

Config AB for Fieldbus with OACIS-1XC or OACIS-2XC

Version 01.07



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I. SYSTEM CONFIGURATION

A. Overall Ethernet Connection



- During the initialization process, OACIS IP address shows on FND of the front panel for 2 seconds.
- Overall wiring can be different depending on the purpose of use. Generally, we recommend the connection below.



1) Industrial Network Protocol

2) User Datagram Protocol



B. RSLogix5000 (PLC)

: After you created a new controller, click "New Module" of Ethernet item.



Enter Search Text for Module Type,.	Clear Filters			Show Filters 🗧
Catalog Number	Description	Vendor	Category	1
DataMan 500 Series	ID Reader	Cognex Corporat	Communication	
DataMan 8000 Series	ID Reader	Cognex Corporat	Communication	
Drivelogix5730 Ethernet Port	10/100 Mbps Ethernet Port on DriveLog	Allen-Bradley	Communication	
E1 Plus	Electronic Overload Relay Communicati	Allen-Bradley	Communication	
E121	Flowserve 208Vac/240Vac/325Vdc	Reliance Electric	DPI to EtherNet	
E141	Flowserve 400Vac/480Vac/650Vdc	Reliance Electric	DPI to EtherNet	
E151	Flowserve 600Vac/810Vdc	Reliance Electric	DPI to EtherNet	
EtherNet/IP	SoftLogix5800 EtherNet/IP	Allen-Bradley	Communication	
ETHERNET-BRIDGE	Generic EtherNet/IP CIP Bridge	Allen-Bradley	Communication	
ETHERNET-MODULE	Generic Ethernet Module	Allen-Bradley	Communication	
ETHERNET-PANELVIEW	EtherNet/IP Panelview	Allen-Bradley	HMI	
EX250-SEN1	Ethernet Valve Manifold SIU	SMC Corporation	Communication	
EX260-SEN1	Ethernet Valve Manifold SIU	SMC Corporation	Communication	
EX260-SEN2	Ethemet Valve Manifold SIU	SMC Corporation	Communication	
		0110.0	Communication	

- a. Click "New Module".
- b. Select "ETHERNET-MODULE
- c. Press "Create".



New Module					[×
Type: Vendor: Parent:						
Name: a	OACIS	- Connection Par	ameters Assembly Instance:	Size:		
		Input:	100	244	🚔 (8-bit)	
b	· · · · · · · · · · · · · · · · · · ·	Output:	150	244	膏 (8-bit)	
Comm Format: Address / H	Data - SINT 🗾 👻	Configuration:	1	0	膏 (8-bit)	
C 💿 IP Addre	ss: 192 . 168 . 3 . 3	Status Input:			_	
🔘 Host Na	ne:	Status Output				
📝 Open Modu	le Properties	еОк	Cano	el	Help	

: This is an ethernet module setting for OACIS communications

- a. Type in its Name. The name should be unique.
- b. Select "Data SINT" for Comm Format
- c. The default IP address is 192. 168. 3. 3
- **d.** The above connection parameters are the important information for OACIS connection. Input and Output packet size are 244 bytes respectively.
- e. Click "OK" to save it.





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- **a.** After creating an ethernet module, users first select "Import Data Type" at User-Defined of Data Types.
- b. Import "OACIS_v003.L5X" Data Type among three OACIS templates.
- **c.** Users can change the Final Name for their convenience but it should be unique. And then press "OK".

