RS LOGIX 5000

4 CLASS MULTI

DRIVE SETUP

USER MANUAL

WERNER ELECTRIC SUPPLY

COTTAGE GROVE, MINNESOTA

SUBMITTED BY; JAMIE BRATSCH

SUBMITTED FOR: ENGINEERS AND TECHNICIANS

MARCH 30, 2008

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Introduction

This user manual provides the reader with detailed information for the use of configuring the new feature of RS Logix 5000 called Power Flex 4 class multi-drive integration. This means that this eliminates the need to use the generic devices for the Ethernet devices and no more messaging instructions.

List of Equipment and Materials Needed

RS Logix 5000 Version 17

22-XCOMM-DC-Base (Qty 1)

22-COMM-E (Qty 1)

AK-U0-RJ45-TB2P (Qty of 1 per drive)

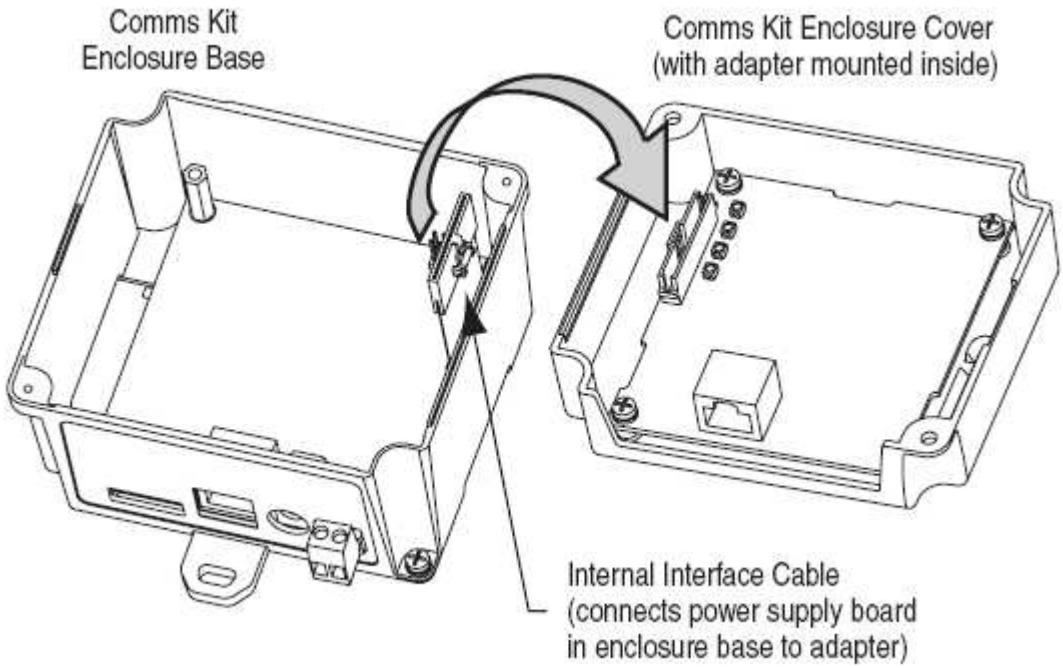
1606-XLE120E (Qty 1) 24 Volt Power Supply

