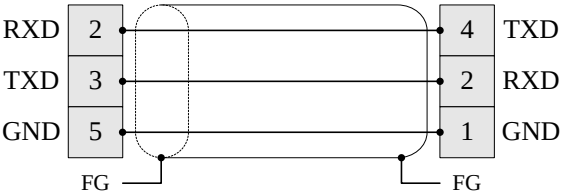
HM Series Terminal	PLC Port0Terminal
9Pin D-SUB Male	4Pin Mini DIN Male

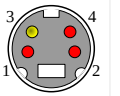


9P

(Male Adapter)





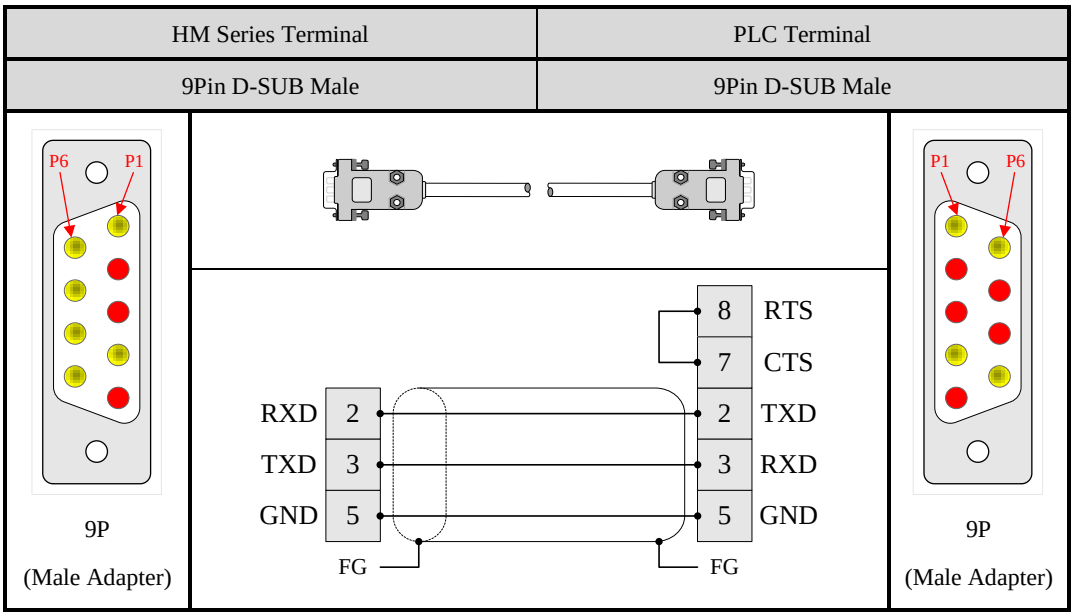


4P

(Male

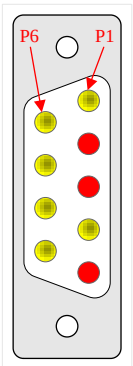
Adapter)

- **COM1 (RS232)**


HM Series Terminal
PLC Terminal
9Pin D-SUB Male
9Pin D-SUB Male
P6
P1
9P
(Male Adapter)
8 RTS
7 CTS
RXD 2
TXD 3
GND 5
2 TXD
3 RXD
5 GND
FG
FG
P1
P6
9P
(Male Adapter)

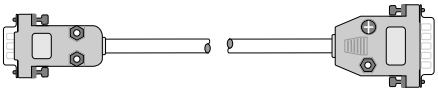
- **COM1 (RS232)**

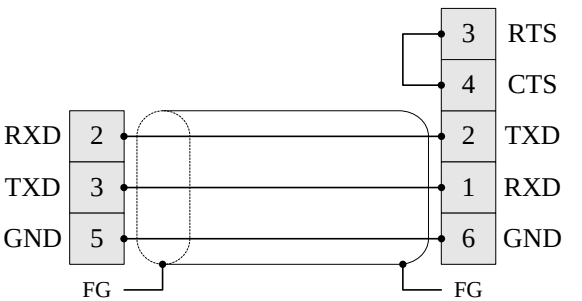
HM Series Terminal	PLC Terminal
9Pin D-SUB Male	15Pin D-SUB Male

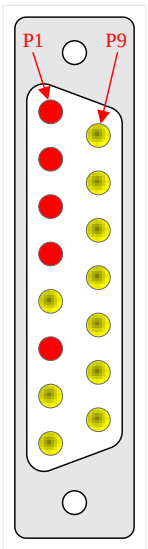


9P

(Male Adapter)





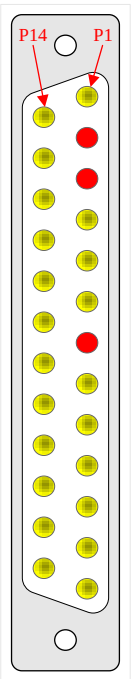


15P

(Male Adapter)

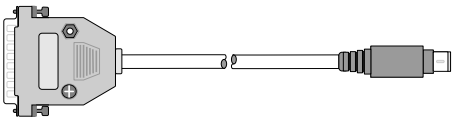
- **COM2 (RS232)**

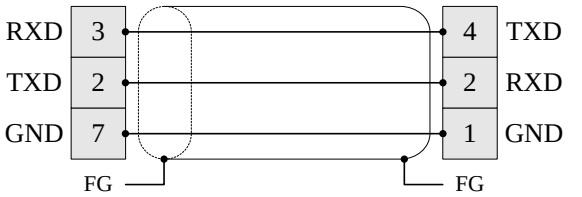
HM Series Terminal	PLC Port0 Terminal
25Pin D-SUB Male	4Pin Mini DIN Male

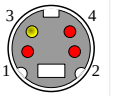


25P

(Male Adapter)







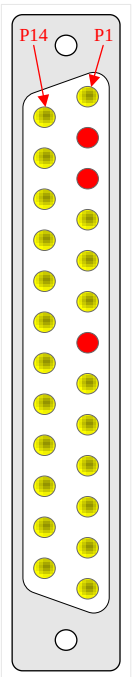
4P

(Male

Adapter)

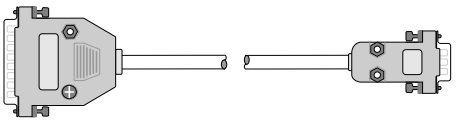
- **COM2 (RS232)**

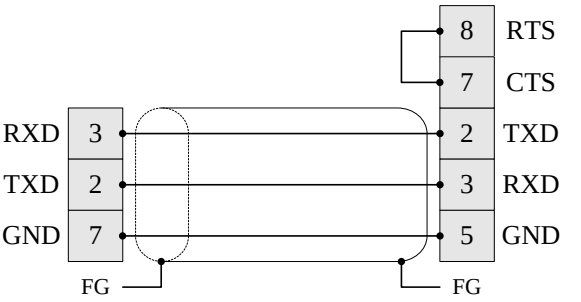
HM Series Terminal	PLC Terminal
25Pin D-SUB Male	9Pin D-SUB Male

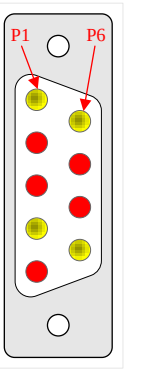


25P

(Male Adapter)





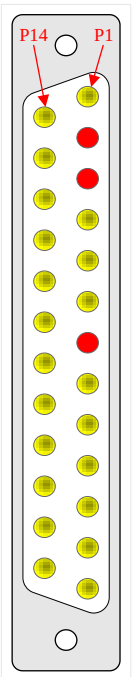


9P

(Male Adapter)

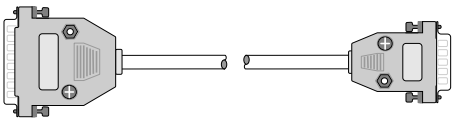
- **COM2 (RS232)**

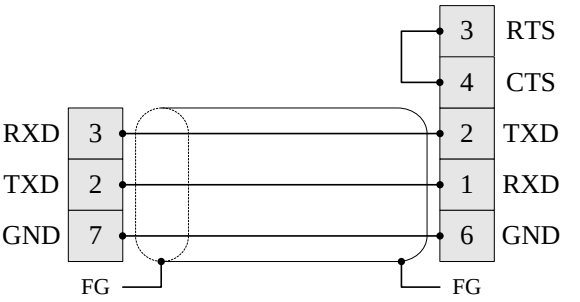
HM Series Terminal	PLC Terminal
25Pin D-SUB Male	15Pin D-SUB Male

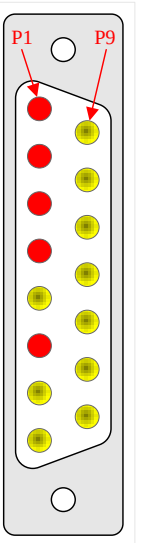


25P

(Male Adapter)





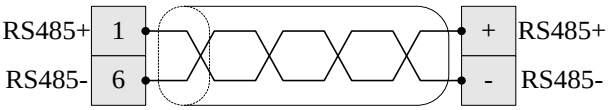


15P

(Male Adapter)

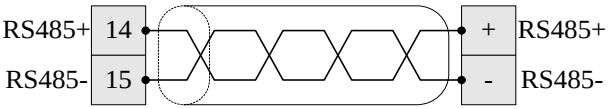
- **COM1 (RS485)**

HM Series Terminal	PLC RS485 Terminal



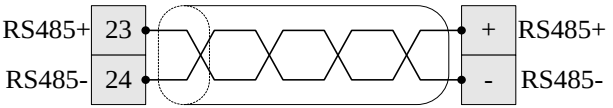
- **COM2 (RS485)**

HM Series Terminal	PLC RS485 Terminal



- **COM3 (RS485)**

HM Series Terminal	PLC RS485 Terminal



6.5. Fuji FLEX-PC N Series / SPB

6.5.1. Register Type & Range: (Addresses of Hexadecimal Values)

Register Type	Code Format	Numbering Range of Address	Data Length
Input Relay	Xn	n = 0~3F0 (must be multiples of 10)	Word
Output Relay	Yn	n = 0~3F0 (must be multiples of 10)	Word
Internal Relay	Mn	n = 0~3F0 (must be multiples of 10) n = 400~FF0 (must be multiples of 10) n = 8000~81F0 (must be multiples of 10)	Word
Timer Relay	Tn	n = 0~1F0 (must be multiples of 10)	Word
Counter Relay	Cn	n = 0~F0 (must be multiples of 10)	Word
Data Register	Dn	n = 0~1FFF n = 8000~80FF	Word
Latch Relay	Ln	n = 0~FF0 (must be multiples of 10)	Word
Timer current value	TNn	n = 0~1FF	Word
Counter Current Value	CNn	n = 0~FF	Word

6.5.2. Contact Type & Range: (Addresses of Hexadecimal Values)

Contact Type	Code Format	Numbering Range of Address	Block
Input Relay	Xn	n = 0~3FF	Muliples of 10
Output Relay	Yn	n = 0~3FF	Multiples of 10
Internal Relay	Mn	n = 0~3FF n = 400~FFF n = 8000~81FF	Multiples of 10
Step Relay	Sn	n = 0~3FF	
Timer Relay	Tn	n = 0~1FF	Multiples of 10
Counter Relay	Cn	n = 0~FF	Multiples of 10
Latch Relay	Ln	n = 0~FFF	Multiples of 10

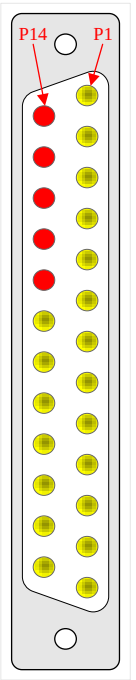
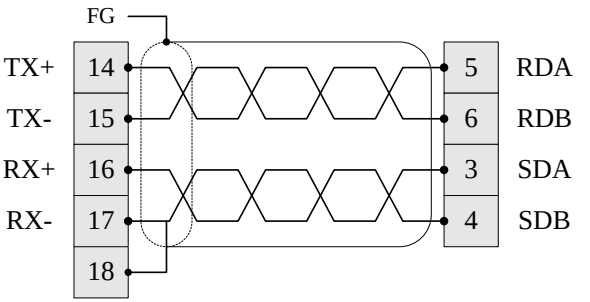
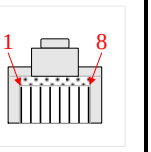
6.5.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	Null	
Communication Mode	RS422	
Baud Rate	19200 bps	
Data Length	8 bits	
Parity Check	Odd	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.5.4. Explanation of Communication Wiring:

- **COM2 (RS422)**

HM Series Terminal	PLC CPU Port Terminal

25Pin D-SUB Male		8Pin RJ45 Male
 25P (Male Adapter)		 8P (Male Adapter)

6.6. Koyo DirectNET Host (DL/SU Series)

6.6.1. Register Type & Ranger: (Value Addresses of Octal Number System)

Register Type	Code Format	Numbering Range of Address		Data Length
Timer Current Value	TNn	n = 0~177		Word
Counter Current Value	CNn	n = 0~177		Word
Input Status	Xn	n = 0~460 (must be multiples of 10)		Word
Output Status	Yn	n = 0~460 (must be multiples of 10)		Word
Control Relay	Cn	n = 0~720 (must be multiples of 10)		Word
Stages	Sn	n = 0~760 (must be multiples of 10)		Word
Timer Status	Tn	n = 0~160 (must be multiples of 10)		Word
Counter Status	CTn	n = 0~160 (must be multiples of 10)		Word
Special Relay	SPn	n = 0~120 (must be multiples of 10) n = 320~600 (must be multiples of 10)		Word
Remote IN	GXn	n = 0~760 (must be multiples of 10)		Word
V Memory	Vn	n = 0~177	Timer Current Value	Word
		n = 1000~1177	Counter Current Value	
		n = 1400~7777	Data Register	
		n = 40000~40037	Remote IN	
		n = 40400~40423	Input Status	
		n = 40500~40523	Output Status	
		n = 40600~40635	Control Relay	
		n = 41000~41027	Stages	
		n = 41100~41107	Timer Status	

V Memory	Vn	n = 41140~41147	Counter Status	
		n = 41200~41205	Special Relay	
		n = 41216~41230	Special Relay	

6.6.2. Contact Type & Range: (Value Addresses of Octal Number System)

Contact Type	Code Format	Numbering Range of Address	Block
Input Status	Xn	n = 0~477	Multiples of 10
Output Status	Yn	n = 0~477	Multiples of 10
Control Relay	Cn	n = 0~737	Multiples of 10
Stages	Sn	n = 0~777	Multiples of 10
Timer Status	Tn	n = 0~177	Multiples of 10
Counter Status	CTn	n = 0~177	Multiples of 10
Special Relay	SPn	n = 0~137 n = 320~617	Multiples of 10
Remote IN	GXn	n = 0~777	Multiples of 10

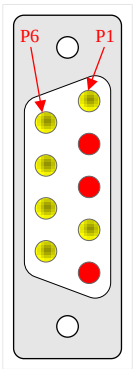
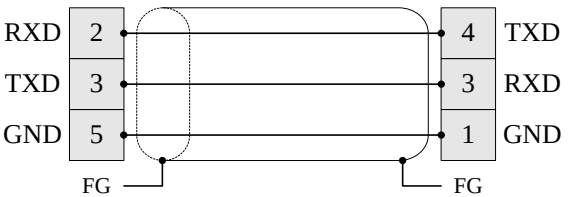
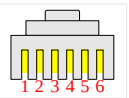
6.6.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	1	1 ~ 90

Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	9600 bps / 19200 bps
Data Length	8 bits	
Parity Check	Odd	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

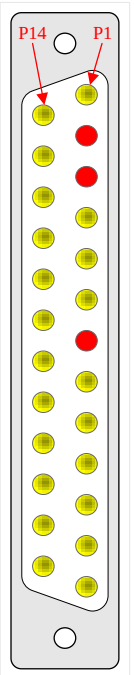
6.6.4. Explanation of Communication Wiring:

- **COM1 (RS232)**

HM Series Terminal		PLC CPU240 RS232 Port Terminal
9Pin D-SUB Male		6Pin RJ11 Male
 9P (Male Adapter)		 6P (Male Adapter)

- **COM2 (RS232)**

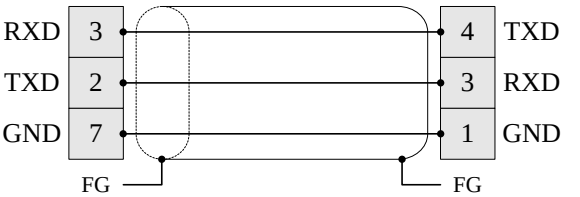
HM Series Terminal	PLC CPU240 RS232 Port Terminal
25Pin D-SUB Male	6Pin RJ11 Male

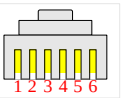


25P

(Male

Adapter)





6P

(Male

Adapter)

6.7. Koyo Direct205 Series (K-Sequence)

6.7.1. Register Type & Range: (Value Addresses of Octal Number System)

Register Type	Code Format	Numbering Range of Address	Data Length
Input relay	Xn	n = 0~1760 (Multiples of 20)	Word
Output relay	Yn	n = 0~1760 (Multiples of 20)	Word
Internal relay	Cn	n = 0~3760 (Multiples of 20)	Word
Stages	Sn	n = 0~1760 (Multiples of 20)	Word
Timer relay	Tn	n = 0~360 (Multiples of 20)	Word
Counter relay	CTn	n = 0~360 (Multiples of 20)	Word
Data register	Vn	n = 0~7777	Word
Special relay	SPn	n = 0~760 (Multiples of 20)	Word
Timer current value	TNn	n = 0~377	Word
Counter current value	CNn	n = 0~377	Word
Remote Input	GXn	n = 0~360 (Multiples of 20)	Word
Remote Output	GYn	n = 0~360 (Multiples of 20)	Word

6.7.2. Contact Type & Range:(Value Addresses of Octal Number System)

Contact Type	Code Format	Numbering Range of Address	Block
Input relay	Xn	n = 0~1777	
Output relay	Yn	n = 0~1777	
Internal relay	Cn	n = 0~3777	
Stages	Sn	n = 0~1777	
Timer relay	Tn	n = 0~377	
Counter relay	CTn	n = 0~377	
Special relay	SPn	n = 0~777	
Remote Input	GXn	n = 0~377	
Remote Output	GYn	n = 0~377	

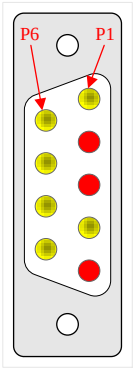
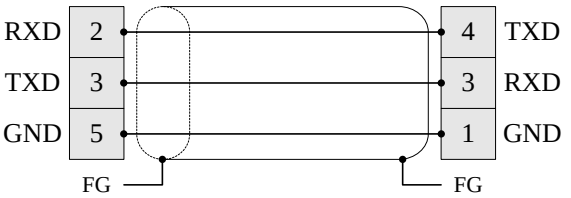
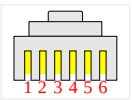
6.7.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	1	
Communication Mode	RS232	
Baud Rate	9600 bps	
Data Length	8 bits	
Parity Check	Odd	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.7.4. Explanation of Communication Wiring:

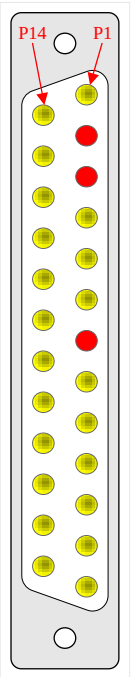
- **COM1 (RS232)**

HM Series Terminal	PLC CPU240 RS232 Port Terminal

9Pin D-SUB Male		6Pin RJ11 Male
 9P (Male Adapter)		 6P (Male Adapter)

- **COM2 (RS232)**

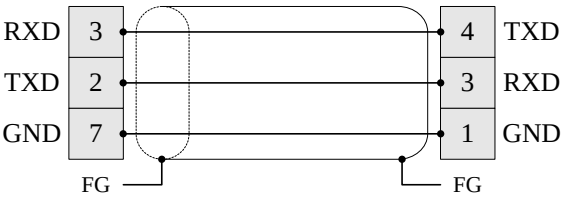
HM Series Terminal	PLC CPU240 RS232 Port Terminal
25Pin D-SUB Male	6Pin RJ11 Male

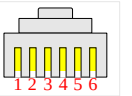


25P

(Male

Adapter)





6P

(Male

Adapter)

6.8. LG Master-K 120S / 200S

6.8.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
I/O relay	Pn	n = 0~63	Word
Auxiliary relay	Mn	n = 0~191	Word
Data register	Dn	n = 0~9999	Word
Timer elapsed value	Tn	n = 0~255	Word
Counter elapsed value	Cn	n = 0~255	Word
Keep relay	Kn	n = 0~31	Word
Link relay	Ln	n = 0~63	Word
Special relay	Fn	n = 0~63	Word
Step Controller	Sn	n = 0~99	Word

6.8.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
I/O relay	Pnb	n = 0~63, b = 0~15	b = 0
Auxiliary relay	Mnb	n = 0~191, b = 0~15	b = 0
Timer relay	Tn	n = 0~255	
Counter relay	Cn	n = 0~255	
Keep relay	Knb	n = 0~31, b = 0~15	b = 0
Link relay	Lnb	n = 0~63, b = 0~15	b = 0
Special relay	Fnb	n = 0~63, b = 0~15	b = 0
Data register	Dnb	n = 0~9999, b = 0~15	b = 0

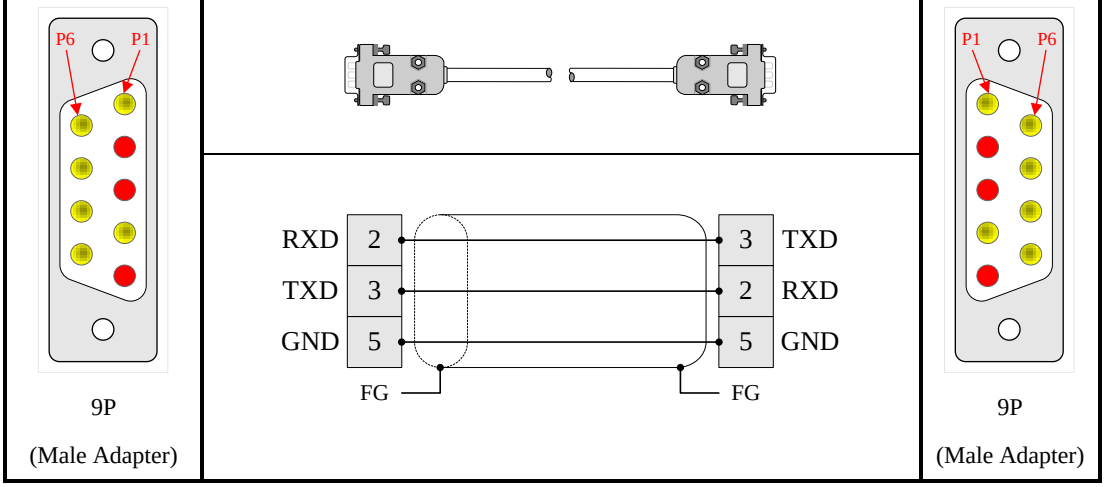
6.8.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	Null	
Communication Mode	RS232	
Baud Rate	38400 bps	
Data Length	8 bits	
Parity Check	None	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.8.4. Explanation of Communication Wiring:

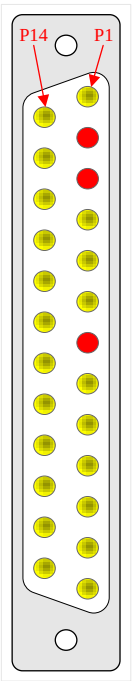
- **COM1 (RS232)**

HM Series Terminal	PLC CPU Port Terminal
9Pin D-SUB Male	9Pin D-SUB Male



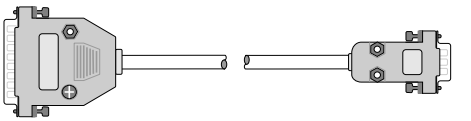
- **COM2 (RS232)**

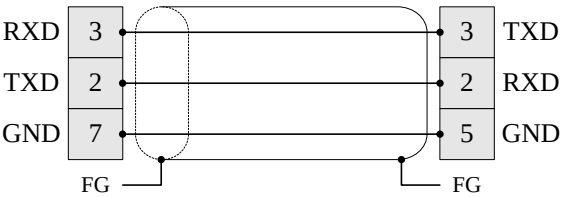
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	9Pin D-SUB Male

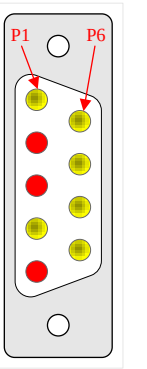


25P

(Male Adapter)





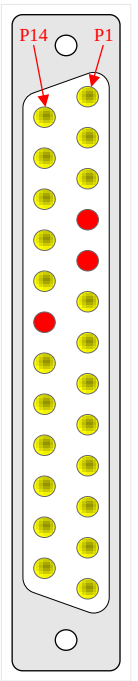


9P

(Male Adapter)

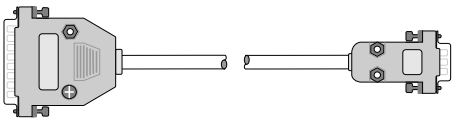
- **COM3 (RS232)**

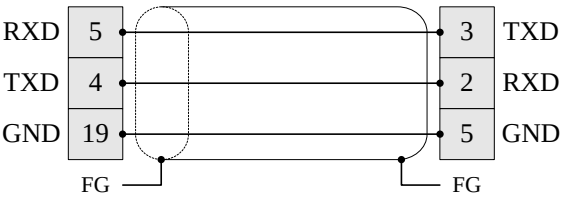
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	9Pin D-SUB Male

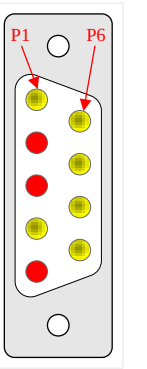


25P

(Male Adapter)







9P

(Male Adapter)

6.9. LG Master-K CNet

6.9.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
I/O relay	Pn	n = 0~63	Word
Auxiliary relay	Mn	n = 0~191	Word
Data register	Dn	n = 0~9999	Word
Timer elapsed value	Tn	n = 0~255	Word
Counter elapsed value	Cn	n = 0~255	Word
Keep relay	Kn	n = 0~31	Word
Link relay	Ln	n = 0~63	Word
Special relay	Fn	n = 0~63	Word
Step Controller	Sn	n = 0~99	Word

6.9.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
I/O relay	Pnb	n = 0~63, b = 0~15	b = 0
Auxiliary relay	Mnb	n = 0~191, b = 0~15	b = 0
Timer relay	Tn	n = 0~255	
Counter relay	Cn	n = 0~255	
Keep relay	Knb	n = 0~31, b = 0~15	b = 0
Link relay	Lnb	n = 0~63, b = 0~15	b = 0
Special relay	Fnb	n = 0~63, b = 0~15	b = 0

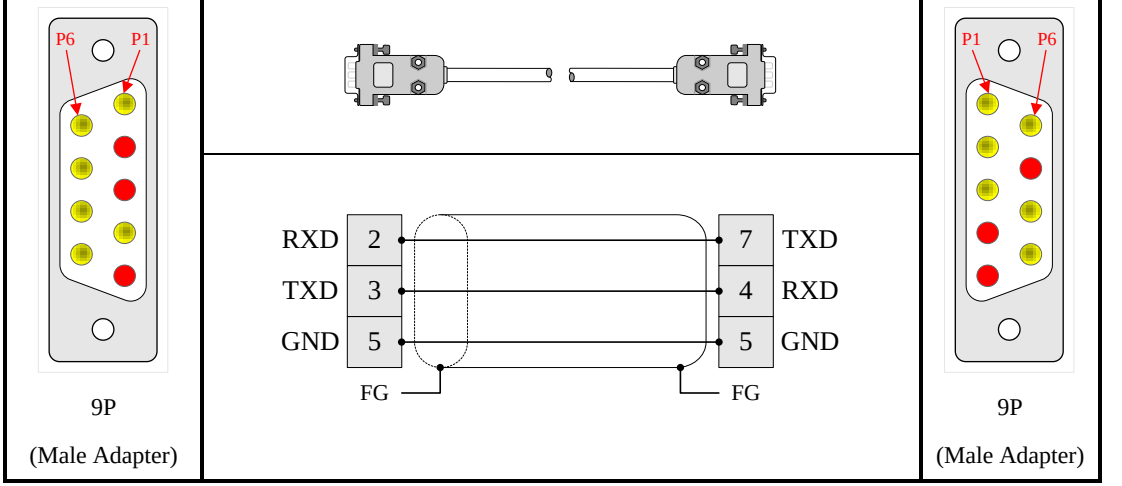
6.9.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	0	0 ~ 31
Communication Mode	RS232	RS232 / RS485
Baud Rate	38400 bps	4800 bps ~ 57600 bps
Data Length	8 bits	7 bits / 8 bits
Parity Check	None	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.9.4. Explanation of Communication Wiring:

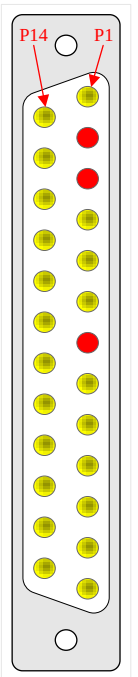
- **COM1 (RS232)**

HM Series Terminal	PLC CPU Port Terminal
9Pin D-SUB Male	9Pin D-SUB Male



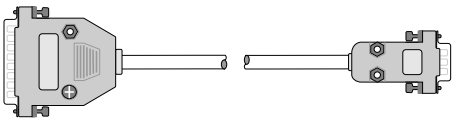
- **COM2 (RS232)**

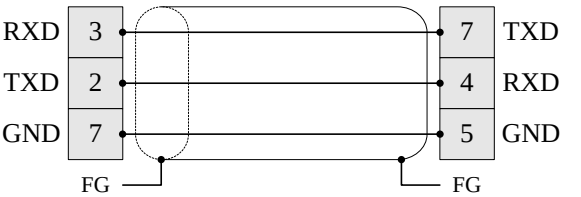
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	9Pin D-SUB Male