I. SYSTEM CONFIGURATION

RSLogix 5000 - OACIS [17	769-L32E 20.11]* - [Data T	ype: OACIS]	lala.					
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No Edits 📥 🗖 1/1	0		Deektop		- 0 1	P*		
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Controller Organizer	→ ╄ X	Recent Places				_		IS run v004.L5X
Controller OACIS		Na 🦰 🦉	Syster	огк m Folder	AB_PLC File fol	der	Logio 21.7	(Designer XML File KB
Controller Fault Hand	ller	De Desktop		S_v003.L5X	OACIS	_copy_v003.L5X		
🔤 Tasks			10 4.44 K	B	20.5 KB			
MainTask		Libraries				b		
Program	New Routine					-		
MainRout Unscheduled Press	Import Routine	Computer						
Motion Groups	Cut a							
Add-On Instructions	Paste	Network File r	name:	OACIS_copy_v003				▼ Import
🔄 Data Types	Delete	Files	of type:	RSLogix 5000 XML Fil	es (*.L5X)			Cancel
OACIS	Verify	Files	containing:	Routine				✓ Help
Add-On-Defined	Cross Reference	Into:		🕞 Main Program				
Predefined Module-Defined	Browse Logic							
Trends	Accept Pending Progra	m E	BOOL	Decimal		Read/Write		
I/O Configuration	Cancel Pending Program	m Edits	BOOL	Decimal		Read/Write		
1769-L32E OA	Test Accepted Program	Edits	BOOL	Decimal		Read/Write	_	
🖨 🛷 1769-L32E Eth	Untest Accepted Progra	im Edits	BOOL	Decimal		Read/Write		
1769-L	Assemble Accepted Pro	gram Edits	SINT	Decimal		Read/Write		
ETHEF	Cancel Accepted Progra	am Edits	SINT	Decimal		Head/Write Bead/Write	_	
CompactBus	Finalize All Edits in Prog	ram Ctrl+Shift+F	REAL[45]	Float		Read/Write	-	
	Print	•	REAL[45]	Float		Read/Write		
	Export Program		SINT[58]	Decimal		Read/Write	_	
	Properties	Alt - Enter	INT	Decimal		Read/Write		
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•		Move Up Move Down						
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Import Configura	ation							
🖉 🖾 Find:		- <u>A</u> A	Find/F	eplace				
Find With	hin: Final Name							
Import Content:								
MainTask		Configure Routir	ne Proper	ties				
- 🚑 MainPr	ogram	Import Name:	OACIS_	сору				
	CIS_copy Beferences	Operation:	Create		•	1		
D	🧭 Tags	opoidion.	(i) Ref	erences will be imp	orted as	-		
	🕅 Data Types		Con	figured in the Refe	rences folders			
- 🛛 Errors/Wan	nings	Final Name:	OACIS_	_сору	-	Properties		
		Description:	6	2				
			6	<u>ب</u>				
					-			
		Туре:	📳 Stru	ictured Text				
		In Program						
		in Fiogram:	щ е Маг	rimrogram				
		Number of Lines:	50					

- After importing the OACIS Data Type, users need to import OACIS Sub Routine. Tasks → Main Task
 → Main Program → Click "Import Routine".
- **b.** Select "OACIS_copy_v003.L5X" and import it.
- **c.** Users can change the Final Name for their convenience but it should be unique. And then press "OK".



