

# TOHNICHI

## Digital Torque Wrench

### Serial Driver

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Supported TOP Design Studio  
version

V1.4.9.66 or higher



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

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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	<a href="#">3. TOP communication setting</a> <a href="#">4. External device setting</a>	<a href="#">5. Cable table</a>

## ■ Connectable configuration

- 1:1 connection

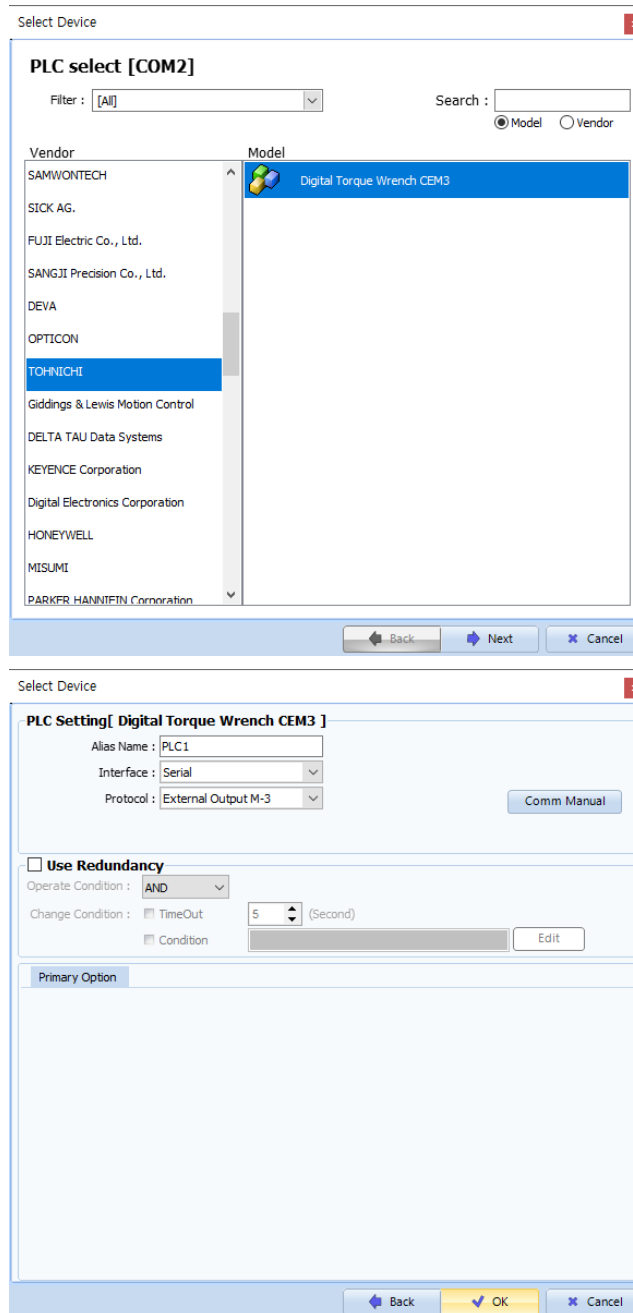


\*Does not support TOPRW products.

\*Use TOPR, TOPRX products.

## 2. External device selection

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



Settings		Contents					
TOP	Model	Select the TOP model.					
External device	Vendor	Select the vendor of the external device. Select "TOHNICHI".					
	Model	Select the external device to be connected to the TOP. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: black; color: white;">Model</th> <th style="background-color: black; color: white;">Interface</th> <th style="background-color: black; color: white;">Protocol</th> </tr> </thead> <tbody> <tr> <td>Digital Torque Wrench</td> <td>Serial</td> <td>External Output M-3</td> </tr> </tbody> </table> <p>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.</p>	Model	Interface	Protocol	Digital Torque Wrench	Serial
Model	Interface	Protocol					
Digital Torque Wrench	Serial	External Output M-3					

