DEVA

Electronic Micrometer WB-80C

Serial Driver

Supported version TO

TOP Design Studio V1.4.9.44 or higher



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

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



1. System configuration

The system configuration of TOP and "WB-80C" is as follows:

Series	CPU	Link I/F	Communication method	System setting	Cable
Electronic Micrometer	WB-80C	Serial	RS-232C	<u>3. TOP</u> communication <u>setting</u> <u>4. External device</u> <u>setting</u>	<u>5. Cable table</u>

Connectable configuration

• 1:1 connection





2. External device selection

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

PLC select [C	ОМ1]					
Filter : [All]			\sim	Search :	Model	() Vendor
Vendor		Model		٢	Houci	U Verhaur
SAMWONTECH	^		WB-20N	 		
SICK AG.						
FUJI Electric Co., Ltd.			WB-80C			
SANGJI Precision Co.,	Ltd.					
DEVA						
OPTICON						
TOHNICHI						
Giddings & Lewis Motio	n Control					
DELTA TAU Data Syste	ms					
KEYENCE Corporation						
Digital Electronics Corp	oration					
HONEYWELL						
MISUMI						
PARKER HANNIEIN Co	moration ¥					
PLC Setting[WB-	80C]					
Alias Name	: PLC1					
Interface			\sim			
	I: Dedicated		~		Com	im Manual
String Save Mode	: First LH HL	Cha	ange			
	CV.					
Operate Condition :	AND ~		_			
Operate Condition :	AND ~ TimeOut	5	(Second)			
Operate Condition :	AND ~	5	(Second)		Ec	lit
Operate Condition :	AND ~ TimeOut	5	(Second)		Ec	lit
Operate Condition : Change Condition : I	AND ~ TimeOut Condition	5 msec	(Second)		Ec	lit
Operate Condition : Change Condition :	AND V TimeOut Condition 300	msec	(Second)		Ec	lit
Operate Condition : Change Condition : Primary Option Timeout	AND ~ TimeOut Condition		(Second)		Ec	lit
Operate Condition : Change Condition : Primary Option Timeout Send Wait	AND ~ TimeOut Condition	msec	Second)		Ec	lit
Operate Condition : Change Condition : Primary Option Timeout Send Wait	AND ~ TimeOut Condition	msec	(Second)		Ec	lit
Operate Condition : Change Condition : Primary Option Timeout Send Wait	AND ~ TimeOut Condition	msec	(Second)		Ec	lit
Primary Option Timeout Send Wait	AND ~ TimeOut Condition	msec	(Second)		Ec	iit
Operate Condition : Change Condition : Primary Option Timeout Send Wait	AND ~ TimeOut Condition	msec	(Second)		Ed	iit

Sett	tings		Contents				
ТОР	Model	Check the display and p	Check the display and process of TOP to select the touch model.				
External device	Vendor	Select the vendor of the Select "DEVA".	Select the vendor of the external device to be connected to TOP. Select "DEVA".				
	PLC	Select the external devi	Select the external device to be connected to the TOP.				
		Model	Protocol				
		WB-80C	Serial	Dedicated			
		5	n configuration in Chapter 1 to s se system can be configured.	ee if the external device you want to			



3. TOP communication setting

The communication can be set in TOP Design Studio or TOP system menu.

3.1 Communication setting in TOP Design Studio

(1) Communication interface setting

- $\blacksquare [Project] \rightarrow [Property] \rightarrow [TOP Setting] \rightarrow [HMI Setup] \rightarrow [Use HMI Setup Check] \rightarrow [Edit] \rightarrow [Serial]$
 - Set the TOP communication interface in TOP Design Studio.