Drives Add On Profile V2.01

Provided EDS Files for RS Linx 2.54

1. Installing the 22-XCOMM

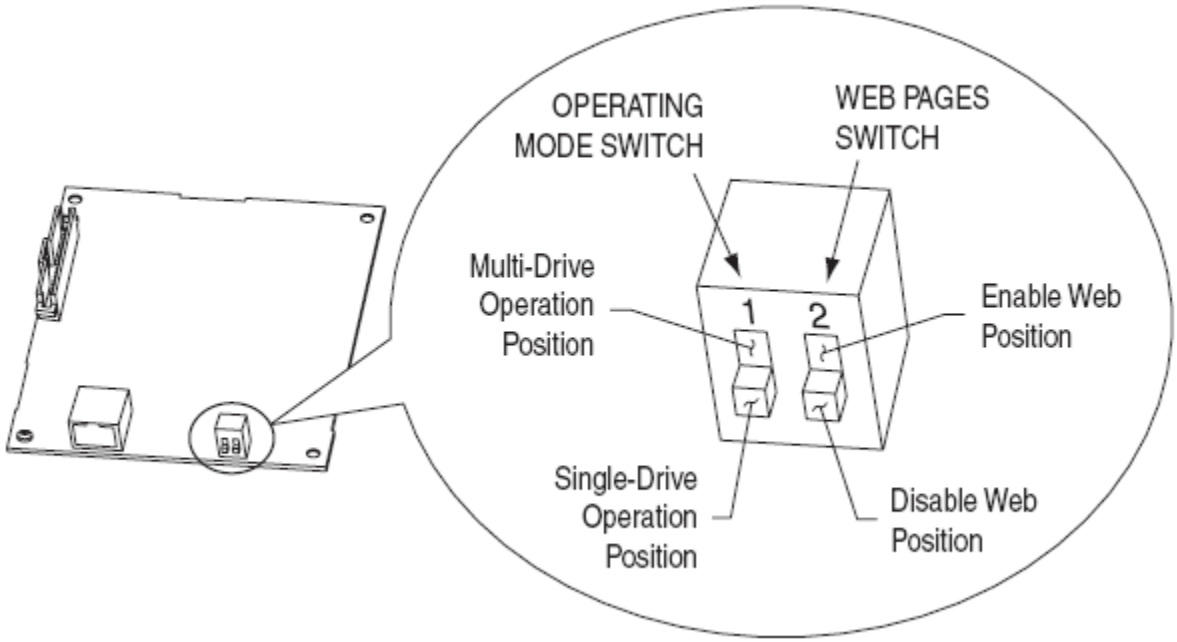
The 22-COMM-E mounts inside of the 22-XCOMM adapter.



Mounting and connecting the adapter Illustration *(Figure 1.3.1)*

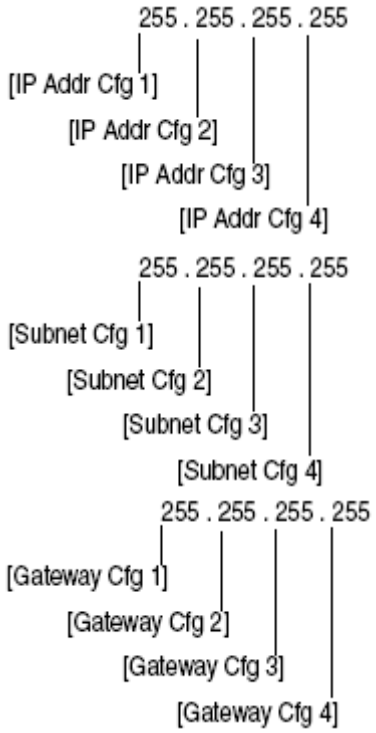
2. Configuring the 22-COMM-E

The IP Address of the 22-COMM-E will need to be configured, for this example the IP Address is 10.32.77.172, and the subnet is 255.255.254.0
Make sure that the DIP settings of the 22-COMM-E is set to multi drive mode, in addition the internal parameter 22 needs to be set to the default value of 1 for this example because this is enabling drives zero and one.



22-COMM-E switch configuration Illustration *(Figure 1.3.2)*

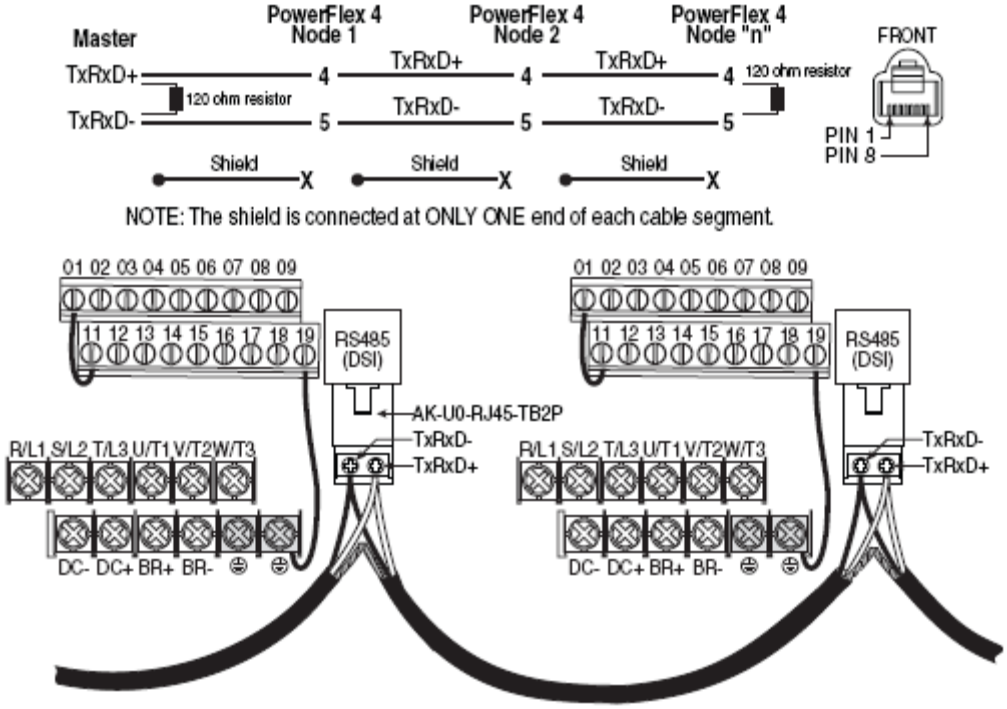
2.1 Configuring the 22-COMM-E Parameter Settings

