# HBTECH - TCeye(Monitoring)

# **Ethernet Driver**

Supported version TOP Design Studio V1.0 or higher



### **CONTENTS**

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".

## 1. System configuration Page 2

Describes the devices required for connection, the setting of each device, cables, and configurable systems.

### 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.



# 1. System configuration

The system configuration of TOP and "HBTECH - Monitor" is as follows:

Series	Link I/F	Communication method	System setting	Cable
TCeye(Monitoring)	-	Ethernet (TCP)	3. TOP communication setting 4.1. External device setting 1	Twisted pair cable*Note 1)

\*Note 1) Twisted pair cable

- Refer to STP (Shielded Twisted Pair Cable) or UTP (Unshielded Twisted Pair Cable) Category 3, 4, 5.

- Depending on the network configuration, you can connect to components such as the hub and transceiver, and in this case, use a direct cable.

■ Connectable configuration

• 1:1 connection (one TOP and one external device) connection





## 2. External device selection

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

Select Device	×
PLC select [Ethernet]	
Filter · [All	Search :
[Al]	Model O Vendor
Vendor	Model
BINAR Elektronic AB	^ 🚱 TCeye(Monitoring)
HONEYWELL	~
ATLAS COPCO	
ROOTECH	
IDEC Corporation	
LENZE	
BECKHOFF Automation	
EASTECH Co. Ltd	
000	
UNCOUNC	
HTOSUNG	
HB TECH	
DNP	
FANUC Co., Ltd.	
BOOSTER	<b>v</b>
	Back Next X Cancel
Select Device	×
PLC Setting[ TCeye(Monitor	ing)]
Alias Name : PLC1	Bind IP : Auto
Protocol : TCeye(Mor	nitor)
Operate Condition : AND V	
Change Condition : 🔲 TimeOut	5 (Second)
Condition	Edit
Primary Option	
Primary Option IP 192	
Primary Option IP 192 Ethernet Protocol TCP	
Primary Option IP 192 Ethernet Protocol Port Snon	
Primary Option       IP     192 (*)       Ethernet Protocol     TCP       Port     5000       Timeout     2000	168 0 0 1 0 1
Primary Option       IP     192       Ethernet Protocol     TCP       Port     5000       Timeout     3000       Send Wait     r	168 ♣ 0 ♣ 1 ♣ ^
Primary Option       IP     192 🐑       Ethernet Protocol     TCP       Port     5000       Timeout     3000       Send Wait     0	168 ♥ 0 ♥ 1 ♥ ^
Primary Option       IP     192 🐑       Ethernet Protocol     TCP       Port     5000       Timeout     3000       Send Wait     0	168   0   1   0   1   0   1   0   1   0   1   0   1   0   1   0   1   0   0
Primary Option       IP     192       Ethernet Protocol     TCP       Port     5000       Timeout     3000       Send Wait     0       Spot Count     Spot Count	168 ♥ 0 ♥ 1 ♥ w msec 14 ♥ [MIN Spot: 13], [MAX Spot: 14]
Primary Option       IP     192       Ethernet Protocol     TCP       Port     5000       Timeout     3000       Send Wait     0       Spot Count     Spot X Pos Start Address       Send Way Count     Spot X Pos Start Address	168       0       1       ▲         ✓            ●       msec           14       ●       [MIN Spot:13], [MAX Spot:14]          15       SYS        00100       [C]       [[X14 WORD]]

Settings			Contents	
TOP	Model	Check the TOP display and process to select the touch model.		
External device	Vendor	Select the vendor of the external device to be connected to TOP.		
		Select "TCeye (Monitoring)".		
	PLC	Select the external device to be connected to the TOP.		
ModelInterfaceTCeyeEthernetPlease check the system configuration in Chapter 1 to see if connect is a model whose system can be configured.		Interface	Protocol	
		ТСеуе	Ethernet	TCeye(Monitor)
		Please check the system configura connect is a model whose system c	tion in Chapter 1 to see if th an be configured.	ne external device you want to



# 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 > Ethernet]
  - Set the TOP communication interface in TOP Design Studio.



Items	ТОР	External device	Remarks
IP Address*Note 1) Note 2)	192.168.0.50	192.168.0.51	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

\*Note 1) The network addresses of the TOP and the external device (the first three digits of the IP, <u>192</u>. <u>168</u>. <u>0</u>. 0) should match.

\*Note 2) Do not use duplicate IP addresses over the same network.

\* The above settings are examples recommended by the company.

Items	Description
IP Address	Set an IP address to be used by the TOP to use over the network.
Subnet Mask	Enter the subnet mask of the network.
Gateway	Enter the gateway of the network.



#### (2) Communication option setting

- [Project > Project Property > Device Setting > ETHERNET > "PLC1: TCeye (Monitoring)"]
  - Set the options of the TCeye (Monitoring) communication driver in TOP Design Studio.

oject Option X				
Change HMI[H] Add PI	LC [A] TIT Change PLC[C] Z Delete PLC[D]			
	PLC Setting[ TCeye(Monitoring) ] Alias Name : PLC1 Interface : Ethernet Protocol : TCeye(Monitor)	Comm Manual		
Ethernet (1) PLC1 : TCeye(Monitoring) Wireless (0) USBDevice (0)	Change Condition : AND Change Condition : TimeOut 5 (Second)			
	IP     192     168     0     1       Ethernet Protocol     TCP        Port     5000        Timeout     3000     msec       Send Wait     0     msec	^		
	Spot Count14[MIN Spot:13], [MAX Spot:14]Spot X Pos Start Address\$YS > 00100 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ 00100 \$ \$ \$ \$			
< >		¥		
	Арр	ly Close		

\* The above settings are examples recommended by the company.

Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External
Protocol	Select "TCeye (Monitor)".	device selection".
IP	Enter the IP address of the external device.	
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.	
Capture Signal	Configure the Capture Signal Address.	
Spot Counter	Configure the Spot Counter Address.	Fixed
Spot X Pos Start Address	Configure the Spot X Pos start address.	
Spot Alarm Temp Start Address	Configure the Sport Alarm Temp start address.	
Spot Meta Data Start Address	Configure the Spot Meta Data start address.	
Spot State Start Address	Configure the Spot State start address.	
Area Counter	Configure the Area Counter.	Fixed
Area Max Spot X Start Address	Configure the Area Max Spot X start address.	
Area Max Spot Y Start Address	Configure the Area Max Spot Y start address.	
Area Alarm Temp Start Address	Configure the Area Alarm Temp start address.	
Area Original Data Start Address	Configure the Area Original Data start address.	
Area Meta Data Start Address	Configure the Area Meta Data start address.	
Spot State Start Address	Configure the Spot State start address.	



### 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 > Ethernet]

	õ	Ethernet X
Bun	🔯 System 🔤 D	Port Ethernet Port : ETH1 • 0 •
		Link Speed : Auto
	PLC Security	MAC Address : 00:15:1D:05:38:C5 IP Address : 192.168.0.50
VNC Viewer		Subnet Mask : 255.255.255.0 Gateway : 192.168.0.1
	Ethernet Serial	DNS (1) :
Screen		DNS (2) :
SHUL	Diagnostic File Manager	Primary IP : 192.168.0.50 -
		Bridge Mode : Use Bridge
	[System]	Check duplicate Apply Cancel se

Items	ТОР	External device	Remarks
IP Address*Note 1) Note 2)	192.168.0.50	192.168.0.51	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

\*Note 1) The network addresses of the TOP and the external device (the first three digits of the IP, <u>192</u>. <u>168</u>. <u>0</u>. 0) should match. \*Note 2) Do not use duplicate IP addresses over the same network.

\* The above settings are examples recommended by the company.

Items	Description
IP Address	Set an IP address to be used by the TOP to use over the network.
Subnet Mask	Enter the subnet mask of the network.
Gateway	Enter the gateway of the network.



### (2) Communication option setting

■ [Main Screen > Control Panel > PLC]

	õ	1001	PLC ×
	🔯 Syste	Driver(ETH)	PLC1(TCeye(Monitoring)) -
Run		Interface	Ethernet -
		Protocol	TCeye(Monitor)
VNC	PLC	Bind IP	Auto
		IP	
Viewer		Ethernet	TCP -
	L	Port	5000
$\bigcirc$	Linemet	Timeout	3000 🗣 msec
Screen shot	Intî 🔨	Send Wait	0 🖨 msec
	Diagnostic	Spot Count	14 🚔 [MIN Spot:13]
		•	
	[System	Diagnostic	Ping Test Apply Cancel

 $^{\star}$  The above settings are  $\underline{\text{examples}}$  recommended by the company.

Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External
Protocol	Select "TCeye (Monitor)".	device selection".
IP	Enter the IP address of the external device.	
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.	
Capture Signal	Configure the Capture Signal Address.	
Spot Counter	Configure the Spot Counter Address.	Fixed
Spot X Pos Start Address	Configure the Spot X Pos start address.	
Spot Alarm Temp Start Address	Configure the Sport Alarm Temp start address.	
Spot Meta Data Start Address	Configure the Spot Meta Data start address.	
Spot State Start Address	Configure the Spot State start address.	
Area Counter	Configure the Area Counter.	Fixed
Area Max Spot X Start Address	Configure the Area Max Spot X start address.	
Area Max Spot Y Start Address	Configure the Area Max Spot Y start address.	
Area Alarm Temp Start Address	Configure the Area Alarm Temp start address.	
Area Original Data Start Address	Configure the Area Original Data start address.	
Area Meta Data Start Address	Configure the Area Meta Data start address.	
Spot State Start Address	Configure the Spot State start address.	



### **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 ETH port settings you want to use in [Control Panel > Ethernet] 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.

Items	Conte	nts	Check		Remarks	
System	How to connect the sys	stem	OK	NG	1. Containing for motion	
configuration	Connection cable name		OK	NG	1. System configuration	
ТОР	Version information Port in use Driver name		OK	NG		
			OK	NG		
			OK	NG		
	Other detailed settings		OK	NG		
	Relative prefix	Project setting	OK	NG	2. External device selection	
		Communication diagnostics	ОК	NG	3. Communication setting	
	Ethernet port setting	IP Address	OK	NG		
		Subnet Mask	OK	NG		
		Gateway	OK	NG		
External device	CPU name		OK	NG		
	Communication port name (module name)		OK	NG		
	Protocol (mode)		OK	NG		
	Setup Prefix		OK	NG	4 External device setting	
	Other detailed settings		OK	NG	4. External device setting	
	Ethernet port setting	IP Address	OK	NG		
		Subnet Mask	OK	NG		
		Gateway	OK	NG		
	Check address range		ОК	NG	<u>5. Supported addresses</u> (For details, please refer to the PLC vendor's manual.)	