Project Option			×
	dd PLC 🛕 🏦 Change PLC[C] 🔀 🛛	Delete PLC[D]	
TOP Setting	Date / Time Sync. Screen Optio		
 Option Module Setting FieldBus (0) RFID (0) 		HmiSetup Global Lock & Touch	Project Style Splash PLC Buffer Sync.
 Weige RF1D (0) Weige Device Setting Weige COM1 (1) 	Use HMI Setup		Initialization Edit
PLC1: WB-80C GM2 (0) GM3 (0) Wireless (0) Wireless (0) USBDevice (0)	Project Setting HMIDIasable=0 Project Name=New project Start Mode=Menu Start Soreen No.=1 Latch Use=0 Latch Set=0~0 Communication Error Message=0 USBErrorMessage=1 DatabaseMessage=1 DatabaseMessage=1		Î
Control Panel			
🔯 System	Devices	Service	Option
		🚥 Serial	×
		Serial Port:	COM1 🔫
PLC	Security Date/Time	Signal Level ● RS-232C ○ RS-	422(4) O RS-485(2)
~		Baud Rate:	9600 🔻
		Data Bit:	8 •
Ethernet	Serial HDMI	Stop Bit:	1 •
		Parity Bit:	None -
hatî 🗸		Flow:	Off 🔻
Diagnostic	File Ping	Auto Search	Loopback Test
	Manager		Apply Cancel

Items	ТОР	External device	Remarks
Signal Level	RS-232C	RS-232C	
Baud Rate	960		
Data Bit	8		
Stop Bit	1		
Parity Bit	Nor	ne.	

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

- $\blacksquare [Project] \rightarrow [Project Property] \rightarrow [Device Setting > COM > PLC1 : WB-80C]$
 - Set the options of the WB-80C communication driver in TOP Design Studio.

Project Option		×
Change HMI[H] Add P	LC [A] TIT Change PLC[C] Delete PLC[D]	
TOP Setting SYS: RD 1520X Option Module Setting FieldBus (0) RFID (0) COM1 (1) PLC1: WB-80C COM2 (0) COM3 (0) Ethernet (0) Wreless (0) USBDevice (0)	PLC Setting[WB-80C] Alas Name : PLC1 Interface : Serial Protocol : Dedicated String Save Mode : Frst LH HL Change Condition : AND Change Condition : TimeOut Condition Edit Primary Option Timeout 300 msec Send Wait 0 msec Retry 5 • • • • • • • • • • • • • • • • • •	Comm Manual
		Apply Close

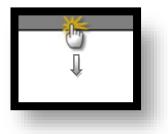
Items	Settings	Remarks
Interface	Select "Serial".	Refer to "2. External
Protocol	Select the communication protocol between the TOP and an external device.	device selection".
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
	Set the waiting time between TOP's receiving a response from an external	
SendWait (ms)	device and sending the next command request.	
Detre	Set the number of request retries when the data request result is no	
Retry	response/negative response.	



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

■ [Control Panel] → [Serial]

		Control Pane	el .	×
			Serial ×	
Bun	System 🔄 Devi			
		Serial Po		
		Signal Le	evel → RS-422(4) ○ RS-485(2)	
	PLC Security Dat	Baud Ra		
VNC Viewer		Data B	Bit: 8	
		Stop B	Bit: 1	
Et O	hernet Serial	Parity B	Bit: None 🔹	
		Flo	ow: Off 🚽	
Screen		Auto Searc	ch Loopback Test	
Dis	agnostic File F Manager			
			Apply Cancel	
			Close	
	aystem		crose	
Toprx – Toprx0800s			A 2021-09	0-01 10:57:33 AM
ltems	ТОР		External device	Remarks
Signal Level	RS-232C		RS-232C	
			K3-232C	
Baud Rate		9600		
Baud Rate Data Bit		9600		
Data Bit		8)	
Data Bit Stop Bit Parity Bit		8)	
Data Bit Stop Bit Parity Bit Items	Description	8 1 None)	
Data Bit Stop Bit Parity Bit	Description Select the serial communic	8 1 None ration method bet) 2.	
Data Bit Stop Bit Parity Bit Items Signal Level	Description Select the serial communic Select the serial communic	8 1 None ation method bet) e. ween the TOP and an external device	
Data Bit Stop Bit Parity Bit Items Signal Level Baud Rate	Description Select the serial communic Select the serial communic Select the serial communic	8 1 None cation method bet cation speed betw cation data bit bet) e. ween the TOP and an external device een the TOP and an external device.	ce.