22-COMM-E Parameter	22-COMM-E Parameter Detail	22-COMM-E Parameter Value
P03 [IP Addr Cfg 1]		10
P04 [IP Addr Cfg 2]		32
P05 [IP Addr Cfg 3]		77
P06 [IP Addr Cfg 4]		172
P07 [Subnet Cfg 1]		255
P08 [Subnet Cfg 2]		255
P09 [Subnet Cfg 3]		254
P10 [Subnet Cfg 4]		0
P11 [Gateway Cfg 1]		10
P12 [Gateway Cfg 2]		32
P13 [Gateway Cfg 3]		77
P14 [Gateway Cfg 4]		254
P022 [DSI I/O Config]	Sets the configuration of the Drives that are active in the Multi-Drive mode. Identifies the connections that would be attempted on a reset or power cycle.	1
P024 [Drive 0 Address]	Sets the corresponding node addresses of the daisy-chained drives when the adapter Operating Mode Switch (SW1) is set for Multi-Drive operation. Important: The settings for these parameters must match the Comm Node Addr parameter settings in the respective drives. Each setting must also be unique (no duplicate node address).	100
P025 [Drive 1 Address]		101
P026 [Drive 2 Address]		102
P027 [Drive 3 Address]		103
P028 [Drive 4 Address]		104
P029 [Drive 5 Address]		105

22-COMM-E Parameter Setting Illustration (Figure 1.3.3)

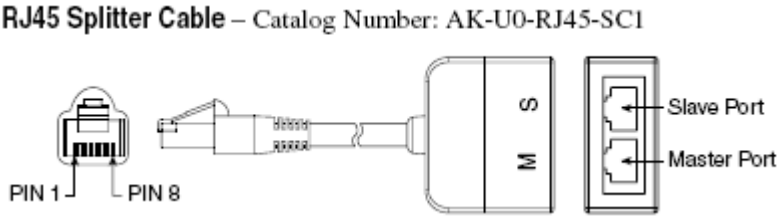
3. Network wiring

The suggested media used for the DSI (Modbus RTU) net work is Belden 3105A cable, each of the terminators used are part number AK-U0-RJ45-TB2P.



Network wiring Illustration *(Figure 1.3.4)*

NOTE: The when you use the RJ45 Splitter Cable Catalog Number AK-U0-RJ45-SC1, there is an extra wire that allows for auto baud rate, you do not get this when using the conventional AK-U0-RJ45-TB2P connectors.



4. Configure the parameters in both Power Flex Drives

This multi drive example is using two drives. Drive number 1 is address 100 and is a Power Flex 40. Drive number 2 is a Power Flex 4. After making these parameter settings in the drive you will need to cycle power on the unit. Later You will need to know what the firmware is in the drive and the series, all of which can be found on the drive product label located on the right side of the drive, this information will be needed for RS Logix 5000 when entering the drives information.

