Azbil Corporation : SDC10/40G,DCP31/552,DMC10,CMC

Supported version TOP Design Studio

V1.4.3 or higher



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We would like to thank our customers for using M2I's "Touch Operation Panel (M2I TOP) Series". Read this manual and familiarize yourself with the connection method and procedures of the "TOP and external device".

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1. System configuration

The system configuration of TOP and "Azbil Corporation - SDC10/40G, DCP31/552, DMC10, CMC" is as follows:

Series	CPU	Link I/F	Communication method	Communication setting	Cable
Azbil Corporation	SDC10/40G,DCP31/552,DMC10,CMC	-	RS-485	<u>3. TOP</u> communication setting	5. Cable table

Connection configuration

• 1:1 (one TOP and one external device) connection – configuration which is possible in RS232C/422/485 communication.



• 1:N (one TOP and multiple external devices) connection - configuration which is possible in RS422/485 communication.





2. External device selection

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

Select Device					
PLC select [C	COM1]				
Filter : [All]		\sim	9	earch :	
				Model	Vendor
Vendor		Model			
BONGSHIN LOADCELL	^	🜮 SDC 10,	/40G,DCP31/552,DM	IC10,CMC	
FANUC Co., Ltd.		-			
MINEBEA Co., Ltd.					
Azbil Corporation					
KORO TECHNOLOGY					
ROBOSTAR					
Ebmpapst					
CoDeSys Automation	Alliance				
Ophir Optronics Solution	ons Ltd.				
SERVOMEX					
Tiger Optics, LLC					
B & R Automation					
Peripheral Device					
OTHERS Manufacture	~				
elect Device PLC Setting[SDC Alias Name		1/552,DMC10,	СМС]		
Interface	e : Serial	~			
	ol : Controller Per	ipheral Link 🗸		Cor	mm Manual
String Save Mode	e : First LH HL	Change			
Use Redundar					
Operate Condition :					
Change Condition :	Condition	5 🜲 (Seco	nd)	F	dit
	Condition				un
Primary Option					
Primary Option Timeout		msec			
		msec			
Timeout					
Timeout Send Wait	0				
Timeout Send Wait Retry	0 🔹				
Timeout Send Wait Retry	0 🔹				
Timeout Send Wait Retry	0 🔹				
Timeout Send Wait Retry	0 🔹				
Timeout Send Wait Retry	0 🔹				

Set	tings		Contents					
ТОР	Model	Check the display and process of TOP	Check the display and process of TOP to select the touch model.					
External device	Vendor	Select the vendor of the external device to be connected to TOP. Select "Azbil Corporation".						
	PLC	Select an external device to connect to	Select an external device to connect to TOP.					
		Model	Model Interface Protocol					
		SDC10/40G,DCP31/552,DMC10,CMC Serial Controller Pe						
		Please check the system configuration connect is a model whose system can		e if the external device you want to				

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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-485	RS-485			
Baud Rate	1920	Fixed			
Data Bit	8	8			
Stop Bit	1				
Parity Bit	Nor	ne			

* 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.
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.

External device connection manual for TOP Design Studio



(2) Communication option setting

- [Project > Project Property > Device Setting > COM > "ASDC10/40G, DCP31/552, DMC10, CMC"]
 - Set the options of the Computer Link communication driver in TOP Design Studio.

Project Option			×
Change HMI[H] Add PLC	C [A] Change PLC[C] X Delete PLC[D]		
Change HMI[H] Change HMI[H] Change HMI[H] COP Setting COP Setti	Chainge PLC(C) Change PLC(C) PLC Setting[SDC10/406,DCP31/552,DMC10,CMC] Alias Name : PLC1 Interface : Serial Protocol : Controller Peripheral Link String Save Mode : First LH HL Change Condition : ND Change Condition : ImeOut Condition Edit Primary Option Timeout 300 msec Send Wait 0 0 Imeout 300 Imeou		mm Manual
< >>		Apply	Close

Items	Settings	Remarks
Interface	Configure the communication interface between the TOP and an external device.	Refer to "2. External
Protocol	Configure the communication protocol between the TOP and an external device.	device selection".
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external device and	
	sending the next command request.	



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]

	ō			(0 E	Sei	rial	×	×	
Bun		Syste	em 🗾	Device	Serial P	'ort:	COM1	-		
				7	Signal L		422(4) 💿 RS-485(2)		
MNC		PLC	Security	Date/1	Baud R	ate:	19200	•		
			102/11/08/19/64		Data	Bit:	8	-		
VNC Viewer	l d	<u></u>	0 0000	-	Stop	Bit:	1	•		
	Ett	nernet	Serial	HDM	Parity	Bit:	None	-		
				_	F	low:	Off	-		
Screen shot	in	i de la compañía de	=	3	Auto Sear	rch	Loopback Tes	t		
71	Diag	gnostic	File Manager	Pin			Apply Cance	el		
	[9	System]				CI	ose		
Toprx - Toprx080	DOS						A 2	021-0	08-31 03	3:29:02 PM
Items				ТОР			External dev	ice		Remarks
Signal Level (port)		1	F	S-485			RS-485			

Signal Level (port)	RS-485	RS-485	
Baud Rate	1920	00	Fixed
Data Bit	8		
Stop Bit	1		
Parity Bit	Nor	ne	

* 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]

	õ	1001	PLC	×
	🔯 System	Driver(COM1)	PLC1(SDC10/40G,DCP31/552,DMC10,CMC) -	
Run		Interface	Serial 🔹	
		Protocol	Controller Peripher -	
MNC	PLC Sec	Timeout	300 🖨 msec	
VNC		Send Wait	0 a msec	
Viewer	പ്പം	Retry	5	
	Ethernet Se	ID	0	
Screen	- mil			
shot				
	Diagnostic F Mar			
	[System]	Diagnostic	Apply	Cancel

Items	Settings	Remarks
Interface	Configure the communication interface between the TOP and an external device.	Refer to "2. External
Protocol	Configure the communication protocol between the TOP and an external device.	device selection".
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external device	
	and sending the next command request.	
ID (device address)	Configure the ID of target communication 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.

ltems	Contents		Check		Remarks	
System	How to connect the system		OK	NG	1. Containing formation	
configuration	Connection cable name		OK	NG	1. System configuration	
ТОР	Version information		OK	NG		
	Port in use		OK	NG		
	Driver name		OK	NG		
	Other detailed settings		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 name (module name)		OK	NG		
	Protocol (mode)		OK	NG		
	Setup Prefix		OK	NG		
	Other detailed settings		OK	NG	4. External 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

- Refer to the manual of the external device and configure the communication options.



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 "SDC10/40G, DCP31/552, DMC10, CMC")

■ 1:1 connection

TOP COM Port (9 pin)



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

СОМ			External device
Pin arrangement	Signal name	Cable connection	Signal name
	+		DA
			DB
0			
SG SG			
01 -			
<u>اتھی</u> +			
0			

■ 1:N connection – Refer to 1:1 connection to connect in the following way.

TOP		PLC	Cable connection and signal	PLC
Signal name	Cable connection and signal direction	Signal name	direction	Signal name
RDA	•	DA		DA
RDB		DB		DB
SDA	-•			
SDB ·	4			



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.

Command	Bit address range	Word address range	Save location
D	0~65535.15	0~65535	INPUT PORT

Read-only, write-only, and read/write operations have different features depending on the address. Refer to AZBIL user manual for details on each feature.