Epson Robot Controller

Supported Series: Epson Robot Controller
Website: https://global.epson.com/

HMI Setting(Ethernet):

Parameters	Recommended	Options	Notes
PLC type	Epson Robot Controller		
PLC I/F	Ethernet		
Port no.	5000		
Terminator	CRLF	CRLF / CR / LF	

Device Address:

Bit/Word	Device type	Format	Range	Memo
B	LOGIN	D	0	
B	LOGOUT	D	0	
B	STOP	D	0	
B	PAUSE	D	0	
B	CONTINUE	D	0	
B	RESET	D	0	
B	MOTOR	DD	1 ~ 16	Motor on / off No.1 ~ 16 Robot
B	IN_BIT	DDDDD	0 ~ 65535	
B	OUT_BIT	DDDDD	0 ~ 65535	
B	MEMIO_BIT	DDDDD	0 ~ 65535	
B	STATUS_TEST	D	0	
B	STATUS_TEACH	D	0	
B	STATUS_AUTO	D	0	
B	STATUS_WARNING	D	0	
B	STATUS_SERROR	D	0	
B	STATUS_SAFEGUARD	D	0	
B	STATUS_ESTOP	D	0	
B	STATUS_ERROR	D	0	
B	STATUS_PAUSE	D	0	
B	STATUS_RUNNING	D	0	
B	STATUS_READY	D	0	

Bit/Word	Device type	Format	Range	Memo
B	ABORT	D	0	
B	STAT_BIT	DDD	0 ~ 331	*Note2
B	RBTINF_BIT	DDD	0 ~ 531	*Note3
B	POWER	D	0	On: High / Off: Low
B	CTRLINF_BIT	DDDD	0 ~ 1031	*Note4
B	ATCLR	D	1 ~ 9	Clear and initializes the average torque
B	PTCLR	D	1 ~ 9	Clear and initializes the peak torque
B	IO_MAP_BIT	D	0	*Note9
B	CONSOLE	D	0	*Note11
B	+X_TOOL	D	0	
B	-X_TOOL	D	0	
B	+Y_TOOL	D	0	
B	-Y_TOOL	D	0	
B	+Z_TOOL	D	0	
B	-Z_TOOL	D	0	
B	+U_TOOL	D	0	
B	-U_TOOL	D	0	
B	+V_TOOL	D	0	
B	-V_TOOL	D	0	
B	+W_TOOL	D	0	
B	-W_TOOL	D	0	
B	+X_WORLD	D	0	
B	-X_WORLD	D	0	
B	+Y_WORLD	D	0	
B	-Y_WORLD	D	0	
B	+Z_WORLD	D	0	
B	-Z_WORLD	D	0	
B	+U_WORLD	D	0	
B	-U_WORLD	D	0	
B	+V_WORLD	D	0	
B	-V_WORLD	D	0	
B	+W_WORLD	D	0	
B	-W_WORLD	D	0	
B	+J1	D	0	
B	-J1	D	0	
B	+J2	D	0	

Bit/Word	Device type	Format	Range	Memo
B	-J2	D	0	
B	+J3	D	0	
B	-J3	D	0	
B	+J4	D	0	
B	-J4	D	0	
B	+J5	D	0	
B	-J5	D	0	
B	+J6	D	0	
B	-J6	D	0	
B	HAND_POS	D	0	
B	ELBOW	D	0	
B	WRIST	D	0	
W	LOGINPASS	D	0 ~ 8	*Note1
W	START	D	0	
W	CURROBOT	D	0	Read: Display Robot Write: Select Robot
W	HOME	D	0	Target Robot
W	IN_WORD	DDDD	0 ~ 4095	
W	OUT_WORD	DDDD	0 ~ 4095	
W	MEMIO_WORD	DDDD	0 ~ 4095	
W	STATUS_ERROR_CODE	D	0	
DW	STAT	D	0 ~ 3	*Note2
DW	RBTINF	D	0 ~ 5	*Note3
W	IO_LABEL	DDDDDDDDD	0 ~	*Note4
W	SYSERR	D	0 ~ 1	0: Error code 1: Warning code
DW	CTRLINF	DD	0 ~ 10	*Note4
DW	RBTW	D	1 ~ 9	X,Y,Z,U,V,W,R,S,T
DW	RBTJ	D	1 ~ 9	1,2,3,4,5,6,7,S,T
W	RBTP	D	1 ~ 9	1,2,3,4,5,6,7,S,T
W	SPEED	D	0 ~ 2	*Note5
W	ACCEL	D	0 ~ 5	*Note6
W	REALTRQ	D	1 ~ 9	Joint Number
DW	ATRQ	D	1 ~ 9	Joint Number
DW	PTRQ	D	1 ~ 9	Joint Number
DW	QLRATE	D	1 ~ 9	Joint Number
W	CNT_NAME	DD	0 ~ 15	
W	CNT_NO	DD	0 ~ 15	