RSLogix 5000 - OACIS (17	769-L32E 20.11]* - [Data Typ	e: OACIS]	w Halr							
	a 💼 🗠 😋 Temp_bA	rr.1	- <u>A</u>	, 🐴 强 🕞 [୪ମା ହେଇ	Select a Li	anduade	- 9		
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No Forces										
No Edits 📑 1/1	0 0									
				4 () () ()						
	4	Favorites A	\dd-On	🕻 Safety 🔏 Alarm	ns 🔏 Bit 🔏 Timer/	Counter 🔏 Input/Outpu	ut 🖌 Compare 🖌	Compute/Mat		
Controller Organizer	→ ₽ ×	en In	nport Rou	tine						×
Controller OACIS	N	lame:	Look in: Deskton							
Controller Fault Hand	ller D	escription:	an.							
Tasks		Rec	ent Place	Librari Syster	es n Folder	System F	older	Sys	mputer tem Folder	
🗄 👼 MainTask				Netwo	ork	AB_PLC			CIS_run_v004.L5>	(
Program	New Routine		Desktop	Syster	n Folder	File folde	r		gix Designer AiviL 7 KB	File
Unscheduled Pr	Import Routine				S_ √003.L5X Designer XML File	OACIS_c	opy_v003.L5X signer XML File		(b)	
Motion Groups	Cut a	Ctr L	ibraries	UIU 4.44 K	В	20.5 KB			0	
Add-On Instructions	Paste	Ctr								
Data Types	Delete	De	omputer							
OACIS	Verify									
Add-On-Defined	Cross Reference	Ctr N	Vetwork	8	0.4010 004					
💮 🛶 Predefined	Browse Logic	Ctr		Files of type:	BSLogix 5000 XML E	les (* 1.5X)			• •	Cancel
Trends	Accept Pending Program	Edits		Files containing:	Routine	100 (.207 y			•	Help
Backplane, Com	Test Accented Program F	dite		Into:	🕞 MainProgram				•	
	Untest Accepted Program	Edits								.4
Ethernet	Assemble Accepted Prog	ram Edits		SINT	Decimal		Head/Write			
ETHEF	Cancel Accepted Program	n Edits	D	INT SINT	Decimal Decimal		Read/Write Bead/Write			
CompactBus	Finalize All Edits in Progra	m Ctrl+Shift-	+F	REAL[45]	Float		Read/Write			
	Print		•	REAL[45] SINT[58]	Float Decimal		Read/Write Read/Write	_		
	Export Program			SINT[58]	Decimal		Read/Write			
	Properties	Alt+Enter		INT	Decimai		Head/Write	_		
			Down							
Import Configura	ation									×
アズ Find:		→ <u>#</u>	商	Find/Replace						
Find With	nin: Final Name		-							
Import Content:										
MainTask		Configure Ro	outine	Properties						
- 🚑 MainPr	ogram	Import Name	:	OACIS_run						
	CIS_run Beferences	Operation:		Create		• D				
D	🖉 Tags	oporation		(i) Reference:	s will be importe	das				
	協制 Data Types 과 Other Commonweat			Configured	in the Referenc	es folders				
- 🛛 Errors/Wari	nings	Final Name:	l	OACIS_run Properties						
		Description:								
				Ŭ						
						Ŧ				
		Type:		🗎 Ladder Dia	gram					
		In Program:		🕞 MainProgra	m					
		Number of R	ungs:	11						

- After importing the OACIS_copy Sub Routine, then users need to import "OACIS_run_v004" Sub Routine. Tasks → Main Task → Main Program → Click "Import Routine".
- **b.** Select "OACIS_run_v004.L5X" and import it.

c. Users can change the Final Name for their convenience and then press "OK".



: If you imported all three OACIS templates and saved them, add OACIS-run Sub Routine on Main Routine.

- a. Enter into the Edit mode by clicking the left-hand side of the first Rung
- **b.** Add an Output Energize (OTE) of Program Control onto the right-hand side of the rung.
- c. Type in "OACIS run" as Routine Name on Jump to Subroutine (JSR)



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APPENDIX #1: ANY BUS DATA MAP

: PLC communicates on the bus with OACIS via Industrial Network. Max. process data is 244 bytes between OACIS and PLC.

A. DIO Type

• Total length of Digital Outputs and Digital Inputs is 6 bytes respectively. The byte index ranges from 0 to 5. Each item size is 1 bit.

B. Real Type

- Total length of Real is 180 bytes respectively. The byte index ranges from 6 to 185. Each item size is 4 bytes.
- Real in PLC is the counterpart of global variables in OACIS.
- Caution: The type size of OACIS GV and PLC Real is different. The size of OACIS GV is 8 bytes but the one of PLC Real is 4 bytes. When OACIS sends or receives GV data with PLC, round-off error can occur due to the difference in size.