Drive#1 Parameter	Drive#1 Parameter Detail	Drive#1 Parameter Value
P036 [Start Source]	*Set to 5 "RS485 (DSI) Port" if Start is controlled from the network*	5
P038 [Speed Reference]	*Set to 5 "RS485 (DSI) Port" if the Speed Reference is controlled from the network.*	5
A103 [Comm Data Rate]	*Sets the data rate for the RS485 (DSI) Port. All nodes on the network must be set to the same data rate.*	4
A104 [Comm Node Address]	*Sets the node address for the drive on the network. Each device on the network requires a unique node address.*	100
A105 [Comm Loss Action]	*Selects the drive's response to communication problems.*	0
A106 [Comm Loss Time]	*Sets the time that the drive will remain in communication loss before the drive implements A105 [Comm Loss Action].*	1.0
A107 [Comm Format]	*Sets the transmission mode, data bits, parity and stop bits for the RS485 (DSI) Port. All nodes on the network must be set to the same setting.*	0

Drive #1 Parameter settings Illustration *(Figure 1.3.5)*

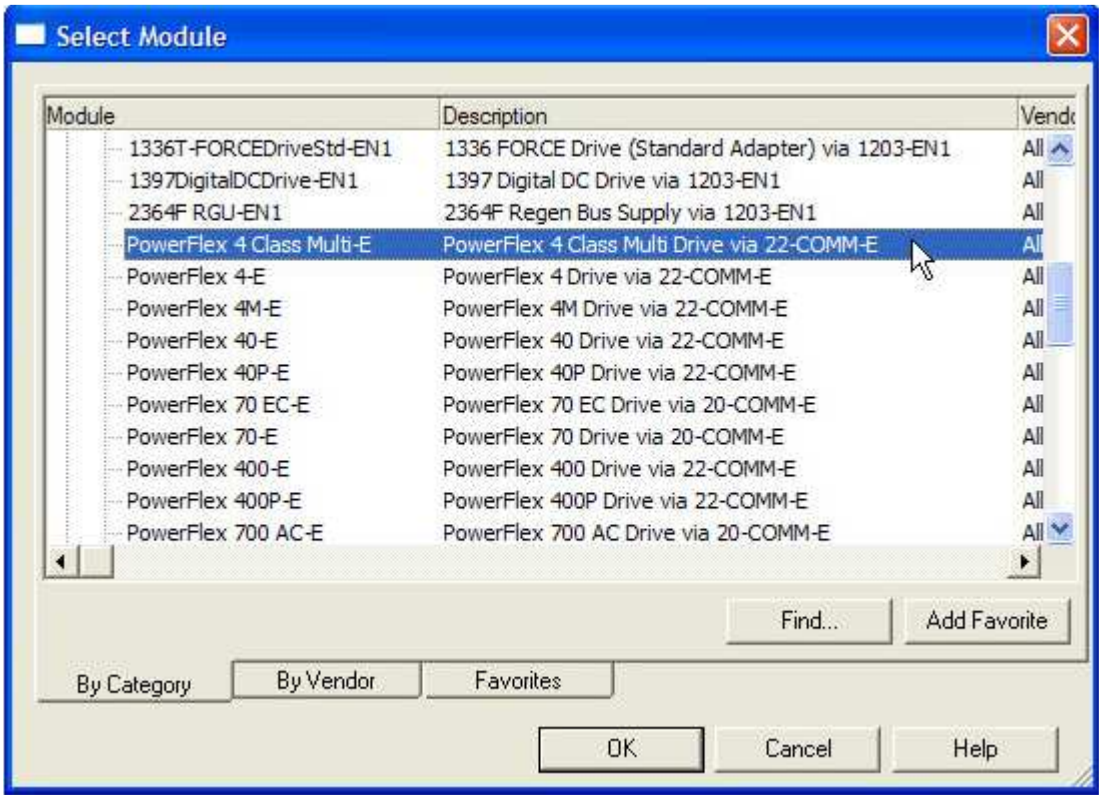
4.1 Drive Number 2 settings

Drive#2 Parameter	Drive#2 Parameter Detail	Drive#2 Parameter Value
P036 [Start Source]	*Set to 5 "RS485 (DSI) Port" if Start is controlled from the network*	5
P038 [Speed Reference]	*Set to 5 "RS485 (DSI) Port" if the Speed Reference is controlled from the network.*	5
A103 [Comm Data Rate]	*Sets the data rate for the RS485 (DSI) Port. All nodes on the network must be set to the same data rate.*	4
A104 [Comm Node Address]	*Sets the node address for the drive on the network. Each device on the network requires a unique node address.*	101
A105 [Comm Loss Action]	*Selects the drive's response to communication problems.*	0
A106 [Comm Loss Time]	*Sets the time that the drive will remain in communication loss before the drive implements A105 [Comm Loss Action].*	1.0
A107 [Comm Format]	*Sets the transmission mode, data bits, parity and stop bits for the RS485 (DSI) Port. All nodes on the network must be set to the same setting.*	0

