O A C I S

Open **A**rchitecture **C**ontrol **I**ntegrated **S**ystem

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

Version 01.07
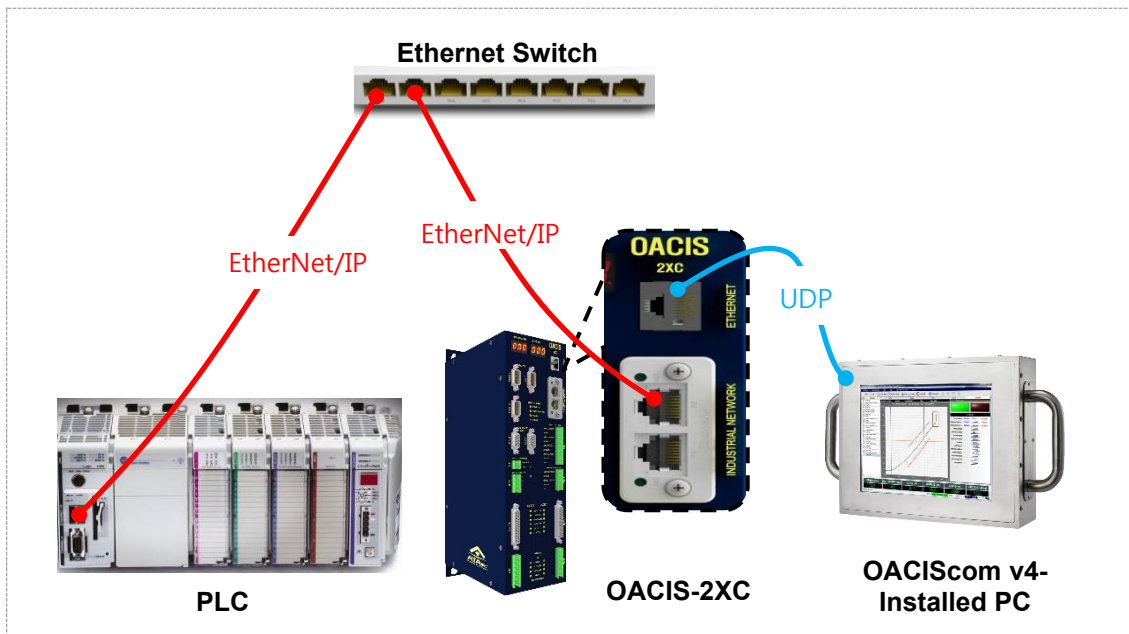

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CONTENTS

I. SYSTEM CONFIGURATION

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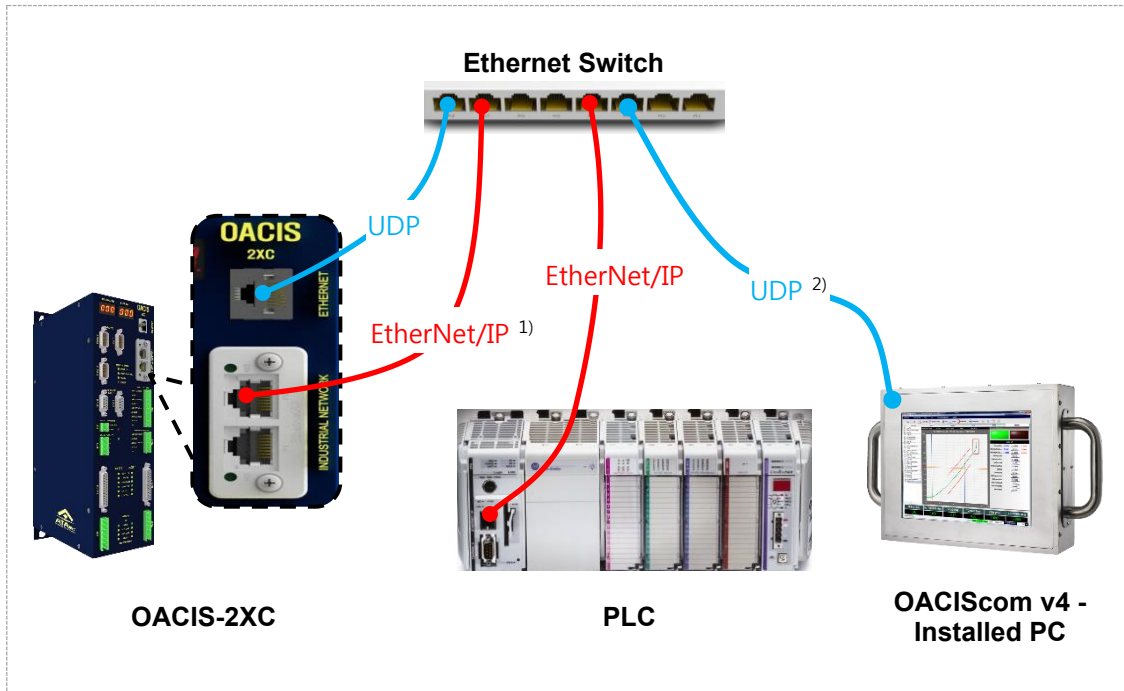
- During the initialization process, OACIS IP address shows on FND of the front panel for 2 seconds.
