

Communication between 1756-L62 and 5069-SERIAL

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1. L62 controller side



Slot 2

Firmware: 20.019

Programm: L62_mapeado.ACD

The screenshot shows the 'Controller Properties - L62' dialog box with the 'General' tab selected. The dialog has a title bar with standard Windows window controls. Below the title bar is a tabbed interface with the following tabs: Advanced, SFC Execution, File, Redundancy, Nonvolatile Memory, Memory, Security, General, Serial Port, System Protocol, User Protocol, Major Faults, Minor Faults, and Date/Time. The 'General' tab is active, displaying the following fields:

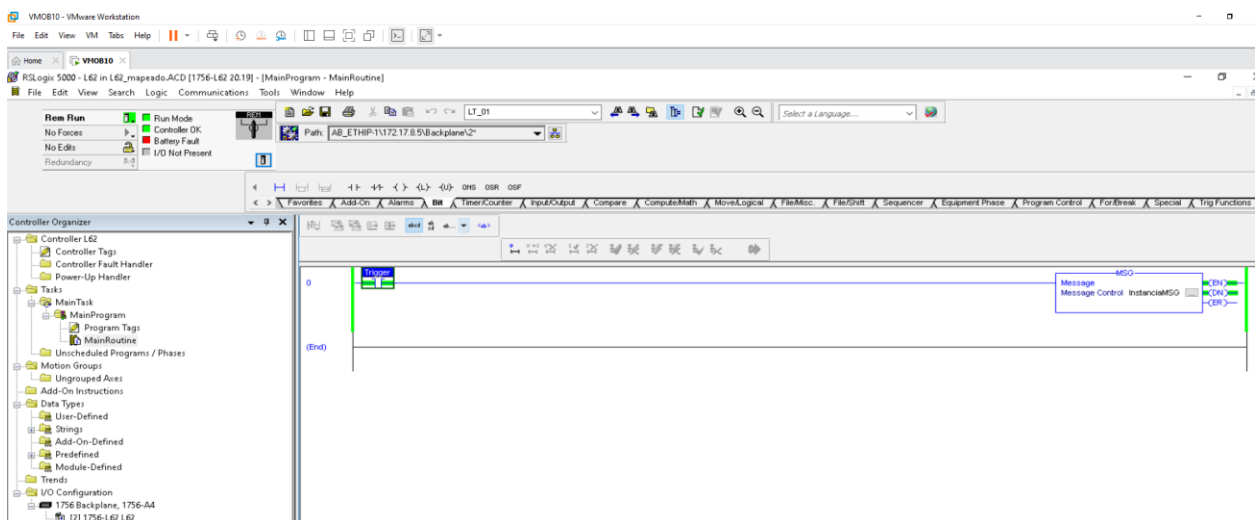
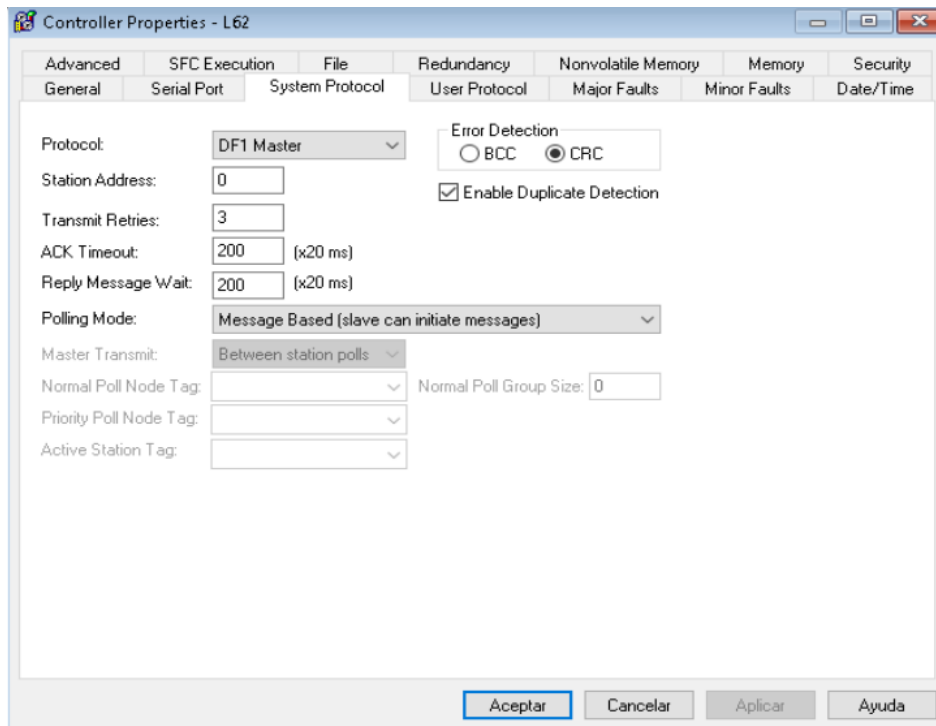
- Vendor: Rockwell Automation/Allen-Bradley
- Type: 1756-L62 ControlLogix5562 Controller (with a 'Change Controller...' button to the right)
- Revision: 20.19
- Name: L62 (text input field)
- Description: (empty text area with up/down arrows)
- Chassis Type: 1756-A4 4-Slot ControlLogix Chassis (dropdown menu)
- Slot: 2 (spin box)