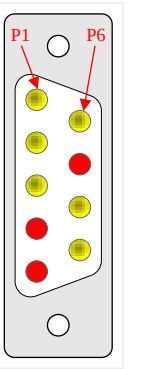


25P

(Male Adapter)





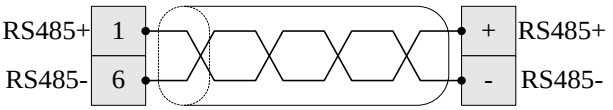


9P

(Male Adapter)

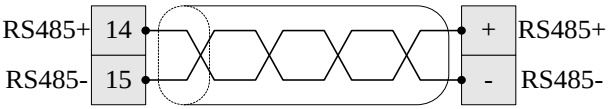
- **COM1 (RS485)**

HM Series Terminal	PLC RS485 Terminal



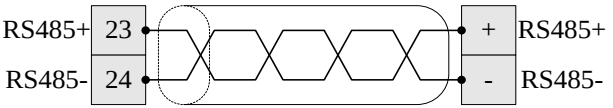
- **COM2 (RS485)**

HM Series Terminal	PLC RS485 Terminal



- **COM3 (RS485)**

HM Series Terminal	PLC RS485 Terminal



6.10. LiYan LYPLC EX Series

6.10.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Auxiliary Relay	Mn	n = 0~3056 (Must be multiples of 8)	Word
Special Auxiliary Relay	Mn	n = 8000~8240 (Must be multiples of 8)	Word
State Relay	Sn	n = 0~984 (Must be multiples of 8)	Word
Input Relay	Xn	n = 0~360 (Octal system, must be multiples of 10)	Word
Ouput Relay	Yn	n = 0~360 (Octal system, must be multiples of 10)	Word
Timer PV	Tn	n = 0~255	Word
16-bit Counter PV	Cn	n = 0~199	Word
32-bit Counter PV	Cn	n = 200~255	DWord
Data Register	Dn	n = 0~7999	Word
Special Data Register	Dn	n = 8000~8255	Word

6.10.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Auxiliary Relay	Mn	n = 0~3071	Multiples of 8
Special Auxiliary Relay	Mn	n = 8000~8255	Multiples of 8
State Relay	Sn	n = 0~999	Multiples of 8
Input Relay	Xn	n = 0~377 (Octal system)	Multiples of 10
Ouput Relay	Yn	n = 0~377 (Octal system)	Multiples of 10

Timer Flag	Tn	n = 0~255	
Counter Flag	Cn	n = 0~255	

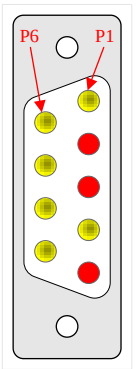
6.10.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	Null	
Communication Mode	RS232	
Baud Rate	9600 bps	
Data Length	7 bits	
Parity Check	Even	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.10.4. Explanation of Communication Wiring:

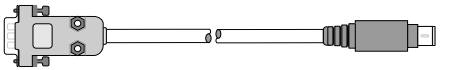
- **COM1 (RS232)**

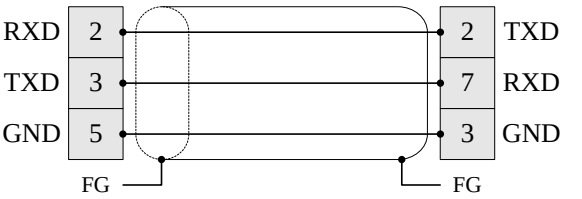
HM Series Terminal	PLC CPU Port Terminal
9Pin D-SUB Male	8Pin Mini DIN Male

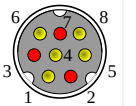


9P

(Male Adapter)





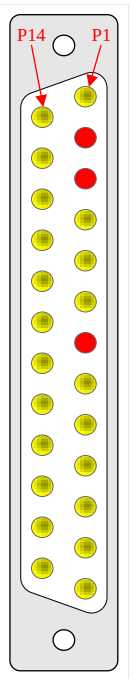


8P

(Male Adapter)

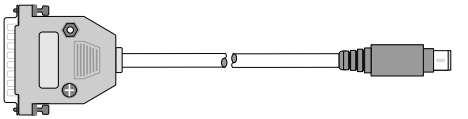
- **COM2 (RS232)**

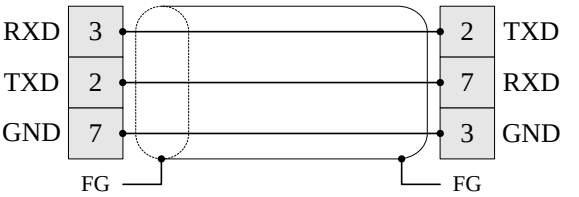
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	8Pin Mini DIN Male

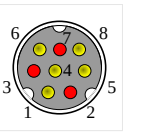


25P

(Male Adapter)







8P

(Male Adapter)

6.11. Matsushita FP Series

6.11.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Internal Relay	WRn	n = 0~875	Word
Special Internal Relay	WRn	n = 900~910	Word
Link Relay	WLn	n = 0~639	Word
External Input Relay	WXn	n = 0~255	Word
External Output Relay	WYn	n = 0~255	Word
Timer/Counter P.V.	EVn	n = 0~2047	Word
Timer/Counter S.V.	SVn	n = 0~2047	Word
Data Register	DTn	n = 0~32764	Word
Special Data Register	DTn	n = 9000~9255	Word
Link Data Register	LDn	n = 0~8447	Word
File Register	FLn	n = 0~32764	Word

6.11.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Internal Relay	Rnb	n = 0~875, b = 0~F (Hexadecimal)	b = 0
Special Internal Relay	Rnb	n = 900~910, b = 0~F (Hexadecimal)	b = 0
Link Relay	Lnb	n = 0~639, b = 0~F (Hexadecimal)	b = 0
External Input Relay	Xnb	n = 0~255, b = 0~F (Hexadecimal)	b = 0
External Output Relay	Ynb	n = 0~255, b = 0~F (Hexadecimal)	b = 0
Timer Flag Contact	Tn	n = 0~2047	
Counter Flag Contact	Cn	n = 0~2047	

6.11.3. Settings of Communication Parameters: (According to Linked Device)

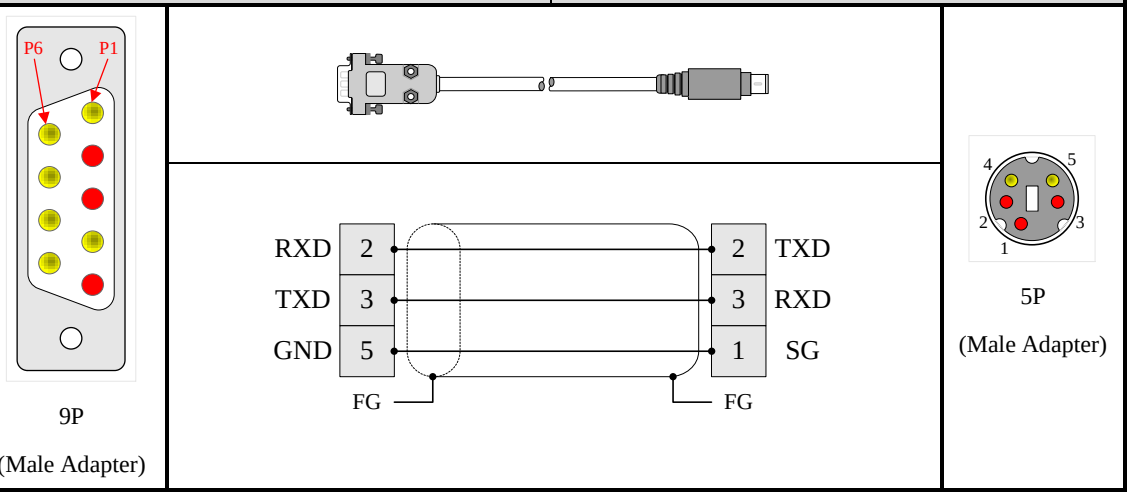
Parameters	Default Value	Setting Range

Device Address	1	1 ~ 99
Communication Mode	RS232	RS232 / RS485
Baud Rate	9600 bps	4800 bps / 115200 bps
Data Length	8 bits	7 bits / 8 bits
Parity Check	Odd	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.11.4. Explanation of Communication Wiring:

- **COM1 (RS232)**

HM Series Terminal	PLC CPU Port Terminal
9Pin D-SUB Male	5Pin Mini DIN Male



9P

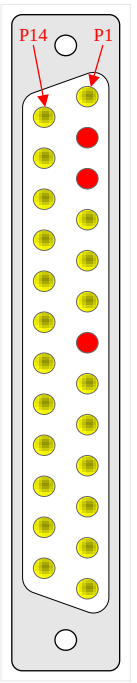
(Male Adapter)

5P

(Male Adapter)

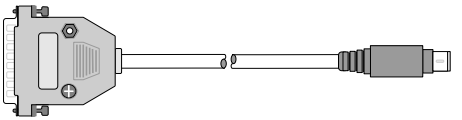
- **COM2 (RS232)**

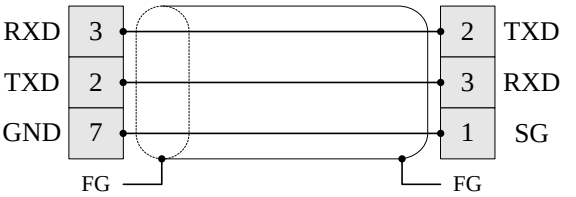
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	5Pin Mini DIN Male

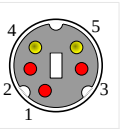


25P

(Male Adapter)





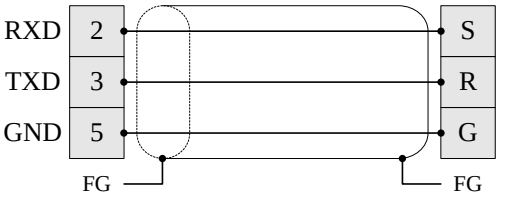


5P

(Male Adapter)

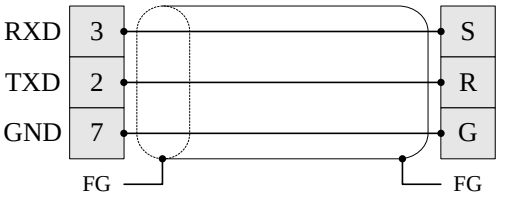
- **COM1 (RS232)**

HM Series Terminal	PLC FP0 RS232C Port Terminal



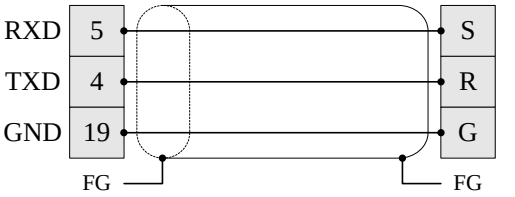
- **COM2 (RS232)**

HM Series Terminal	PLC FP0 RS232C Port Terminal



- **COM3 (RS232)**

HM Series Terminal	PLC FP0 RS232C Port Terminal



6.12. Mitsubishi FX Series / FX2n Series

6.12.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Auxiliary Relay	Mn	n = 0~3056 (Must be multiples of 8)	Word
Special Auxiliary Relay	Mn	n = 8000~8240 (Must be multiples of 8)	Word
State Relay	Sn	n = 0~984 (Must be multiples of 8)	Word
Input Relay	Xn	n = 0~360 (Octal system, must be multiples of 10)	Word
Ouput Relay	Yn	n = 0~360 (Octal system, must be multiples of 10)	Word
Timer PV	Tn	n = 0~255	Word
16-bit Counter PV	Cn	n = 0~199	Word
32-bit Counter PV	Cn	n = 200~255	DWord
Data Register	Dn	n = 0~7999	Word
Special Data Register	Dn	n = 8000~8255	Word

6.12.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Auxiliary Relay	Mn	n = 0~3071	Multiples of 8
Special Auxiliary Relay	Mn	n = 8000~8255	Multiples of 8
State Relay	Sn	n = 0~999	Multiples of 8
Input Relay	Xn	n = 0~377 (Octal system)	Multiples of 10
Ouput Relay	Yn	n = 0~377 (Octal system)	Multiples of 10
Timer Flag	Tn	n = 0~255	
Counter Flag	Cn	n = 0~255	

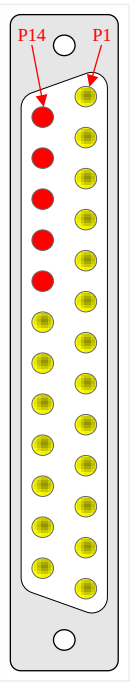
6.12.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	Null	
Communication Mode	RS422	
Baud Rate	9600 bps	
Data Length	7 bits	
Parity Check	Even	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.12.4. Explanation of Communication Wiring:

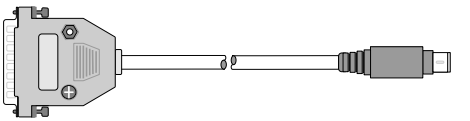
- **COM2 (RS422)**

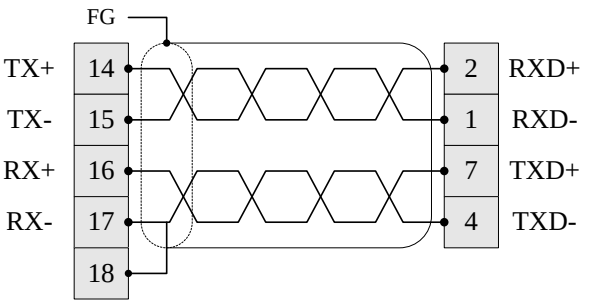
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	8Pin Mini DIN Male

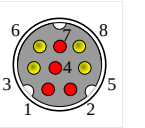


25P

(Male Adapter)





