Quick Start Manual
MPCR Series with Profibus-DP Interface

Getting Started

This is a brief document designed to quickly get you started setting up your MPCR Series manifold with integrated Profibus-DP communication protocol. Please note that this document is not intended to replace the MPCR Series Profibus-DP Technical Manual, (Part Number: TDMPCRPBTECH-1) which includes more detailed technical information. The full technical manual can be found on the Numatics website at www.numatics.com or can be ordered by calling 810-667-3900.

1) Initial Unpacking and Inspection

1) Examine exterior of package for signs of damage. Report any damage to shipping carrier.

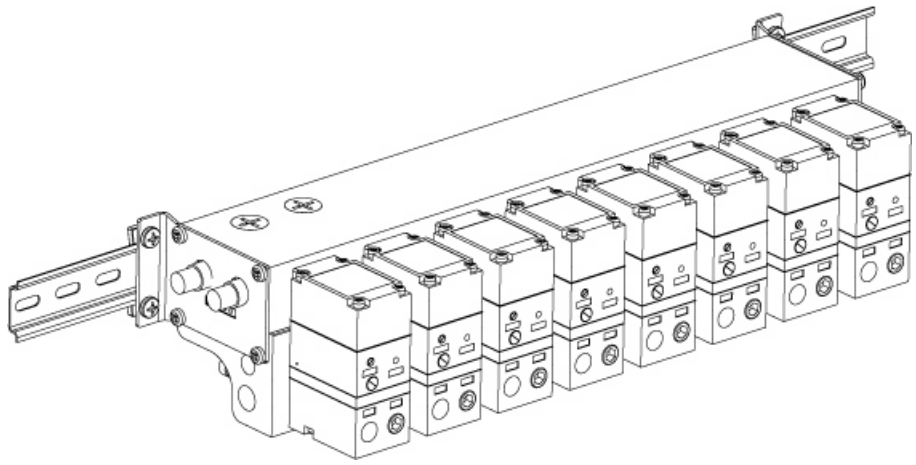
2) Remove wrapped manifold assembly from box.
- **a) Remove manifold assembly from packaging**
- **b) Retain documentation for installation and configuration**

3) Examine manifold assembly for any shipping damage such as:
- **a) Bent pins or connectors**
- **b) Report any damage to shipping carrier immediately**

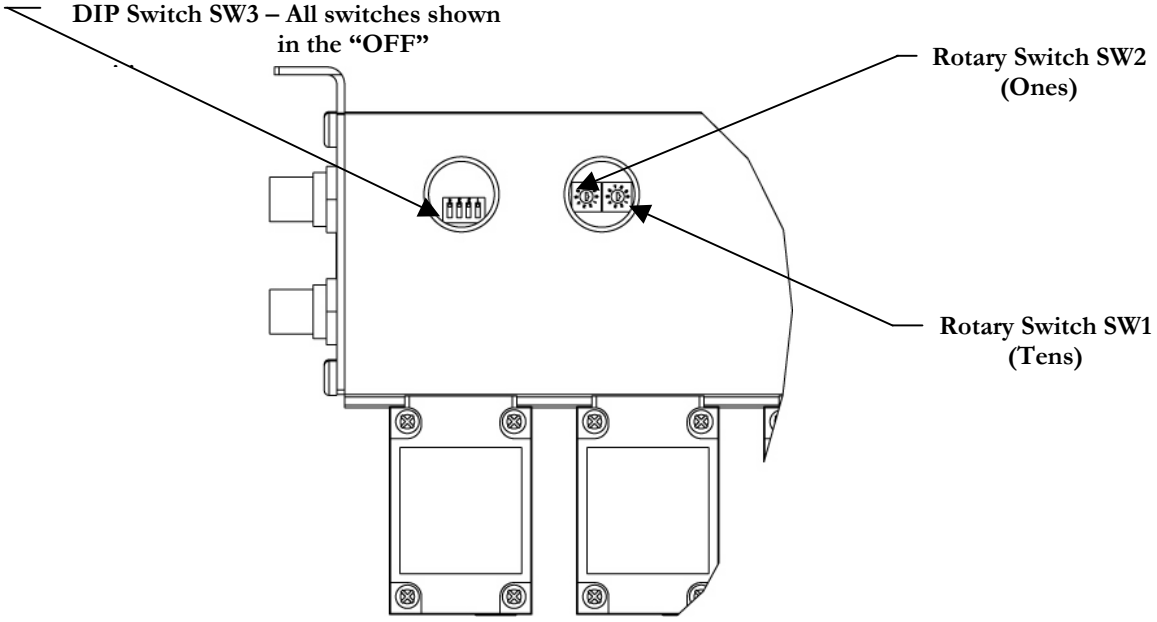
4) Examine manifold assembly for proper ordered configuration. (Regulators, Communication Protocol, etc.)

2) MPCR Basics

Below is an example of a MPCR series manifold. This fieldbus manifold uses our fieldbus electronics to control up to eight miniature electropneumatic regulators. Optional feedback provides an additional input back to the PLC indicating the output pressure of each regulator. The communication module has two connectors: a 5-pin communication connector and a 4-pin power connector. Pin outs for these are labeled on the top of the manifold, and detailed in the MPCR Series Profibus-DP Technical Manual (Pt. No. TDMPCRPBTECH-1).



3) Network Address

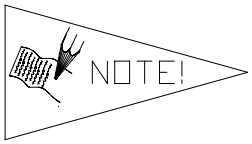


SS

Rotary Switch Settings (SW1 & SW2)

Network Address:

Switch	Description
SW1	Sets the Tens Digit (MSD)
SW2	Sets the Ones Digit (LSD)



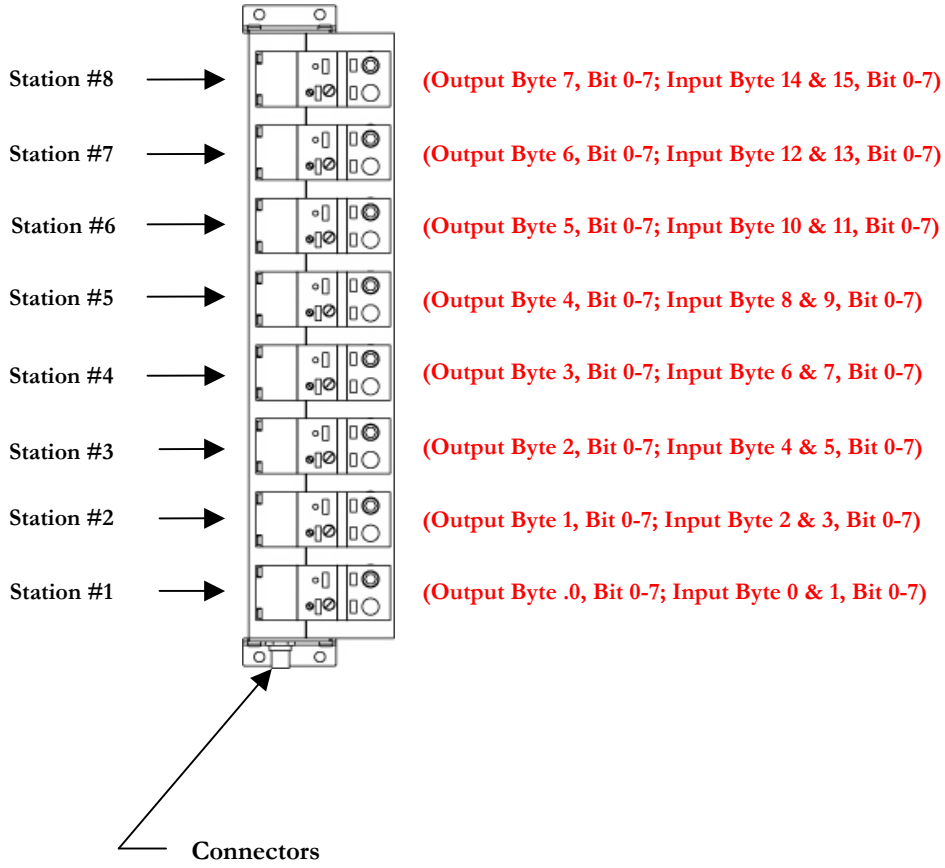
- ***All DIP and rotary switch settings do not take effect until power is cycled (turned OFF and ON).***
- ***Address is set to a default setting of 126 prior to shipment.***
- ***Node address may only be assigned once per network.***
- ***GSD files may be downloaded from our web site at www.numatics.com***

DIP Switch Settings (SW3) Continued

Switch	Function
SW3-1	Adds 100 to the address indicated on Rotary Switches (SW1 & SW2)
SW3-2	Use Flash Address
SW3-3	Not Used
SW3-4	Not Used

