

TOHNICHI Digital Torque Wrench

Serial Driver

TOP Design Studio V1.4.9.66 or higher

Supported version

CONTENTS

5. Cable table

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

 1. System configuration
 Page 2

 Describes connectable devices and network configurations.

 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 7

 Describes how to set up communication for external devices.

beschoes now to set up communication for external devices.

Page 8

Describe the cable specifications required for connection.





1. System configuration

The system configuration of TOP and "TOHNICHI – Digital Torque Wrench" is as follows:

Series	Interface	Communication method	System setting	Cable
CEM3-G CTB2-G	External output terminal on torque wrench	RS-232C	<u>3. TOP communication</u> <u>setting</u> <u>4. External device setting</u>	<u>5. Cable table</u>

■ Connectable configuration

• 1:1 connection



*Does not support TOPRW products. *Use TOPR, TOPRX products.



2. External device selection

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

PLC select [CC)M2]				
Filter : [All]		~	:	Search :	
				() Mode	el 🔾 Vendor
SAMWONTECH	^		Torque Wrench CEI	43	
SICK AG.			forque wrener ee		
FUJI Electric Co., Ltd.					
SANGJI Precision Co., Lt	d.				
DEVA					
OPTICON					
TOHNICHI					
Giddings & Lewis Motion	Control				
DELTA TAU Data System	s				
KEYENCE Corporation					
Digital Electronics Corpor	ation				
HONEYWELL					
MISUMI					
PARKER HANNIEIN Core	oration 🗸				
PLC Setting[Digita	l Torque Wi	rench CEM3]			
Alias Name :	PLC1				
Alias Name : Interface :	PLC1 Serial	~			
Alias Name: Interface: Protocol:	PLC1 Serial External Outp	∨ ut M-3 ∨		Co	omm Manual
Alias Name : Interface : Protocol :	PLC1 Serial External Outp	∨ ut M-3 ∨		Cc	omm Manual
Alias Name : Interface : Protocol :	PLC1 Serial External Outp	ut M-3 V		Co	omm Manual
Alias Name : Interface : Protocol : Use Redundanco Operate Condition :	PLC1 Serial External Outp	ut M-3 V		Cc	omm Manual
Alias Name : Interface : Protocol : Use Redundance Operate Condition :	PLC1 Serial External Outp D V TimeOut Condition	ut M-3 v	nd)	C (omm Manual
Alias Name : Interface : Protocol : Use Redundanc Operate Condition : An Change Condition :	PLC1 Serial External Outp Ø Ø TimeOut Condition	vt M-3 ∨	nd)	Cc	omm Manual
Alias Name : Interface : Protocol : Use Redundance Operate Condition : A Change Condition : Primary Option	PLC1 Serial External Outp D ID Condition	v ut M-3 v 5 € (Seco	nd)	cc	omm Manual
Alias Name : Interface : Protocol : Use Redundance Operate Condition : A Change Condition : Primary Option	PLC1 Serial External Outp V VD TimeOut Condition	v ut M-3 v 5 € (Seco	nd)	CC	Edit
Alias Name : Interface : Protocol : Use Redundance Operate Condition : Ar Change Condition : I Primary Option	PLC1 Serial External Outp V ID TimeOut Condition	v ut M-3 v 5 € (Seco	nd)		Edit
Alias Name : Interface : Protocol : Operate Condition : Ar Change Condition : Primary Option	PLC1 Serial External Outp D D TimeOut Condition	v ut M-3 v 5 € (Seco	nd)		Edit
Alias Name : Interface : Protocol : Use Redundance Operate Condition : Al Change Condition : Condition	PLC1 Serial External Outp P aD TimeOut Condition	ut M-3 V	nd)		Edit
Alias Name : Interface : Protocol : Use Redundance Operate Condition : Change Condition : Primary Option	PLC1 Serial External Outp ab TimeOut Condition	v ut M-3 v 5 € (Seco	nd)		Edit
Alias Name : Interface : Protocol : Use Redundance Operate Condition : Change Condition : Primary Option	PLC1 Serial External Outp #D TimeOut Condition	s (Seco	nd)		Edit
Allas Name : Interface : Protocol : Use Redundance Operate Condition : Change Condition : Primary Option	PLC1 Serial External Outp MD TimeOut Condition	ut M-3 V	nd)		Edit
Alias Name : Interface : Protocol : Use Redundance Operate Condition : A Change Condition : Primary Option	PLC1 Serial External Outp #D TimeOut Condition	ut M-3 V	nd)		Edit
Alias Name : Interface : Protocol : Use Redundanc Operate Condition : Change Condition : Primary Option	PLC1 Serial External Outp D TimeOut Condition	v ut M-3 v 5 ↓ (Seco	nd)		Edit
Alias Name : Interface : Protocol : Use Redundance Operate Condition : Anage Condition : Primary Option	PLC1 Serial External Outp D V TimeOut Condition	 <u>↓</u> (Seco	nd)		Edit