At the bottom of the dialog are four buttons: Aceptar, Cancelar, Aplicar, and Ayuda.

The screenshot shows the same 'Controller Properties - L62' dialog box, but with the 'Serial Port' tab selected. The 'General' tab is still visible in the background. The 'Serial Port' tab displays the following fields:

- Mode: System (dropdown menu) (with a 'Show Offline Values' button to the right)
- Baud Rate: 2400 (dropdown menu)
- Data Bits: 8 (dropdown menu)
- Parity: None (dropdown menu)
- Stop Bits: 1 (dropdown menu)
- Control Line: No Handshake (dropdown menu) (with an unchecked checkbox for 'Continuous Carrier' below it)
- RTS Send Delay: 0 (text input field) (x20 ms)
- RTS Off Delay: 0 (text input field) (x20 ms)
- DCD Wait Delay: 0 (text input field) (x1 sec)

At the bottom of the dialog are four buttons: Aceptar, Cancelar, Aplicar, and Ayuda.



Message Configuration - InstanciaMSG

Configuration Communication Tag

Message Type: PLC5 Typed Read

Source Element: N7:0

Number Of Elements: 10

Destination Element: Serial_data_control[0]

New Tag...

☒ Enable ☐ Enable Waiting ☐ Start ☒ Done Done Length: 10

☐ Error Code: Extended Error Code: ☐ Timed Out

Error Path:

Error Text:

Aceptar Cancelar Aplicar Ayuda

Path, salida por Puerto frontal RS232=2, estación 3

Message Configuration - InstanciaMSG

Configuration Communication Tag

☒ Path: 2,3

2, 3

☐ Broadcast:

Communication Method

☒ CIP ☐ DH+ Channel: 'A' Destination Link: 0

☐ CIP With Source ID Source Link: 0 Destination Node: 0 (Octal)

☐ Connected ☒ Cache Connections ☐ Large Connection

☒ Enable ☐ Enable Waiting ☐ Start ☒ Done Done Length: 10

☐ Error Code: Extended Error Code: ☐ Timed Out

Error Path:

Error Text:

2. Compactlogix 5069-SERIAL side



Programm: Test_serial_compact_mapeado

Logix Designer - Sistec_test_serial_compact in Sistec_test_serial_compact_mapeado.ACD [5069-L320ERMS2 36.11]

File Edit View Search Logic Communications Tools Window Help

Run Mode Controller OK Energy Storage OK I/O OK Path: AB_ETHIP-1[172.17.8.33*]

Rem Run No Forces No Edits Safety Unlocked Favorites Add-On Alarms Bit Timer/Counter Input/Output

Controller Organizer

- Controller Sistec_test_serial_compact
 - Controller Tags
 - Controller Fault Handler
 - Power-Up Handler
 - Tasks
 - MainTask
 - MainProgram
 - Parameters and Local Tags
 - MainRoutine
 - SafetyTask (20 ms)
 - SafetyProgram
 - Unscheduled
 - Motion Groups
 - Alarm Manager
 - Assets
 - Logical Model
 - I/O Configuration
 - 5069 Backplane
 - [0] 5069-L320ERMS2 Sistec_test_serial_compact
 - [1] 5069-OB16F/B Sortides
 - [2] 5069-IB16F/A Entrades
 - [3] 5069-IY4/A Entrades_analogiques
 - [4] 5069-SERIAL/A Serial
 - A1/A2, Ethernet
 - 5069-L320ERMS2 Sistec_test_serial_compact