Bit/Word	Device type	Format	Range	Memo
W	PRJ_NAME	DD	0 ~ 15	
W	MAIN_LIST	DD	0 ~ 65	*Note7
W	GET_TASK_INF	DD	0 ~ 59	*Note8
W	TASK_FUN_NAME	DDDD	100 ~ 5999	AABB AA: Existing task no. BB: Fill 00
W	TASK_STATUS	DDDD	100 ~ 5999	
W	TASK_TYPE	DDDD	100 ~ 5999	
W	TASK_START_TIME	DDDD	100 ~ 5999	
DW	TASK_EXE_LINE	DD	1 ~ 59	Existing task no.
W	GETMAIN	D	0	
W	IO_MAP	D	0	*Note9
W	GETIOSTR	HH	0 ~ A8	*Note10
W	GET_ERR_HIS_NUM	D	0	Number of history
W	ERR_HIS_CODE	DD	1 ~ 49	Error history no.
W	ERR_HIS_FUN_NAME	DDDD	100 ~ 4999	AABB AA: Error history no. BB: Fill 00
DW	ERR_HIS_LINE	DD	1 ~ 49	Error history no.
W	ERR_HIS_INT_CODE	DD	1 ~ 49	Error history no.
W	ERR_HIS_TIME	DDDD	100 ~ 4999	AABB AA: Error history no. BB: Fill 00
W	ERR_HIS_ROBOT_NO	DD	1 ~ 49	Error history no.
W	ERR_HIS_AXIS_NO	DD	1 ~ 49	Error history no.
W	ERR_HIS_TASK_NO	DD	1 ~ 49	Error history no.
W	ERR_HIS_INFO1	DDDD	100 ~ 4999	AABB AA: Error history no. BB: Fill 00
W	ERR_HIS_INFO2	DDDD	100 ~ 4999	AABB AA: Error history no. BB: Fill 00
W	ERR_HIS_MESSAGE	DDDD	100 ~ 4999	AABB AA: Error history no. BB: Fill 00
W	ERR_MESSAGE	DDDD	0 ~ 9999	

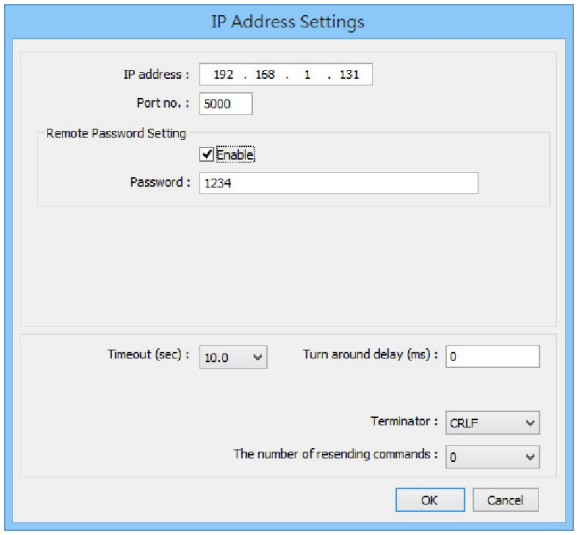
Bit/Word	Device type	Format	Range	Memo
W	PFILELIST	DDDDDD	10000 ~ 169999	AABBCC AA: Robot no. BB: File index CC: Fill 00
W	LOADPFILE	DDDDD	100 ~ 16099	AABB AA:Robot no BB: Fill 00
W	GETPINF	DD	0 ~ 54	0: Write 1 to read 1: Robot no. 2: Stat point no. 3: End point no. 4: number of points 5~54: point
W	PINF_POINT_NO	DD	0 ~ 49	Point
DW	PINF_X_COORDINATE	DD	0 ~ 49	
DW	PINF_Y_COORDINATE	DD	0 ~ 49	
DW	PINF_Z_COORDINATE	DD	0 ~ 49	
DW	PINF_U_COORDINATE	DD	0 ~ 49	
DW	PINF_V_COORDINATE	DD	0 ~ 49	
DW	PINF_W_COORDINATE	DD	0 ~ 49	
DW	PINF_R_COORDINATE	DD	0 ~ 49	
DW	PINF_S_COORDINATE	DD	0 ~ 49	
DW	PINF_T_COORDINATE	DD	0 ~ 49	
W	PINF_HAND	DD	0 ~ 49	0: Error 1: Lefty 2: Righty
W	PINF_ELBOW	DD	0 ~ 49	0: Error 1: Below 2: Ablow
W	PINF_WRIST	DD	0 ~ 49	0: Error 1: Flip 2: No. flip
W	PINF_J4FLAG	DD	0 ~ 49	
W	PINF_J6FLAG	DD	0 ~ 49	
W	PINF_J1FLAG	DD	0 ~ 49	
W	PINF_J2FLAG	DD	0 ~ 49	
W	PINF_J1ANGLE	DD	0 ~ 49	