Drive #2 Parameter settings Illustration *(Figure 1.3.6)*

5. RS Logix 5000 Configuration

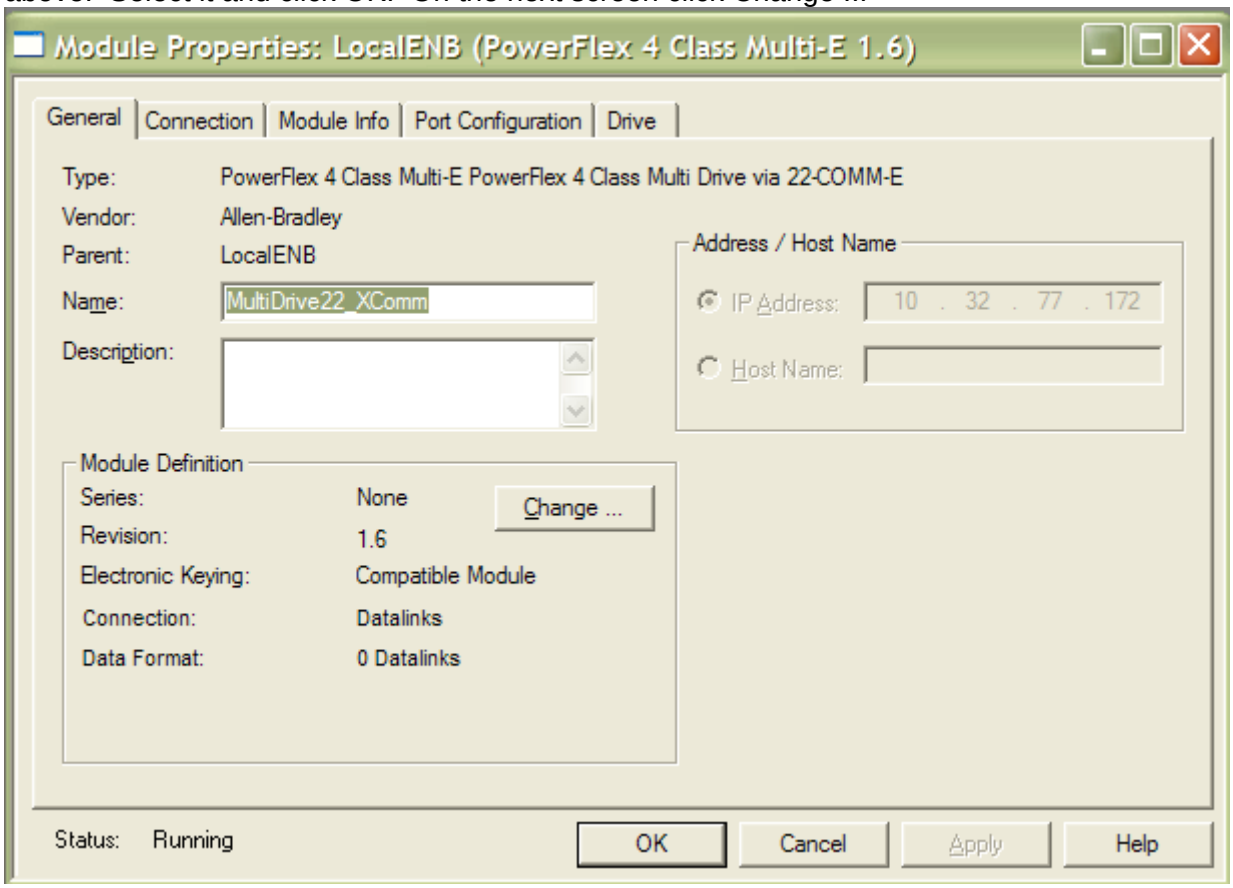
Starting with version 17 of RS Logix 5000, the ability to choose the module PowerFlex 4 Class Multi-E is now available. Right click on the Ethernet module and select new module and select this module as shown. Make sure that you have installed the latest Drives Add On Profile version 2.01, you will not get the option to select this module if it is not installed on your PC.



