CAS Corporation

CAS Indicator CI/NT Series Serial Driver

Command Type 3

V1.4.11.21 or higher

Supported version TOP Design Studio



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



1. System configuration

The system configuration of TOP and "CAS Corporation – CAS Indicator CI/NT Series" is as follows:

Series	CPU	Link I/F	Communication method	Communication setting	Cable
CAS Indicator	CI Series NT Series	Built-in port	RS-232C RS-422/485	<u>3. TOP communication</u> <u>setting</u> 4. External device setting	5. Cable table

■ Connectable configuration

1:1 connection – RS232C/422/485 communication





• 1:N connection - RS422/ 485 communication







2. External device selection

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

PLC select [COM1] Fiter: [A]						
Filer: [All Vendor Model ABO Indicator CLAT Series ABO Indicator XB Series SHWA CAM Indicator XB Series Indicator XB Series Indicator XB Series SHWA CAM Indicator XB Series Station Num Indicator XB Series Station Num	PLC select [CC	M1]				
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	PLC Setting[Indica Alias Name : Interface : String Save Mode : Use Redundance Operate Condition : A Change Condition : A Primary Option Timeout Send Wait Retry	Ator CI/NT S PLC1 Serial Command Typ First LH HL Y D D TimeOut Condition 300 0 5 5	e 3 Cha 5 msec msec	nge (Second)		Comm Manual
	PLC Setting[Indica Alias Name : Interface : String Save Mode : Use Redundance Operate Condition : A Change Condition : A Primary Option Timeout Send Wait Retry Station Num	Ator CI/NT S PLC1 Serial Command Typ First LH HL Y ID Command Typ TimeOut Condition	e 3 Cha 5 msec	y nge (Second)		Comm Manual
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	PLC Setting[Indica Alias Name : Interface : Protocol : String Save Mode : Use Redundanc Operate Condition : Change Condition : Primary Option Timeout Send Wait Retry Station Num	ADD CI/NT S PLC1 Serial Command Typ First LH HL Y ND Condition 300 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0	e s Cha	Second)		Comm Manual
	PLC Setting[Indica Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Change Condition : Primary Option Timeout Send Wait Retry Station Num	ADD CI/NT S PLC1 Serial Command Typ First LH HL Y D D Condition 300 C S C D C C C C C C C C C C C C C	e 3 Cha	Second)		Comm Manual
	PLC Setting[Indica Alias Name : Interface : Protocol : String Save Mode : Use Redundanc Operate Condition : A Change Condition : A Cha	PLC1 Serial Command Typ First LH HL Y D Condition 300 S S C C Condition	e 3 Cha	(Second)		Comm Manual

ngs		Contents				
Model	Check the TOP display and proc	Check the TOP display and process to select the touch model.				
Vendor	Select the vendor of the external device to be connected to TOP. Select "CAS".					
PLC	Select an external device to cor	nnect to TOP.				
	Model	Interface	Protocol			
	Indicator CI/NT Series	Command Type 3				
	Please check the system config	the external device you want to				
	Model Vendor PLC	Model Check the TOP display and prod Vendor Select the vendor of the external Select "CAS". Select an external device to cor PLC Select an external device to cor Model Indicator CI/NT Series Please check the system config connect is a model whose system	Model Check the TOP display and process to select the touch model. Vendor Select the vendor of the external device to be connected to TOF Select "CAS". PLC Select an external device to connect to TOP. Model Interface Indicator CI/NT Series Serial Please check the system configuration in Chapter 1 to see if a connect is a model whose system can be configured.			



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] → [HMI Setup > "Use HMI Setup" Check > Edit > Serial]

- Set the TOP communication interface in TOP Design Studio.



Ping

Keypad Option Top Menu

Get HMI Setup OK Cancel

MRAM Analysis

Flow:

Auto Search

Off

Apply

Loopback Test

Cancel

File Manage

Diagnostic

[System]



Items	ТОР	External device	Remarks
Signal Level (port)	RS-232C	RS-232C	
Baud Rate	960	0	
Data Bit	8		
Stop Bit	1		
Parity Bit	Non	e.	

* The above settings are examples recommended by the company.

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 > "Indicator CI/NT Series"]
 - Set the options of the Indicator CI/NT Series Command Type 3 communication driver in TOP Design Studio.

Change HMI[H] Add PLC [A] The Change PLC[C] Change PLC[C]		
TOP Setting SYS : RD120S Option Models Setting FieldBus (0) Protect 1: Indicator CL/NT Setting Interface : Setial Protect 2: Indicator CL/NT Setting String Save Mode : First LH HL Condition : Option Models Setting USBDevice (0) Primery Option Threout Soo (0) Primery Option Threout Soo (0) Station Num O (0)	Cor	mm Manual
	Apply	Close

Items	Settings	Remarks
Interface	Configure the communication interface between the TOP and an external device.	Refer to "2. External
Protocol	Configure 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.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external device and	
	sending the next	
	command request.	
Retry	Configure the amount of redelivery attempts from TOP to external device.	
Station Num	Set the prefix of an external device.	Device ID



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

■ [Main Screen > Control Panel > Serial]

	<u>ج</u>			Control Pane	əl	×	
		Syster	n 📴 De	v	Serial	×	
Hun		PLC	Security [Serial Po Signal Lev • RS-232C O	-t: COM1 /el RS-422(4) O RS-4850	2)	
VNC Viewer		nernet	Serial	Baud Rat Data B Stop B	te: 9600 it: 8 it: 1		
Screen shot	Diag	nnost ic	File Manager	Parity B Flo Auto Searc	it: None w: Off h Loopback Te	• • st	
	[[System]			Apply Can	cel orose	
Toprx – ToprxO8	00S					2021-08-31 04	:28:24 PN
Items			TO	P	External	device	Remarks
Signal Level (port)			RS-23	32C	RS-2	32C	

Signal Level (port)	RS-232C RS-232C				
Baud Rate	9600				
Data Bit	8				
Stop Bit	1				
Parity Bit	None.				