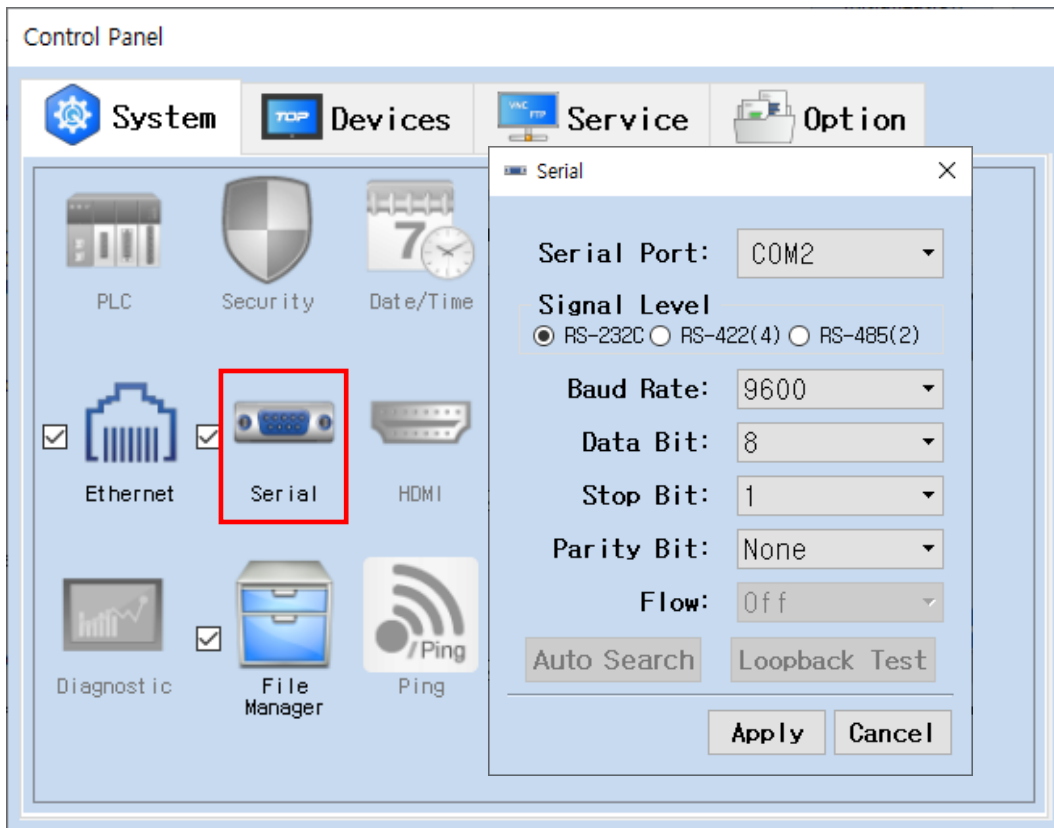
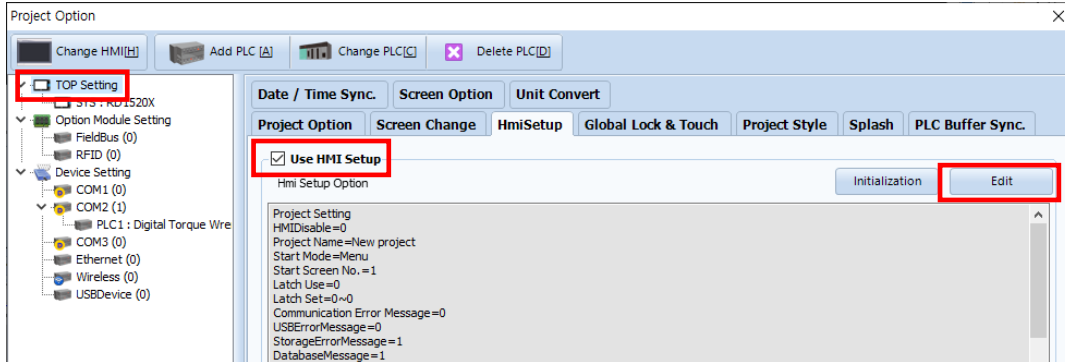
### 3. TOP communication setting

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.



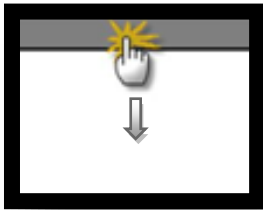
Items	TOP	External device	Remarks
Signal Level	RS-232C (Only available for COM2 port)	RS-232C	
Baud Rate	9600		
Data Bit	8		
Stop Bit	1		
Parity Bit	None.		

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

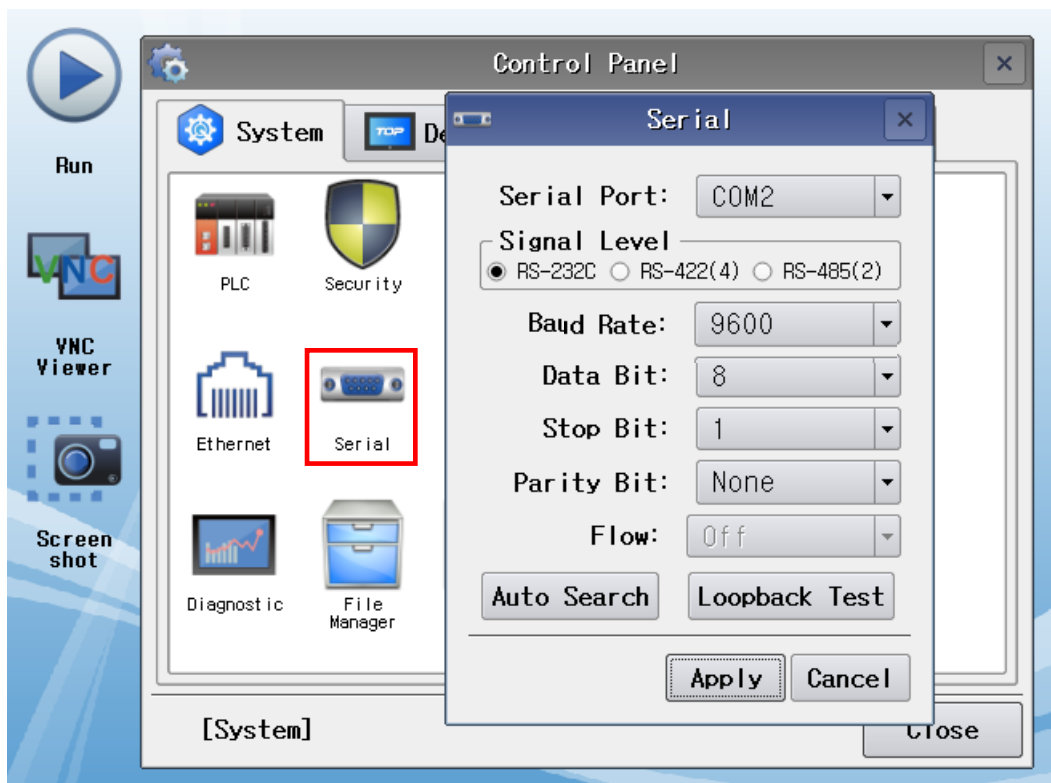
\* This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.

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



#### (1) Communication interface setting

- [Control Panel] → [System] → [Serial]



Items	TOP	External device	Remarks
Signal Level	RS-232C (Only available for COM2 port)	RS-232C	
Baud Rate		9600	
Data Bit		8	
Stop Bit		1	
Parity Bit		None.	

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.

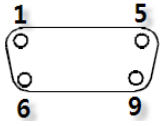
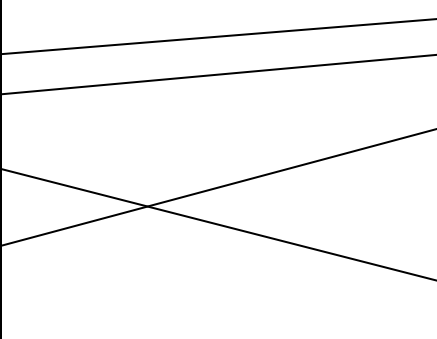
The data output format supported by TOP is as follows.

R	E	,	9	9	9	,	1	0	0	.	0	,	0	5	/	1	0	/	3	0	,	1	2	:	4	5	:	1	0	CR	LF
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----	----

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