PowerFlex 4 Class Multi-E Module Selection Illustration *(Figure 1.4.0)*

5.1 Module properties of the PowerFlex 4 Class Multi-E

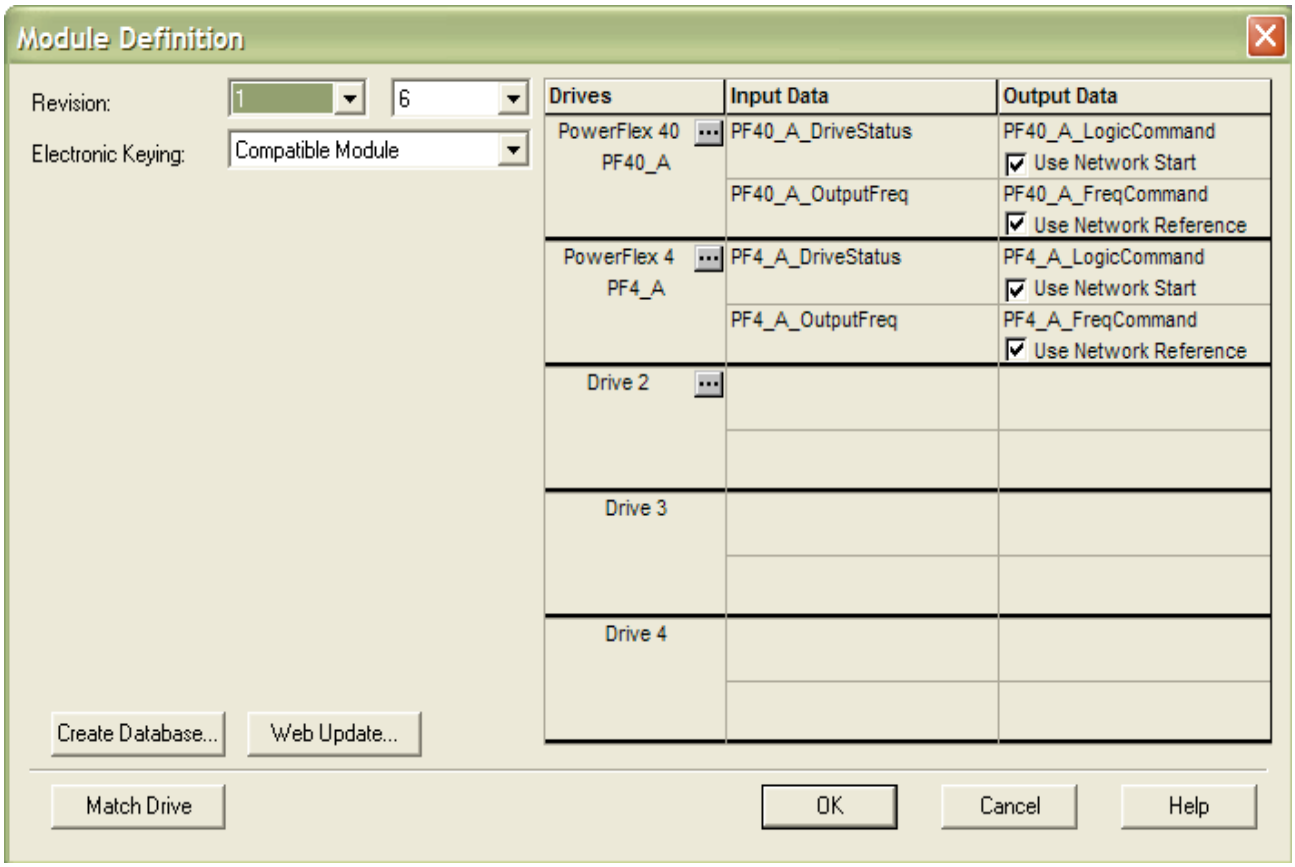
After the AOP has been installed you should now have PowerFlex 4 Class Multi, like above. Select it and click OK. On the next screen click Change ...