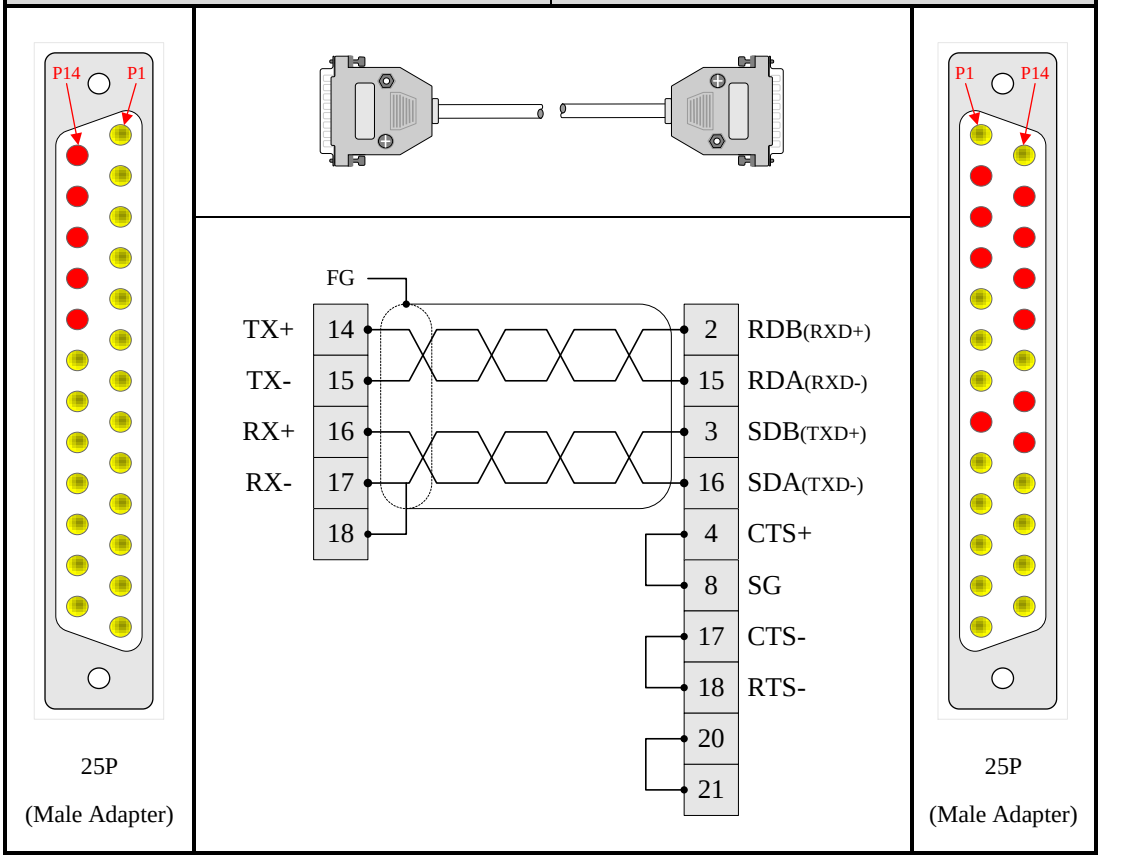


8P

(Male Adapter)

- **COM2 (RS422)**

HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	25Pin D-SUB Male



6.13. Mitsubishi FX / FX2n Computer Link

6.13.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Auxiliary Relay	Mn	n = 0~3056 (Must be multiples of 8)	Word
Special Auxiliary Relay	Mn	n = 8000~8240 (Must be multiples of 8)	Word
State Relay	Sn	n = 0~984 (Must be multiples of 8)	Word
Input Relay	Xn	n = 0~360 (Octal system, must be multiples of 10)	Word
Ouput Relay	Yn	n = 0~360 (Octal system, must be multiples of 10)	Word
Timer PV	Tn	n = 0~255	Word
16-bit Counter PV	Cn	n = 0~199	Word
32-bit Counter PV	Cn	n = 200~255	DWord
Data Register	Dn	n = 0~7999	Word
Special Data Register	Dn	n = 8000~8255	Word

6.13.2. Contact Type & Range:

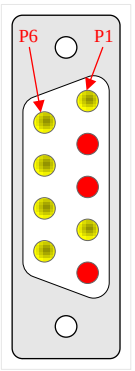
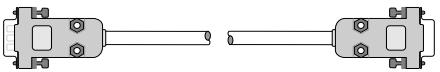
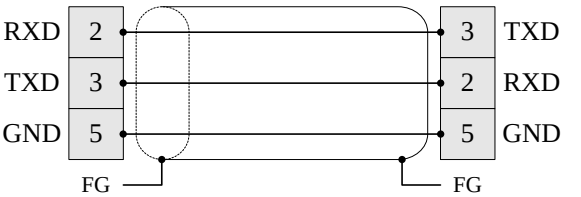
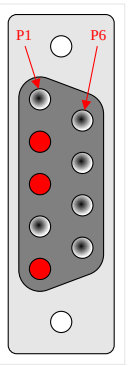
Contact Type	Code Format	Numbering Range of Address	Block
Auxiliary Relay	Mn	n = 0~3071	Multiples of 8
Special Auxiliary Relay	Mn	n = 8000~8255	Multiples of 8
State Relay	Sn	n = 0~999	Multiples of 8
Input Relay	Xn	n = 0~377 (Octal system)	Multiples of 10
Ouput Relay	Yn	n = 0~377 (Octal system)	Multiples of 10
Timer Flag	Tn	n = 0~255	
Counter Flag	Cn	n = 0~255	

6.13.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	0	0 ~ 15
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	4800 bps ~ 19200 bps
Data Length	7 bits	7 bits / 8 bits
Parity Check	Even	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	255	fixed
PLC Sum Check	Enabled	fixed
Controlling Format	Format1 / Format4	

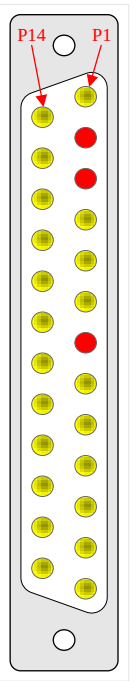
6.13.4. Explanation of Communication Wiring:

- **COM1 (RS232)**

HM Series Terminal		RS232BD Module Terminal
9Pin D-SUB Male		9Pin D-SUB Female
 9P (Male Adapter)	 	 9P (Female Adapter)

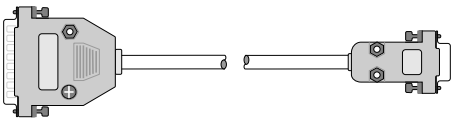
- **COM2 (RS232)**

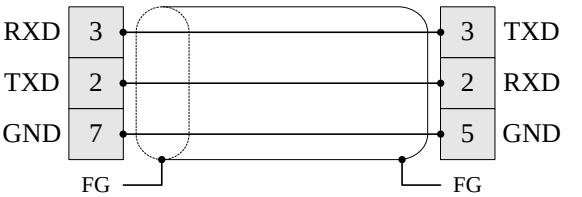
HM Series Terminal	RS232BD Module Terminal
25Pin D-SUB Male	9Pin D-SUB Female

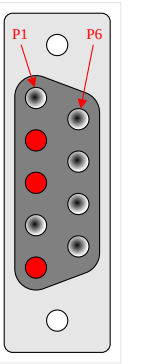


25P

(Male Adapter)







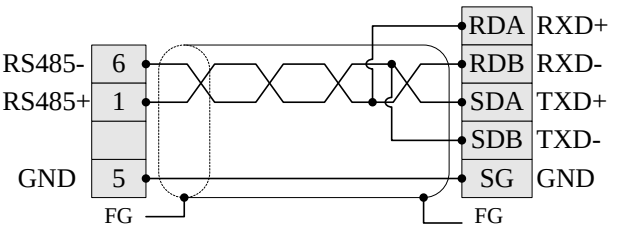
9P

(Female

Adapter)

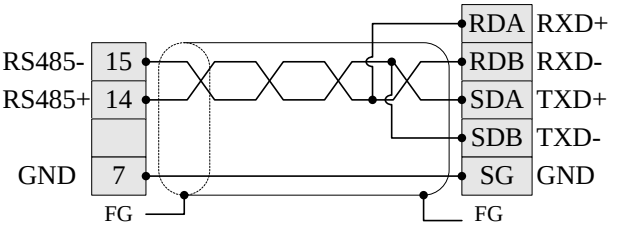
- **COM1 (RS485)**

HM Series Terminal	485ADP Module Terminal



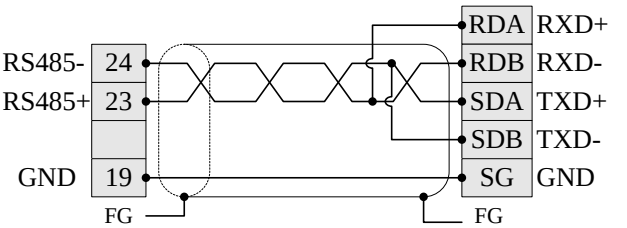
- **COM2 (RS485)**

HM Series Terminal	485ADP Module Terminal



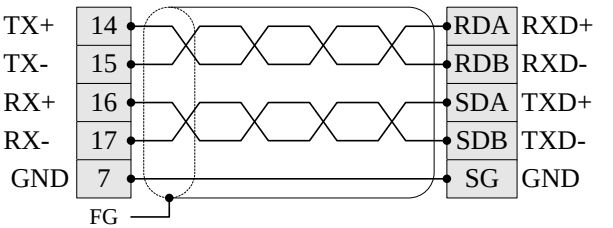
- **COM3 (RS485)**

HM Series Terminal	485ADP Module Terminal



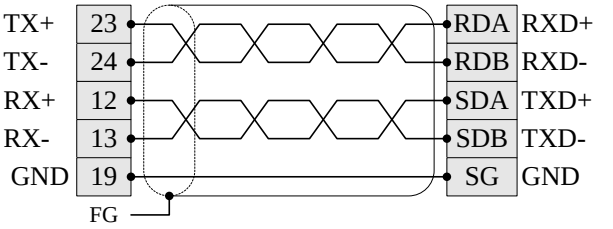
- **COM2 (RS422)**

HM Series Terminal	485ADP Module Terminal



- **COM3 (RS422)**

HM Series Terminal	485ADP Module Terminal



6.14. Mitsubishi FX3U Series

6.14.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Auxiliary Relay	Mn	n = 0~7664 (Must be multiples of 8)	Word
Special Auxiliary Relay	Mn	n = 8000~8496 (Must be multiples of 8)	Word
State Relay	Sn	n = 0~4080 (Must be multiples of 8)	Word
Input Relay	Xn	n = 0~350 (Octal system, must be multiples of 10)	Word
Ouput Relay	Yn	n = 0~350 (Octal system, must be multiples of 10)	Word
Timer PV	Tn	n = 0~511	Word
16-bit Counter PV	Cn	n = 0~199	Word
32-bit Counter PV	Cn	n = 200~255	DWord
Data Register	Dn	n = 0~7999	Word
Special Data Register	Dn	n = 8000~8511	Word
Extension Register	Rn	n = 0~32767	

6.14.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Auxiliary Relay	Mn	n = 0~7679	Multiples of 8
Special Auxiliary Relay	Mn	n = 8000~8511	Multiples of 8
State Relay	Sn	n = 0~4095	Multiples of 8

Input Relay	Xn	n = 0~367 (Octal system)	Multiples of 10
Ouput Relay	Yn	n = 0~367 (Octal system)	Multiples of 10
Timer Flag	Tn	n = 0~511	
Counter Flag	Cn	n = 0~255	

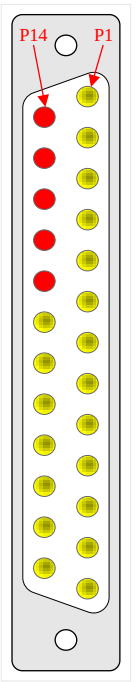
6.14.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	Null	
Communication Mode	RS422	
Baud Rate	9600 bps	
Data Length	7 bits	
Parity Check	Even	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.14.4. Explanation of Communication Wiring:

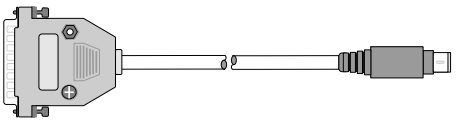
- **COM2 (RS422)**

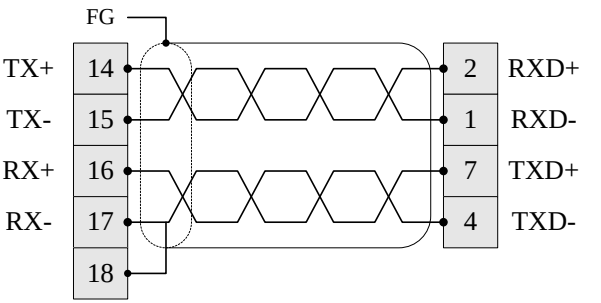
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	8Pin Mini DIN Male

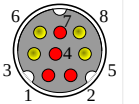


25P

(Male Adapter)







8P

(Male

Adapter)

6.15. Mitsubishi FX3U Series Computer Link

6.15.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Auxiliary Relay	Mn	n = 0~7664 (Must be multiples of 8)	Word
Special Auxiliary Relay	Mn	n = 8000~8496 (Must be multiples of 8)	Word
State Relay	Sn	n = 0~4080 (Must be multiples of 8)	Word
Input Relay	Xn	n = 0~350 (Octal system, must be multiples of 10)	Word
Ouput Relay	Yn	n = 0~350 (Octal system, must be multiples of 10)	Word
Timer PV	Tn	n = 0~511	Word
16-bit Counter PV	Cn	n = 0~199	Word
32-bit Counter PV	Cn	n = 200~255	DWord
Data Register	Dn	n = 0~7999	Word
Special Data Register	Dn	n = 8000~8511	Word
Extension Register	Rn	n = 0~32767	

6.15.2. Contact Type & Range:

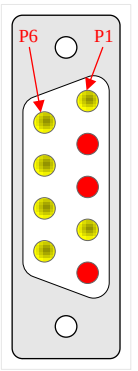
Contact Type	Code Format	Numbering Range of Address	Block
Auxiliary Relay	Mn	n = 0~7679	Multiples of 8
Special Auxiliary Relay	Mn	n = 8000~8511	Multiples of 8
State Relay	Sn	n = 0~4095	Multiples of 8
Input Relay	Xn	n = 0~367 (Octal system)	Multiples of 10
Ouput Relay	Yn	n = 0~367 (Octal system)	Multiples of 10
Timer Flag	Tn	n = 0~511	
Counter Flag	Cn	n = 0~255	

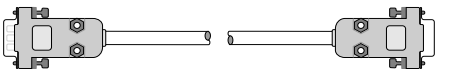
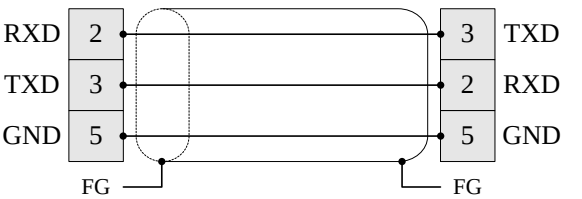
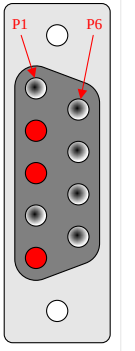
6.15.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	0	0 ~ 15
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	4800 bps ~ 19200 bps
Data Length	7 bits	7 bits / 8 bits
Parity Check	Even	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	255	fixed
PLC Sum Check	Enabled	fixed
Controlling Format	Format1 / Format4	

6.15.4. Explanation of Communication Wiring:

- **COM1 (RS232)**

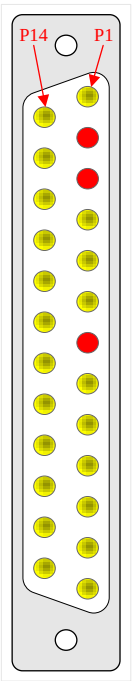
<table>
<tr><td colspan="2">HM Series Terminal</td><td>RS232BD Module Terminal</td></tr>
<tr><td colspan="2">9Pin D-SUB Male</td><td>9Pin D-SUB Female</td></tr>
<tr><td> 

9P
(Male Adapter)</td><td colspan="2"> 
 
</td><td> 

9P
(Female Adapter)</td></tr>
</table>

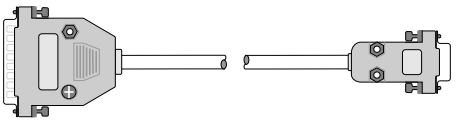
- **COM2 (RS232)**

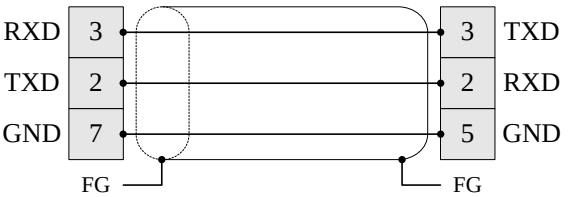
HM Series Terminal	RS232BD Module Terminal
25Pin D-SUB Male	9Pin D-SUB Female

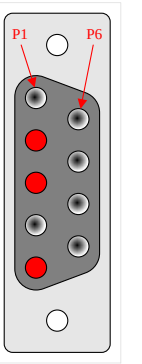


25P

(Male Adapter)







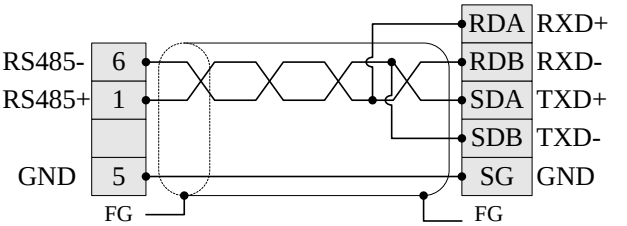
9P

(Female

Adapter)

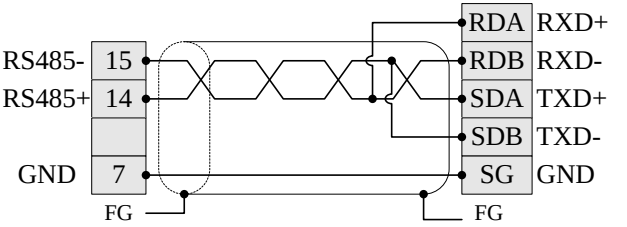
- **COM1 (RS485)**

HM Series Terminal	485ADP Module Terminal



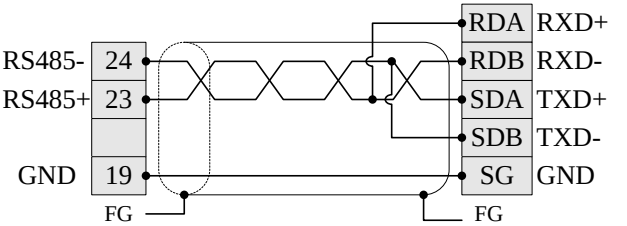
- **COM2 (RS485)**

HM Series Terminal	485ADP Module Terminal



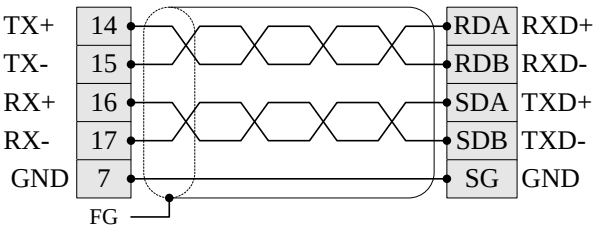
- **COM3 (RS485)**

HM Series Terminal	485ADP Module Terminal



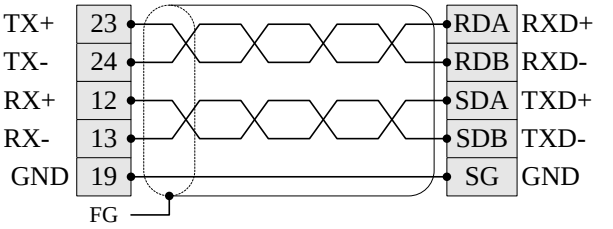
- **COM2 (RS422)**

HM Series Terminal	485ADP Module Terminal



- **COM3 (RS422)**

HM Series Terminal	485ADP Module Terminal



6.16. Mitsubishi A Series A1SH CPU

6.16.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Input Relay	Xn	n = 0~7F0 (Hexadecimal, must be multiples of 10)	Word
Output Relay	Yn	n = 0~7F0 (Hexadecimal, must be multiples of 10)	Word
Link Relay	Bn	n = 0~3F0 (Hexadecimal, must be multiples of 10)	Word
Internal Relay	Mn	n = 0~984 (must be multiples of 16)	Word
Special Relay	Mn	n = 9000~9240 (must be multiples of 16 minus 9,000)	Word
Latch Relay	Ln	n = 0~2032 (must be multiples of 16)	Word
Annunciator	Fn	n = 0~240 (must be multiples of 16)	Word
Timer PV	TNn	n = 0~255	Word
Counter PV	CNn	n = 0~255	Word
Data Register	Dn	n = 0~1023	Word
Special Register	Dn	n = 9000~9255	Word
File Register	Rn	n = 0~8191	Word
Link Register	Wn	n = 0~3FF (Hexadecimal)	Word
Peripherial Input Relay	PXn	n = 0~240 (must be multiples of 16)	Word

6.16.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Input Relay	Xn	n = 0~7FF (Hexadecimal)	Multiples of 10
Output Relay	Yn	n = 0~7FF (Hexadecimal)	Multiples of 10
Link Relay	Bn	n = 0~3FF (Hexadecimal)	Multiples of 10
Internal Relay	Mn	n = 0~999	Multiples of 16
Special Relay	Mn	n = 9000~9255	
Latch Relay	Ln	n = 0~2047	Multiples of 16
Annunciator	Fn	n = 0~255	Multiples of 16
Timer Contact	Tn	n = 0~255	
Timer Coil	TCn	n = 0~255	
Counter Contact	Cn	n = 0~255	
Counter Coil	CCn	n = 0~255	
Peripherial Input Relay	PXn	n = 0~255	Multiples of 16
Step Relay	Sn	n = 0~2047	Multiples of 16

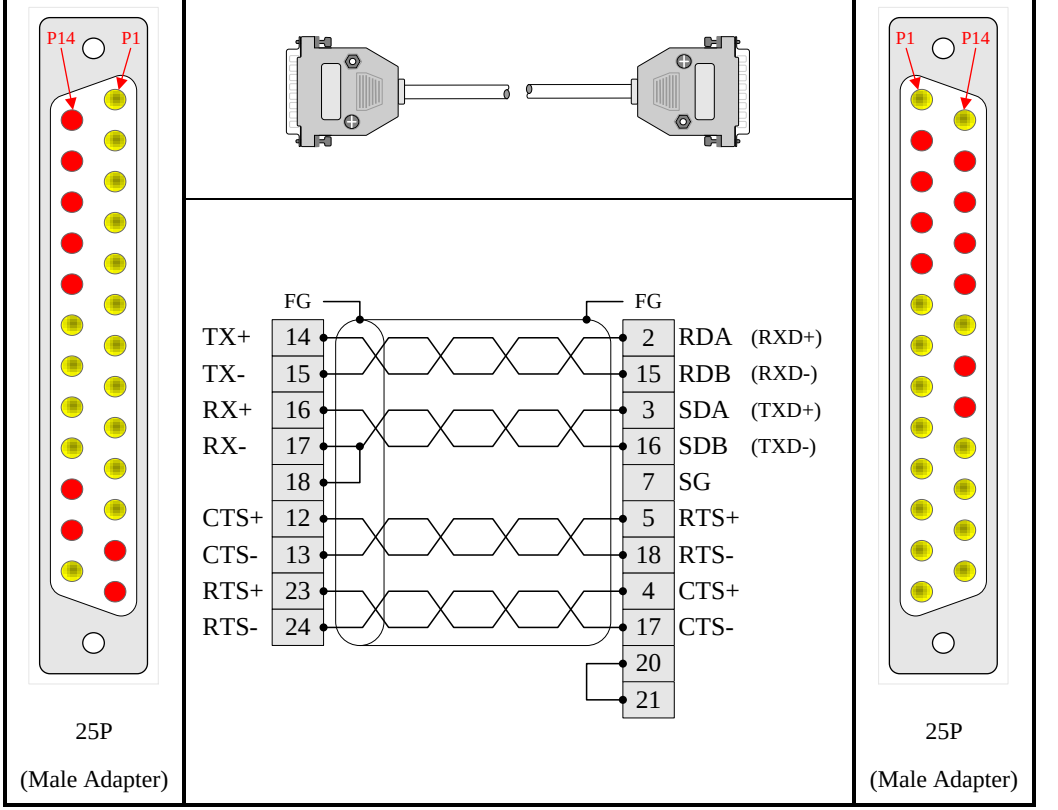
6.16.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	0	fixed
Communication Mode	RS422	
Baud Rate	9600 bps	
Data Length	8 bits	
Parity Check	Odd	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
RTS/CTS Handshaking	Enabled	fixed
HMI Address	255	fixed

6.16.4. Explanation of Communication Wiring:

- **COM2 (RS422)**

HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	25Pin D-SUB Male



6.17. Mitsubishi A Series Computer Link

6.17.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Input Relay	Xn	n = 0~7F0 (Hexadecimal, must be multiples of 10)	Word
Output Relay	Yn	n = 0~7F0 (Hexadecimal, must be multiples of 10)	Word
Link Relay	Bn	n = 0~3F0 (Hexadecimal, must be multiples of 10)	Word
Internal Relay	Mn	n = 0~984 (must be multiples of 16)	Word
Special Relay	Mn	n = 9000~9240 (減 9000 後, must be multiples of 16)	Word
Latch Relay	Ln	n = 0~2032 (must be multiples of 16)	Word
Annunciator	Fn	n = 0~240 (must be multiples of 16)	Word
Timer PV	TNn	n = 0~255	Word
Counter PV	CNn	n = 0~255	Word
Data Register	Dn	n = 0~1023	Word
Special Register	Dn	n = 9000~9255	Word
File Register	Rn	n = 0~8191	Word
Link Register	Wn	n = 0~3FF (Hexadecimal)	Word

6.17.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Input Relay	Xn	n = 0~7FF (Hexadecimal)	Multiples of 10
Output Relay	Yn	n = 0~7FF (Hexadecimal)	Multiples of 10
Link Relay	Bn	n = 0~3FF (Hexadecimal)	Multiples of 10
Internal Relay	Mn	n = 0~999	Multiples of 16
Special Relay	Mn	n = 9000~9255	
Latch Relay	Ln	n = 0~2047	Multiples of 16
Annunciator	Fn	n = 0~255	Multiples of 16
Timer Contact	Tn	n = 0~255	
Timer Coil	TCn	n = 0~255	
Counter Contact	Cn	n = 0~255	
Counter Coil	CCn	n = 0~255	
Step Relay	Sn	n = 0~2047	Multiples of 16

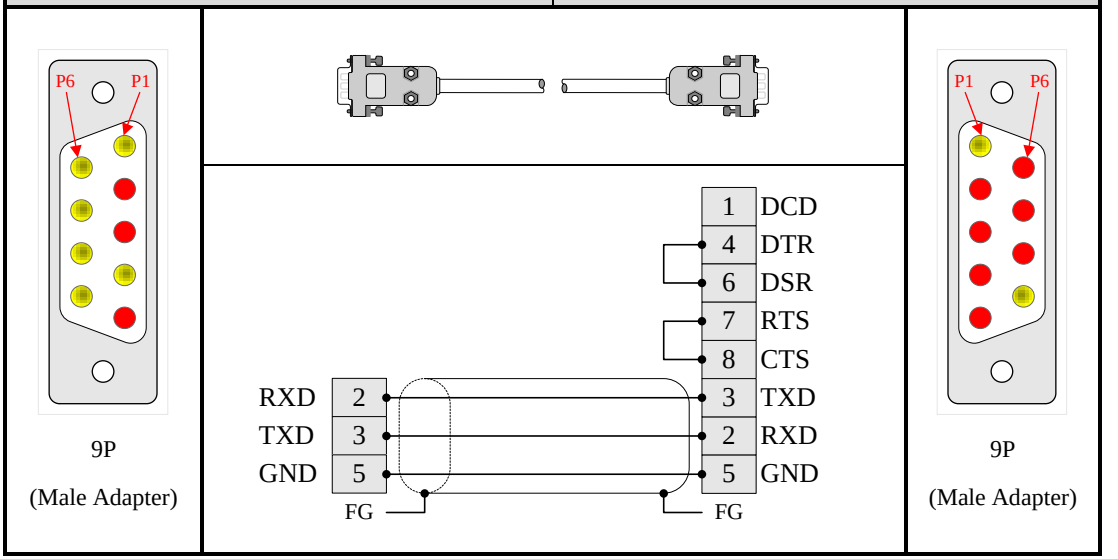
6.17.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	0	0 ~ 31
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	4800 bps ~ 19200 bps
Data Length	8 bits	7 bits / 8 bits
Parity Check	Odd	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	255	fixed
PLC Sum Check	Enabled	fixed
Controlling Format	Format1 / Format2 / Format3 / Format4	

6.17.4. Explanation of Communication Wiring:

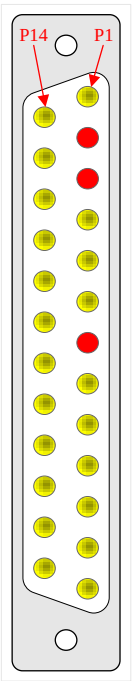
- **COM1 (RS232)**

HM Series Terminal	A1SJ71UC24-R2 Module Terminal
9Pin D-SUB Male	9Pin D-SUB Male



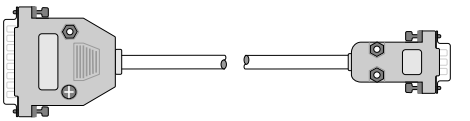
- **COM2 (RS232)**

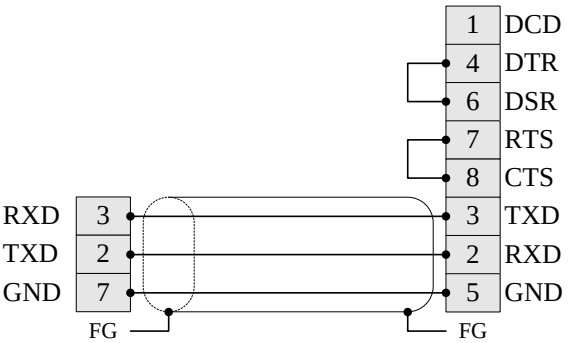
HM Series Terminal	A1SJ71UC24-R2 Module Terminal
25Pin D-SUB Male	9Pin D-SUB Male

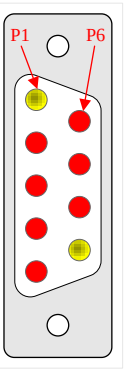


25P

(Male Adapter)





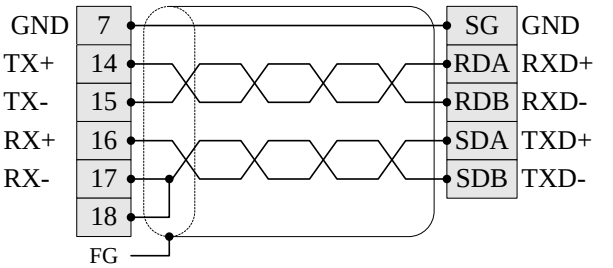


9P

(Male Adapter)