Settings		Contents					
ТОР	Model	Select the TOP model.					
External device	Vendor	Select the vendor of the externa Select "TOHNICHI".	ect "TOHNICHI".				
	Model	Select the external device to be connected to the TOP.					
		Model	Interface	Protocol			
		Digital Torque Wrench	Serial	External Output M-3			
		Please check the system configuration in Chapter 1 to see if the external device you want to connect is a model whose system can be configured.					



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

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

TOP Setting	Date / Time Se Project Option Wre HMI Setup Opt Project Setting Hmi Setup Opt Project Name= Start Mode=Ma	ync. Screen Optio Screen Change ietup ion New project enu	N Unit Convert	Project Style Spla	ash PLC Buffer Sync.
ontrol Panel	Start Screen N Latch Set=0- Communication USBErrorHess StorageErrorM DatabaseMess	, = 1 Fror Message=0 ge=0 sessage=1 age=1	VXC 0		
Syster 😵	n 🔛 D	evices		Opt i	on
PLC	Security	Date/Time	Serial Port: Signal Level RS-232C O RS-4	COM2 422(4) () RS-40	•
ഹം	0 0000 0		Baud Rate:	9600	•
			Data Bit:	8	▼
Ethernet	Serial	HDMI	Stop Bit:	1	▼
			Parity Bit:	None	•
	Z File	Ping	Flow: Auto Search	Off Loopback	Test
	Manager				

Items	ТОР	External device	Remarks
Signal Level	RS-232C		
	(Only available for COM2 port)	RS-232C	
Baud Rate	960		
Data Bit	8		
Stop Bit	1		
Parity Bit	Nor		

Items	Description
Signal Level	Select the serial communication method between the TOP and an external device. (Connect to COM2 of TOP.)
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.



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

 $\blacksquare [Control Panel] \rightarrow [System] \rightarrow [Serial]$

6	6	Control Panel		×
	🔞 System 🔤 De	🚥 Ser	rial ×	
Ru		Serial Port: Signal Level Signal Core-4	COM2	
VNI VNI		Baud Rate:	9600 -	
view	Ethernet Serial	Data Bit: Stop Bit:	8	
Scre		Parity Bit: Flow:	None	
sho	Diagnostic File Manager	Auto Search	Loopback Test	
			Apply Cancel	
	[System]		L lo	se
	ТОР		External device	Rema
el l	RS-232C			

Items	ТОР	External device	Remarks
Signal Level	RS-232C		
	(Only available for COM2 port)	RS-232C	
Baud Rate	9		
Data Bit			
Stop Bit			
Parity Bit	N		

Items	Description
Signal Level	Select the serial communication method between the TOP and an external device. (Connect to COM2 of TOP.)
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.



4. External device setting

Configure the communication settings of the external device by referring to the vendor's user manual.

1. Configure the RS-232C of the external device. (Baud Rate, Data Bit, Stop Bit, Parity Bit)

2. Configure the output format of the external device.

The data output format supported by TOP is as follows.

	R IF
--	------



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 (COM2)				External device		
Pin	Signal	Pin	Cable connection	Pin	Signal	Din arrangement
arrangement*Note 1)	name	number		number	name	Pin analigement
1 5		1		1	TXD	
	RD	2		2	RXD	
	SD	3		3	RTS	
Based on		4		4	CTS	
communication	SG	5		5	VBUS	8 pin round-type
cable connector		6		6	D-	Output port
front,	RTS	7		7	D+	
D-SUB 9 Pin male	CTS	8		8	SG	
(male, convex)		9				

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

As a TOHNICHI accessory, it can be used as a connection cable to a PC

* Caution

Can only be used as a COM2 port of the TOP-R(X) with RTS signal.