DEVA

Electronic Micrometer WB-20N

Serial Driver

V1.4.9.44 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 connectable devices and network configurati	ons.
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 10
Describes how to set up communication for external de	evices.
5. Cable table	Page 11
Describe the cable specifications required for connection	on.
6. Supported addresses	Page 12
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-20N" is as follows:

Series	CPU	Link I/F	Communication method	System setting	Cable
Electronic Micrometer	WB-20N	Serial	RS-232C	3. TOP communication setting 4. External device setting	5. Cable table

■ Connectable configuration

• 1:1 connection





2. External device selection

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

PLC select [COM1]				
Filter : [All]	\sim		Search :	
2 m				I O Vendor
Vendor	Model			
SAMWONTECH	^ 💋 wв-20	DN		
SICK AG.	WB-80	C		
FUJI Electric Co., Ltd.				
SANGJI Precision Co., Ltd.				
DEVA				
OPTICON				
TOHNICHI				
Giddings & Lewis Motion Control				
DELTA TAU Data Systems				
KEYENCE Corporation				
Digital Electronics Corporation				
HONEYWELL				
MISUMI				
PARKER HANNIEIN Corporation	¥			
elect Device PLC Setting[WB-20N]				
Alias Name : PLC1				
Interface : Serial Protocol : Dedicated	~		_	
Protocol : Dedicated			Co	mm Manual
	Change			
String Save Mode : First LH HL	Change			
String Save Mode : First LH HL				
String Save Mode : First LH HL Use Redundancy Operate Condition : AND ~]	and)		
String Save Mode : First LH HL		ond)		Edit
String Save Mode : First LH HL Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition]	ond)		Edit
String Save Mode : First LH HL Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option	5 🗘 (Sec	ond)		Edit
String Save Mode : First LH HL Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option]	ond)		Edit
String Save Mode : First LH HL Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option	5 🗘 (Sec	and)		Edit
String Save Mode : First LH HL Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option	5 🗘 (Sec	ond)		Edit
String Save Mode : First LH HL Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option	5 🗘 (Sec	ond)		Edit
String Save Mode : First LH HL. Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option	5 🗘 (Sec	ond)		Edit
String Save Mode : First LH HL. Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option	5 🗘 (Sec	ond)		Edit
String Save Mode : First LH HL.	5 🗘 (Sec	ond)		Edit
String Save Mode : First LH HL Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option	5 🗘 (Sec	ond)		Edit
String Save Mode : First LH HL Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Primary Option	5 🗘 (Sec	ond)		Edit

Set	tings		Contents				
ТОР	Model	Check the display and p	process of TOP to select the touch	model.			
External device	Vendor	Select the vendor of the Select "DEVA".	e external device to be connected	to TOP.			
	PLC	Select the external devi	Select the external device to be connected to the TOP.				
		Model	Model Interface Protocol				
		WB-20N	Dedicated				
		-	m configuration in Chapter 1 to s use system can be configured.	see 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.

Option Module Setting FieldBus (0)	Project Option	n Screen Change	HmiSetup Global Lock & Touch	Project Style Spla	sh PLC Buffer Sync.
FRID (0) Device Setting PCC1: WB-20N COM2 (0) COM2 (0) Ethernet (0) Wireless (0) USBDevice (0)	Use HHI Hmi Setup Op Project Setting HMIDisable=0 Project Name Start Mode=M Start Screen N Latch Use=0 Latch Set=0- Communication USBErrorMess StorageErrorM DatabaseMess	stion www.project tenu 40. =1 0 n Fror Message =0 age =0 tessage =1		Initia	lization Edit
ontrol Panel					
🔯 System	n 🚾 D)evices	Service	📑 Opti	on
			serial		×
: []]]		7	Serial Port:	COM1	•
PLC	Security	Date/Time	Signal Level • RS-232C • RS-4	422(4) 🔿 RS-4	85(2)
~			Baud Rate:	9600	-
⊴ (iiiiii) ⊡			Data Bit:	8	•
Ethernet	Serial	HDMI	Stop Bit:	1	•
			Parity Bit:	None	•
and the		3	Flow:	Off	~
	2	Ping	Auto Search	Loopback	Test
	File	Ping			

Items	TOP External device							
Signal Level	RS-232C	RS-232C RS-232C						
Baud Rate	9600	9600						
Data Bit	8	8						
Stop Bit	1							
Parity Bit	None.							
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

- [Project] → [Project Property] → [Device Setting > COM > PLC1 : WB-20N]
 - Set the options of the WB-20N communication driver in TOP Design Studio.

Project Option		×
Change HMI[H] Add	PLC [A] TIT Change PLC[C] Delete PLC[D]	
 TOP Setting TOP Setting SYS : RD 1520X Option Module Setting FieldBus (0) FieldBus (0) FieldBus (0) COM1 (1) COM2 (0) COM3 (0) Ethernet (0) Wireless (0) USBDevice (0) 	PLC Setting[WB-20N] Alias Name : PLC1 Interface : Serial Protocol : Dedicated String Save Mode : FristLHHL Change Operate Condition Interface : S C (Second) Change Condition Edit Primary Option TimeOut (ms) 300 C	Comm Manual
		Apply Close

* The above settings are examples recommended by the company.

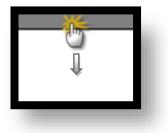
Items	Settings	Remarks
Interface	Select "Serial".	Refer to "2. External
Protocol	Select the communication protocol between the TOP and an external device.	device selection".
TimeOut (ms)	Set the time to wait for data from an external device.	



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 <u>drag</u> it down. Touch "EXIT" in the pop-up window to go to the main screen.



(1) Communication interface setting

■ [Control Panel] → [Serial]

		Control Panel		×	
			Serial ×		
	System 🛛 🔤 Dev				
Run		Serial Port	: COM1 -		
	TTT 🤍 🗍	Signal Leve RS-232C ORS	-422(4) O RS-485(2)		
	PLC Security De	Baud Rate	. 9600 -		
VNC Viewer		Data Bit	: 8 -		
		Stop Bit	: 1 -		
Et OT	hernet Serial	Parity Bit	None -		
Screen		Flow:	Off 👻		
shot		Auto Search	Loopback Test		
Dia	agnostic File Manager				
			Apply Cancel		
	 [System]		Close		
TOPRX - TOPRX0800S			A 2021-09	0-01 10:56:13 AM	
ltems	ТОР		External device	Remarks	
Signal Level	RS-232C		RS-232C		
Baud Rate	9600				
Data Bit		8			
Stop Bit		1			
Parity Bit		None.			
Items	Description				
Signal Level		ication method betwo	een the TOP and an external devic		
Baud Rate	Select the serial communi	ication speed betwee	n the TOP and an external device.		
Data Bit			een the TOP and an external devic		
Stop Bit					
		elect the serial communication stop bit between the TOP and an external device. elect the serial communication parity bit check method between the TOP and an external device.			



(2) Communication option setting

 $\blacksquare [Control Panel] \rightarrow [PLC]$

Viewer Screen shot Diagn	~			
[5]				
	stem] Diagnos	tic	L	Apply Cancel
Toprx – Toprx0800s			A 20	21-09-01 10:56:26
tems Setting				Remarks
Interface Select	'Serial".			Refer to "2. External
Protocol Select		LINE TOD SHEETS	n external device.	device selection".



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	Conter	nts	Ch	ieck	Remarks
System	How to connect the sy	stem	OK	NG	
configuration	Cable		OK	NG	1. System configuration
ТОР	Version		OK	NG	
	Communication port		OK	NG	
	Communication driver	and protocol	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	4. External device setting
		Data Bit	OK	NG	
		Stop Bit	OK	NG	
		Parity Bit	OK	NG	
	Check address range		OK	NG	<u>6. Supported addresses</u> (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)

СОМ				External device		
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
1 5						1 5
(° °)	RD	2		2	SD	(° °)
69	SD	3		3	RD	6 9
Based on						6 9 Based on
communication	SG	5		5	SG	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 available WB-20N data that can be used with TOP Design Studio.

	Bit	Word	Description	Data type	Remarks
MEASURED_P1	-	MEAUSRED_P1	Channel 1 measurement	Float	
MEAUSRED_P2	-	MEASURED_P2	Channel 2 measurement	Float	
MEASURED_G	-	MEASURED_G	Group operation value	Float	
STATUS_P1	STATUS_P1	-	Channel 1 measurement status	Bit	*Note 1)
STATUS_P2	STATUS_P2	-	Channel 2 measurement status	Bit	*Note 1)
STATUS_G	STATUS_G	-	Group operation status	Bit	*Note 1)

*Note 1) OFF: OK / ON: NG