C. Serial Type

- Total length of Serial is 58 bytes respectively. The byte index ranges from 186 to 243.
- It is normally used for Serial Number.
- When OACIS writes Serial numbers to PLC, CR(0x0D) should be added in the last byte of serial bytes. On the contrary, if it reads from PLC, LF(0x0A) should be added.
- If you want to send "ABCD" as a serial number to OACIS, you need to update the tags as below.
 Byte[186] = A / Byte[187] = B / Byte[188] = C / Byte[189] = D / Byte[190] = 0x0A



Type DO

Real

Serial

45

1

180

58

Write (UACIS → PLC)							
_ength Items)	Length (Bytes)	Byte Index	Bit Index	Command			
48	6	0	0	Home OK			
			1	Program Home OK			
			2	Ready			
			3	Error			
			4	Program End			
			5	E-Stop			
			6	Heartbeat			
			7	Reserved			
		1	0	Program Set Out 1			
			1	Program Set Out 2			
			2	Program Set Out 4			
			3	Program Set Out 8			
			4	Program Set Out 16			
			5	Program Set Out 32			
			6	Program Set Out 64			
			7	Reserved			
		2	0	Programmable DO 1			
			1	Programmable DO 2			
			2	Programmable DO 3			
			3	Programmable DO 4			
			4	Programmable DO 5			
			5	Programmable DO 6			
			6	Programmable DO 7			
			7	Programmable DO 8			
		3	0	Programmable DO 9			
			1	Programmable DO 10			
			2	Programmable DO 11			
			3	Programmable DO 12			
			4	Programmable DO 13			
			5	Programmable DO 14			
			6	Reserved			
			7	Reserved			
		4	0	Status Binary 1			
			1	Status Binary 2			
			2	Status Binary 4			
			3	Status Binary 8			
			4	Status Binary 16			

5

6

7

0~7

5

6~9

10 ~ 13

...

182 ~ 185

186 ~ 243

Reserved

Reserved Reserved

Reserved

Real 1

Real 2

Real 45

ASCii



MISC

Read (PLC → OACIS)								
Туре	Length (Items)	Length (Bytes)	Byte Index	Bit Index	Command			
DI	48	6	0	0	Program Start			
				1	Program Stop			
				2	Return Home			
				3	Reset			
				4	Program Set Strobe			
				5	Reserved			
				6	Reserved			
				7	Reserved			
			1	0	Program Set In 1			
				1	Program Set In 2			
				2	Program Set In 4			
				3	Program Set In 8			
				4	Program Set In 16			
				5	Program Set In 32			
				6	Program Set In 64			
				7	Reserved			
			2	0	Programmable DI 1			
				1	Programmable DI 2			
				2	Programmable DI 3			
				3	Programmable DI 4			
				4	Programmable DI 5			
				5	Programmable DI 6			
				6	Programmable DI 7			
				7	Programmable DI 8			
			3	0	Programmable DI 9			
			-	1	Programmable DI 10			
				2	Programmable DI 11			
				3	Programmable DI 12			
				4	Programmable DI 13			
				5	Programmable DI 14			
				6	Reserved			
				7	Reserved			
			4	0	Reserved			
			7	1	Reserved			
				2	Reserved			
				3	Reserved			
				4	Reserved			
				5	Reserved			
				6	Reserved			
				7	Reserved			
			5	, 0 ~ 7	Reserved			
Pac	15	100	60	0-1				
Real	40	100	0~9 10~12					
			10~13		real 2			
			 182 ~ 185		Real 45			
Serial	1	58	186 ~ 243		ASCii			



REVISION

v1.00: Engineering Released

v1.01(JUN. 28. 2017)

- Added Information in Appendix #1 chart

v1.02(AUG. 12. 2017)

- Changed information in Appendix #1 chart

- Added Information in 1-A

v1.03(AUG. 17. 2017)

- RSLogix5000 Picture changed in I

v1.04(AUG. 18. 2017)

- Explanation modified in I.A

- v1.05(NOV. 10. 2017)
- Added Information in Appendix #1
- v1.06(Aug. 16. 2018)
- OACIS-1XC Released
- Page Format Updated

v1.07(Oct. 14. 2019)

- Overall system image modified in I.A

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