- Overall wiring can be different depending on the purpose of use. Generally, we recommend the connection below.
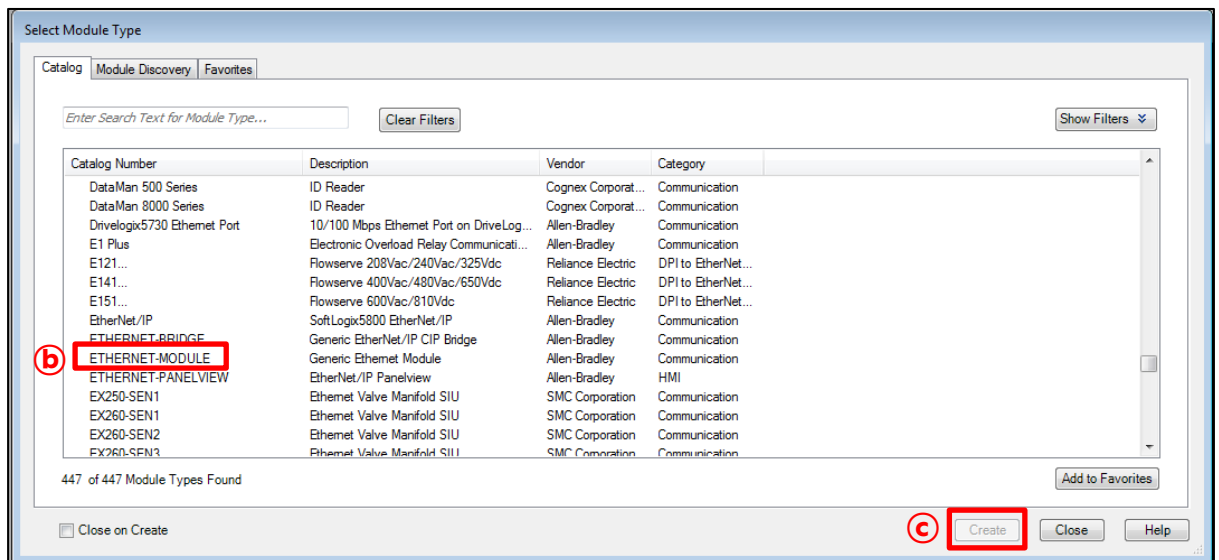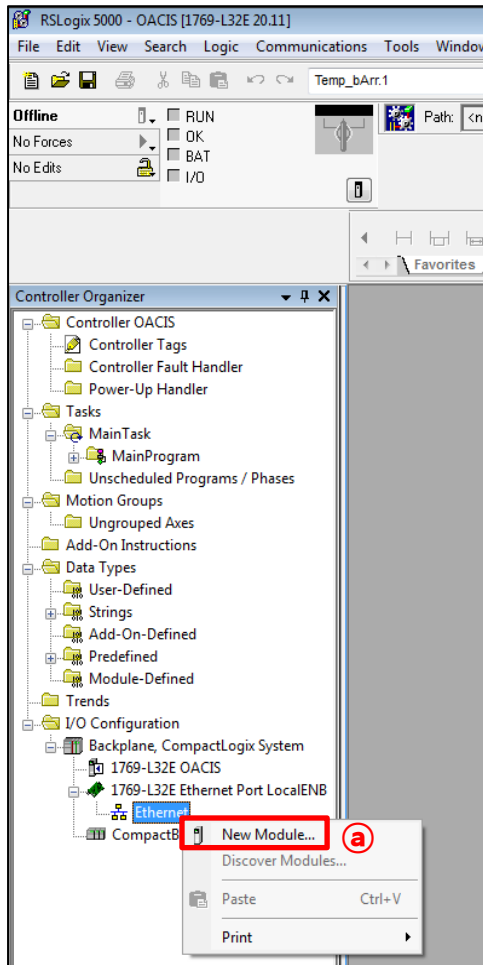

1)   Industrial Network Protocol
2)   User Datagram Protocol

B. RSLogix5000 (PLC)

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

a. Click "New Module".

b. Select "ETHERNET-MODULE

c. Press "Create".

