CANopen / EtherNet/IP Gateway GT200-EI-CO

User Manual

V 4.2







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The product has many applications. The users must make sure that all operations and results are in accordance with the safety of relevant fields, and the safety includes laws, rules, codes and standards.

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GT200-EI-CO CANopen/EtherNet/IP Gateway

User Manual

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1.1 Product Function

GT200-EI-CO is a gateway that can provide a seamless connection between CANopen and EtherNet/IP. It can connect CANopen devices to an EtherNet/IP network and realize bi-directional data exchange easily. The gateway converts the devices on the CANopen network to EtherNet/IP network devices.

1.2 Product Features

- Easy to use: Users only need to refer to the product manual and application instances to realize a gateway data communication in a short time that meets configuration requirements.
- Supports one channel CAN 2.0A.
- > CAN interface: 3KV photoelectric isolation.
- Supports 2 channels, 10M/100M network port.
- > Supports TCP and UDP port communication.

1.3 Technical Specifications

- [1] Communication rate:
 - CAN baud rate: 10kbit/s, 20kbit/s, 50kbit/s, 100kbit/s, 125kbit/s, 250kbit/s, 500kbit/s, 1Mbps.
 - Ethernet: 10M / 100M autonegotiation.
- [2] Ethernet supports OVDA standard EtherNet/IP communication protocol, supports 510/504/256/128/64/32/16/8 bytes.
- [3] CAN interface supports CAN2.0A protocol.
- [4] DS-301 V4.01 and CiA Draft Recommendation 303 compliant.
 - Supports maximum 8 bytes TPDO and RPDO.
 - Supports maximum 64 PDO commands and maximum 256 SDO commands.



- Supports fast Download SDO and fast Upload SDO.
- The COB-ID of TPDO and RPDO can be set by the user, or the default COBID can be used.
- Supports Clear Data Time for TPDO function.
- Supports SDO response timeout function.
- Supports NMT management.
- Supports SYNC function.
- Supports Guard life function (Life-guarding and Heartbeat protocols).
- Supports RPDO cycle sending function.
- Supports CANopen master delay to start-up function.
- Supports Control Status function.
- Supports changing VendCode.
- NMT_RESET command configurable function.
- [5] Operating environment:
 - REL Humidity: 5% to 95% (non-condensing).
 - ♦ Work circumstance temperature: -4°F~140°F (-20°C to 60°C), the average temperature of 24-hour does not exceed 113°F (45°C).
 - Installation site elevation should not exceed 2000 meters.
 - Pollution level: class 3.
- [6] Power: 24VDC (11V~30V), maximum 80mA (24VDC).
- [7] External dimensions (W*H*D): 1.0 in*4.0 in *3.6 in (25mm*100mm*90mm).
- [8] Installation: 1.38 in (35mm) DIN RAIL.





1.4 Related Products

Related products include:

- ➢ GT100-CO-RS
- ➢ GT200-CO-RS
- ➢ GT200-PN-CO
- ➢ GT200-DP-CO
- ➢ GT100-EI-RS
- ➢ GT200-EI-2RS485

To get more information about related products, please visit our SST Automation website:

www.sstautomation.com

1.5 Revision History

Revision	Date	Chapter	Description
V4.2	9/30/2022	Chapter 2.1, 2.4, 5.3.8.4	Updated the product picture and
			dimensions. Revised some
			mistakes. Removed Chapter 2.4.1
			Power Interface due to power now
			being supplied through the CAN
			interface.
V2.4, Rev B	8/29/2022	Chapter 4.2	Fixed all incorrect DHCP
			references and replaced them with
			BOOTP.
V2.4, Rev A	8/12/2022	Chapter 1.1, 1.2, 1.3,	Revised some mistakes. Added
		2.4.3, 4.1, 4.2, 4.3, 5.1,	Ethernet/IP connection parameters
		5.2, 5.3.8.4, 5.3.8.5, 6, 7	and RSLogix 5000 example in
			chapters 6 and 7.
V2.4	6/29/2021	ALL	New Release
V2.2	12/09/2020	ALL	New Release





2 Hardware Descriptions

2.1 Product Appearance



Note: This picture is for reference only. The product appearance is subject to the actual product.



GT200-EI-CO CANopen/EtherNet/IP Gateway

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2.2 LED Indicators

LED	State	State description		
	Green On	EtherNet/IP connection established		
	Green Blinking	EtherNet/IP connection is not established		
		Indicates an IP address conflict		
	Dad Dlinking	EtherNet/IP connection timed out		
ENS	Ked Blinking	BOOTP		
ENS		Checking whether the IP address conflicts		
	Orange light Blinking			
	(Blinking alternately with	Configuration status		
	the orange light of CNS)			
	Orange Blinking	Startup status		
	Red On	BUS OFF		
	Red light on periodically	The error counter of the CAN controller reaches or		
	Ked light on periodically	exceeds the guard value (too many error frames)		
	Green On	Node is in run mode		
CNS	Orange light Blinking			
CNS	(Blinking alternately with	Configuration status		
	the orange light of ENS)			
	Orange Blinking	Startup status		
	Orango On	NMT management. Waiting for BOOTP of all slaves		
	Orange On	(used when NMT is enabled)		





2.3 DIP Switch

The DIP switch is used to set operating mode of the device.



Function (Bit 1)	Mode (Bit 2)	Description
Off	Off	Running mode, prohibits reading
UII	Ull	and writing configuration data
		Configuration mode, with fixed IP
Off	On	address 192.168.0.10, only can
		read and write configuration data
0	0	BootLoader mode, with fixed IP
On	On	address 192.168.0.10

Note: After changing the switch, please restart the GT200-EI-CO to apply the settings.





2.4 Interface

2.4.1 Ethernet Interface



RJ-45 port

The Ethernet interface uses RJ45 interface, follows the IEEE802.3u 100BASE-T standard, with 10/100M autonegotiation. Its pinout (standard Ethernet signal) is defined as below:

Pin	Signal description
S1	TXD+, Tranceive Data+, Output
S2	TXD-, Tranceive Data-, Output
S3	RXD+, Receive Data+, Input
S4	Bi-directional Data+
S5	Bi-directional Data-
S6	RXD-, Receive Data-
S7	Bi-directional Data+
S8	Bi-directional Data-





2.4.2 Power and CAN Interface

GT200-EI-CO receives power through the CAN interface.

5-pin connector:



Shield

The gateway uses open five-pin connector at the side of CAN:

Pin	Connection
1	V+ (24VDC+)
2	CAN-H
3	Shield (Optional)
4	CAN-L
5	GND(24VDC-)

Note: Connections V+ and GND are required for the power connection. CAN bus connections CAN-H and CAN-L are also required.

