

Ethernet IP Quick Start S100



1 Hardware

1. With no power applied to the drive, remove the I/O cover.
2. Remove the keypad.
3. Attach the Ethernet/IP option module.
4. Attach the keypad onto the Ethernet/IP option module.
5. Protocol select: Set dip switch 1 to **UP** for Modbus/TCP or **DOWN** for Ethernet/IP.

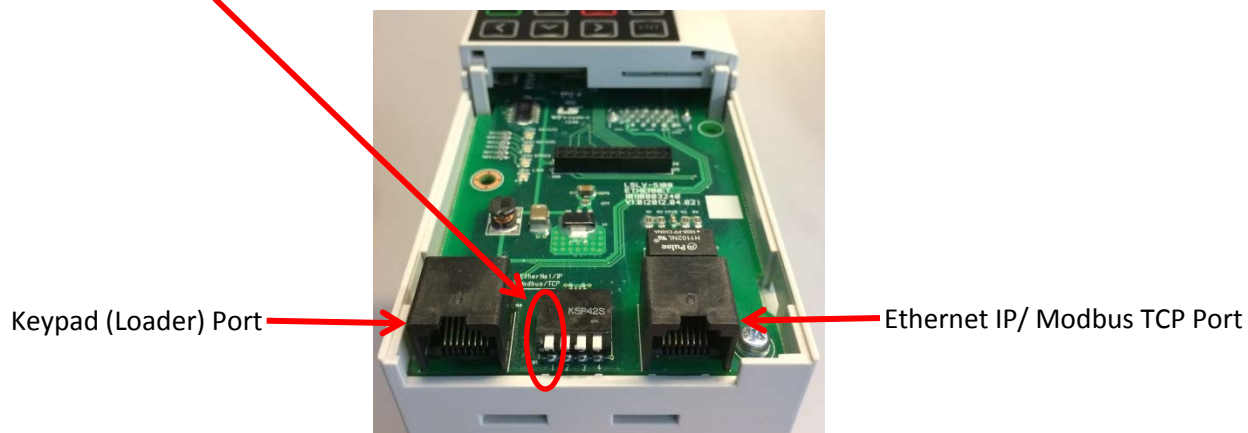


Figure 1. S100 Hardware Setup

2 Parameters to Change

To setup communications and allow control of the drive and motor via a PLC there are only 4 steps needed for the drive. Either the 7 segment keypad can be used or the LCD (external) keypad can be used. The LCD keypad is easier.



Note: If using the 7 segment keypad the LEFT and RIGHT arrows move from group to group. The UP and DOWN arrows move through the parameters in each group.

Note: The LCD keypad arrows work the same as the 7 segment, but you must press the MODE button to get into the parameter groups.

1. Enter the network address and speed information
 - a. IP Address: CM10, CM11, CM12, and CM13
 - b. Subnet Mask: CM14, CM15, CM16, and CM17
 - c. Gateway: CM18, CM19, CM20, and CM21 (if necessary)
 - d. Speed: CM22. 1=100Mbps or 2=10Mbps
2. Enter the Input and Output Assembly information
 - a. CIP Input Instance: CM29 (Defines the Input Assembly Instance)
 - b. CIP Output Instance: CM49 (Defines the Output Assembly Instance)
See page 4 for the PLC parameters related to these
3. Enter the command source
 - a. Run Command Source: DRV06 (in LCD keypad), drv (in 7 segment keypad)
 - b. Speed Command Source: DRV07 (in LCD keypad), frq (in 7segment keypad)

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 **Apply all changes by setting CM94=1.** This parameter setting will return to '0' after being set. **And set CNF48=1** to make the drive retain the parameter settings after a power loss. 
NOTE: If this step is not completed, the drive will NOT retain the communication parameters after a power cycle.

2.1 Parameters to change (CM Group)

Code Number	The Name of Parameter	Initial Value	Range	Definition	Protocol
CM-06	FBus S/W Ver	-	-	It indicates the version of Ethernet communication module.	M/E
CM-09	FBus Led			Shows the ON/OFF data of the LED on the Ethernet communication module.	M/E
CM-10	Opt Parameter1	0	0 ~ 255	Set up the IP Address.	M/E
CM-11	Opt Parameter2	0	0 ~ 255		
CM-12	Opt Parameter3	0	0 ~ 255		
CM-13	Opt Parameter4	0	0 ~ 255		
CM-14	Opt Parameter5	0	0 ~ 255	Set up the Subnet Mask.	M/E
CM-15	Opt Parameter6	0	0 ~ 255		
CM-16	Opt Parameter7	0	0 ~ 255		
CM-17	Opt Parameter8	0	0 ~ 255		
CM-18	Opt Parameter9	0	0 ~ 255	Set up the Gateway Address.	M/E
CM-19	Opt Parameter10	0	0 ~ 255		
CM-20	Opt Parameter11	0	0 ~ 255		
CM-21	Opt Parameter12	0	0 ~ 255		
CM-22	Opt Parameter13	0	0~2	Set up the Ethernet communication rate.	M/E
CM-29	In Instance	1	0~11	CIP Input Instance	E
CM-49	Out Instance	1	0~11	CIP Output Instance	E
CM-94	Comm Update	0	0:NO 1:YES	Update communication relating to keypad parameters.	M/E

2.1.1 Enter IP Address, Subnet Mask, and Gateway information

The IP Address, Subnet Mask, and the Gateway setting are broken down into octets. See the example below on how to setup an IP address. The same setup applies to subnet mask and gateway settings.

Example:

IP Address: **196.168.10.131** Programmed into parameters CM-10 through CM-13.

CM-10 = 196

CM-11 = 168

CM-12 = 10

CM-13 = 131

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2.2 Parameters to Change (DRV Group)

Change the Command Source DRV06 to 4 (Field Bus). Change the Command Source DRV07 to 8 (Field Bus). This allows the PLC to control the speed and run commands.

Code	Comm. Address	Name	LCD Display	Setting Range	Initial value	Property*	V/F	SL	Ref.
00	-	Jump Code	Jump Code	1-99	9	O/A	O	O	p.49
01 ²	oh1101	Target frequency	Cmd Frequency	Start frequency - Maximum frequency(Hz)	0.00	O/L	O	O	p.53
02	oh1102	Torque command	Cmd Torque	-180~180[%]	0.0	O/A	X	O	-
03 ³	oh1103	Acceleration time	Acc Time	0.0-600.0(s)	20.0	O/L	O	O	p.89
04 ²	oh1104	Deceleration time	Dec Time	0.0-600.0(s)	30.0	O/L	O	O	p.89
06 ²	oh1106	Command source	Cmd Source	0 Keypad	1: Fx/Rx-1	X/L	O	O	p.82
				1 Fx/Rx-1					
				2 Fx/Rx-2					
				3 Int 485					
4 Field Bus									
07 ²	oh1107	Frequency reference source	Freq Ref Src	0 Keypad-1	0: Keypad-1	X/L	O	O	p.69
				1 Keypad-2					
				2 V1					
				4 V2					
				5 I2					
				6 Int 485					
				8 Field Bus					
12 Pulse									

Figure 3. S100 Drive Group Parameters to Change

3 Allen Bradley PLC Setup for the LSIS S100

In RS Logix perform the following steps.

1. Open a project previously created.
2. Double click the *Ethernet* port in the I/O Configuration tree (In the left hand window)
 - a. Under the General tab, enter the IP Address you will be using and click *OK*.
3. Right click *Ethernet*, located under the I/O Configuration tree.
 - a. Select *New Module*
 - i. Expand the Communication tree
 1. Scroll to find *Generic Ethernet Module*
 2. Select it and click *OK*

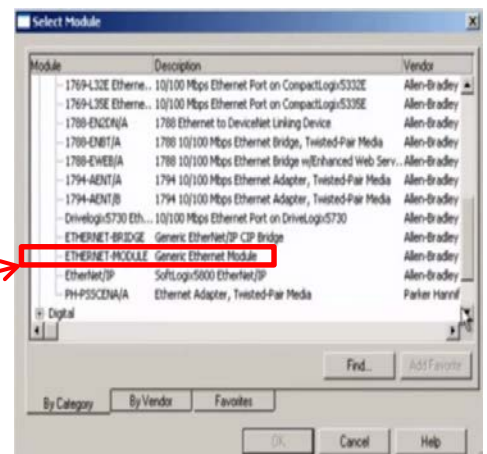
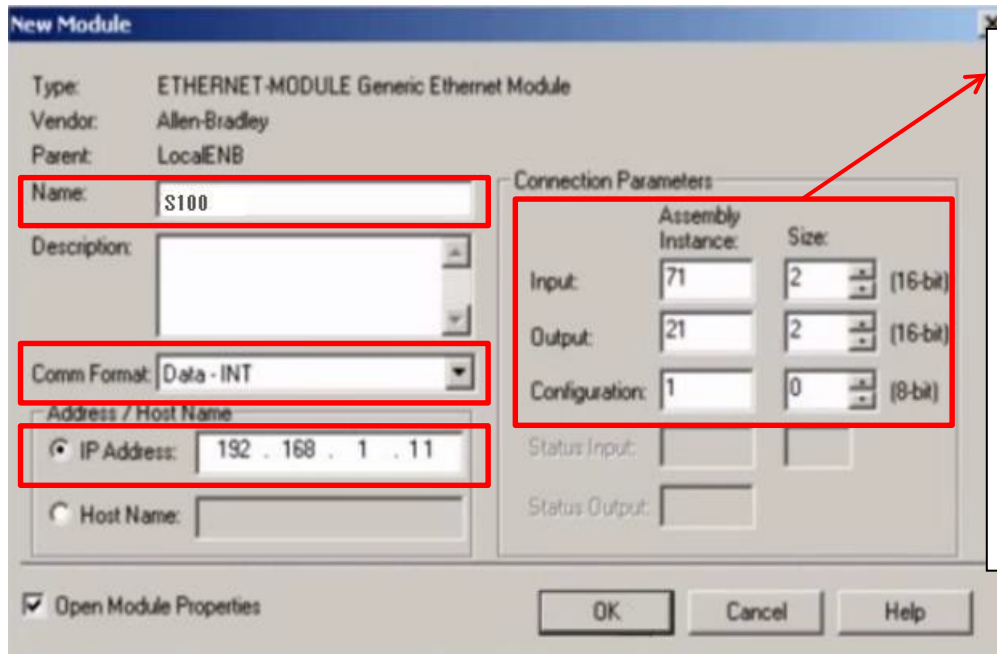


Figure 4. AB Generic Ethernet Module Selection

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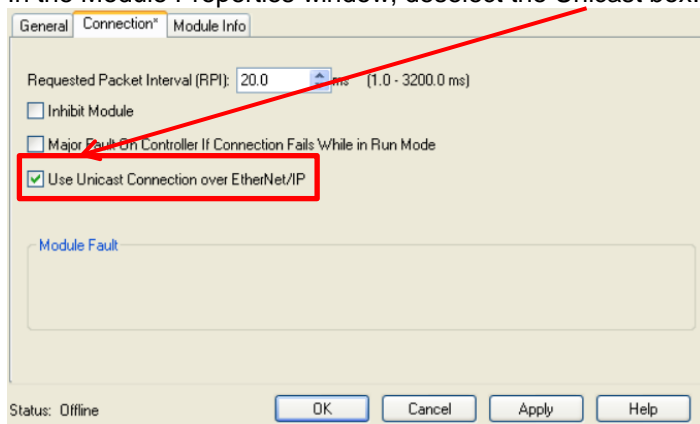
4. In the Generic Ethernet Module window,
 - a. Enter a name (typically use the drive series name ie. S100)
 - b. Select the Comm Format of *INT* as seen in the image below.
 - c. Enter the Connection Parameters as seen in the image below
 - d. Enter the correct IP Address as seen in the image below. (The IP address shown is only an example)
 - e. Click OK



The Input and Output values here are directly related to the drives CM29 and CM49 parameter settings. There are several different configurations available. Make sure the drives values are the same as these values. See the Ethernet Module manual for the S100 for all available configurations.

Figure 5. AB Generic Ethernet Module Setup

5. In the Module Properties window, deselect the Unicast box. Click Apply.



You will now see the new Ethernet Module under the I/O configuration tree; it will have “S100” in the name.

Setup Is Now Complete.