Bit/Word	Device type	Format	Range	Memo
W	RBTINF_NUM	D	0	1 ~ 16
W	RBTINF_TYPE	DD	1 ~ 16	
W	RBTINF_MODEL_NAME	DDDD	100 ~ 1699	AA: 1~16 BB: Fill 00
DW	ENET_TOTAL_TIME	D	0	
DW	ENET_POWER_ON_TIME	D	0	
DW	EXTTIME_MOTOR_ON	DD	1 ~ 16	
DW	EXTTIME_MOTOR_ON_NUM	DD	1 ~ 16	
DW	X_STEP_DISTANCE	D	0	Step distance control
DW	Y_STEP_DISTANCE	D	0	
DW	Z_STEP_DISTANCE	D	0	
DW	U_STEP_DISTANCE	D	0	
DW	V_STEP_DISTANCE	D	0	
DW	W_STEP_DISTANCE	D	0	
DW	J1_STEP_DISTANCE	D	0	
DW	J2_STEP_DISTANCE	D	0	
DW	J3_STEP_DISTANCE	D	0	
DW	J4_STEP_DISTANCE	D	0	
DW	J5_STEP_DISTANCE	D	0	
DW	J6_STEP_DISTANCE	D	0	
W	GO	D	0	
W	JUMP	D	0	
W	JUMP3	D	0 ~ 3	0: write1 to excute 1~3: point
W	JUMP3CP	D	0 ~ 3	0: write1 to excute 1~3: point
W	MOVE	D	0	
W	ARC	D	0 ~ 2	0: write1 to excute 1~2: point
W	ARC3	D	0 ~ 2	0: write1 to excute 1~2: point
W	T_POINT	D	0 ~ 1	
W	SELECT_POINT_FILE	DD	1 ~ 16	Write only
W	J1FLAG	D	0	
W	J4FLAG	D	0	
W	J6FLAG	D	0	

Bit/Word	Device type	Format	Range	Memo
W	PINF_LOCAL	DDD	0 ~ 999	0~15, 256~272(CNV(1)~CNV(16))
W	PINF_LABEL	DDDDD	0 ~ 99999	Use ASCII Object AA: 0~999 BB: Fill 00

Note1:

勾選 Remote Password Setting 時，會直接複製設定的密碼到此地址



Note2:

Address	Bit	Description
0	0-15	Task 1 - 16 are executing (Xqt) or Halt condition
	16	Task is executing
	17	Pause condition
	18	Error condition
	19	TEACH mode
	20	Emergency stop condition
	21	Low power mode (Power Low)
	22	Safety door input is open
	23	Enable switch is open
1	0	Conditional approval of Jump...Sense statement at history of target coordinates over the suspension. (Jump statements then executed this history is cleared.)
	1	Conditional approval of Go/Jump/Move...Till statement at history of operating suspend. (Go/Jump/Move...Till statements then executed this history

Address	Bit	Description
		is cleared.)
	2	Undefined
	3	Conditional approval of Trap statement at history of operating suspend
	4	Motor On condition
	5	Home position at currently
	6	Low power condition
	7	Undefined
	8	Joint 4 motor is on
	9	Joint 3 motor is on
	10	Joint 2 motor is on
	11	Joint 1 motor is on
	12	Joint 6 motor is on
	13	Joint 5 motor is on
	14	Joint T motor is on
	15	Joint S motor is on
	16	Joint 7 motor is on
2	0-15	Task 17 - 32 are executing (Xqt) or Halt condition

Note3:

Address	Bit	Description
0	0	Undefined
	1	Resettable error occur
	2	Unresettable error occur
	3	Motor ON
	4	Power High
	8	Robot is Halt condition
	9	Robot is not Halt condition (operating or quick pausing)
	10	Roboy is stop at pausing or safety door
	14	Meet TILL condition, after operation command
	15	Meet SENSE condition, after operation command
1	0	In the follow-up operation (In the conveyor tracking)
	1	Wait for return action (WaitRecover condition)
	2	Return action is executing
2	0	Robot is home position
3	0	Joint 1 servo is on
	1	Joint 2 servo is on

Address	Bit	Description
	2	Joint 3 servo is on
	3	Joint 4 servo is on
	4	Joint 5 servo is on
	5	Joint 6 servo is on
	6	Joint 7 servo is on
	7	Joint S servo is on
	8	Joint T servo is on
4	N/A	It is a task number executing a robot command. 0 = Execute the command from command window or macro. -1 = Task or manipulator is unused.
5	0	Joint 1 brake is on
	1	Joint 2 brake is on
	2	Joint 3 brake is on
	3	Joint 4 brake is on
	4	Joint 5 brake is on
	5	Joint 6 brake is on
	6	Joint 7 brake is on
	7	Joint S brake is on
	8	Joint T brake is on

Note4:

IO_LABEL data format = A.B.CCCCC.DD (Max: 226553599)

A: IO type: 0 (Input) , 1 (Output) , 2 (Memory)

B: IO width: 0 (Bit) , 1 (Byte) , 2 (Word)

C: Port No.: 0 ~ 65535

D: Fill 00

Note5:

0: PTP motion percent speed[%]

1: Jump depart speed[%]

2: Jump approach speed[%]

Note6:

0: acceleration specification value

1: deceleration specification value

2: depart acceleration specification value for Jump

3: depart deceleration specification value for Jump

4: approach acceleration specification value for Jump

5: approach deceleration specification value for Jump

Note7:

0: Number of function in program

1~65: Existing function no.

Note8:

0: Number of task

1~65: Existing task no.

Note9:

Address	Bit	Description
1	0	Ready condition
	1	Start condition
	2	Pause condition
	8	Emergency stop condition
	9	Safety door open condition
	10	Error condition
	11	Fatal error condition
	12	Warning condition
	13	WaitRecover condition (It is waiting return from safe door open)
	14	Recover condition (It is executing return from safe door open)
2	0	Enable switch of TP1 is ON
3	0	TEACH mode circuit failure detection
	1	Safety door circuit failure detection
	2	Emergency stop circuit failure detection
4	N/A	0: Real run mode, 1: Dry run mode
5	N/A	Control device 21: RC+, 22: Remote, 26: Remote Ethernet, 29: Remote RS232C
6	N/A	Number of the set robot
7	N/A	Operation mode 0: Programing mode, 1: AUTO mode
9	N/A	Firm ware version of the controller Major number*1000000 + Minor number*10000 + Revision number*100 + Build number Example: In the case of 1.6.2.4 1060204
10	N/A	SMART status of the hard disk 0: SMART status is normal, 1: SMART status is abnormal When SMART status is abnormal, the hard disk may break down, back up data

		immediately, and use a new hard disk. You cannot use SMART status when you use RAID. It will always return Normal.

Note10:

Data format: XY (X: 0 ~ A, Y: 0 ~ 8)

X0: Memory I/O

X1: Standard I/O

X2: Drive unit1

X3: Drive unit2

X4: Drive unit3

X5: Expansion I/O-1

X6: Expansion I/O-2

X7: Expansion I/O-3

X8: Expansion I/O-4

X9: Fieldbus master

XA: Fieldbus slave

Y0 ~ 8:

Bit	Description
0	Exist I/O? 0: Not exist.(0 is set to IOSTRUCR*.1 - 8) 1: 1data Exist.(0 is set to IOSTRUCR*.5 - 8) 2: 2data Exist. (Input/Output are separated.)
1	I/O type 0: Memory I/O 1: Standard I/O 2: Drive units1 3: Drive units2 4: Drive units3 5: Expansion I/O-1 6: Expansion I/O-2 7: Expansion I/O-3 8: Expansion I/O-4 9: Fieldbus master A: Fieldbus slave
2	Input / Output

Bit	Description
	0: Input 1: Output 2: Input and Output
3	Start number.
4	Memory size
5	Input / Output(2) 0: Input 1: Output 2: Input and Output
7	Start number. (2)
8	Memory size (2)

Note11:

0: Remote ethernet is not a console device

1: Remote ethernet is a console device

Wiring Diagram:

Diagram 1

Ethernet cable: