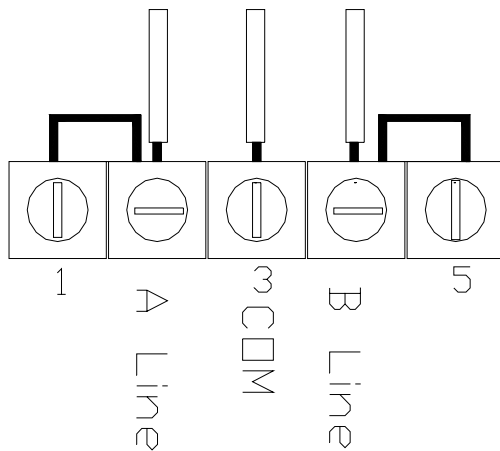


Fig. 1. Profibus Controller mAC 120.

3. Connect the Profibus cable to the terminal strip on the controller board. If the cable continues from the actuator, bring both the incoming and outgoing cables to the terminal strip on the controller board. If the cable ends at this actuator, install the termination jumpers on the connector. See Fig.2.

End of Line Connections



Pass Through Connections

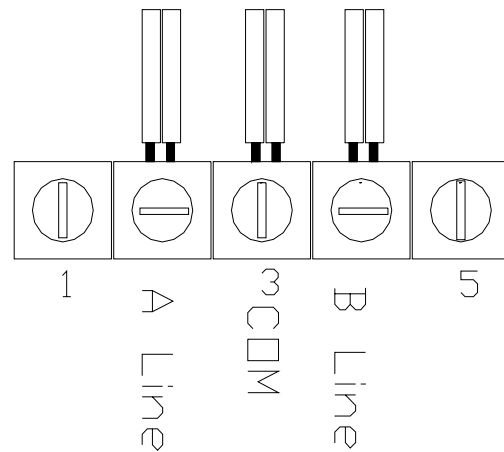


Fig.2. Profibus Connections.

4. Set the actuator's address from 1 to 127 using the address switches on the controller. See Fig. 1.
5. Apply the power to the actuator.
6. Check the mode lamp is flashing at the rate of one second, in normal operation.
7. Verify the Profibus communication lamp is on if the Profibus network is running.
8. Press the **OPEN** push button and check the actuator moves in the **OPEN** direction. The lamp for the end of travel limit switch in **CLOSE** direction will begin to flash when the actuator's shaft leaves the fully closed position. Maintain the command until the **OPEN** limit switch is reached and verify that the fully open limit lamp is lit continuously.
9. Press the **CLOSE** push button and verify the actuator's shaft moves in the close direction. The lamp for the end of travel limit switch in **OPEN** direction will begin to flash when the actuator leaves the fully open position. Maintain the command until the **CLOSE** limit switch is reached and check that the lamp is lit continuously.
10. Momentarily depress the **Mode** (calibration) push button to return the actuator to remote control.
11. If the actuator fails to pass the above test, it needs to be calibrated. Press and hold the **Mode** push button for 5 seconds. The **Mode** lamp will flash at a rate of 3 flashes per second and the calibration procedure will start. Wait for the mode lamp to return to the rate of one flash per second and then repeat steps 6 to 10 to recheck the calibration.

12. Replace the actuator's cover.

Appendix 1 Indicator LED Lamp and Push Button Functions.

LED Functions

LAMP	DISPLAY	INTERPRETATION
Mode	One/sec	Normal operation
	Three/sec	In calibration
	Ten/sec	Controller fault
Communication	Steady on	Profibus ready
Opening motor run	Steady on	Opening
Closing motor run	Steady on	Closing
Open status	Steady on	At full open limit switch
	On .1 sec, Off .9 sec	Manual open mode
	On .9 sec, Off 1 sec	Manual open mode at full open limit switch.
Close status	Steady on	At full close limit switch
	On .1 sec, Off .9 sec	Manual close mode
	On .9 sec, Off 1 sec	Manual close mode at full close limit switch.

Push Button Functions

BUTTON	ACTION	RESULT
Open	Press to open	Starts local open
Close	Press to close	Starts local close
Set-up Calibrate	Pressed and held during power up	Loads factory default parameter values
	Pressed and held for five seconds during operation	Starts a local calibration procedure
	Pressed and held for five seconds during calibration	Terminates the calibration sequence
	Pressed during local operation	Terminates local command mode

Appendix 2 Configurable Parameters.

All configurable parameters are set using the Profibus Configuration Utility, **COM Profibus**. The default values can be loaded at the controller using the setup push button during the power up. The factory initial values for use during Profibus initialization are contained in the **Cmc_088e.GSD** file used by **COM Profibus**. The default values and range of values are displayed during the Profibus Configuration Process.

Parameter	Units	Range	Default
Position Zero Offset	counts	0-4095	0
Position Span	counts	0-4095	101
Open Setback	%	0-FS	0
Close Setback	%	0-FS	0
Position Seek Tolerance	%	0-FS	0
Full Scale	%	0-4095	100
Maximum Average Load	0.00 A	0-9.99	200
Maximum Idle Load	0.00 A	0-9.99	50
Jog Move Tolerance	%	0-FS	1
Load Current Zero Offset	counts	0-4095	500
Load Current Span	counts	0-4095	1850
Slow Setback	%	0-FS	4
<i>Position when</i>			
<i>Communication Fault</i>	%	0-FS	0
Update Time	2.08 ms	1-80	4
Turn Around Time	1.0 sec	1-255	10
Command Fault Time	1.0 sec	0-255	60
Jog Wait Time	0.1 sec	1-255	10
Jog On Time	25 ms	1-255	20
Current Calculation Time	2.08 ms	1-100	16
Over Current Fault Time	1.0 sec	0-255	0(off)
Idle Current Fault Time	1.0 sec	0-255	0(off)
Minimum Jog On Time	25 ms	1-255	1
Maximum Jog On Time	25 ms	1-255	255
Minimum On Time	%	10-95	10
Maximum On Time	%	10-95	95
Percent On Time	%	10-80	40
Communication Fault Time	1.0 sec	0-255	0(off)
Seek Options	#	0-15	0
Optical Encoder Options	#	0-3	0

Appendix 3 Profibus Register Assignments and Commands.

Register Assignment (16 bit words)

Output	Function
0	Command Word
1	Set Point or Value

Input	Function
0	Command Word
1	Process Value
2	Status

Status Word Bit Definition (1 Active)

Bit	Definition
0	Close Limit
1	Open Limit
2	Motor Over Temperature
3	
4	Manual Operation Mode
5	Seek in Progress
6	Motor Running
7	Direction Closed
8	Seek to Position failed
9	Motor Overload Fault
10	Motor Idle Fault
11	Parameter Setup Fault
12	Firmware/Hardware Fault
13	Bad Command Received
14	In Calibration Mode

Command Words (16 bit words)

Command	Operation
1	Seek to Position
4	Stop Current Operation
11	Start Calibrate Operation
21	Read Current Position
22	Read Average Load
23	Read Peak Load
24	Read Idle Load

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