3 Hardware Installation

3.1 Mechanical Dimensions

1.0 in * 4.0 in * 3.6 in (25 mm * 100 mm * 90 mm)



3.2 Installation Method

Using 1.4 in (35mm) DIN RAIL





4 Quick Start Guide

4.1 Gateway Configuration

- Make sure the GT200-EI-CO is in the appropriate operating mode that allows for configuration. It is
 recommended to set the gateway to configuration mode (configuration switches Bit 1 Off and Bit 2 On) then
 the IP of the gateway will be fixed at 192.168.0.10.
- 2. Use an Ethernet cable to connect the GT200-EI-CO to the PC.
- 3. Connect the CAN instruments by connecting pins 2 and 4 at minimum.
- 4. Connect the power supply, then power on the device.
- 5. Run the SST-ECO-CFG software to start the configuration process.
- In the configuration software, set the CAN baud rate, node ID, and IP address. (See chapters <u>5.3.6</u> and <u>5.3.8.4</u> for details).
- 7. After the gateway has been configured, set the configuration DIP switch Bit 1 OFF. Power on again and the module will go into run mode.

4.2 Software Configuration

Users can connect the gateway to their PC through the RJ-45 port and use the SST-ECO-CFG software to finish configuring the GT200-EI-CO. Settings such as IP address, baud rate of the CANopen port, and CANopen commands can all be effortlessly configured using the software.

There are two ways to set the IP address:

- 1. Manual setting: The user manually sets the IP in the configuration state.
- 2. **BOOTP:** The user must use a BOOTP Server to allocate the IP in the running state.



The default IP of GT200-EI-CO in configuration mode is 192.168.0.10, and users can connect GT200-EI-CO and

PC in two ways:

1. Connect the GT200-EI-CO and PC directly with a crossover network cable, as shown below:



2. Connect the GT200-EI-CO, PC and Ethernet router (gateway, hub, switch) with a straight-through network cable, as shown below:



Note: In the configuration mode, the IP address of the PC must be changed to 192.168.0.X; The subnet mask must be changed to 255.255.255.0; The default gateway should be changed to 192.168.0.1.



4.3 Operation

4.3.1 Data Exchange Mode

The communication mode between CANopen and EtherNet/IP is asynchronous, as shown below:



"Data 1" shows the data transfer process from EtherNet/IP to CAN. "Data 2" shows the data transfer process from CAN to EtherNet/IP.

An EtherNet/IP I/O output can carry between 0 to multiple CAN frames of data. The gateway will send the CAN frame when it receives the I/O output, and then packs the received CAN response frame into the I/O input and sends it to the EtherNet/IP master. TPDO and RPDO commands follow a producer/consumer communication model, and are often used in occasions with a high speed requirement. Upload SDO and Download SDO

commands follow a client/server communication model that can guarantee safety of data, and are often used in occasions with a low speed requirement.

GT200-EI-CO supports Clear Data Time for TPDO: As long as GT200-EI-CO does not receive the TPDO from the slave within the set time, GT200-EI-CO will clear the data in corresponding position of the EtherNet/IP input buffer.

GT200-EI-CO supports simple NMT function: It supports simple startup of all CANopen slave functions.

GT200-EI-CO supports Guard life function and SYNC function.

GT200-EI-CO supports NMT_RESET command configurable function---prevent the CANopen slave device from responding slowly after receiving NMT_RESET and unable to correctly receive the NMT START command, which may cause it to fail to start.





5.1 Software Interface Description

SST-ECO-CFG is configuration software based on the Windows platform, and is used to configure parameters and commands of the product GT200-EI-CO.

This manual describes the method of configuring the gateway, GT200-EI-CO. Please read the manual carefully before using it.

5.2 Notes Before Configuration

If it is the first time using the product, please set the configuration DIP switch (Bit 1 Off and Bit 2 On), and configure the product parameters under configuration mode.

Note: The configured IP addresses must not conflict with any other device's IP. Otherwise, the product will not start normally due to IP conflicts.

Under configuration and run mode, the product can upload and download the configuration. The gateway cannot communicate with other devices during configuration mode.







5.3 Software Function

5.3.1 User Interface

Ct New	E Save	Open 🔨	Add Node	문 모 Del Node Add Cmd	Menu Bar	<mark>.</mark> Download	AutoMap	Export		
Device Industria CANoper	al Ethernet n Networks		Conn Assign IP Add Subnet Gateva VendCo	nters Tress Mask y Address de	r	Man 192 255 192 137	ually Ass .168.0.10 .255.255. .168.0.1 6	ign O		
	Device operat Indust	plate ion ob rial E	: User jects therNe	rs can select including t and CANopen				Configurat Input confi parameters, cannot be c	ion plate iguration , gray pa changed	: rts
x Choose 1. Mar 2. BO At this tr	Networ commar me, me ir can	k, and Ids omy be set	laddin bymesoc	ng nodes and	et mask and gateway pask and gateway ad re	address dress.				^
Info New	=						Comm the conf	ent plate: function o iguration	Explain f the options	

5.3.2 Toolbar

Toolbar is shown as below:



The function of Toolbar: New, Open, Save, Add Node, Delete Node, Add Command, Delete Command, Upload,

Download, Calculate Mapping Address and Export EXCEL.







1

Excel Export EXCEL: Export current configuration to the local hard disk, saved as .xls file

5.3.3 New Configuration Project

New-initialized parameters to open the configuration interface:

Note: The new function is mainly used for offline configuration, that is, you can use the initialization parameters to open the configuration interface when there is no equipment.

Ct 🖺	8	IR	E	<u>t1</u>	므	1	4		1	
New Save	Open	Add Node	Del Node	Add Cmd	Del Cmd	Upload	Download	AutoMap	Export	
vice	C	onfiguration								
-Industrial Ethernet CANopen Networks		Assign IP M IP Address Subnet Mask Gateway Add VendCode	ress			Manual 192. 168 255. 253 192. 168 1376	ly Assign 3. 0. 10 5. 255. 0 3. 0. 1			





5.3.4 Open and Save Configuration

Select "Open", you can open the configuration project that you have saved.

File(<u>F</u>)	Edit(<u>E</u>)	Tools(T)	Help
Ne	ew(N)	Ctrl-	۱N
0	oen(O)	Ctrl-	+O
Sa	ive(S)	Ctrl	+S
Sa	ve as(A).		
Ex	it(E)		

Select "Save" or "Save as", you can save the configuration project with .chg as its extension.

File(<u>F</u>)	Edit(E)	Tools(<u>T</u>)	Help
N	ew(N)	Ctrl+	N
O	pen(O)	Ctrl+	-0
Sa	ive(S)	Ctrl	+S
Sa	ive as(A)		
Ex	it(E)		

1

Click icon Excel on the tool bar to save the configuration with .xls as its extension.

Export	
	Export EXCEL

Note: After saving the parameters as a file, the data in the file can be changed by the user, but please ensure the correctness of the changed data, otherwise the incorrect data will be processed according to the default value. Please do not change the keywords of the data, please do not add spaces.