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

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

■ [Main Screen > Control Panel > PLC]

	ò	Control Panel	×
Run VIC Viewer Screen shot	System Image: Image	Dev Serial × Serial Port: COM1 • Signal Level • RS-232C • RS-422(4) • RS-485(2) Baud Rate: 9600 • Data Bit: 8 • Stop Bit: 1 • Parity Bit: None • Flow: Off • Auto Search Loopback Test	
	[System]	Apply Cancel	se
Toprx – Toprx080	os	A 202	1-08-31 04:28:24 PM

Items	Settings	Remarks
Interface	Configure the communication interface between the TOP and an external device.	Refer to "2. External
Protocol	Configure 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.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external device and	
	sending the next command request.	
Retry	Configure the amount of redelivery attempts from TOP to external device.	
Station Num	Set the prefix of an external device.	Device ID



3.3 Communication diagnostics

■ Check the interface setting status between the TOP and 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 COM port settings you want to use in [Control Panel > Serial] 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	Contents		Ch	eck	Remarks
System	How to connect the	e system	OK	NG	1 Custom configuration
configuration	Connection cable n	ame	ОК	NG	1. System configuration
ТОР	Version information	1	OK	NG	
	Port in use		OK	NG	
	Driver name		OK	NG	
	Other detailed sett	ings	OK	NG	
	Relative prefix	Project setting	OK	NG	2. External device selection
		Communication diagnostics	ОК	NG	3. TOP communication setting
	Serial Parameter	Transmission Speed	OK	NG	
		Data Bit	OK	NG	
		Stop Bit	OK	NG	
		Parity Bit	OK	NG	
External device	CPU name		OK	NG	
	Communication port name (module name) Protocol (mode) Setup Prefix Other detailed settings		ОК	NG	
			OK	NG	
			OK	NG	4. External device cetting
			OK	NG	4. External device setting
	Serial Parameter	Transmission Speed	OK	NG	
		Data Bit	OK	NG	
		Stop Bit	OK	NG	
		Parity Bit	OK	NG	
	Check address rang	je	OK	NG	<u>6. Supported addresses</u> (For details, please refer to the PLC vendor's manual.)



4. External device setting

Refer to the user manual of CAS Corporation's CI/NT Series to identically configure the communication settings of the TOP.



5. Cable table

This chapter introduces a cable diagram for normal communication between the TOP and the corresponding device. (The cable diagram described in this section may differ from the recommendations of "CAS Corporation")

RS-232C

TOP				Exter	nal device
Pin	Signal	Pin	Pin	Signal	Pin
arrangement*Note 1)	name	number	number	name	arrangement*Note 1)
1 5					
$(\circ \circ)$	RD	2	2	TXD	
	SD	3	3	RXD	Based on
6 9					communication cable
Based on	SG	5			connector front,
communication cable					D-SUB 25 Pin male
connector front,			7	SG	(male, convex)
D-SUB 9 Pin male					
(male, convex)					

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

TOP

TOP					External device
Pin	Signal	Pin		Signal	
arrangement*Note 1)	name	number		name	
1 5	RDA(+)	1		SDA(+)	
õ Õ			•	SDB(-)	
			•	RDA(+)	
6 9	RDB(-)	4	┝────┥│ ┡	RDB(-)	
Based on	SG	5		SG	
communication cable	SDA(+)	6	└──── ┥ │		
connector front,					
D-SUB 9 Pin male					
(male, convex)	SDB(-)	9			

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

■ RS-485 (1:1 connection)

■ RS-422 (1:1 connection)



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



■ **RS-485** (1:1 connection)

TOP				External device
Din arrangement	Signal		Signal	
Pin arrangement	name		name	
	+	•	SDA(+)	
	-		SDB(-)	
SG	SG	•	RDA(+)	
		•	RDB(-)	
<u>ک@ئ</u> +			SG	
0				

■ RS-422 (1:N connection)

ТОР	External device		External device
Signal name	Signal name		Signal name
RDA(+)	SDA(+)		SDA(+)
RDB(-)	SDB(-)		SDB(-)
SDA(+)	 RDA(+)		RDA(+)
SDB(-)	RDB(-)	1	RDB(-)





6. Supported addresses

The devices available in TOP are as follows:

The device range (address) may differ depending on the CPU module series/type. The TOP supports the maximum address range used by the external device series. Please refer to each CPU module user manual and be take caution to not deviate from the address range supported by the device you want to use.

Device	Bit address	Word address	Double word address	R/W	Remarks
WEIGHT	-	WEIGHT	WEIGHT	R	Weight
STS	STSO – STS2	STS	STS	R	Unstable/Stable/Overload*Note 1)
GSNT	GSNT0–GSNT1	GSNT	GSNT	R	Total weight/Net weight*Note 2)

*Note 1)

Balance status when the following bit is enabled				
STS0	Unstable			
STS1	Stable			
STS2	Overload			

*Note 2)

Balance status when the following bit is enabled		
GSNT0	Gross	
GSNT1	Net	