Multi-E Module Properties Illustration *(Figure 1.4.1)*

5.2 Power Flex 4 Class Multi-E Module Definition

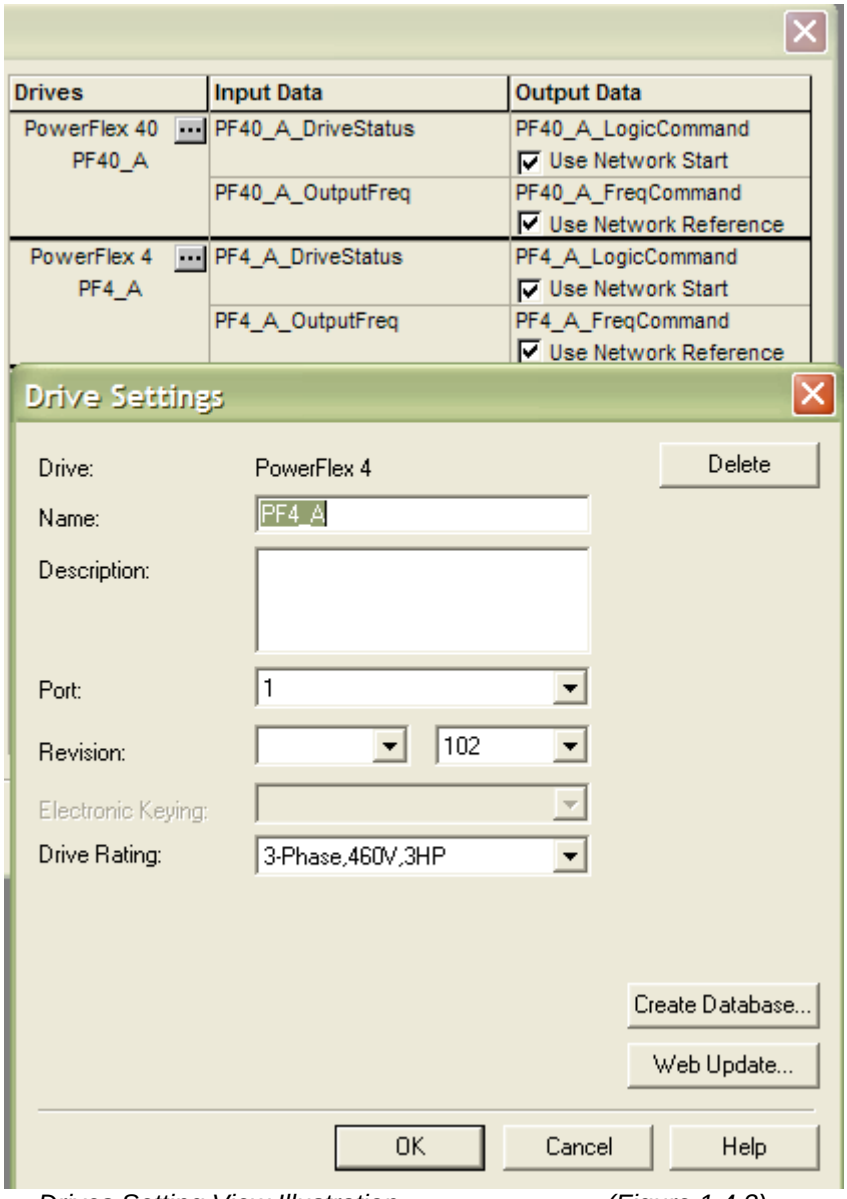
The revision is 1.6 that is shown, is the revision of the 22-XCOMM adapter. Under the drives column there is a grey colored button that can be selected to enter in the name of the drive, select the voltage and horsepower and if needed to create a drive database. In this example it was necessary to create the drive data base from the Power Flex 4 because firmware 1.2 was not a selectable option.