5.3.5 Upload and Download

Select "Upload", it will read the configuration applied from the gateway, and the interface is shown as below:



Select "Download", it will download the configurations to the gateway, and the interface is shown as below:

Note: The IP address is fixed at 192.168.0.10 in GT200-EI-CO configuration mode





Gateway C	onfiguration Tools(T)	Software S	ST-ECO-CFG E	thernetIP/CA	Nopen							×
đ		1	盄		<u>C</u>	므	ſ	4	唱	2		
New	Save	Open	Add Node	Del Node	Add Cmd	Del Cmd	Upload	Download	AutoMap	Export		
се			Configur	ation								
ndustrial	Ethernet		Assign	IP Mode				Man	ually Assi	gn		
ANopen N	letworks		IP Add	ress				192	.168.0.10			
			Subnet	Mask Mask				255	169 0 1			
			VendCo	de				132	6			
			_									
			-									
			1									-

The Industrial Ethernet configuration interface is shown as below:

In the above parameters, the detailed information is shown as below:

- > Assign IP Mode: Manually Assign and BOOTP optional.
- > **IP Address:** IP address of GT200-EI-CO.
- Subnet Mask: Subnet mask of GT200-EI-CO.
- > **Default Gateway:** Gateway address GT200-EI-CO is located in LAN.
- VendCode: VendCode can be modified according to requirements. The input range is 1~65535, and the default value is 1376. If the GT200-EI-CO EDS file is used to configure any software, please make sure the entered VendCode value matches the value in the EDS file.

5.3.7 CANopen Configuration Parameters

Configure CANopen network parameters including CANopen Baud Rate, CANopen Node ID, SDO Response



Timeout, Enable NMT, Clear Data Time for TPDO, SYNC, Guard Life, The Cycle for RPDO Transmission,

Delay to Start up and Control & Monitor Status.

CANopen configuration interface is shown as below:

Gar Gar	teway Co	nfiguration	Software S	SST-ECO-CFG E	thernetIP/CA	Nopen					000000 1950	2002	×
[]	5			æ		<u>C</u>	다	<u>↑</u>		追	E		
Ne	ew	Save	Open	Add Node	Del Node	Add Cmd	Del Cmd	Upload	Download	AutoMap	Export		
Device				Configur	ation								
Ind	ustrial E	thernet		Type o	f Protoco	1			CI	Nopen			-
CAI	Nopen N	etworks		CANope	n Baud Ra	te			25	50K			
				CANope	n Node ID				12	27			
				SDO Re	sponse Ti	neout			20	00			
				Enable	NMT				Di	sable			
				NMT_RE	SET				Di	sable			
				Clear	Data Time	for TPDO			0				
				SYNC					0				
				Guard	Life				0				
				The Cy	cle for RI	DO Transm	ission		0				
				Delay	to Start 1	.p			0				
				Contro	l & Monit	or Status			Er	nable			
				Output	Data Pro	cessing			CI	ear			
				The Cy	cle for SI	00 Transmi	ssion		0				
				EIP Si	de Sendin	g SDO comm	iand		0				
				Attemp	ts for SDO) command	failure		0				
				SDO Po	lling Del:	ay Time			0				
													-
Inf	News												
													 _

5.3.8 Device View Interface

5.3.8.1 Device View Interface





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5.3.8.2 Operation Mode

Supports three kinds of operation modes: edit menu, edit toolbar, and edit menu by right-click.

Edit(E)	Tools(T)	Help(<u>H</u>)	
Ac	ld Node(N)		
De	lete Node(D)	
Ac	ld Comman	d(I)	
De	lete Comm	and(E)	
	Edit M	enu	-
Ŧ		<u>C</u>	무
Add Node	Del Node	Add Cmd	Del Cmd
Configurat Add	Node		
	Edit Too	olbar	
Device			
Industrial E	thernet		
🖻 CANopen N	etworks		
<mark>⊟-</mark> Node-1		N100-10	0
- Trans	Add	Node	
Recei	Delet	te Node	
	Add	Command	
	Delet	te Command	
	Delet Copy	e Command Node	

Edit Menu by Right Click

5.3.8.3 Operation Types

Add node: Left click on CANopen Networks or existing nodes, and then perform the operation of adding a new node. Then there will be a new node named "New node" under CANopen Network (The newly added node has no address. Nodes without addresses are invalid. Please enter the address of the node. Node address cannot be repeated).

- Delete node: Left click on the node to be deleted, and then perform the operation of deleting node. The node and all commands will be deleted.
- Add commands: Left click on the node, and then perform the operation of adding command to add a command for the node. The command selecting dialog box will pop up for users to choose from. Shown as below:

Commands: Upload SDO->ENet In, Download SDO <- ENet Out, Transmit PDO-> ENet In,

Receive PDO<- ENet Out

Select commands: Double click a command.

Upl	oad SDO -> ENet I	n
Dov	vnload SDO <- ENet	t Out
Tra	nsmit PDO -> ENet	In
Rec	eive PDO <- ENet C	Dut

- > Delete command: Left click a command and you can delete it.
- Copy node: Left click on the existing node, choose the node and execute the operation of copying nodes (include all commands under the node).
- Paste node: Left click and choose any existing node, execute the operation of pasting a node. Then under the CANopen Network tree you can see the new node (include all commands under the node). The parameters of the new node is default setting, it needs to be reset.

5.3.8.4 CANopen Networks Configuration Interface

Configurable parameters are shown as below:

CANopen Baud Rate, CANopen Node ID, SDO Response Timeout, Enable NMT, Clear Data Time for TPDO,

SYNC, Guard Life, The Cycle for RPDO Transmission, Delay to Start up and Control & Monitor Status.

CANopen configuration interface is shown as below:

Gateway Co	onfiguration Tools(T)	Software S	ST-ECO-CFG E	thernetIP/CA	Nopen		- 10 - 10 -			000000000000	1000		×
Ċ			罪		<u>C</u>	다	<u>↑</u>	4	J2	E			
New	Save	Open	Add Node	Del Node	Add Cmd	Del Cmd	Upload	Download	AutoMap	Export			
Device			Configur	ation									
- Industrial l	Ethernet		Type ∘	f Protoco	1			Cł	ANopen				
CANopen N	vetworks		CANope	n Baud Ra	te			25	50K				_
			CANope	n Node ID				12	27				
			SDO Re	sponse Ti	neout			20	00				
			Enable	NMT				Di	isable				
			NMT_RE	SET				Di	isable				
			Clear	Data Time	for TPDO			0					
			SYNC					0					
			Guard	Life				0					
			The Cy	cle for RI	PDO Transm	ission		0					
			Delay	to Start 1	αι			0					
			Contro	l & Monit	or Status			Er	nable				
			Output	Data Pro	cessing			Cl	lear				
			The Cy	cle for SI	00 Transmi	ssion		0					
			EIP Si	de Sendin	g SDO comm	and		0					
			Attemp	ts for SDO) command	failure		0					
			SDO Po	lling Del:	ay Time			0					
													-
¢													
Info News													
												Digital	_

- CANopen Baud Rate: 10K, 20K, 50K, 100K, 125K, 250K, 500K, 1000K can be selected. The default value is 250K.
- > CANopen Node ID: 1 to 127, the default value is 127.
- SDO Response Timeout: This parameter is based on 10 milliseconds. The range of the parameter value is 1 to 200. Default value is 200.