Safety ID <none>

Safety Updated <none>

Controller Tags - Sistec_test_serial_compact(controller)

Scope: Sistec_test_serial Show: All Tags

Name	Value	Force Mask	Style	Data Type	Class
Local1:C	(...)	(...)	(...)	AB:5000_DO16...	Standard
Local1:I	(...)	(...)	(...)	AB:5000_DO16...	Standard
Local1:O	(...)	(...)	(...)	AB:5000_DO16...	Standard
Local2:C	(...)	(...)	(...)	AB:5000_DI16:C:0	Standard
Local2:I	(...)	(...)	(...)	AB:5000_DI16:I:0	Standard
Local3:C	(...)	(...)	(...)	AB:5000_AI4C:I:0	Standard
Local3:I	(...)	(...)	(...)	AB:5000_AI4C:I:0	Standard
Local3:O	(...)	(...)	(...)	AB:5000_AI4O:0	Standard
Serial_data_compact	(...)	(...)	Decimal	INT[10]	Standard
Serial_data_compact[0]	10		Decimal	INT	Standard
Serial_data_compact[1]	2		Decimal	INT	Standard
Serial_data_compact[2]	3		Decimal	INT	Standard
Serial_data_compact[3]	4		Decimal	INT	Standard
Serial_data_compact[4]	4		Decimal	INT	Standard
Serial_data_compact[5]	4		Decimal	INT	Standard
Serial_data_compact[6]	5		Decimal	INT	Standard
Serial_data_compact[7]	6		Decimal	INT	Standard
Serial_data_compact[8]	7		Decimal	INT	Standard
Serial_data_compact[9]	8		Decimal	INT	Standard
Local4:I1	(...)	(...)	(...)	AB:5000_DF1:I:0	Standard

Logix Designer - Sistec_test_serial_compact in Sistec_test_serial_compact_mapeado.ACD [5069-L320ERMS2 36.11]

File Edit View Search Logic Communications Tools Window Help

Run Mode Controller OK Energy Storage OK I/O OK Path: AB_ETHIP-1[172.17.8.33*]

Rem Run No Forces No Edits Safety Unlocked Favorites Add-On Alarms Bit Timer/Counter Input/Output

Controller Organizer

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 - MainRoutine
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 - SafetyProgram
 - Unscheduled
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 - Alarm Manager
 - Assets
 - Logical Model
 - I/O Configuration
 - 5069 Backplane
 - [0] 5069-L320ERMS2 Sistec_test_serial_compact
 - [1] 5069-OB16F/B Sortides
 - [2] 5069-IB16F/A Entrades
 - [3] 5069-IY4/A Entrades_analogiques
 - [4] 5069-SERIAL/A Serial
 - A1/A2, Ethernet
 - 5069-L320ERMS2 Sistec_test_serial_compact

Module Properties: Local:4 (5069-SERIAL 2.012)

General

Type: 5069-SERIAL 2 Channel Serial Interface

Vendor: Rockwell Automation/Allen-Bradley

Parent: Local

Name: Serial Slot: 4

Description:

Module Definition

Series: A

Revision: 2.012

Electronic Keying: Compatible Module

Connection: Data

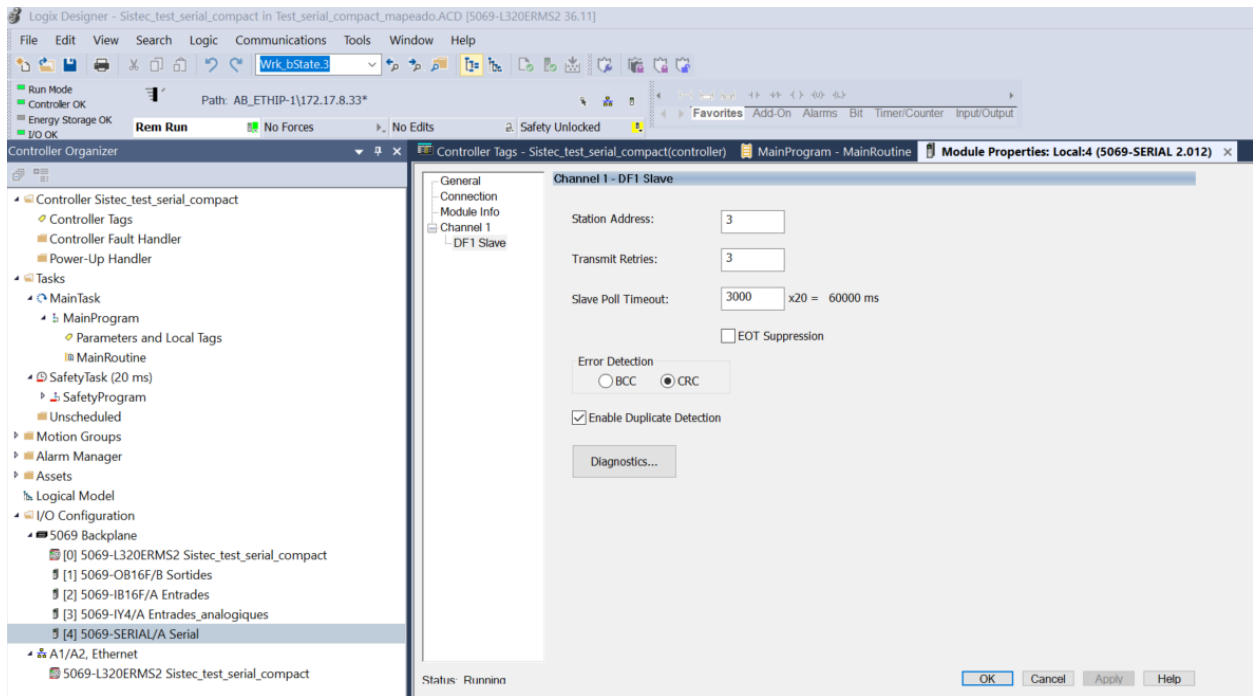
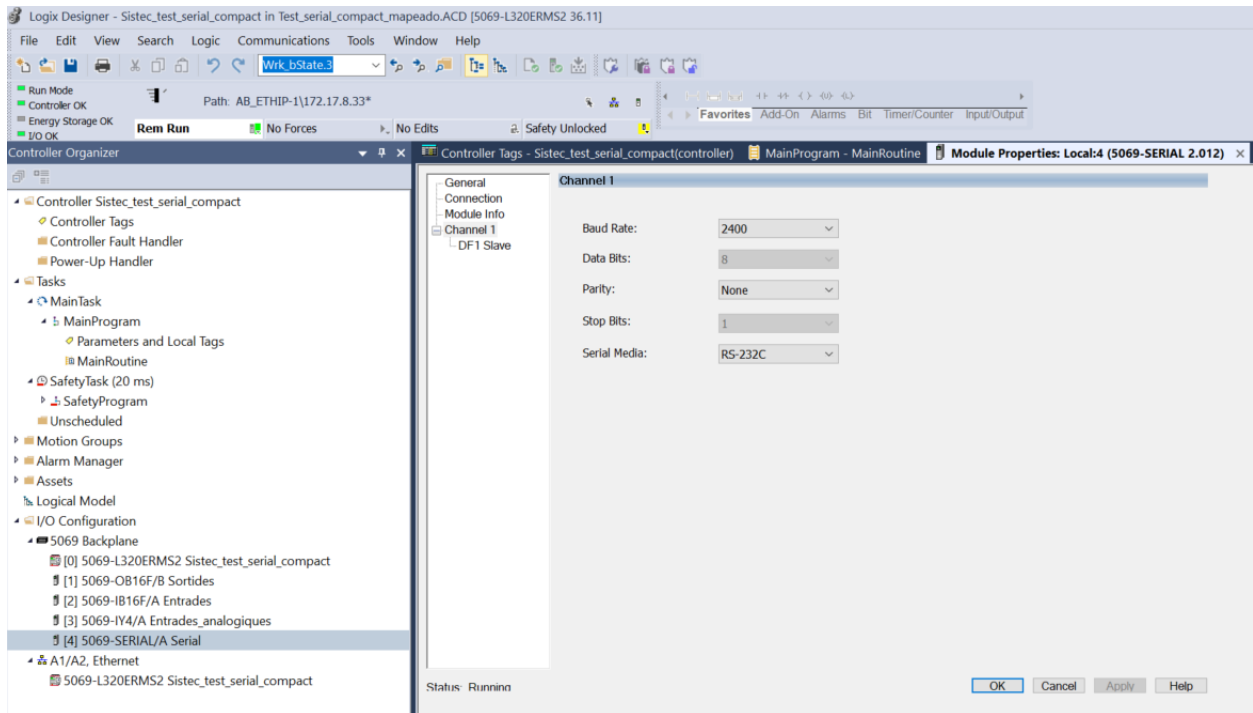
Channel 0: Disabled