: 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.

MISC
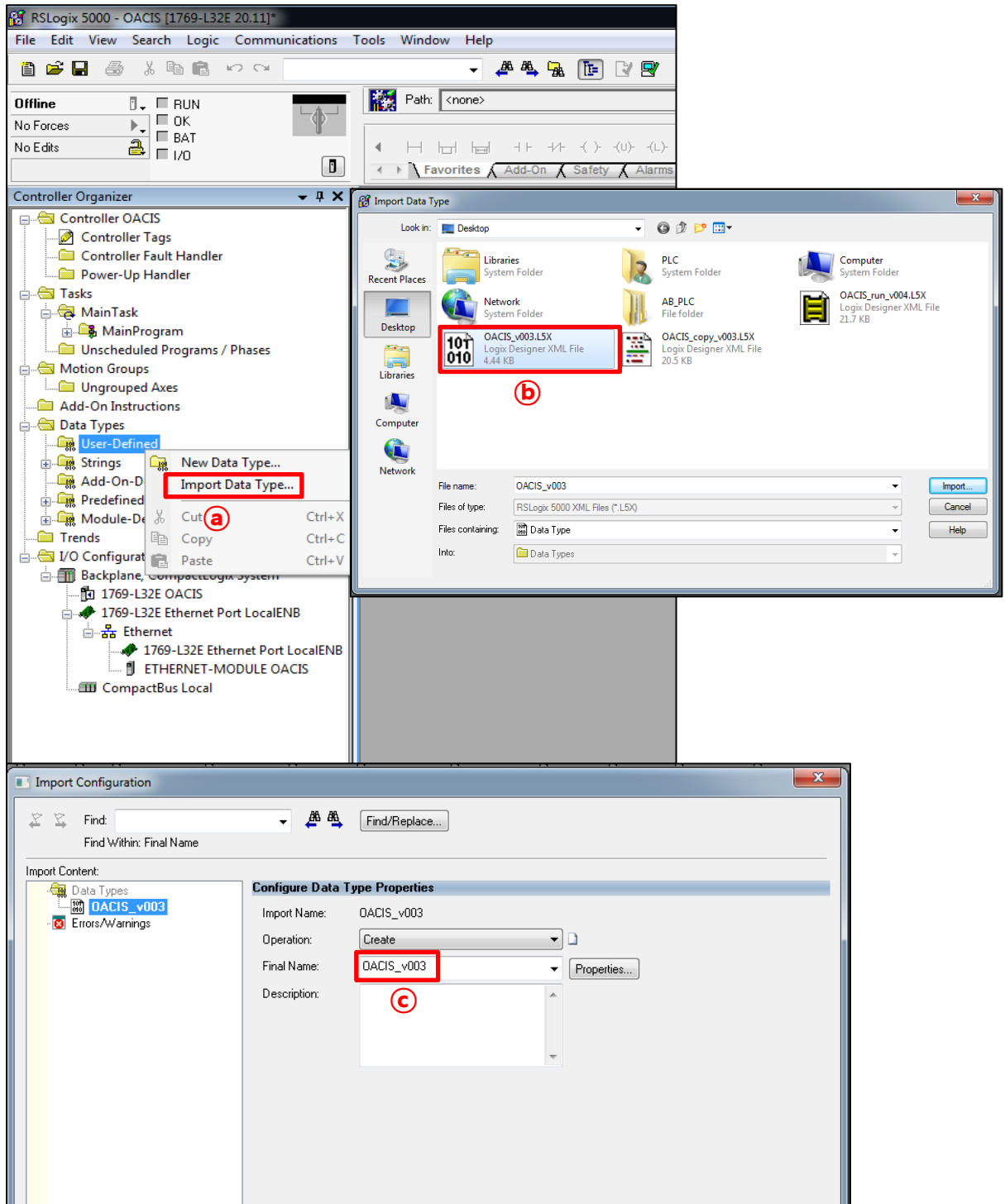
a. After creating an ethernet module, users first select "Import Data Type" at User-Defined of Data Types.