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- > Enable NMT: Whether to start all CANopen nodes on the network or not. The default value is "disable".
- Clear Data Time for TPDO: The TPDO timeout value is a nonzero integral multiple of 10 milliseconds.
 The range is 0 to 6000. The default value is 0.

Note: For products below V4.0, the range is 0 to 200.

<u>0:</u> Do not use the function.

Nonzero value: Use the timeout function.

SYNC: Synchronizing cycle. The synchronizing cycle is a nonzero integral multiple of 1 millisecond. The range is 0 to 60000. The default value is 0.

Note: For products below V4.0, the range is 0 to 2000.

<u>0:</u> Do not use the synchronizing cycle function.

Nonzero value: Use the function.

Guard Life: Life-guarding/Heartbeat function. Life-guarding is used when the input value is nonzero. Heartbeat is used when the input value is 0. The range is 0 to 60000. The default value is 0.

Note: For products below V4.0, the range is 0 to 2000.

 $\underline{0:}$ Use the Heartbeat protocol.

Nonzero value: Use the Life-guarding protocol.

The Cycle for RPDO Transmission: The cycle interval (in milliseconds) for sending RPDO transmissions.
The cycle for RPDO Transmission value is based on 1ms.

Change of Value output mode is used when the input value is 0. The range is 0 to 60000. The default value is 0.

Note: This parameter, the CAN baud rate, and the total number of RPDO commands used can affect the amount of time it takes to communicate data. If the system focuses on real-time performance, it is recommended to set this value to 0 (Change of Value output).

<u>0:</u> Use Change of Value output mode. RPDO transmissions will be sent whenever the data is updated.

Nonzero value: Sends all RPDO transmissions according to the cycle interval.

Delay to Start Up: The amount of time the gateway will delay before start up. This parameter is based on 10ms increments. The range is 0 to 60000. The default value is 0.

0: Do not use the function.

Nonzero value: Use the function.

- Control & Monitor Status: The first two bytes of input/output buffer are used to monitor the status of the CANopen slaves in the network. The first byte of this two byte is the address of the CANopen slave, and the second byte is the command which controls and monitors the CANopen slave (e.g., enter pre-operation state, enter stop state, reset node, reset application, reset communication, etc.).
 Selecting "Enable" requires the user to deduct two usable bytes from device memory, as these two bytes of data are saved in front of the data buffer. The default value is Disable.
- Output Data Processing: Whenever the EIP side goes offline, the RPDO data of EIP output buffer can be configured to either Clear or Hold the data.

Note: This feature was not supported before version 4.0

<u>Clear:</u> Zeroes out the data if the EIP side goes offline.

Hold: Keeps the data unchanged if the EIP side goes offline.

The Cycle for SDO Transmission: The cycle interval (in milliseconds) for sending SDO transmissions. The cycle for SDO Transmission is based on 1ms. Zero means Download SDO uses mode of change of value output and Upload SDO uses the mode of non-stop reading slave data. The range is 0 to 60000. The default value is 0.

Note: This feature was not supported before version 4.0.

<u>0:</u> Use Change of Value output for Download SDO and continuous data listening for Upload SDO.

Nonzero: Sends all SDO transmissions according to the cycle interval.



Attempts for SDO Command Failure: The number of times the CANopen master station attempts to resend an SDO request if it does not receive a response from the slave device. The range is 0 to 5. The default value is 0.

Note: This feature was not supported before version 4.0.

SDO Polling Delay Time: The amount of time (in milliseconds) the CANopen master station will delay to send the next SDO request after receiving an SDO response from the slave station. The range is 0 to 60000. The default value is 0.

Note: This feature was not supported before version 4.0.

5.3.8.5 Command Configuration

S Gateway	Configuration	Software	SST-ECO-CFC	5 EthernetIP	/CANopen							×
File(F) Edit	(E) Tools(T)	Help(H)	1									
Ct			臣	F	<u>C</u>	9	ſ	4	1ª	1		
New	Save	Open	Add Node	Del Node	Add Cmd	Del Cmd	Upload	Download	AutoMap	Export		
Device		Config	uration									
Industria	l Ethernet	Slave	Address(1127)								-
🖻 CANopen	Networks	Index	value									_
🖻 New N	lode	Sub-i	index valu	e								
Upl	oad SDO	Numbe	er of Byte:	S								
Dot	wnload SDO	Mappi	ing Address	S								
Poo	nsmit PDO	Mnemo	onic Descr	iption								
Rec	erve i Do											
<		1					1					
Info News												
loady											-	

In the device interface, left click on a command and then the configuration interface is shown as below:

Slave address: CANopen slave address, the range is 1 to 127.



- > Index value: Object index value in object dictionary (decimal).
- Sub-index value: Object sub-index value in object dictionary (decimal).
- > Number of bytes: Number of bytes of mapping item.
- > Mapping address: Memory address mapped in the gateway (Read only).
- **COB-ID:** The CAN ID (decimal) of CANopen PDO:

Default value of Transmit PDO command: 384(0x180) + node ID or 640(0x280) + node ID or 896(0x380) + node ID or 1152(0x480) + node ID.

Default value of Receive PDO: 512(0x200) + node ID or 768(0x300) + node ID or 1024 (0x400) + node ID or 1280 (0x500) + node ID.

If users want to fill in a custom value, please fill in the required value directly when Customized item is selected in the drop-down option box. The range is (1~127) & (257~1408) & (1664~1791) & (1920~2046).

Mnemonic description: Users can input the description of project configuration items here; these are not actually downloaded to gateway and is mainly used as reference when configuring.

Note: Max TPDO commands ≤ 64

Max RPDO commands ≤ 64

Max Upload SDO commands ≤ 128

Max Download SDO commands ≤ 128

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5.3.8.6 Comment Interface

Comment interface displays the explanation of relevant configuration item. When the configuration item is "Index

Gateway	Configuration	Softwar	e SST-ECO-CFG	EthernetIP/0	CANopen						
File(E) Edit	(E) Tools(L)	Help(<u>F</u>	1) 577	무리	ዮተ	5	1		18	海	
New	Save	Open	Add Node	Del Node	Add Cmd	Del Cmd	Upload	Download	AutoMap	Export	
Device			Configuration								
⊢Industria ⊟ CANopen ⊡ Node- □ Tra □ Rec □ Jow	I Ethernet Networks 1 nsmit PDO eive PDO ond SDO vnload SDO		Slave Addre Index value Sub-index v Number of E Mapping Add Mnemonic De	ess(1127 eralue Mytes lress escription							
× The range of	f the parameter v	value is 1 t	o 65535.								
Info News											
Ready											

value", the comment interface is shown as below:

5.3.8.7 View Device Information

View the basic information of the currently connected device including device serial number, production date, firmware version number, hardware version number, and IP address.