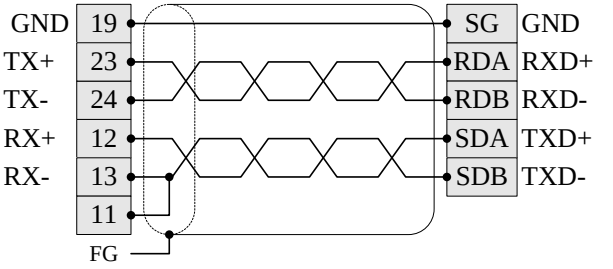
- **COM2 (RS422)**

HM Series Terminal	A1SJ71UC24-R4 Module Terminal



- **COM3 (RS422)**

HM Series Terminal	A1SJ71UC24-R4 Module Terminal



6.18. Modbus Slave

6.18.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Holding_REG	4Xnnnn	nnnn=1~9999	Word
Input_REG	3Xnnnn	nnnn=1~9999	Word
Holding_REG	4Lnnnn	nnnn=1~9998	DWord
Input_REG	3Lnnnn	nnnn=1~9998	DWord

6.18.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Coil_STATUS	0Xnnnn	nnnn=1~9999	
Input_STATUS	1Xnnnn	nnnn=1~9999	

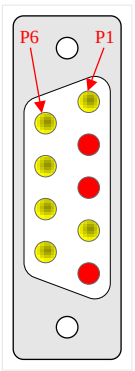
6.18.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	1	1 ~ 247
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	2400 bps ~ 115200 bps
Data Length	8 bits	7 bits / 8 bits (RTU can only be 8 bits)
Parity Check	None	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.18.4. Explanation of Communication Wiring:

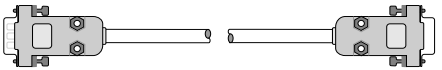
- **COM1 (RS232)**

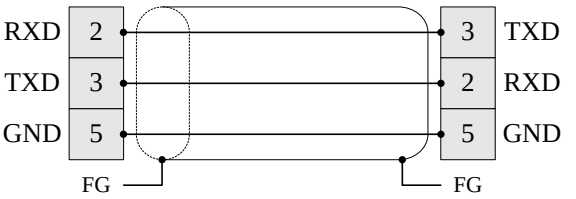
HM Series Terminal	Slave RS232Terminal
9Pin D-SUB Male	9Pin D-SUB Female

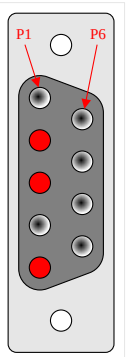


9P

(Male Adapter)







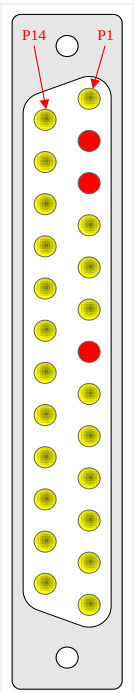
9P

(Female

Adapter)

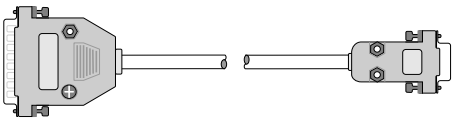
- **COM2 (RS232)**

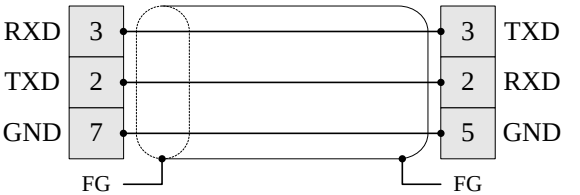
HM Series Terminal	Slave RS232Terminal
25Pin D-SUB Male	9Pin D-SUB Female

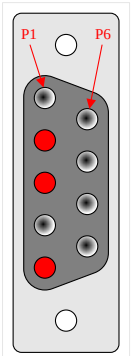


25P

(Male Adapter)







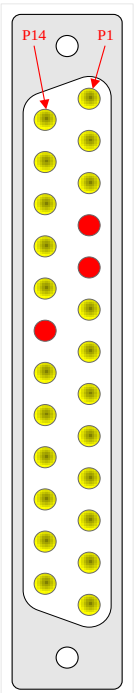
9P

(Female

Adapter)

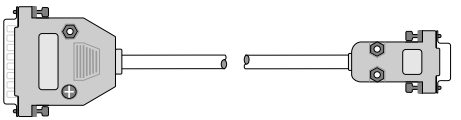
- **COM3 (RS232)**

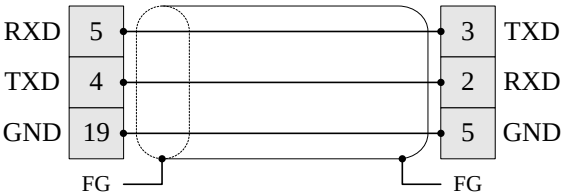
HM Series Terminal	Slave RS232Terminal
25Pin D-SUB Male	9Pin D-SUB Female

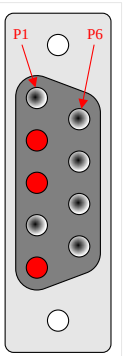


25P

(Male Adapter)







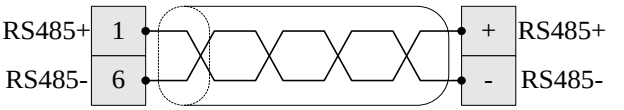
9P

(Female

Adapter)

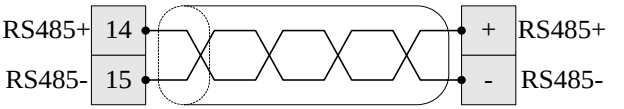
- **COM1 (RS485)**

HM Series Terminal	Slave RS485Terminal



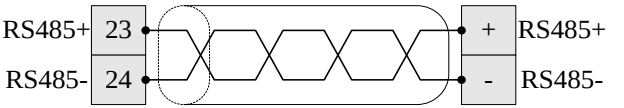
- **COM2 (RS485)**

HM Series Terminal	Slave RS485Terminal



- **COM3 (RS485)**

HM Series Terminal	Slave RS485Terminal



6.19. Modbus Slave (Hexadecimal Address)

6.19.1. Register Type & Range: (Addresses of Hexadecimal Values)

Register Type	Code Format	Numbering Range of Address	Data Length
Holding_REG	4Xnnnn	nnnn=0~FFFF	Word
Input_REG	3Xnnnn	nnnn=0~FFFF	Word
Holding_REG	4Lnnnn	nnnn=0~FFFE	DWord
Input_REG	3Lnnnn	nnnn=0~FFFE	DWord

6.19.2. Contact Type & Range:(Addresses of Hexadecimal Values)

Contact Type	Code Format	Numbering Range of Address	Block
Coil_STATUS	0Xnnnn	nnnn=0~FFFF	
Input_STATUS	1Xnnnn	nnnn=0~FFFF	

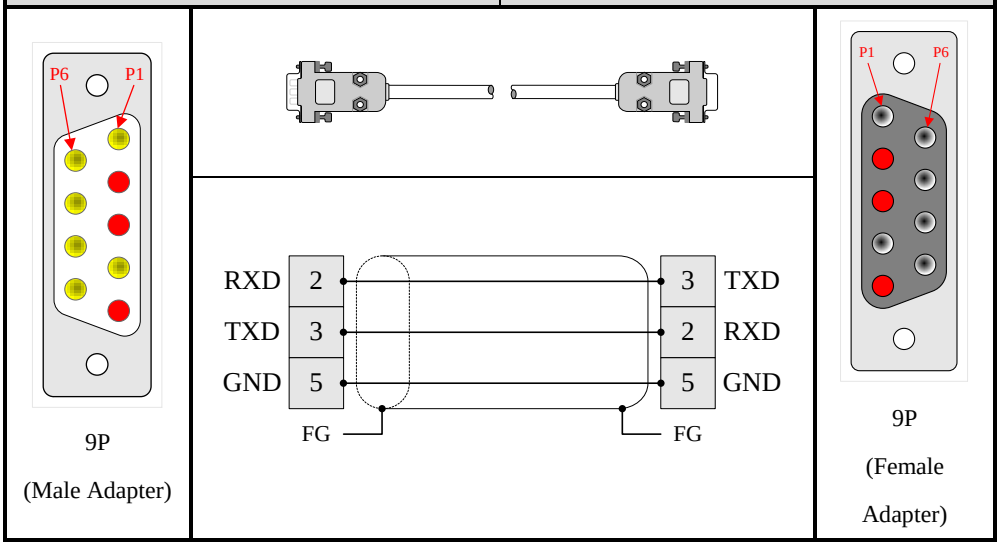
6.19.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	1	1 ~ 247
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	2400 bps ~ 115200 bps
Data Length	8 bits	7 bits / 8 bits (RTU can only be 8 bits)
Parity Check	None	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.19.4. Explanation of Communication Wiring:

- **COM1 (RS232)**

HM Series Terminal	Slave RS232Terminal
9Pin D-SUB Male	9Pin D-SUB Female



9P

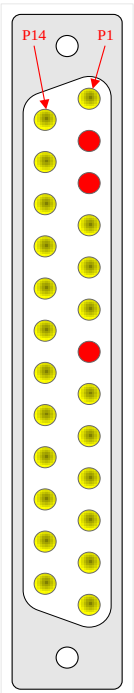
(Male Adapter)

9P

(Female Adapter)

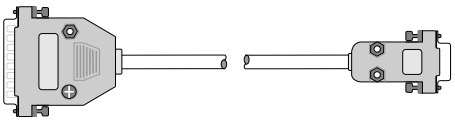
- **COM2 (RS232)**

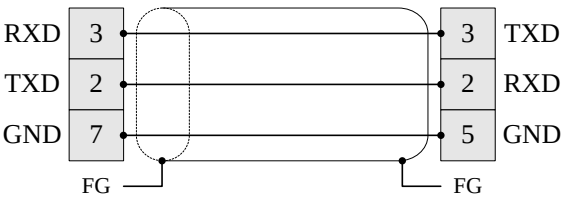
HM Series Terminal	Slave RS232Terminal
25Pin D-SUB Male	9Pin D-SUB Female

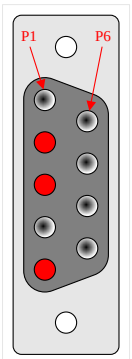


25P

(Male Adapter)







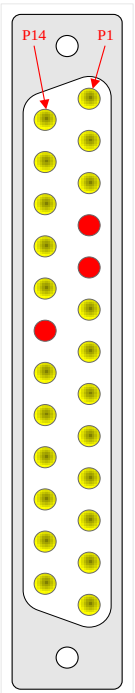
9P

(Female

Adapter)

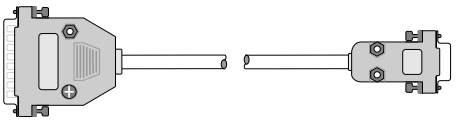
- **COM3 (RS232)**

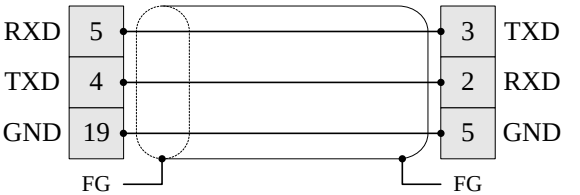
HM Series Terminal	Slave RS232Terminal
25Pin D-SUB Male	9Pin D-SUB Female

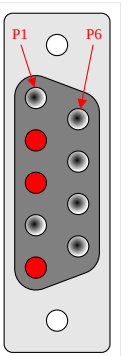


25P

(Male Adapter)







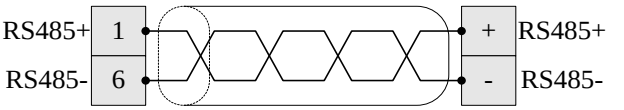
9P

(Female

Adapter)

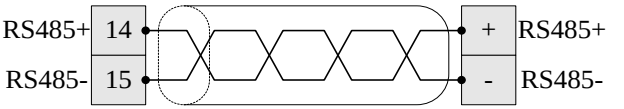
- **COM1 (RS485)**

HM Series Terminal	Slave RS485Terminal



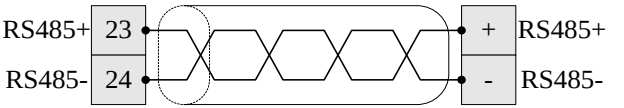
- **COM2 (RS485)**

HM Series Terminal	Slave RS485Terminal



- **COM3 (RS485)**

HM Series Terminal	Slave RS485Terminal



6.20. Modbus Master for HM Series

6.20.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address		Data Length
Holding_REG	4Xnnnn	nnnn = 1~32	Control Block	Word
		nnnn = 51~82	Status Block	Word
		nnnn = 101~132	Extended Control Block	Word
		nnnn = 151~182	Extended Status Block	Word
		nnnn = 201~202	Recipe Number	Word
		nnnn = 211~999	Recipe Data	Word
		nnnn = 1001~5092	Internal Register	Word
		nnnn = 6001~7024	Memory Register	Word

6.20.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address		Block
Coil_STATUS	0Xnnnn	nnnn = 1~512	Control Block Bit	
		nnnn = 1001~1512	Status Block Bit	
		nnnn = 2001~2512	Extended Control Block Bit	
		nnnn = 3001~3512	Extended Status Block Bit	
		nnnn = 4001~4992	Recipe Data Bit	
		nnnn = 5001~6984	Internal Register Bit	
		nnnn = 7001~7992	Memory Register Bit	

6.20.3. Correspondence between HMI Register and Modbus Address:

Register Type	Code Format	Modbus Address	Data Length
Control Block	CB0 ~ CB31	4X0001 ~ 4X0032	Word
Status Block	SB0 ~ SB31	4X0051 ~ 4X0082	Word
Extended Control Block	EC0 ~ EC31	4X0101 ~ 4X0132	Word
Extended Status Block	ES0 ~ ES31	4X0151 ~ 4X0182	Word
Recipe Number	RCPNO1	4X0201	Word
Recipe Name	RCPNO2	4X0202	Word
Recipe Data	RCPW0 ~ RCPW788	4X0211 ~ 4X0999	Word
Internal Register	@0 ~ @4091	4X1001 ~ 4X5092	Word
Memory Register	@M0 ~ @M1023	4X6001 ~ 4X7024	Word

6.20.4. Correspondence between Addresses of HMI Contacts and Modbus:

Contact Type	Code Format	Modbus Address	Data Length
Control Block Bit	CB0.15 ~ CB31.15	0X0001 ~ 0X0512	Bit
Status Block Bit	SB0.15 ~ SB31.15	0X1001 ~ 0X1512	Bit
Extended Control Block Bit	EC0.15 ~ EC31.15	0X2001 ~ 0X2512	Bit
Extended Status Block Bit	ES0.15 ~ ES31.15	0X3001 ~ 0X3512	Bit
Recipe Data Bit	RCPW0.15 ~RCPW61.15	0X4001 ~ 0X4992	Bit
Internal Register Bit	@0.15 ~ @123.15	0X5001 ~ 0X6984	Bit
Memory Register Bit	@M0.15 ~ @M61.15	0X7001 ~ 0X7992	Bit