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".
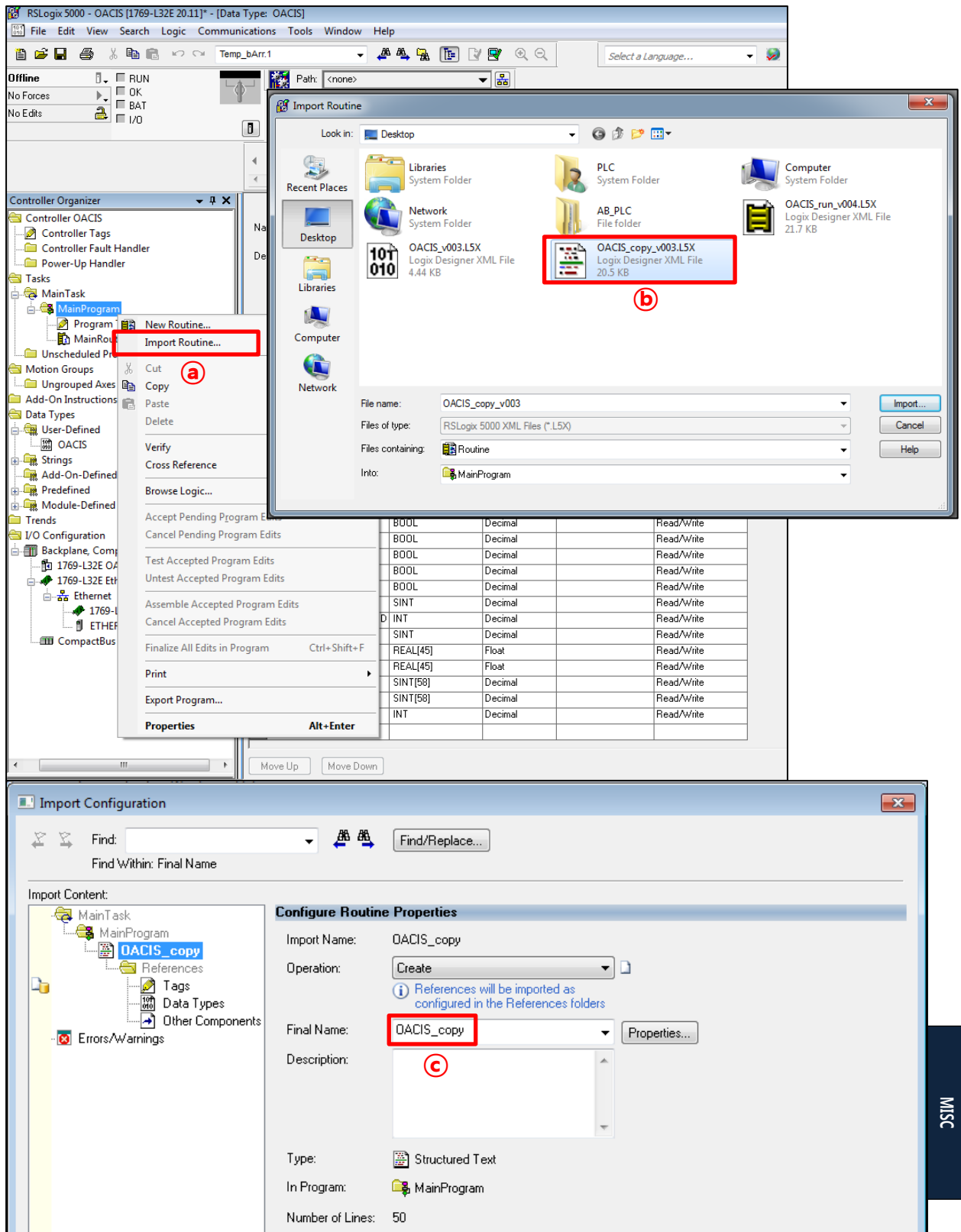
a. After importing the OACIS Data Type, users need to import OACIS Sub Routine. Tasks → Main Task → Main Program → Click "Import Routine".

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".

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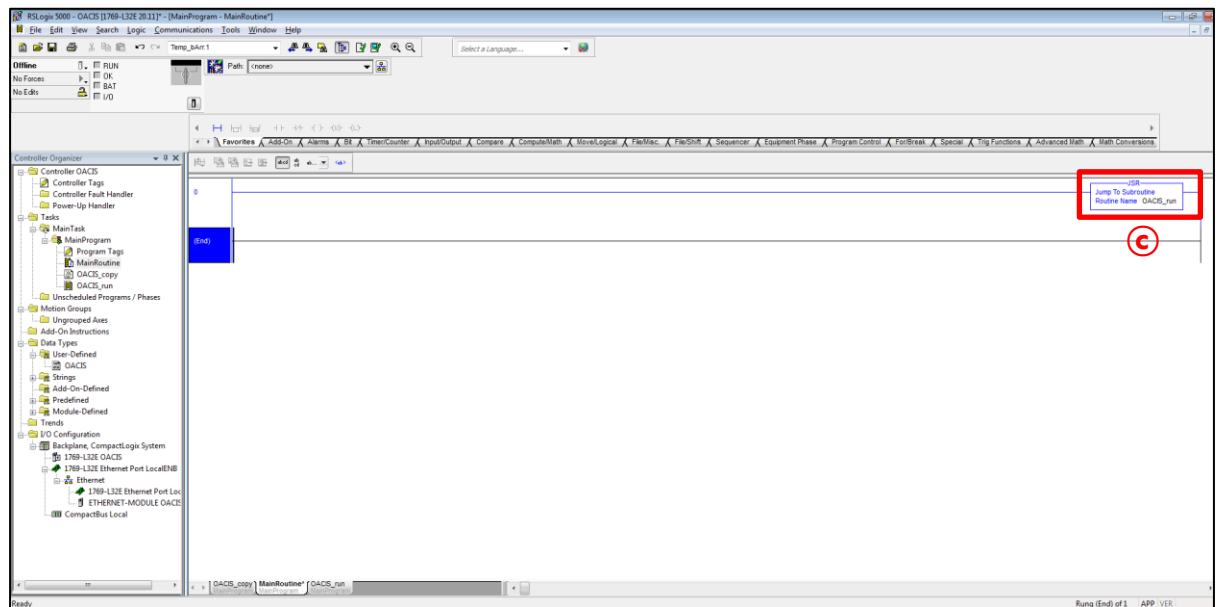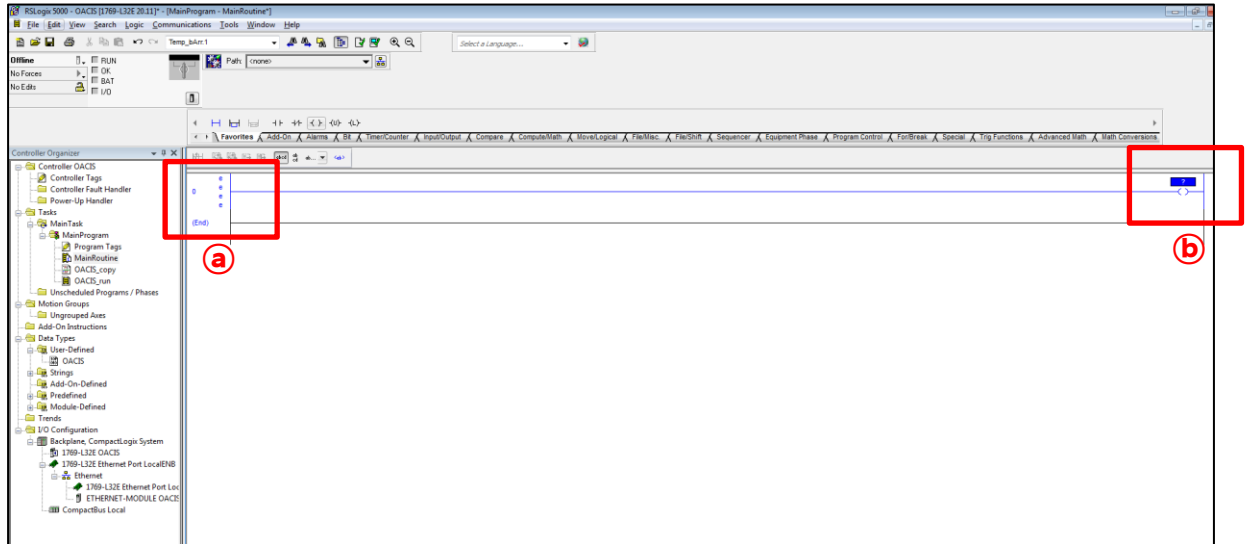
: If you imported all three OACIS templates and saved them, add OACIS-run Sub Routine on Main Routine.

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)

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

MISC

			Write (OACIS → PLC)		
Type	Length (Items)	Length (Bytes)	Byte Index	Bit Index	Command
DO	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	Reserved
				6	Reserved
				7	Reserved
			5	0 ~ 7	Reserved
Real	45	180	6 ~ 9		Real 1
			10 ~ 13		Real 2
			…		
			182 ~ 185		Real 45
Serial	1	58	186 ~ 243		ASCii

MISC

			Read (PLC → OACIS)		
Type	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
				1	Reserved
				2	Reserved
				3	Reserved
				4	Reserved
				5	Reserved
				6	Reserved
				7	Reserved
			5	0 ~ 7	Reserved
Real	45	180	6 ~ 9		Real 1
			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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