Digital

.



Number	Input Instance	Output Instance	Configuration Instance
1	112(132Bytes)	111(128Bytes)	113(10Bytes)
2	122(260Bytes)	121(256Bytes)	123(10Bytes)
3	132(68Bytes)	131(64Bytes)	133(10Bytes)
4	142(36Bytes)	141(32Bytes)	143(10Bytes)
5	152(20Bytes)	151(16Bytes)	153(10Bytes)
6	162(12Bytes)	161(8Bytes)	163(10Bytes)
7	172(508Bytes)	171(504Bytes)	173(10Bytes)
8	182(514Bytes)	181(510Bytes)	183(10Bytes)

The connection parameters provided by the gateway are as follows:

An example of parameter configuration in RSLogix5000 is as follows:

	Assembly Instance:	Size:		
Input:	112	33	*	(32-bit)
O <u>u</u> tput:	111	32	:	(32-bit)
<u>Configuration:</u>	113	10	*	(8-bit)
<u>S</u> tatus Input:				
Status Output:				



7 How to Read/Write I/O Data

The following RSLogix 5000 example will describe how to read/write I/O data.

7.1 Read/Write Data by IO Messaging (Recommended)

Right click on EtherNet/IP scanner module, click "New Module", as shown below:



In the pop-up dialog box, unfold "+" before "Communications", choose "ETHERNET-MODULE", click "OK", as shown below:



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	Descrip	tion	Vendor	
	ther. 10/100 A 1788 Et 1788 10 1788 10 1794 10 1794 10 1794 10 730 10/100 IDGE Generic DULE Generic SoftLog A Etherne	Mbps Ethernet Port on Comp hernet to DeviceNet Linkin /100 Mbps Ethernet Bridge, /100 Mbps Ethernet Bridge /100 Mbps Ethernet Adapter /100 Mbps Ethernet Adapter Mbps Ethernet Port on Driv EtherNet/IP CIP Bridge Ethernet Module ix5800 EtherNet/IP t Adapter, Twisted-Pair Mo	pactLogix5335E Allen-Bradley ng Device Allen-Bradley , Twisted-PaiAllen-Bradley w/Enhanced WAllen-Bradley r, Twisted-PaAllen-Bradley r, Twisted-PaAllen-Bradley veLogix5730 Allen-Bradley Allen-Bradley Allen-Bradley edia Parker Hannifin C	orp.
				Ð
•			<u></u> <u>E</u> ind <u>A</u> c	ld Favorite

Configure relevant information in the pop-up window, as shown below:

Bodule Properties: Scanner (ETHERHET-	BODULE 1.	1)		×
General Connection Module Info				
Type: ETHERNET-MODULE Generic Ethern Vendor: Allen-Bradley Parent: Scanner	et Module	Set Commun Please refer to	ication Parametor o chapter 6.	ters.
Name: SSTGateway Description:	Connection	n Parameters Assembly Instance:	Size:	
Set the name.	<u>I</u> nput: O <u>u</u> tput:	112	33 ÷ (3) 32 ÷ (3)	2-bit) 2-bit)
Comm Eormat: Data - DINT	<u>C</u> onfigura	ation: 113	10 + (8-	bit)
● IP Address: 192 168 0 10 ● Host Name: IP address of the	Status In e SST gatew	vay.		
Status: Offline OK	Cano	cel Appl	y Help	

In the above picture, the module information needs to be configured includes:

Name: Name the added EtherNet/IP adapter module

Comm Format: Configure data types. Users can choose data types as DINT, INT, SINT and REAL, etc. After





confirmation, this cannot be changed. If you want to change data types, you can create a new module.

IP Address: Set the IP address of the EtherNet/IP adapter module (IP address of GT200-EI-CO, configured by the

software SST-ECO-CFG)

Connection Parameters: Set Connection parameters during communication. Please refer to chapter 6

Note: "Size" (configured bytes) in the above picture should be consistent with the relevant input and output

bytes of Instance in the above chapter.

Click "OK", set the scanner polling time interval in the pop-up dialog box, the default is 10ms, as shown below:

■odule Properties:	aster (ETHERNET-DODULE 1.1)
General Connection Mod	ule Info
Requested Packet Interval (Inhibit Module Major Fault On Controlle	(RPI): 10.0 ms (1.0 - 3200.0 ms) r If Connection Fails While in Run Mode
Module Fault	
Status: Offline	OK Cancel Apply Help

After setting this interval, click "OK" to save. Double click "Controller Tags", unfold "SSTGateway: O", as shown below:



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🗱 RSLogix 5000 - Controller in GT100EIRS.ACD [1 Eile Edit View Search Logic Communications Tools	1756-155]* : <u>M</u> indow Help					×
	- <u>K</u> K -	2 2 QQ				
Offline 🛛 🗸 🗖 RUN	Path: <none></none>		- *			
No Forces						
No Edits)(L)-				
Redundancy 👧	Favorites & Add-On & Alarms	Bit 🔏 Timer/Coun	iter 👗 Input/Output 👗 Ci	ompare 🖌 Co	mpute/Math 🗶 M	ove/Logical 🔏 File/Misc. 🔏 File/Shift
		11 (->			
Power-Up Handler	Controller lags - Contr	oller (controlle	er)			
	Scope: 🗗 Controller 💌	Show Unus	sed, STRING, ALARM, ALA	.RM_ANALOG	, ALARM_DIGITAL	, AXIS_CONSUMED, AXIS_GENERIC, A
🗄 🕞 MainFrogram	Name 🛆	Alias For Base	e Tag Data Type	Style	Description	
Program Tags	E-SSTGateway:C		AB:ETHERN			
MainRoutine	E-SSTGateward		AB:ETHEBN			
Unscheduled Programs / Phases	# SSTG atoward Data		DINT[22]	Decimal	10	
Ungrouped Axes				Decimal		
- Add-On Instructions			AD.C I HENN			
🖃 😁 Data Types	SSTGateway:0.Data		DINT[32]	Decimal		
- User-Defined	SSTGateway:0.Data[0]		DINT	Decimal		
🗄 🛄 Strings	SSTGateway:0.Data[1]		DINT	Decimal		
Add-Un-Defined	SSTGateway:0.Data[2]		DINT	Decimal		
H Module-Defined	E-SSTGateway:0.Data[3]		DINT	Decimal		
	E-SSTGateway:0.Data[4]		DINT	Decimal		
🖻 😁 I/O Configuration	+-SSTGatewar () Data[5]		DINT	Decimal	(C)	
🖻 🗂 1756 Backplane, 1756-A7	E-CCTC ataman 0 Data[C]		DINT	Desimal		
[0] 1756-L55 Controller			DINI	Decimal		
E- J [1] 1150-LMDI/A Scamer	III SS Lateway:U.Data[7]		UINT	Decimal		
ETHERNET-MODULE SSTGateway	SSTGateway:0.Data[8]		DINT	Decimal		
1756-ENBT/A Scanner	- + COTO stanson Data [0]	Tage	DINT			
				1 constant		
Create Output Energize instruction						

In the picture above, SSTGateway:O.Data [0] ~SSTGateway:O.Data [31] is the corresponding output data address

of the SST Gateway module in scanner.