Channel 1: DF1 Slave

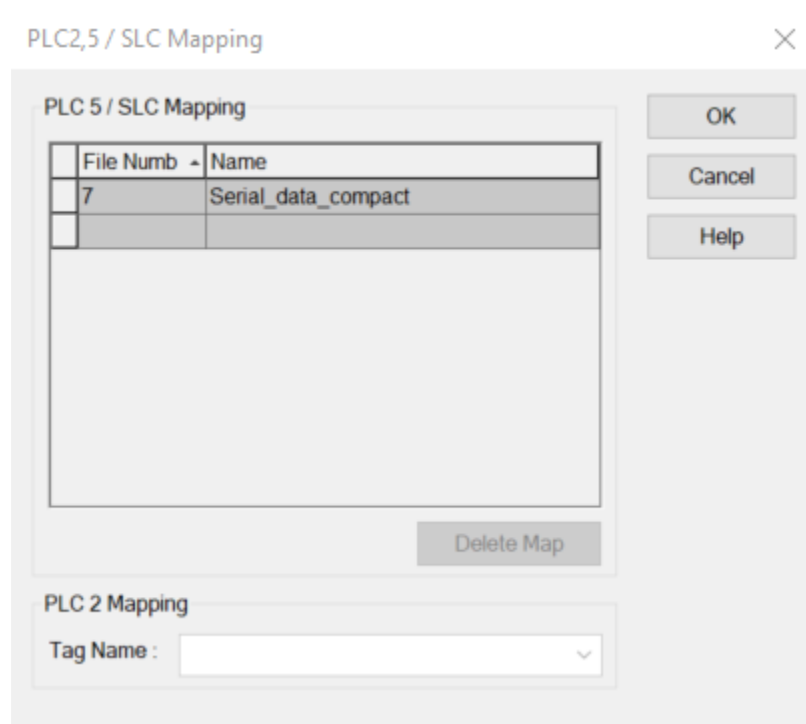
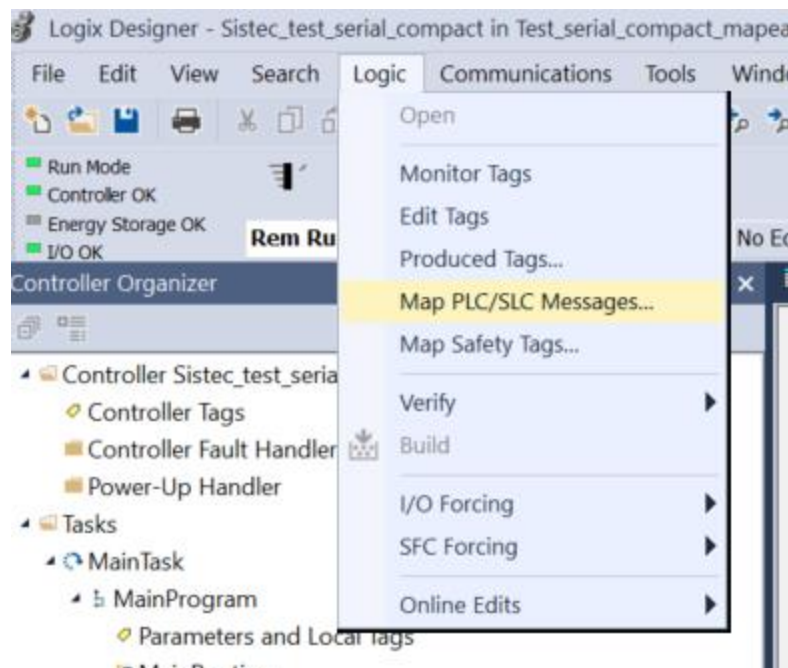
Change ...

