KDT Systems Co,. Ltd.

CIMON PLC Series

CPU Direct Driver

V1.4.9.85 or higher

Supported version TOP Design Studio



CONTENTS

We want to thank our customers who use the Touch Operation Panel.

1. System configuration Page 2

Describes the devices required for connection, the setting of each device, cables, and configurable systems.

2. External device selection Page 3

Select a TOP model and an external device.

3. TOP communication setting

Page 4

Describes how to set the TOP communication.

4. External device setting Page 9

Describes how to set up communication for external devices.

5. Cable table

Page 10

Describes the cable specifications required for connection.

6. Supported addresses

Page 11

Refer to this section to check the addresses which can communicate with an external device.



1. System configuration

The system configuration of TOP and "KDT Systems Co,. Ltd. - CIMON PLC Series CPU Direct" is as follows:

Series	СРИ	Link I/F	Communication method	System setting	Cable
XP	CM1–XP1A/R				
	CM1–XP2A				
	CM1–XP3A				
СР	CM1–CP3A				
	CM1–CP3B				
	CM1–CP3P				
	CM1–CP3U	LOADER Port	DC 222C	3. TOP communication	
	CM1–CP4A	on CPU unit	RS-232C	<u>setting</u>	5. Cable table
	CM1–CP4B			4. External device setting	
	CM1–CP4C				
	CM1–CP4D				
	CM1–CP4U				
BP	CM2–BP32MD	1			
	CM2–BP16MD				

■ Connection configuration

• 1:1 (one TOP and one external device) connection



2. External device selection

■ Select a TOP model and a port, and then select an external device.

						×
PLC select [CC	DM1]					
Filter : [All]			\sim		Search :	
					M	odel O Vendor
Vendor		Mode				
LS Industrial Systems		^ 💋	CIMON F	LC Series		
MODBUS Organization						
SIEMENS AG.						
Rockwell Automation						
GE Fanuc Automation						
PANASONIC Electric Wor	'ks					
YASKAWA Electric Corpo	ration					
YOKOGAWA Electric Corp	poration					
Schneider Electric Indust	ries					
KDT Systems						
RS Automation						
HITACHI IES						
FATEK Automation Corpo	oration					
DELTA Electronics		~				
			(🖨 Back	Next	X Cancel
PLC Setting[CIMO Alias Name : Interface :	PLC1	es]	~			
_	PLC1 Serial	es]	~			Comm Manual
Alias Name : Interface :	PLC1 Serial Loader					Comm Manual
Alias Name : Interface : Protocol : String Save Mode :	PLC1 Serial Loader First LH HL		\sim			Comm Manual
Alias Name : Interface : Protocol : String Save Mode :	PLC1 Serial Loader First LH HL		 ✓ hange 			Comm Manual
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : A Change Condition :	PLC1 Serial Loader First LH HL y ND ~ TimeOut		\sim	d)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : A Change Condition :	PLC1 Serial Loader First LH HL Y	C	 ✓ hange 	4)		Comm Manual
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : A Change Condition :	PLC1 Serial Loader First LH HL y ND ~ TimeOut	C	✓ hange	d)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition :	PLC1 Serial Loader First LH HL VD ~ TimeOut Condition	C	✓ hange	d)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Primary Option	PLC1 Serial Loader First LH HL V V Condition	5	✓ hange	4)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Primary Option Timeout	PLC1 Serial Loader First LH HL V VD Condition	5 msec	✓ hange	4)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : A Change Condition : Primary Option Timeout Send Wait	PLC1 Serial Loader First LH HL Y MD ~ TimeOut Condition	5 msec msec	✓ hange	d)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Ar Change Condition : Primary Option Timeout Send Wait Retry	PLC1 Serial Loader First LH HL Y MD ~ TimeOut Condition	5 msec	✓ hange	J)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Primary Option Timeout Send Wait Retry Station No	PLC1 Serial Loader First LH HL Y MD Y ImeOut 300 5 2 255	5 msec	✓ hange	d)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Primary Option Timeout Send Wait Retry Station No	PLC1 Serial Loader First LH HL Y MD Y ImeOut 300 5 2 255	5 msec	✓ hange	3)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Primary Option Timeout Send Wait Retry Station No	PLC1 Serial Loader First LH HL Y MD Y ImeOut 300 5 2 255	5 msec	✓ hange	4)		
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Primary Option Timeout Send Wait Retry Station No	PLC1 Serial Loader First LH HL Y MD Y ImeOut 300 5 2 255	5 msec	✓ hange			

Settings		Contents			
ТОР	Model	Check the TOP display and pro	Check the TOP display and process to select the touch model.		
External device	Vendor	Select the vendor of the external device to be connected to TOP. Select "KDT Systems".			
	PLC	Select an external device to co	nnect to TOP.		
		Model	Interface	Protocol	
		CIMON PLC Series	CPU Direct	CPU Direct	
Supported CPU type					
CP Series BP Series			BP Series	XP Series	
		Please check the system configuration in Chapter 1 to see if the external device connect is a model whose system can be configured.			

대한민국대표 터치패널 Touch Operation Panel

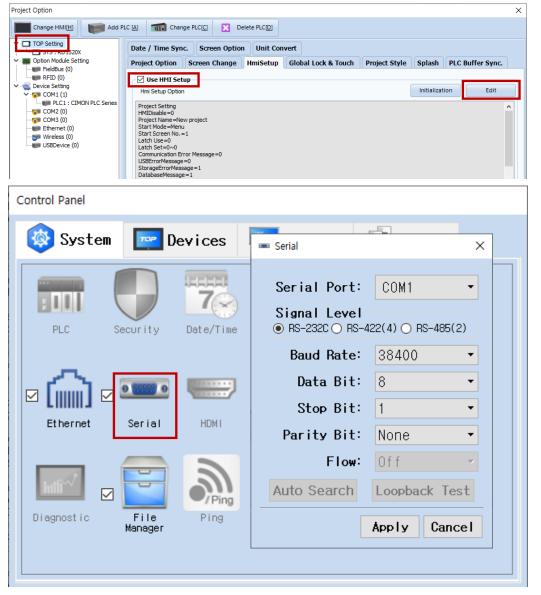
3. TOP communication setting

The communication can be set in TOP Design Studio or TOP main menu. The communication should be set in the same way as that of the external device.

3.1 Communication setting in TOP Design Studio

(1) Communication interface setting

- [Project > Project Property > TOP Setting] → [Project Option > "Use HMI Setup" Check > Edit > Serial]
 - Set the TOP communication interface in TOP Design Studio.



Items	ТОР	External device	Remarks
Signal Level (port)	RS-232C	RS-232C	
Baud Rate	38400		Fixed
Data Bit	8		Fixed
Stop Bit	1		Fixed
Parity Bit	None.		Fixed

* The above settings are examples recommended by the company.

Items	Description
Signal Level	Select the serial communication method between the TOP and an external device. (COM3 supports only RS-485.)
Baud Rate	Select the serial communication speed between the TOP and an external device.
Data Bit	Select the serial communication data bit between the TOP and an external device.
Stop Bit	Select the serial communication stop bit between the TOP and an external device.
Parity Bit	Select the serial communication parity bit check method between the TOP and an external device.



(2) Communication option setting

- [Project > Project Property > Device Setting > COM > "PLC1 : CIMON PLC Series"]
 - Set the options of the CIMON PLC Series CPU Direct communication driver in TOP Design Studio.

Project Option				×
Change HMI[H] Kenter Add P	LC [A] TTT Change F	LC[C] Delete PLC[D]		
Change HMI[H] Add P Change HMI[H] Add P SYS : RD1520X Coption Module Setting FieldBus (0) RFID (0) COM1 (1) COM2 (0) Ethernet (0) Wireless (0) USBDevice (0) COM3 (0) USBDevice (0)	PLC Setting[CIMO Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : A Change Condition : C Primary Option Timeout Send Wait	IPLC Series] PLC1 Serial Loader First LH HL Change		mm Manual
< >>			Apply	Close

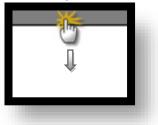
Items	Settings	Remarks
Interface	Select "CPU Direct".	Refer to "2. External
Protocol	Select "CPU Direct".	device selection".
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	SendWait (ms) Set the waiting time between TOP's receiving a response from an external	
	device and sending the next command request.	
Station No	Enter the prefix of an external device.	
СРИ Туре	Select the CPU type for the external device.	



3.2. Communication setting in TOP

* This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.

■ Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.



(1) Communication interface setting

■ [Main Screen > Control Panel > Serial]

	6	Control Panel	×
Run VIC Viewer Screen shot	System PLC PLC Security Chernet Serial Diagnostic File Manager	Serial Port: COM1 Signal Level • RS-232C O RS-422(4) O RS-42 Baud Rate: 38400 Data Bit: 8 Stop Bit: 1 Parity Bit: None Flow: Off Auto Search Loopback 1	
TOPRX - TOPRX080	[System]	Apply Ca	A 2021-08-31 04:45:02 PM

Items	ТОР	External device	Remarks
Signal Level (port)	RS-232C	RS-232C	
Baud Rate	38400		Fixed
Data Bit	8		Fixed
Stop Bit	1		Fixed
Parity Bit	Nor	ne.	Fixed

* The above settings are setting examples recommended by the company.

Items	Description
Signal Level	Select the serial communication method between the TOP and an external device.
Baud Rate	Select the serial communication speed between the TOP and an external device.
Data Bit	Select the serial communication data bit between the TOP and an external device.
Stop Bit	Select the serial communication stop bit between the TOP and an external device.
Parity Bit	Select the serial communication parity bit check method between the TOP and an external device.



(2) Communication option setting

■ [Main Screen > Control Panel > PLC]

	ŏ	Control Panel		×
	🔯 System 🛛 🔤 De	💶 Sei	rial ×	
Run				
		Serial Port:	COM1 -	
MNC		Signal Level	122(4) O RS-485(2)	
	PLC Security	Baud Rate:	38400 -	
VNC Viewer				
TTORCT		Data Bit:	8 •	
	Ethernet Serial	Stop Bit:		
		Parity Bit:	None 👻	
Screen	Land I	Flow:	Off 💌	
shot		Auto Search	Loopback Test	
7.5	Diagnostic File Manager		LOOPDUCK TCST	
			Apply Cancel	
	[System]		UTOSE	
TOPRX - TOPRX0800	IS		A 2021-	08-31 04:45:02 PW
Items	Settings			Remarks
Interface	Select "CPU Direct".			Refer to "2. External
Protocol	Select "CPU Direct".			device selection".
TimeOut (ms)	FimeOut (ms) Set the time for the TOP to wait for a response from an ext			
SendWait (ms)	Set the waiting time betw	een TOP's receiving a res	ponse from an external device	
	and sending the next com	nmand request.		
Station No	Enter the prefix of an exte	rnal device.		
СРИ Туре	Select the CPU type for th	e external device.		



3.3 Communication diagnostics

■ Check the interface setting status between the TOP and an external device.

- Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.
- Check if the COM port settings you want to use in [Control Panel > Serial] are the same as those of the external device.
- Diagnosis of whether the port communication is normal or not
- Touch "Communication diagnostics" in [Control Panel > PLC].
- The Diagnostics dialog box pops up on the screen and determines the diagnostic status.

ОК	Communication setting normal
Time Out Error	Communication setting abnormal
	- Check the cable, TOP, and external device setting status. (Reference: Communication diagnostics sheet)

■ Communication diagnostics sheet

- If there is a problem with the communication connection with an external terminal, please check the settings in the sheet below.

Items	Contents		Check		Remarks	
System	How to connect the system		OK	NG	1. Containing firm with a	
configuration	Connection cable nam	OK	NG	1. System configuration		
ТОР	Version information	OK	NG			
	Port in use	OK	NG			
	Driver name	OK	NG			
	Other detailed setting	OK	NG			
	Relative prefix	Project setting	OK	NG		
		Communication diagnostics	ОК	NG	2. External device selection 3. Communication setting	
	Serial Parameter	Transmission Speed	ОК	NG		
		Data Bit	OK	NG		
		Stop Bit	OK	NG		
		Parity Bit	OK	NG		
External device	CPU name	OK	NG			
	Communication port r	OK	NG			
	Protocol (mode)	OK	NG			
	Setup Prefix	OK	NG			
	Other detailed settings		OK	NG	4. Estemat device estimat	
	Serial Parameter	Transmission Speed	ОК	NG	4. External device setting	
		Data Bit	OK	NG		
		Stop Bit	OK	NG		
		Parity Bit	OK	NG		
	Check address range				6. Supported addresses	
			ОК	NG	(For details, please refer to the PLC vendor's manual.)	



4. External device setting

Loader port communication interface of the "CIMON PLC Series" is fixed as the target configuration value mentioned in the example on "3. TOP communication setting".



5. Cable table

This chapter introduces a cable diagram for normal communication between the TOP and the corresponding device. (The cable diagram described in this section may differ from the recommendations of "KDT Systems Co., Ltd.")

■ RS-232C (1:1 connection)

ТОР				External device		
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
	CD	1		1		
1 5	RD	2		2	TXD	
	SD	3		3	RXD	
6 9	DTR	4		4		
Based on	SG	5		5	SG	16
communication	DSR	6		6		Based on
cable connector	RTS	7				communication
front,	CTS	8				cable connector
D-SUB 9 Pin male		9				front,
(male, convex)		5				6 pin male RJ12
,						(male, convex)

*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.



6. Supported addresses

The devices available in TOP are as follows:

The device range (address) may differ depending on the CPU module series/type. The TOP series supports the maximum address range used by the external device series. Please refer to each CPU module user manual and be take caution to not deviate from the address range supported by the device you want to use.

Device		Bit Address	Word Address	Remarks
Input relay		X00000– X1023F	X00000 – X10230	
Output relay		Y00000 – Y1023F	Y00000 – Y10230	
Sub relay		M00000 – M4095F	M00000 - M40950	
Keep relay		K00000 – K4095F	K00000 – K40950	
Link relay		L00000 – L4095F	L00000 – L40950	
Timer	contact	T0000 – T4095		
	current		TC0000 – TC4095	
	setting		TS0000 – TS4095	
Counter	contact	C0000 – C4095		
	current		CC0000 – CC4095	
	setting		CS0000 – CS4095	
Data register		D00000.00 - D32766.15	D00000 – D32766	