Unfold "SSTGateway: I", as shown below:

RSLogix 5000 - Controller in GT100E File Edit View Search Logic Communicat	IRS. ACD [1756-L5	i5]* Helm							<u>_</u> _×
	21121 21111	- && & E	2 2 2	Q					
Offline 🛛 🗸 🗐 RUN	Path:	<none></none>		- *					
No Forces	9		1 1						
No Edits)(L)-						
Redundancy 5.0	□ · · Fa	vorites 🖌 Add-On 👗 Alarms	Bit 🖌 Time	r/Counter 🖌 Ir	iput/Output 👗 C	ompare 🛓 C	Compute/Math 🔏 N	1ove/Logical 🖌 File/	Misc. 🖌 File/Shift
Power-In Handler		Controller Tags - Contr	oller (cont	roller)					
E S Tasks		Scope: 1 Controller	Show	Unused STRI					AVIS GENERIC A
🖃 🤕 MainTask			- originii					1	,AND_GENERIC,A
AinProgram		Name 🛆	Alias For	Base Tag	Data Type	Style	Description		
MainBoutine		±-SSTGateway:C			AB:ETHERN				
Unscheduled Programs / Phases		SSTGateway:			AB:ETHERN				
🖶 😁 Motion Groups		SSTGateway:I.Data			DINT[33]	Decimal			
- Gingrouped Axes		E-SSTGateway:I.Data[0]			DINT	Decimal			
Add-On Instructions		±-SSTGateway1 Data[1]			DINT	Decimal			
E-C Data Types		+ SETG steward Data[2]	7.	8	DINT	Decimal			
String					DINT	Decima	-		
Add-On-Defined		TSSTGateway:I.Data[3]			DINI	Decimal	-		
🕀 🙀 Predefined		SSTGateway:I.Data[4]	<u>.</u>	6	DINT	Decimal			
庄 🙀 Module-Defined		+ SSTGateway:I.Data[5]			DINT	Decimal			
Trends		E-SSTGateway:I.Data[6]			DINT	Decimal			
I/O Configuration		SSTGateway:I.Data[7]			DINT	Decimal			
IISb Backplane, 1155-Af		E-SSTGateway:I.Data[8]			DINT	Decimal			
- 1 [1] 1756-ENBT/A Scanner		+-SSTGateward Data[9]			DINT	Decimal		-	
E & Ethernet		# SSIG staward Data[10]	76	8	DINT	Desimal			
ETHERNET-MODULE SSTGate	way				DINT	Decimal			
1756-ENBT/A Scanner	-	Monitor Tags AEdi	Tags/						-
L			10. 10.						
Enter a tag name									//

In the above picture, the first 4 bytes of SSTGateway: I. Data [0] are the status bytes. SSTGateway:I.Data [1] ~SSTGateway: I. Data [32] are the input data from the SST Gateway.



7.2 Read/Write Data by MSG

7.2.1 Read Data

Create a new project. Ensure it is in the "Offline" mode. Add two new tags "ReadTag" and "ReadData" under the "Controller Tags" and set the type of "ReadTag" as "MESSAGE" and "ReadData" as "DINT [500]".

👫 BSLogix 5000 - Controller in Controller1. A	CD [1756-L55]*				_ <u>8</u> ×
File Edit View Search Logic Communications Too	ls <u>W</u> indow Help				
	- &&& & ⊡	22 00			
Offline 🛛 🗸 🗖 RUN	Path: AB_ETHIP-1\192.168.0.147\E	Backplane\0" ₭			
No Forces					
No Edits	UNA NUN VON 🔚 🛏 🕂	OR XOR SWEB NOT CLR BTD		Þ	1
Redundancy 0.0	Favorites & Add-On & Alarms	K Bit K Timer/Counter K Input/C	Compare 🔏 Compute Math 🗎 Mo	we/Logical & File/Misc. & File/Shift & Seque	#
	Controller Ters - Control	ller (controller)			
Controller Controller		Change Los an			
- Controller Fault Handler	Scope: Ju Controller	Show All			
- 🔤 Power-Up Handler	Name 🛆	Value Force Style	Data Type	Description	
E Tasks	E-Local1:1	{}	AB:1756_DNB_500Bytes:1:0		
- A Mainlask	E Local 1:0	{}	AB:1756_DNB_4968ytes:0:0		
Program Tags	⊞:Local1:S	() ()	AB:1756_DNB_Status_128Bytes:S:0		
- 🔂 MainRoutine	⊞-ReadData	{} () Hex	DINT[500]		
Unscheduled Programs / Phases	+ BeadTag	{} {}	MESSAGE		
- Motion Groups					
Add-On Instructions					
🖻 📇 Data Types					
- 🙀 User-Defined					
🗈 🛶 Strings					
Add Un"Defined					
Hodule-Defined					
Trends					
🖻 🔠 I/O Configuration					
- 1756 Backplane, 1756-A7					
[1] [0] 1756-L55 Controller					
- 1 [2] 1756-ENET/A Master					
The Ethernet					
Description					
Status Offline					
Module Fault					
				-	
	Ionitor Tags (Edit	Tags /			
Ready					

Right click "ReadTag", select "Configure "ReadTag":



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👫 BSLogix 5000 - Controller in GT100EIBS. ACD [1756-I	.55]*					
File Edit View Search Logic Communications Tools Wind	ow Help	Monitor "ReadTag"				
	- A:	New Tag which aliases "ReadTag"				
		Edit "ReadTag" Properties	Alt+Enter			
Uffline D. I RUN	: <none></none>	Configure "ReadTag"	Ctrl+I			
No Forces		Edit "MESSAGE" Data Type				
		Go to Cross Reference for "ReadTag"	Ctrl+E		1.11	
Redundancy Red	avorites Add-0	Find All "ReadTeg"		are 🖌 Co	mpute/Math 🔏 Mo	ove/Logical 🖌 File/Misc. 🖌 File/Shift 👗
Controllor Roult Mondler	Controller 1	Marrage Path Editor				
Power-Up Handler		Go To	C++1+G			
E- Tasks	Scope: Gd Contr	<u>y</u> o 10,	cario	M_ANALUG	ALARM_DIGITAL	L, AXIS_CUNSUMED, AXIS_GENERIC, A
🖻 🤯 MainTask	Name 🐰	Cut	Ctrl+X	ityle	Description	
H- S MainProgram	E-GT100EIRS	Сору	Ctrl+C			
	📃 🗄 GT100EIRS 🛍	Paste	Ctrl+V			
Ungrouped Axes	⊞-GT100EIRS	Paste Pass-Through				
- Add-On Instructions	±-ReadData	Dellata	Del.	lex		
🖻 🔄 Data Types	± BeadTag	Derece	ESSAGE			
User-Defined	<u>></u>					
Add-On-Defined					- 1.	
🕀 🙀 Fredefined						
🗄 🚂 Module-Defined						
Trends						
E-						
[0] 1756-L55 Controller						
- [] [1] 1756-ENBT/A Scanner						
- <u>-</u>						