(2) Communication option setting

■ [Control Panel] \rightarrow [PLC]

) 🙃	9001	PLC		×
Run	System	Interface	PLC1(WB-80C) Serial		
	PLC	Protocol s Timeout Send Wait	Dedicated 300 msec 0 msec		
VNC Viewer		Retry	5		
Screer shot	Diagnost ic	h			
	[System]	Diagnostic	:	Appl	y Cancel
TOPRX – TOPR	X0800S Settings	-			-01 10:57:46 . narks
Interface	Select "Serial".				er to "2. External
Protocol	Select the comn	nunication protocol b	between the TOP and an external d		evice selection".
TimeOut (ms)	Set the time for	the TOP to wait for	a response from an external device		
SendWait (ms)	-	time between TOP's i ling the next comma	receiving a response from an extern nd request.	nal	
Retry	Set the number response/negati		en the data request result is no		



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 that the settings of the connected ports in [Control Panel] \rightarrow [Serial] are the same as the settings of the external device.
- Diagnosis of whether the port communication is normal or not
- Touch "Communication diagnostics" in [Control Panel] \rightarrow [PLC].
- Check whether communication is connected or not.

Communication	Communication setting normal
diagnostics	
succeeded	
Error message	Communication setting abnormal
	- Check the cable, TOP, and external device settings. (Refer to 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	Conte	nts	s Check		Remarks	
System	How to connect the system		OK	NG	1. Contena configuration	
configuration	Cable		OK	NG	1. System configuration	
ТОР	Version	OK	NG			
	Communication port	OK	NG			
	Communication driver	OK	NG			
	Other detailed settings	OK	NG			
	Relative prefix	Project setting	OK	NG		
		Communication diagnostics	ОК	NG	2. External device selection 3. TOP communication setting	
	Serial Parameter	Transmission Speed	ОК	NG		
		Data Bit	OK	NG		
		Stop Bit	OK	NG		
		Parity Bit	OK	NG		
External device	CPU	OK	NG			
	Communication port	OK	NG			
	Protocol	OK	NG			
	Setup Prefix	OK	NG			
	Other detailed settings		OK	NG	4. External device setting	
	Serial Parameter	Transmission Speed	ОК	NG	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

Set the equivalent communication settings to that of the TOP by referring to the vendor's user manual.



5. Cable table

This chapter introduces a cable diagram for normal communication between the TOP and the corresponding device. (The cable diagrams in this section may differ from the external device vendor's recommendations.)

■ RS-232C (1:1 connection)

TOP				External device		
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
1 5						1 5
$(\circ \circ)$	RD	2		2	SD	$\left(\circ \circ \right)$
	SD	3		3	RD	
6 9						6 9
Based on communication	SG	5		5	SG	Based on communication
cable connector						cable connector
front,						front,
D-SUB 9 Pin male						D-SUB 9 Pin male
(male, convex)						(male, convex)

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



6. Supported addresses

Describes the WB-80C data that can be used by TOP Design Studio

Address	Bit	Word	Description	Remarks
MEASURED_DATA		MEASURED_DATA1	Management	
	-	~ MEASURED_DATA8	Measurement	
SET_RESOLVINGPWR	SET_RESOLVINGPWR1	SET_RESOLVINGPWR1	Decelution estima	*Note 1)
	~ SET_RESOLVINGPWR2	~ SET_RESOLVINGPWR2	Resolution setting	*Note 2)
SET_ZERO	SET_ZERO1 ~ SET_ZERO8	SET_ZERO1 ~ SET_ZERO8	ZERO setting	*Note 2)
SET_ABS	SET_ABS1 ~ SET_ABS8	SET_ABS1 ~ SET_ABS8	ABS setting	*Note 2)

*Note 1) The number at the end of the address name is irrelevant to the number of channels and distinguishes two different configuration methods. Configure as SET_RESOLVINGPWR1: +2.047 mm ~ -2.048 mm (1/1000)

Configure as SET RESOLVINGPWR2: +409.5 um ~ -409.6 um (1/10000)

*Note 2) Address for delivering the configuration change command of the external device. (Write-only address)

% How to use the command delivery address

This address format is write-only. It can turn the bit ON/OFF or send a command that changes the configuration of the external device regardless of the input value when a random number is entered.

Ex) Registration of a touch object for zero configuration of channel 2

- 1. After registering touch object, go to [Effects and Operation] > [Conditions] > [Event], and configure to [Touchdown].
- 2. Select [Bit] and configure the address "SET_ZERO2" to the ON operation.
- 3. Change the configuration of the external device by pressing the touch object at TOP.