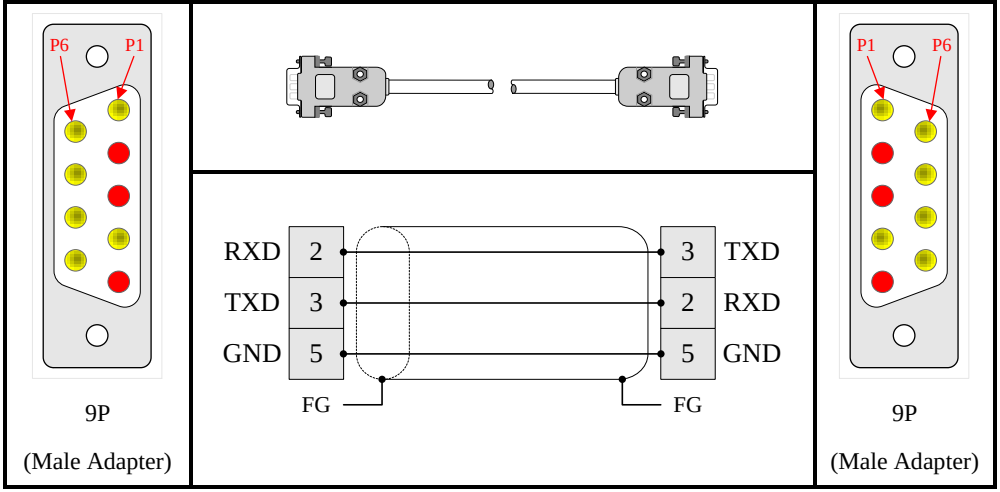
6.20.5. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	1	1 ~ 247
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	2400 bps ~ 115200 bps
Data Length	8 bits	7 bits / 8 bits (RTU can only be 8 bits)
Parity Check	None	None / Odd / Even
Stop Bit	1 bit	1 bit / 2 bits
Command Delay Time	0	0 ~ 1000 ms

6.20.6. Explanation of Communication Wiring:

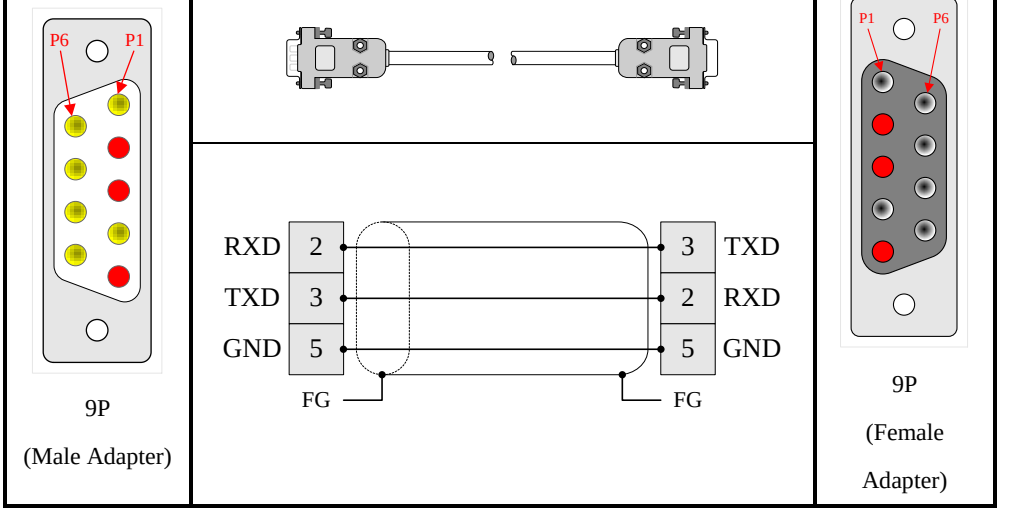
- **COM1 (RS232)**

HM Series Terminal	Master HM Series COM1Terminal
9Pin D-SUB Male	9Pin D-SUB Male



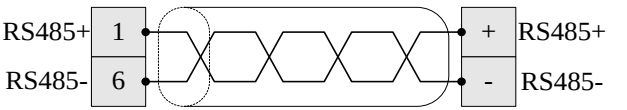
- **COM1 (RS232)**

HM Series Terminal	Master RS232Terminal
9Pin D-SUB Male	9Pin D-SUB Female



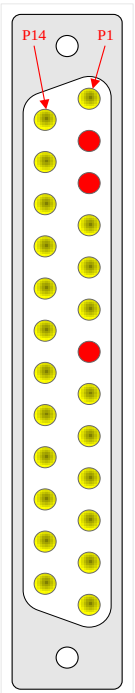
- **COM1 (RS485)**

HM Series Terminal	Master RS485Terminal



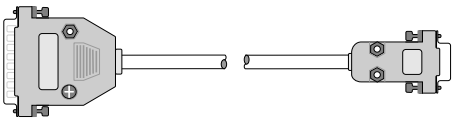
- **COM2 (RS232)**

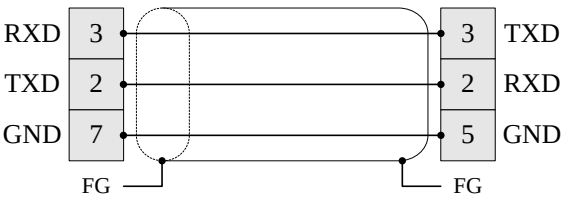
HM Series Terminal	Master RS232Terminal
25Pin D-SUB Male	9Pin D-SUB Female

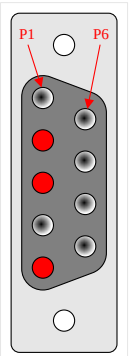


25P

(Male Adapter)







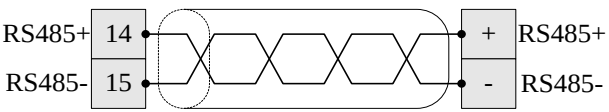
9P

(Female

Adapter)

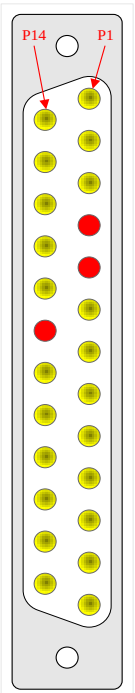
- **COM2 (RS485)**

HM Series Terminal	Master RS485Terminal



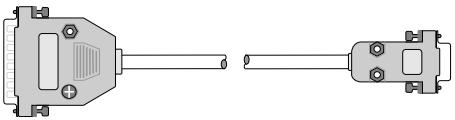
- **COM3 (RS232)**

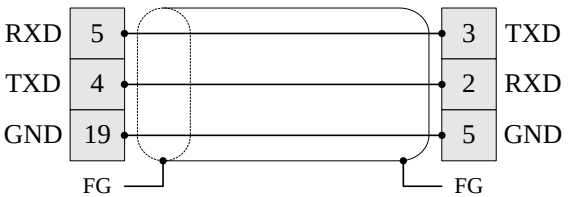
HM Series Terminal	Master RS232Terminal
25Pin D-SUB Male	9Pin D-SUB Female

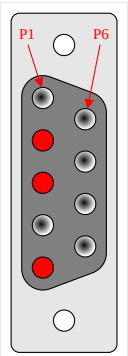


25P

(Male Adapter)







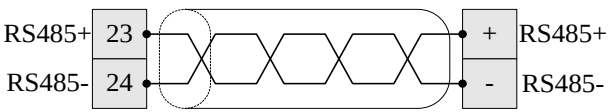
9P

(Female

Adapter)

- **COM3 (RS485)**

HM Series Terminal	Master RS485Terminal



6.21. Omron C Series (CPM1A / TPM1A)

6.21.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
IR area	IRn	n = 0~511	Word
HR area	HRn	n = 0~99	Word
AR area	ARn	n = 0~27	Word
LR area	LRn	n = 0~63	Word
TC area (current value)	TCn	n = 0~511	Word
DM area	DMn	n = 0~6655	Word

6.21.2. Contact Type & Range:

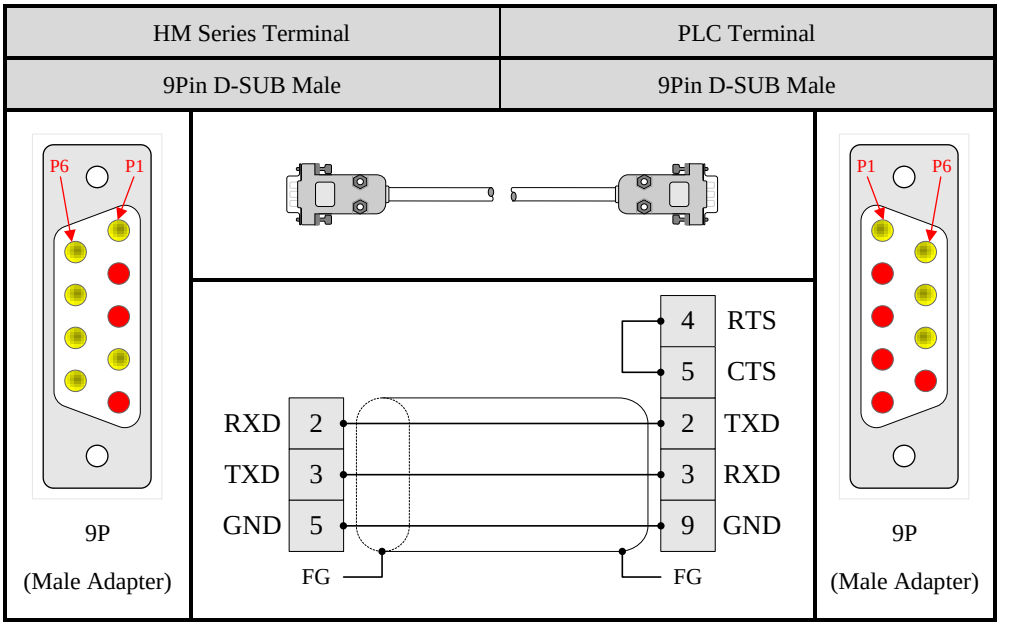
Contact Type	Code Format	Numbering Range of Address	Block
IR area	IRnb	n = 0~511 b = 0~15	b = 0
HR area	HRnb	n = 0~99 b = 0~15	b = 0
AR area	ARnb	n = 0~27 b = 0~15	b = 0
LR area	LRnb	n = 0~63 b = 0~15	b = 0
Timer/Counter Coil	TCn	n = 0~511	

6.21.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	0	0 ~ 31
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	4800 bps ~ 115200 bps
Data Length	7 bits	7 bits / 8 bits
Parity Check	Even	None / Odd / Even
Stop Bit	2 bits	1 bit / 2bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

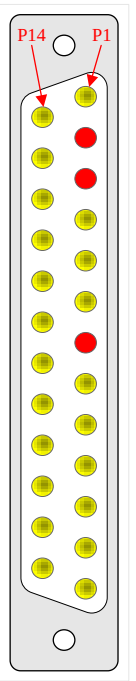
6.21.4. Explanation of Communication Wiring:

- **COM1 (RS232)**



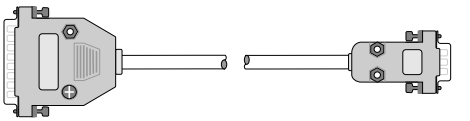
● COM2 (RS232)

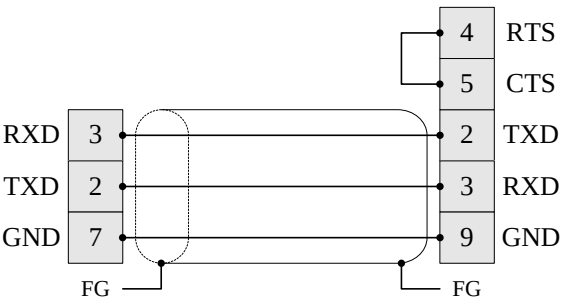
HM Series Terminal	PLC Terminal
25Pin D-SUB Male	9Pin D-SUB Male

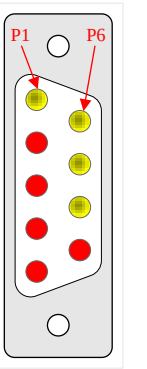


25P

(Male Adapter)







9P

(Male Adapter)

6.22. Omron CS/CJ Series (including CP1 Series)

6.22.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
CIO Area	CIOn	n = 0~6143	Word
Work Area	Wn	n = 0~511	Word
Holding Bit Area	Hn	n = 0~1535	Word
Auxiliary Bit Area	An	n = 0~959	Word
DM Area	Dn	n = 0~32767	Word
Timer Area PV	Tn	n = 0~4095	Word
Counter Area PV	Cn	n = 0~4095	Word
EM Area	Em.n	m = 0~C (Hexadecimal) n = 0~32767	Word
EM Current Bank	EMn	n = 0~32767	Word
Task Flag	TKn	n = 0~31	Byte
Index Register	IRn	n = 0~15	DWord
Data Register	DRn	n = 0~15	Word

6.22.2. Contact Type & Range:

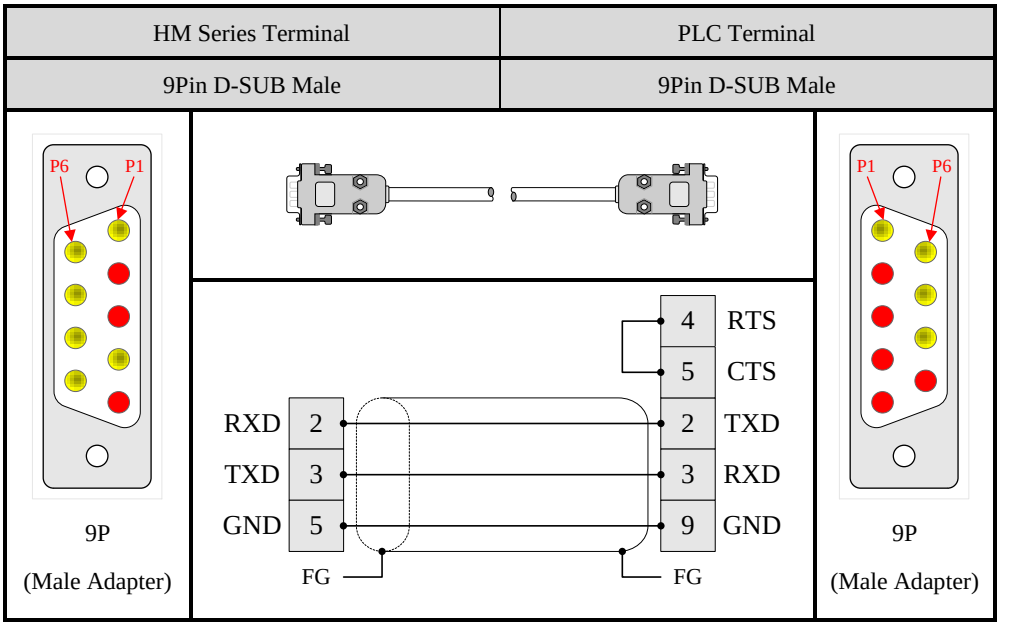
Contact Type	Code Format	Numbering Range of Address	Block
CIO Area	CIOn.b	n = 0~6143, b = 0~15	b = 0
Work Area	Wn.b	n = 0~511, b = 0~15	b = 0
Holding Bit Area	Hn.b	n = 0~1535, b = 0~15	b = 0
Auxiliary Bit Area	An.b	n = 0~959, b = 0~15	b = 0
Timer Area Contact	Tn	n = 0~4095	(Read-only)
Counter Area Contact	Cn	n = 0~4095	(Read-only)
DM Area	Dn.b	n = 0~32767, b = 0~15	b = 0
EM Area	Em.n.b	m = 0~C (Hexadecimal) n = 0~32767, b = 0~15	b = 0