In the new pop-up window, some parameters need to be set as below:

- Message Type: CIP Generic
- Service Type: Select "Get Attribute Single", now, relevant service code will become "e (Hex)"
- Class: 4 (Hex)
- > Instance: Please refer to <u>chapter 6 EtherNet/IP Connection Parameters</u>
- > Attribute: 3 (Hex)
- > Destination: Select "ReadData" label, now, the data that has been received will be saved in this tag

onfiguration* Message Type:	Communication Te	ag	-		
Service Get At Type: Service e Lode: 112	ribute Single (Hex) <u>C</u> lass: 4 Attri <u>b</u> ute:3	(Hex) (Hex)	Source Element: Source Length: Destination	0 (Byter ReadData Ne <u>w</u> Tag	।
) Enable 🔵 E:) Error Code: ror	nable Waiting 🔘 S Extended Err	tart or	⊙ Done D	^{lone} 0 ☐ Timed Ou ¢	

Choose "Communication" label, input the relevant path of connecting EtherNet/IP adapter in the blank space



behind the Path, the path format is: EthetNet IP hostname, EtherNet/IP scanner slot No., IP address of EtherNet/IP adapter, after setting the path, click "Apply", "Confirm". As is shown below:

In this instance, EtherNet/IP hostname is "Scanner", EtherNet/IP scanner slot No. Is "2", EtherNet/IP adapter is

"192.168.0.10". IP address of SST Gateway is the address which is configured by the configuration software.

ath: Scanner,2,192.	168.0.10		<u>B</u> r	owse
Scanner,2,192.1	168.0.10			
Communication Meth	od Channel:	Destination	n Link: 0	-
C CIP <u>W</u> ith Source ID	Source Link: 0	Destination	n <u>N</u> ode: 0	🚖 (Octal)
Connected	C ସ	ach <u>e</u> Connections	.	

Add a "MSG" command in "MainRoutine" under the "MainProgram" and choose "ReadTag" as "Message Control", as shown below:



This is a simple command which can send a read request, it still needs to add some logic commands to trigger this command in the common program. For more detailed information, please refer to RSLogix5000.

Download the program to the PLC and set PLC into the "Online" state.

Click "Control Tags" and select "Monitor Tags", unfold "ReadData", you will see that PLC can read the data from EtherNet/IP adapter SST Gateway.

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🔏 RSLogix 5000 - Controller in Controller1. A	CD [1756-L55]*					_ 8 ×
<u>File Edit View Search Logic Communications To</u>	ols <u>M</u> indow Help					
166 5 5 5 1 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	• £ & &	B B B Q Q				
Offline 🛛 🗸 🗖 RUN	Path: AB_ETHIP-1\192.168.0.1	147\Backplane\0* 🗸	器			
No Forces						
No Edits		AND OR XOR SWPB NOT C	LR BTD		<u>></u>	
Redundancy %0	✓ Favorites	larms 🔏 Bit 🔏 Timer/Counter	🔏 Input/Output 🔏 Compare 🔏 Compu	teMath A Move/Logical A FileMisc. A	File/Shift K Sequer	
E - Controller Controller	🚺 🖉 Controller Tags - Con	troller (controller)				
- Z Controller Tags	Scope: 🎁 Controller 👻	Show Show All				
Controller Fault Handler	Name	/ Value + Force	Stule Data Tune	Description		
E Casks			3 Hey DINTIS001	Description		
E Ca MainTask	+BeadData[0]	16#0000_0000	Hey DINT			
Program	T:BeadData[1]	16#0000_0000	Hex DINT			
MainRoutine	T:BeadData[2]	16#0000.0000	Hex DINT			
- Conscheduled Programs / Phases	T:BeadData[3]	16#0000 0000	Hex DINT			
- Motion Groups	E:BeadData[4]	16#0000 0000	Hex DINT			
Add-On Instructions	1 BeadData[5]	16#0000 0000	Hex DINT			
🖻 😁 Data Types	⊞ ReadData[6]	16#0000 0000	Hex DINT			
User-Defined		16#0000 0000	Hex DINT			
- Add-On-Defined	⊞ ReadData[8]	16#0000 0000	Hex DINT			
🕀 🛄 Predefined	E ReadData[9]	16#0000 0000	Hex DINT			
H Um Module-Defined	E ReadData[10]	16#0000 0000	Hex DINT			
E 🗁 I/O Configuration	+ ReadData[11]	16#0000_0000	Hex DINT			
🖻 🛲 1756 Backplane, 1756-A7	E ReadData[12]	16#0000_0000	Hex DINT			
[1] [0] 1756-L55 Controller	E ReadData[13]	16#0000_0000	Hex DINT			
H [2] 1756-ENBT/A Master	E ReadData[14]	16#0000_0000	Hex DINT			
	E ReadData[15]	16#0000_0000	Hex DINT			
	E ReadData[16]	16#0000_0000	Hex DINT			
	E ReadData[17]	16#0000_0000	Hex DINT			
	E ReadData[18]	16#0000_0000	Hex DINT			
	E ReadData[19]	16#0000_0000	Hex DINT		-	
	E ReadData[20]	16#0000_0000	Hex DINT			
		16#0000_0000	Hex DINT			
		16#0000_0000	Hex DINT			
	E ReadData[23]	16#0000_0000	Hex DINT			
	+ ReadData[24]	16#0000_0000	Hex DINT			
	⊞ ReadData[25]	16#0000_0000	Hex DINT			
	TReadData[26]	16#0000_0000	Hex DINT			
	In tor Tags (E	dit Tags /		27		

7.2.2 Write Data

Enter the "Offline" mode, add two new tags "WriteTag" and WriteData" under the "Controller Tags". Define the type of "WriteTag" as "MESSAGE" and "WriteData" as "DINT [500]":

New Tag		×	New Tag		×
<u>N</u> ame:	WriteData	ОК	<u>N</u> ame:	WriteTag	ОК
Description:	A	Cancel	Description:		Cancel
		Help			Help
				Y	
<u>U</u> sage:	<normal></normal>		<u>U</u> sage:	<normal></normal>	
Тур <u>е</u> :	Base Connection		Тур <u>е</u> :	Base Connection	
Alias <u>F</u> or:			Alias <u>F</u> or:	Ţ	
Data <u>T</u> ype:	DINT[500]		Data <u>T</u> ype:	MESSAGE	
<u>S</u> cope:	🔁 Controller 💌		Scope:	Controller	
Style:	Hex		Style:	v	
🗖 🖸 pen Cor	nfiguration		Den ME	SSAGE Configuration	