Module Definition Illustration *(Figure 1.4.2)*

5.3 RS Logix 5000 Drives Settings

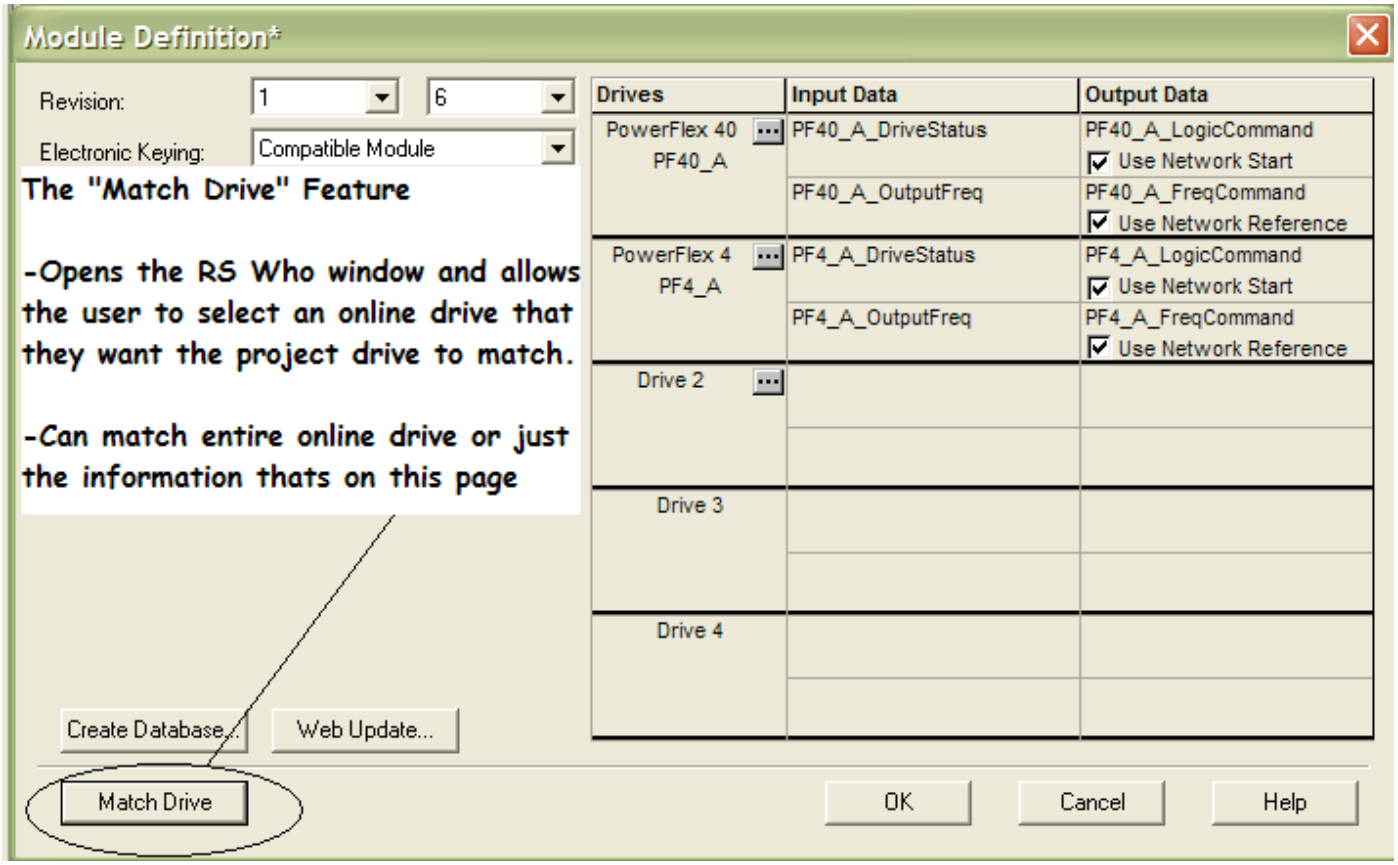
This drives setting tab is what becomes shown after the grey button is pushed, you will notice that after we created the data base we can now select that firmware that matches the drive. Note: The actual firmware in the PwrFlx 4 drive is 1.02, after creating the data base the firmware shows only in the minor revision column.



Drives Setting View Illustration *(Figure 1.4.3)*

5.4 Matching Drive to the project

After all of the previous configuration steps are finished and saved to the file. Before downloading to the controller click onto the Match Drive button, this will launch drive executive to go onto the DSI network and pull in the parameters from; in this example the Power Flex 40 and Power Flex 4 and the 22-COMM-E. At this point you may see an information box that explains that the parameters in the drive are different that in the project, you want to select upload, and then save these changes to the project. Now download this project to the controller and change the controller to run mode.



Matching Drive Parameters to RS Logix 5000 Project Illustration *(Figure 1.4.4)*