4) I/O Mapping

Example # MPCR-08PTFC



5) Communication Module

Profibus DP Communication Connector Pinout

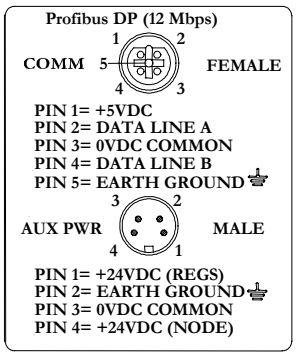
Pin #	Function	Description
1	+5 VDC	+5 volt output from node, used for termination of network.
2	Data Line A	Profibus-DP Communication Line A (Green)
3	0VDC Common	Common for +5V output and Data Lines A & B
4	Data Line B	Profibus-DP Communication Line B (Red)
5	Earth Ground	Internally connected to earth ground (case). Connect to shield of Profibus-DP cable.

Auxiliary Power Connector Pinout

Pin #	Function	Description
1	+24VDC (Regulators)	Voltage used to power outputs (regulators)
2	Earth Ground	Protective Earth (case)
3	0VDC Common	0VDC Common, for regulators
4	+24VDC (Node)	Voltage used to power node electronics

12 Mbps Connectors

Comm. - 12mm (reverse key)
Aux. Power - Mini



ATTENTION

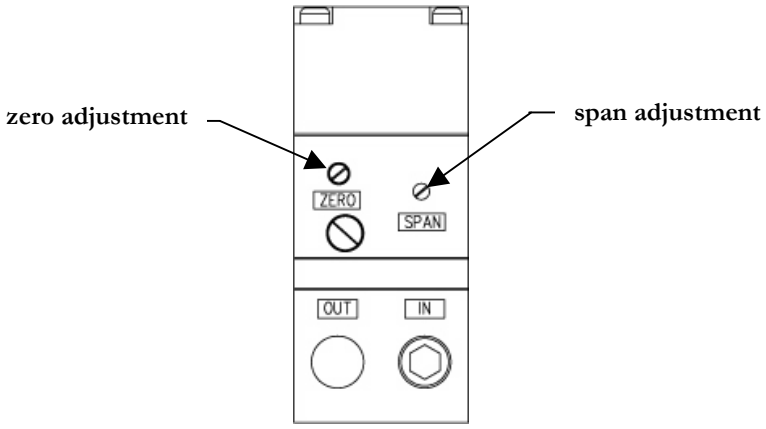
- ***Maximum pin capacity on pin #3 (0VDC common) of auxiliary power connector is 4 Amps. The combined draw of Pin #1 (Regulators) and pin #4***
- ***Auxiliary power connector Pin #4 supplies power to node electronics. This pin must be powered at all times for communication node to be functional***

6) Factory Defaults Settings

Unless otherwise requested, all standard MPCR Series Profibus-DP manifolds ship with the specific factory default settings listed below:

Description	Default
Node Address	126
Diagnostic Messaging	0
Fail Safe Mode	0
Fail Safe Data	0

7) Calibrating Miniature Electropneumatic Regulators



Calibration

All units are shipped from the factory calibrated, it is suggested that the user check the calibration once the manifold is installed.

The unit is calibrated so that minimum input signal corresponds to minimum output pressure and increasing input signal results in increase output pressure, where maximum input signal results in maximum output pressure.

1. **Apply the minimum input signal from the controller.**
2. **Observe the output pressure. If necessary, adjust the zero screw until reaching the minimum output pressure setting. Turn zero screw clockwise to decrease and counter-clockwise to increase.**
3. **Apply the maximum input signal from the controller.**
4. **Observe the output pressure. If necessary, adjust the span screw until reaching maximum output pressure setting. Turn span screw clockwise to decrease and counter-clockwise to increase.**
5. **After setting the span it will be necessary to recheck the zero. Repeat steps 1-4 until both end points are at required values.**

8) Technical Support

For technical support, contact your local Numatics distributor. If further information is required, please call Numatics Inc. at (810) 667-3900 and ask for Technical Support.

Issues relating to network set-up, PLC programming, sequencing, software related functions, etc… should be handled with the appropriate product vendor.

Information on GSD files, technical manuals, local distributors, and other Numatics, Inc. products and support issues can be found on the Numatics, Inc website at www.numatics.com