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🔏 BSLogix 5000 - Controller in Controller1. AC	CD [1756-L55]*				_8×
<u>File Edit View Search Logic Communications Too</u>	ols <u>M</u> indow Help				
BCI Sinc Po	- &&&	- 79 QQ			
Offline 0. ERUN	Path: AB_ETHIP-1\192.168.0.147\B	ackplane\0* 💌 묾			
No Forces	I have been been been been been been been be				
No Edits 🔒 🗆 1/0	FAL FSC COP	FLL AVE SRT STD SIZE CPS			<u>></u>
Redundancy 5.0	Favorites & Alarms & Bit & T	Timer/Counter 🔏 Input/Output 🔏 Compa	e 🖌 Compute/Math 🖌 Move/Logical	File/Misc. File/Shift & Sequencer &	Equij
	🚺 🖉 Controller Tags - Control	ler (controller)			1
Controller Tags	Scope: Ma Controller	Show All			
		Value Al Course Al Course	Data Tura	Description	1
- Tasks	T-1 cost 1.1	Value Force Style	AD-17EC_DND_E00D-t	Description	
🛱 🤕 MainTask	T-1 cost 1.0	() ()	AD.1756_DND_5000J(es.1.0		
B- B MainProgram	Hit cook 1.0	() ()	AD.1756_DND_4360ytes.0.0		
MainRoutine	T:PoordDate	() ()	DINITISOD		
🗁 Unscheduled Programs / Phases	T:PostTan	() ()	MECCAGE		
🖻 🛅 Motion Groups	E turital at a	() () Here	DINTISOO		
Add-On Instructions	± WriteData	16#0000_0000	DINT		
🖻 🚞 Data Types	± \//riteData[1]	16#0000_0000 Hex	DINT		
User-Defined	T WriteData[2]	16#0000_0000 Hex	DINT		
Add-On-Defined	T WriteData[3]	16#0000_0000 Hex	DINT		
🖻 🚟 Predefined	± WriteData[4]	16#0000 0000 Hex	DINT		
Hodule-Defined	± WiteData[5]	16#0000 0000 Hex	DINT		
- Irenus	± WriteData[6]	16#0000 0000 Hex	DINT		
🖃 🖅 1756 Backplane, 1756-A7	± WriteData[7]	16#0000 0000 Hex	DINT		
[0] [0] 1756-L55 Controller	± WriteData[8]	16#0000 0000 Hex	DINT		
[2] 1756-ENBT/A Master	E WriteData[9]	16#0000 0000 Hex	DINT		
	WriteData[10]	16#0000 0000 Hex	DINT		
	+ WriteData[11]	16#0000 0000 Hex	DINT		
	⊕ WriteData[12]	16#0000 0000 Hex	DINT		
	⊕ WriteData[13]	16#0000 0000 Hex	DINT		
	⊞ WriteData[14]	16#0000_0000 Hex	DINT		
	⊞ WriteData[15]	16#0000_0000 Hex	DINT		
	± WriteData[16]	16#0000_0000 Hex	DINT		
	⊞ WriteData[17]	16#0000_0000 Hex	DINT		
	WriteData[18]	16#0000_0000 Hex	DINT		
	WriteData[19]	16#0000_0000 Hex	DINT		
	WriteData[20]	16#0000_0000 Hex	DINT		
	WriteData[21]	16#0000_0000 Hex	DINT		
	In tor Tags / Edit	Tags /		J.	
Entoy a tag nama					

Enter the "Monitor Tags" interface. input some data beginning from address WriteData[0] in the "WriteData" tag. There, data will be outputted to SST Gateway.

Right click "WriteTag", select "Configure "WriteTag"":



Us	er Manual					
ReadData	э	{}	{}	Hex	DINT[500]	
ReadTag		{}	{}		MESSAGE	
WriteData	3	{}	{}	Hex	DINT[500]	
Wrib 📝	New Tag	1.	Ctr:	L+W	MESSAGE	
	Edit "WriteTag"					
	Edit "WriteTag" Pro	perties	Alt	Enter		
	Configure "WriteTag	"	Ctr:	L+I		
	Edit "MESSAGE" Data	Туре				
	Go to Cross Referen	ce for "WriteT	'ag" Ctri	L+E		
	Message Path Editor	:				
	<u>G</u> o To		Ctr	L+G		
	Toggle Bit		Ctr	L+T		
	Force On					
	Force Off					
	Remove Force					
¥	Cut		Ctr:	L+X		
Ē	Сору		Ctr	L+C		
B	Paste		Ctr:	L+V		
	Paste Pass-Through					
	1201					
	Delete		Del			

In the new pop-up window, there are variables that need configuration as shown below:

- Message Type: CIP Generic
- Service Type: Select "Set Attribute Single", now, relevant Service Code will become "10 (Hex)"
- Class: 4 (Hex)
- > Instance: Please refer to <u>chapter 6 EtherNet/IP Connection Parameters</u>
- > Attribute: 3 (Hex)
- Source Element: Select "WriteData" tag, it indicates the data in the "WriteData" tag will become the data PLC outputs
- Source Length: Use byte as unit, this value should be less than or equal to the current selecting bytes which Instance represents

essage Configuration - TriteTag		×
Configuration* Communication Tag Message Iype: CIP Generic Service Set Attribute Single • Type: Service 10 (Hex) Class: 4 (Hex) Instance: 111 Attribute: 3 (Hex)	Source Element: WriteData Source Length: 128 至 (Bytes) Destination	-

Choose "Communication" label, input the relevant path of connecting EtherNet/IP adapter in the blank space behind the Path, the path format is: EthetNet IP hostname, EtherNet/IP scanner slot No., IP address of EtherNet/IP adapter, after setting the path, click "Apply", "Confirm". As is shown below:

Path: Scanner,2,192.168.0.10					Browse	
Scanner,2,	192.168.0.10					
Communication	Method					
C CIP C	D <u>H</u> + <u>C</u> hannel:		Destination Link:	Jo		
$c_{\frac{\text{CIP}\underline{W}\text{ith}}{\text{Source ID}}}$	<u>S</u> ource Link		Destination <u>N</u> ode:	0	(Octal)	
Connected	ł	🔽 Cach <u>e</u> C	Connections 🖌			
				131		
R 11 (0 R	17 00 111	1.200 C 12 12 12 12 12	Distance in the second se			

In this instance, EtherNet/IP hostname is "Scanner", EtherNet/IP scanner slot No. Is "2", EtherNet/IP adapter (SST Gateway) is "192.168.0.10". IP address of SST Gateway is the address which is configured by the configuration software.

Add a "MSG" command in the "MainRoutine" under the "MainProgram" and choose "WriteTag" as the "Message



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Control", as shown below:



Download the PLC program to the PLC and set PLC to the "Online" state, the data in the "WriteData" will be outputted to EtherNet/IP adapter (SST Gateway).