Rockwell Automation

	Reading the Mode from an SLC or MicroLogix Controller	Creation Date: **3-22-05**
	A113329624	

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Software and Firmware Used

All examples shown were developed using V13.03 RSLogix5000.

Document Purpose

This document is not a manual or training material, but an Application Note, which could be useful in helping a Rockwell Automation customer read the mode from an SLC or MicroLogix controller.
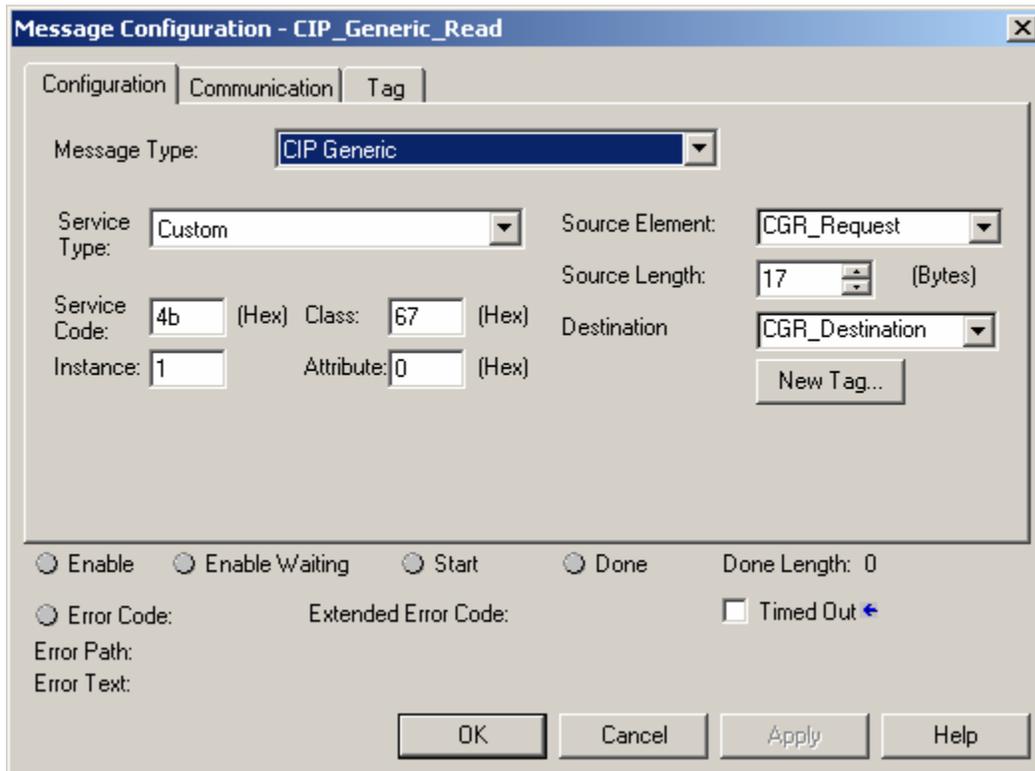
Intended Audience

This document is to be used by Rockwell Automation employees/customers supporting and selling Logix based controllers.
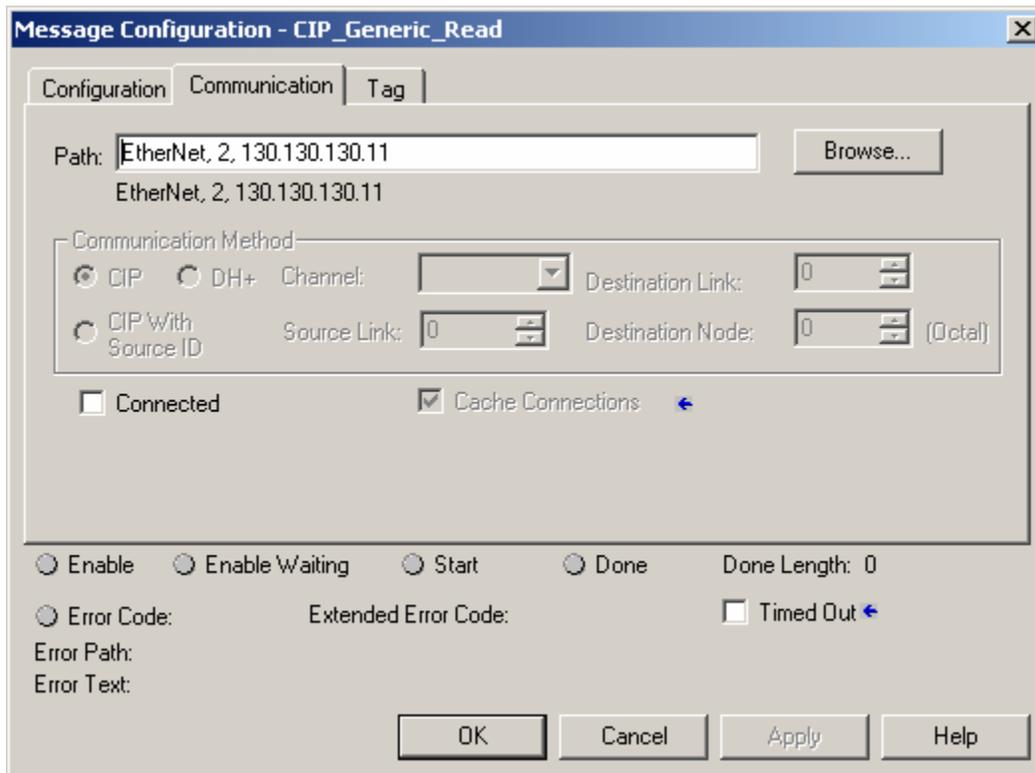
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<u>Concept of Application Note</u>

Currently, RSLogix 5000 software does allow message instructions to be configured to read from an SLC or MicroLogix status or S2 file. This application note gives you application code to perform this operation.

This makes use of the CIP Generic message. Caution do not change any parameters on the Configuration tab of the message instruction or tags associated with the fields.

Message Configuration - CIP_Generic_Read ☒

| Configuration | Communication | Tag |

Message Type:　　CIP Generic ▼

Service Type:　Custom ▼　　　Source Element:　CGR_Request ▼

Source Length:　17 ⬍　(Bytes)

Service Code:　4b　(Hex)　Class:　67　(Hex)　Destination　CGR_Destination ▼

Instance: 1　　Attribute: 0　(Hex)　　New Tag...

○ Enable　○ Enable Waiting　○ Start　○ Done　Done Length: 0

○ Error Code:　　Extended Error Code:　　☐ Timed Out ←

Error Path:
Error Text:

OK　Cancel　Apply　Help

You can change the path on the Communication tab.   Currently, this is set to read the mode of an SLC 5/05 controller. To communicate to another type of SLC or MicroLogix controller all you will need to do is change the path.

Message Configuration - CIP_Generic_Read ☒

Configuration | Communication | Tag |

Path: |EtherNet, 2, 130.130.130.11 | Browse...
       EtherNet, 2, 130.130.130.11

Communication Method
 ⊙ CIP   ○ DH+   Channel: [▼]   Destination Link: [0 ⇳]
 ○ CIP With   Source Link: [0 ⇳]   Destination Node: [0 ⇳] (Octal)
   Source ID

 ☐ Connected   ☑ Cache Connections ←

○ Enable   ○ Enable Waiting   ○ Start   ○ Done   Done Length: 0
○ Error Code: Extended Error Code: ☐ Timed Out ←
Error Path:
Error Text:

[OK]   [Cancel]   [Apply]   [Help]

If you will communicating thru the serial port of a Logix controller to and SLC or MicroLogix controller make sure the serial port configurations match. The Logix controllers use BCC error checking and the SLC and MicroLogix use CRC error checking.

The application will return the mode of the controller in the tag Mode[1]. Only the 5 bits that are associated with the mode are put into Mode[1]. The bit definitions can be found below.

S:1/0	Status	Processor Mode Status/Control
to		Bits 0-4 function as follows:
S:1/4		0 0000 = (0) Remote Download in progress.
		0 0001 = (1) Remote Program mode (the fault mode exists when bit S:1/13 is set along with mode 0 0001)
		0 0011 = (3) Suspend Idle (operation halted by SUS instruction execution) fault mode exists when bit S:1/13 is set along with mode 0 0011.
		0 0110 = (6) Remote Run mode
		0 0111 = (7) Remote Test continuous mode
		0 1000 = (8) Remote Test single scan mode
		0 1001 = (9) Remote Test single step (step until)
	TIP	All modes in the fixed, SLC 5/01, and SLC 5/02 processors are considered as remote because they do not have a keyswitch.
		1 0000 = (16) Download in progress (keyswitch=PROGram)
		1 0001 = (17) PROGram mode - the fault mode exists when bit S:1/13 is set along with mode 1 0001.
		1 1011 = (27) Suspend Idle - the fault mode exists when bit S:1/13 is set along with mode 1 1011 (keyswitch=RUN)
		1 1110 = (30) RUN - the fault mode exists when bit S:1/13 is set along with mode 1 1110 (keyswitch=RUN).
		All other values for bits 0-4 are reserved.