Status: Running

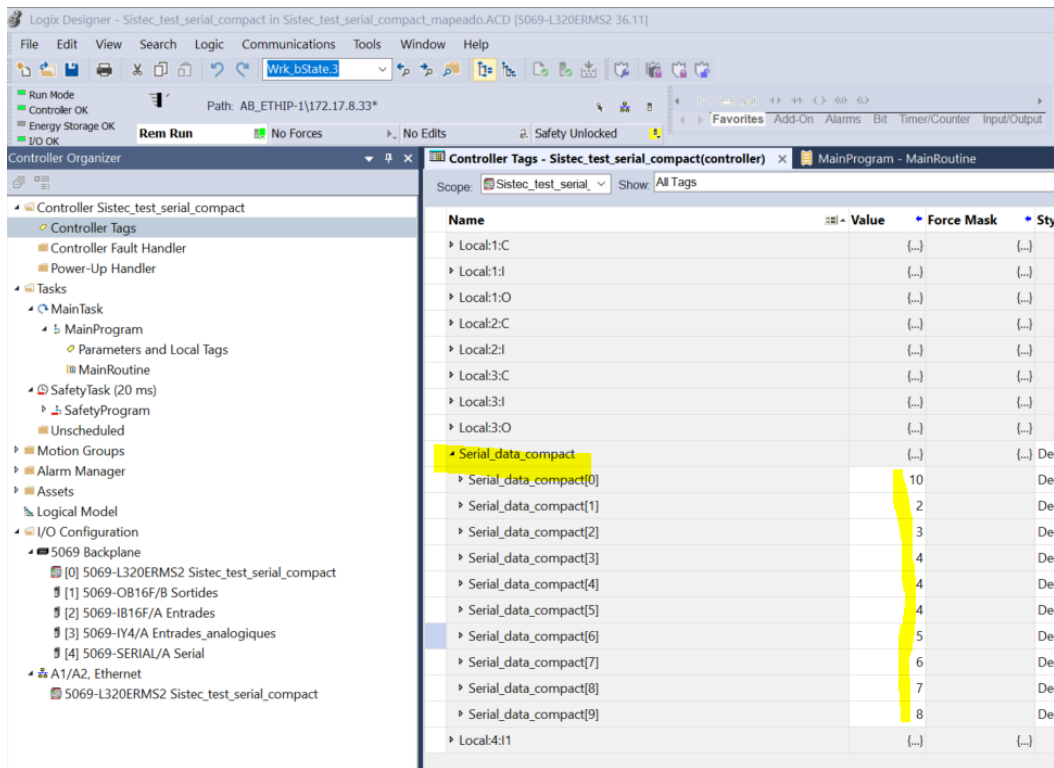
OK Cancel Apply Help



Memory Mapping to N7:0

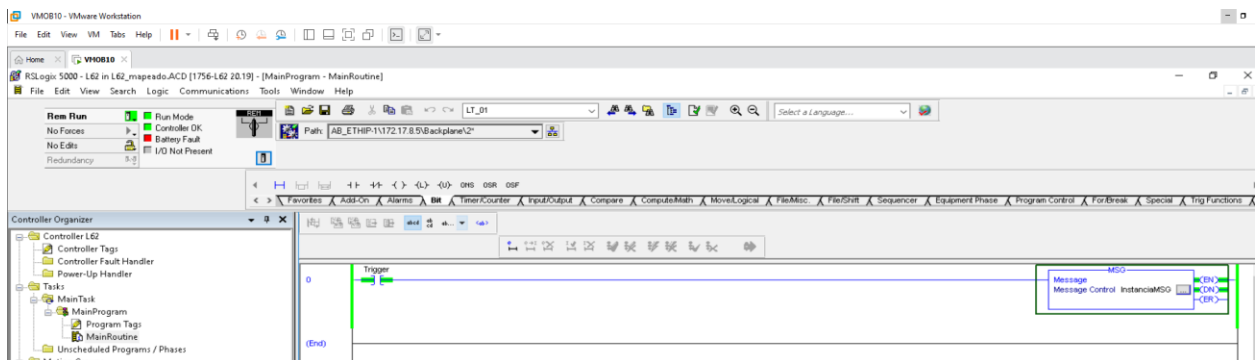


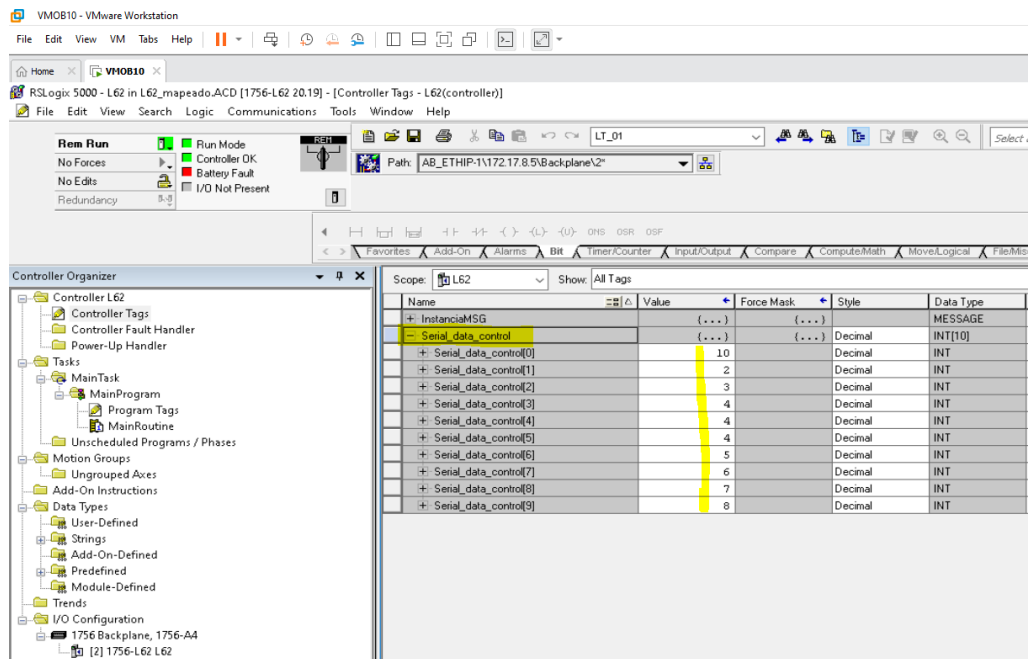
Voilà



Toggle bit

And wait until done



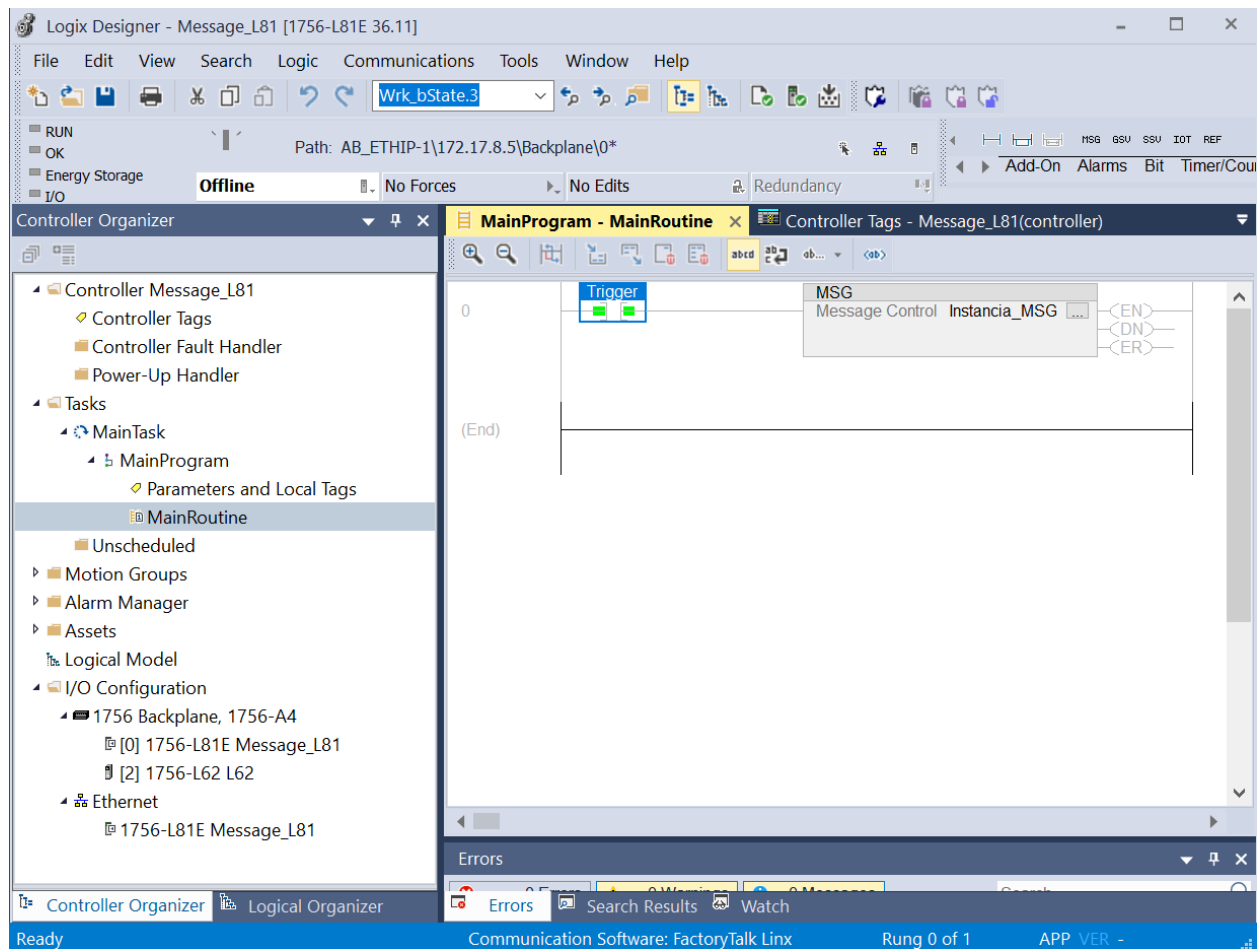


3. Routing from L84 thru backpanel

Let's execute the MSG instruction on the L81 processor on Slot 0



Keep same programs in RUN mode on the L62 and on the 5059 processors



Configure MSG instruction this way

Message Configuration - Instancia_MSG

Configuration Communication Tag

Message Type: PLC5 Typed Read

Source Element: N7:0

Number Of Elements: 10

Destination Element: Serial_data_L81[0]

New Tag...

☐ Enable ☐ Enable Waiting ☐ Start ☐ Done Done Length: 0

☐ Error Code: Extended Error Code: ☐ Timed Out

Error Path: L62, 2, 3

Error Text:

OK Cancel Apply Help

Path is 1,2,2,3

(outputting thru backplane, L62 slot position, outputting thru front connector, numer of serial remote station)

Message Configuration - Instancia_MSG

Configuration Communication Tag

☒ Path:

L62, 2, 3

☐ Broadcast:

Communication Method

☒ CIP ☐ DH+ Channel: Destination Link:

☐ CIP With Source ID Source Link: Destination Node: (Octal)

☐ Connected ☐ Cache Connections ☐ Large Connection

☐ Enable ☐ Enable Waiting ☐ Start ☐ Done Done Length: 0

☐ Error Code: Extended Error Code: ☐ Timed Out

Error Path: L62, 2, 3

Error Text:

Create an array variable for instance Serial_data_L81[10]

Voila

Logix Designer - Message_L81 [1756-L81E 36.11]

File Edit View Search Logic Communications Tools Window Help

Path: AB_ETHIP-1\172.17.8.5\Backplane\0*

Offline No Forces No Edits Redundancy

Controller Organizer

- Controller Message_L81
 - Controller Tags
 - Controller Fault Handler
 - Power-Up Handler
 - Tasks
 - MainTask
 - MainProgram
 - Parameters and Local Tags
 - MainRoutine
 - Unscheduled
 - Motion Groups
 - Alarm Manager
 - Assets
 - Logical Model
 - I/O Configuration
 - 1756 Backplane, 1756-A4
 - [0] 1756-L81E Message_L81
 - [2] 1756-L62 L62
 - Ethernet
 - 1756-L81E Message_L81

Controller Tags - Message_L81(controller)

Scope: Message_L81 Show: All Tags

Name	Value	F
Serial_data_L81	{...}	
Serial_data_L81[0]	0	
Serial_data_L81[1]	2	
Serial_data_L81[2]	0	
Serial_data_L81[3]	4	
Serial_data_L81[4]	0	
Serial_data_L81[5]	6	
Serial_data_L81[6]	0	
Serial_data_L81[7]	8	
Serial_data_L81[8]	0	
Serial_data_L81[9]	10	
Trigger	1	
Instancia_MSG	{...}	

Enable Enable Waiting Start Done Done Length: 0