6.22.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	0	0 ~ 31
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	9600 bps	4800 bps ~ 115200 bps
Data Length	7 bits	7 bits / 8 bits
Parity Check	Even	None / Odd / Even
Stop Bit	2 bits	1 bit / 2bits
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

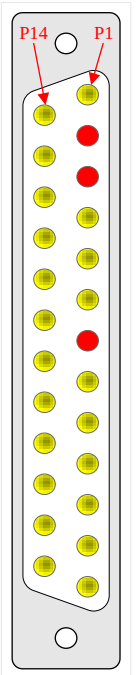
6.22.4. Explanation of Communication Wiring:

- **COM1 (RS232)**



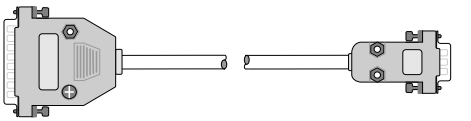
- **COM2 (RS232)**

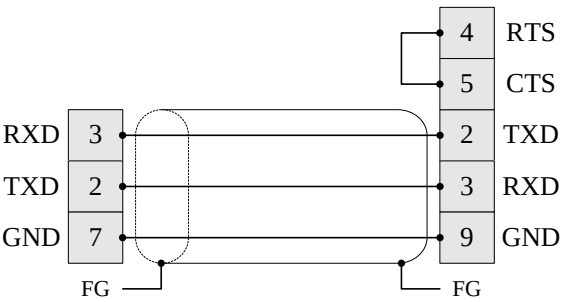
HM Series Terminal	PLC Terminal
25Pin D-SUB Male	9Pin D-SUB Male

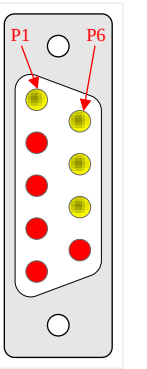


25P

(Male Adapter)







9P

(Male Adapter)

6.23. Siemens S7-200 PPI

6.23.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Input Image	IWn	n = 0~14	Word
Input Image	IDn	n = 0~12	DWord
Output Image	QWn	n = 0~14	Word
Output Image	QDn	n = 0~12	DWord
Internal Relay	MWn	n = 0~98	Word
Internal Relay	MDn	n = 0~96	DWord
Timer	Tn	n = 0~255	Word
Counter	Cn	n = 0~255	Word
Special S	SWn	n = 0~99	Word
Special S	SDn	n = 0~97	DWord
Special Relay	SMWn	n = 0~27	Word
Special Relay	SMWn	n = 0~199	Word
Special Relay	SMDn	n = 0~197	DWord
Analog input word	AIWn	n = 0~30	Word
Analog output word	AQWn	n = 0~30	Word
Data Area	Vn	n = 0~9998	Word
High_Speed Counter (32bits, read only)	HCn	n = 0~5	DWord

6.23.2. Contact Type & Range:

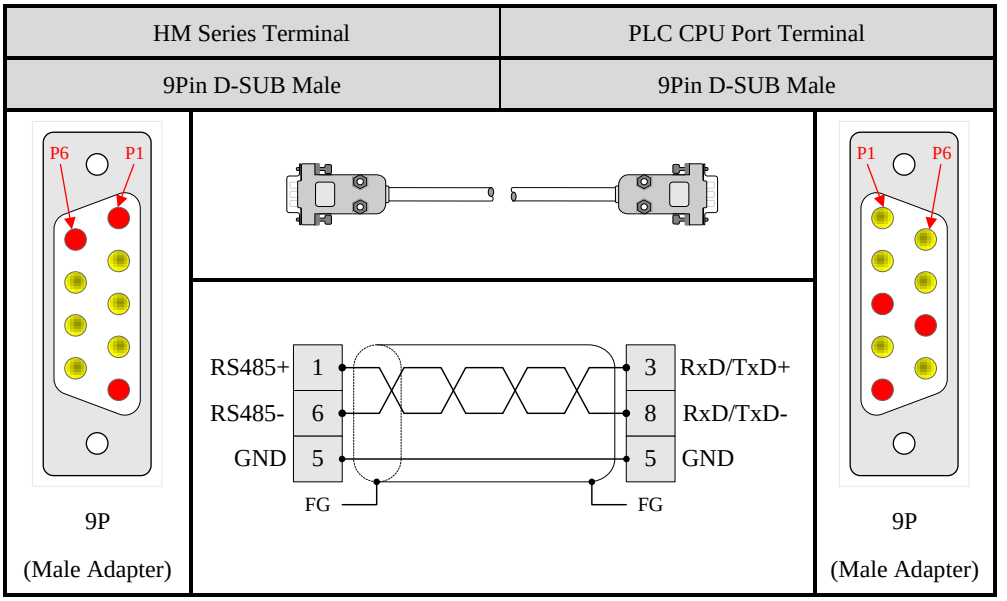
Contact Type	Code Format	Numbering Range of Address	Block
Input Image	In.b	n = 0~15, b = 0~7	b = 0
Output Image	Qn.b	n = 0~15, b = 0~7	b = 0
Internal Relay	Mn.b	n = 0~100, b = 0~7	b = 0
Timer bit	Tn	n = 0~255	
Counter bit	Cn	n = 0~255	
Special Relay	SMn.b	n = 0~200, b = 0~7	b = 0
Data Area bit	Vn.b	n = 0~9999, b = 0~7	b = 0
Special M	Sn.b	n = 0~100, b = 0~7	b = 0

6.23.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	2	
Communication Mode	RS485	
Baud Rate	9600 bps	9600 bps / 19200 bps
Data Length	8 bits	
Parity Check	Even	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

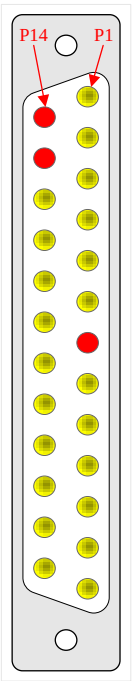
6.23.4. Explanation of Communication Wiring:

- **COM1 (RS485)**



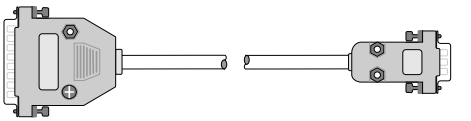
- **COM2 (RS485)**

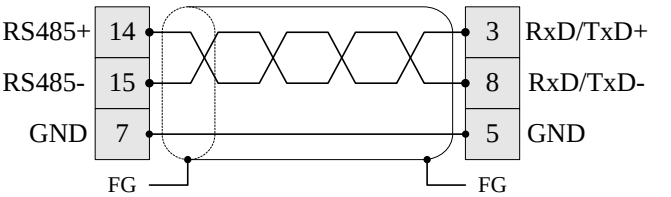
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	9Pin D-SUB Male

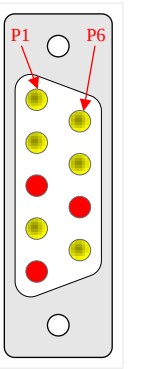


25P

(Male Adapter)





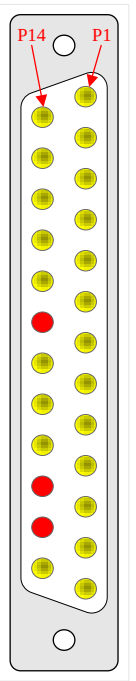


9P

(Male Adapter)

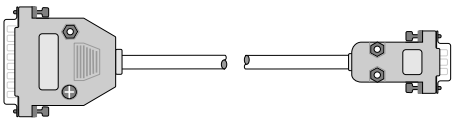
- **COM3 (RS485)**

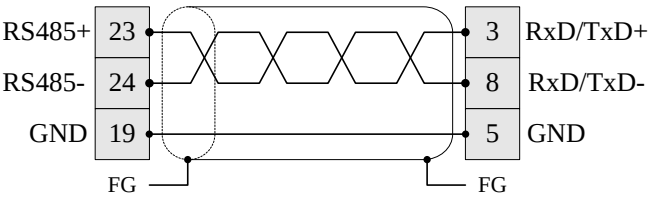
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	9Pin D-SUB Male

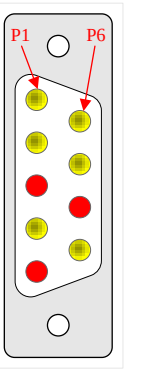


25P

(Male Adapter)







9P

(Male Adapter)

6.24. Vigor M/VB/VH Series PLC

6.24.1. Register Type & Range:

Register Type	Code Format	Numbering Range of Address	Data Length
Input Relay	Xn	n = 0~760 (Octal system, must be multiples of 10)	Word
Output Relay	Yn	n = 0~777 (Octal system, must be multiples of 10)	Word
Auxiliary Relay	Mn	n = 0~5104 (Must be multiples of 8)	Word
Step Relay	Sn	n = 0~984 (Must be multiples of 8)	Word
Special Relay	Mn	n = 9000~9240 (Must be multiples of 8)	Word
Data Register	Dn	n = 0~8191	Word
Special Data	Dn	n = 9000~9255	Word
Timer Register	Tn	n = 0~255	Word
Counter Register	Cn	n = 0~199	Word
Counter Register	Cn	n = 200~255	Dword

6.24.2. Contact Type & Range:

Contact Type	Code Format	Numbering Range of Address	Block
Input Relay	Xn	n = 0~777 (Octal system)	Multiples of 10
Output Relay	Yn	n = 0~777 (Octal system)	Multiples of 10
Auxiliary Relay	Mn	n = 0~5119	Multiples of 8
ST1 Status	Sn	n = 0~999	Multiples of 8
Special Relay	Mn	n = 9000~9255	Multiples of 8
Timer Relay	Tn	n = 0~255	
Counter Relay	Cn	n = 0~255	
Timer Coil	TCn	n = 0~255	
Counter Coil	CCn	n = 0~255	

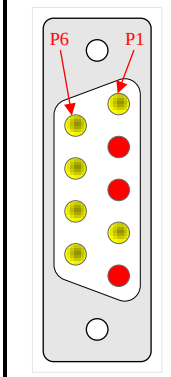
6.24.3. Settings of Communication Parameters: (According to Linked Device)

Parameters	Default Value	Setting Range
Device Address	0	0 ~ 255
Communication Mode	RS232	RS232 / RS485 / RS422
Baud Rate	19200 bps	4800 bps ~ 38400 bps
Data Length	7 bits	
Parity Check	Even	
Stop Bit	1 bit	
Command Delay Time	0	0 ~ 1000 ms
HMI Address	Null	

6.24.4. Explanation of Communication Wiring:

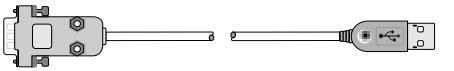
- **COM1 (RS232)**

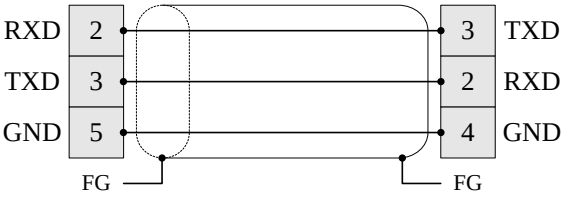
HM Series Terminal	PLC CPU Port Terminal
9Pin D-SUB Male	USB Type A Male

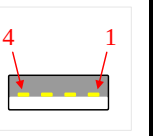


9P

(Male Adapter)





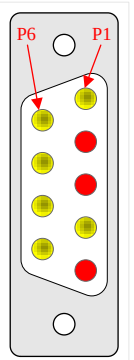


Type A

(Male Adapter)

- **COM1 (RS232)**

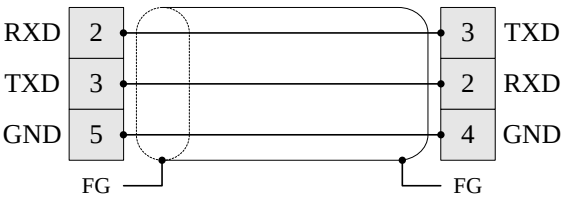
HM Series Terminal	PLC CPU Port Terminal
9Pin D-SUB Male	JST 2.0/4P Female

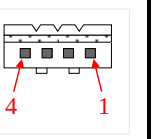


9P

(Male

Terminal)





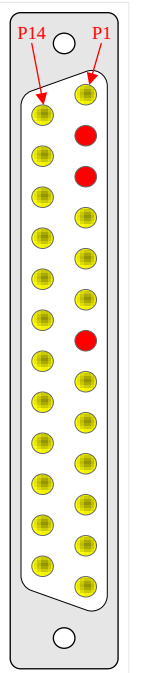
JST 4P

(Female

Terminal

- **COM2 (RS232)**

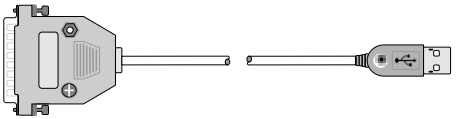
HM Series Terminal	PLC CPU Port Terminal
25Pin D-SUB Male	USB Type A Male

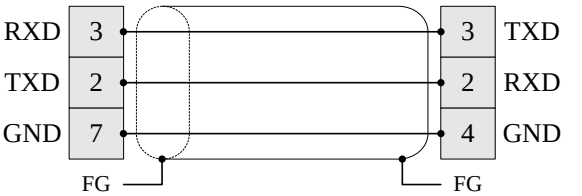


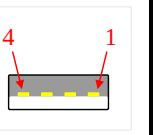
25P

(Male

Terminal)







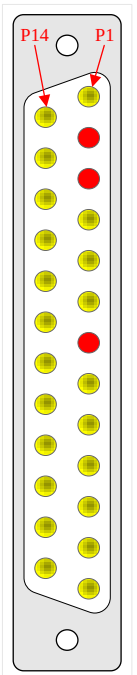
Type A

(Male

Terminal)

- **COM2 (RS232)**

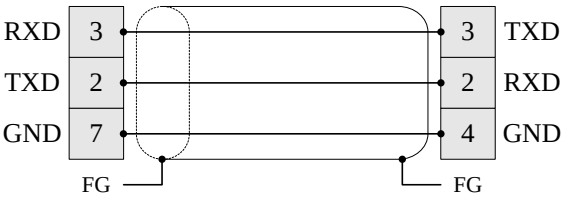
HM Series Contact Terminal	PLC CPU Port Contact Terminal
25Pin D-SUB Male	JST 2.0/4P Female

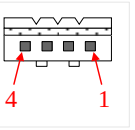


25P

(Male

Terminal)





JST 4P

(Femail

Terminal)

7. Revising History

Revising History		
Version	Date	Revising Description
V1.00	2008.03.24	HM Series Connection Manual 1st version.

∗ Revisions are subject to released without notification. If you need the latest version, please contact our sales staff or visit our Web site http://www.conch.com.tw to download it.

***MEMO*:**

Agent:

CONCH ELECTRONIC CO., LTD.

http://www.conch.com.tw

2008-12-20