

Sentinel M24 Installation Information

APPLICATION BULLETIN #139

December, 2003

Mounting Instructions

The Sentinel M24 instruments provide the best test results when located as close as possible to the test parts. This will minimize the volume in the test pneumatics thereby reducing the total test time requirements. The Nema 12 enclosure of the Sentinel M24 should be mounted above the test part to framing or a panel to minimize the amount of dirt and moisture that might get blown back into the instrument during the exhaust cycle. The mounting bolts are installed through the four channels located on each interior corner of the enclosure. Select a mounting location that gives access to the bottom, top, left, and front of the enclosure. Don't forget to allow room for the door swing.

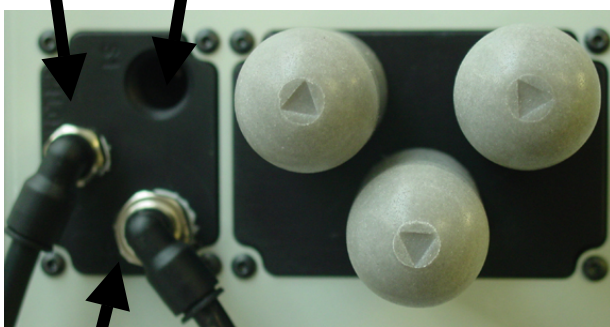
(See attached diagram of instrument for mounting bolt position, door swing and exhaust muffler locations.)

Air and Vacuum supply connections

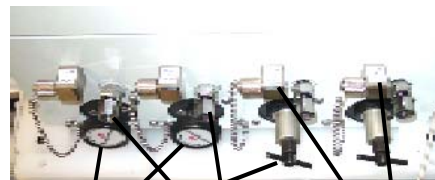
Inlet air connections are made on the left side of the instrument via the air supply/exhaust manifold. There are two test supply ports for inlet test air or vacuum. Port one is for pressure tests. Inlet air pressure must be greater than the test pressure plus 10 psi (maximum 250 psi). Port two is for connection to a vacuum source or second test pressure. The vacuum source or second test pressure must be a greater vacuum or higher pressure than the test vacuum or pressure specified. The third port is for the pilot air for the station pneumatics that are specified as version H (high flow) which utilize air pilot operated valves. The pilot air supply must be at least 60 psi or greater than the test pressure for those stations. All air must be clean, dry inlet air for best results and lowest maintenance. The inlet ports one and two are 1/4" FNPT or M10. The pilot air port is 1/8" FNPT or M10.

The test connections are made to the test port(s) on the bottom of the enclosure. Station 1 is located on the left side. These connections are 1/4" FNPT or M12.

Pilot air Supply port 1



Supply port 2



Regulator Knobs (up to 4)
Test Port Quick Connect Fittings (up to 4)
Self test Quick Connect Plugs (up to 4)



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Incoming power connections

The Sentinel M24 is specified as either a 120 VAC or 24 VDC instrument.

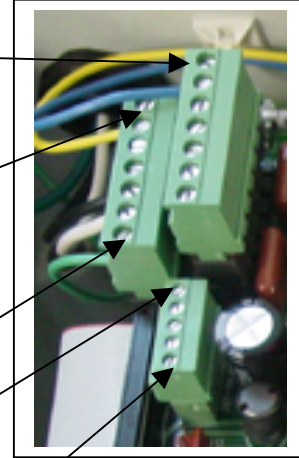
For 120 VAC instruments, there is an internal power supply to provide the DC voltages for the instrument's electronics. All the digital inputs and outputs are 120 VAC. The customer supplies the 120 VAC input power to the instrument. AC instruments are supplied with a standard three prong plug with a 10 foot cable.

For 24 VDC instruments, there is no internal power supply. The customer supplies the 24 VDC input power to the instrument. All the digital inputs and outputs are 24 VDC.

The power connections to the input terminals are detailed below.

CONNECTOR PINOUT

1. Power Switch Return
2. Switched Hot (+24 VDC or 120 VAC)
3. Switched Hot (+24 VDC or 120 VAC)
4. Switched Hot (+24 VDC or 120 VAC)
5. Neutral (24 VDC or 120 VAC Return)
6. Neutral (24 VDC or 120 VAC Return)
7. Chassis Ground
8. Power Switch Supply
9. Supply Hot
10. Supply Hot
11. Supply Hot
12. Neutral (24 VDC or 120 VAC Return)
13. Neutral (24 VDC or 120 VAC Return)
14. Chassis Ground



Internal RS232 terminals

CONNECTOR PINOUT

- | | |
|------------------|-----------|
| 1. Transmit | (Tx) |
| 2. Receive | (Rx) |
| 3. Handshake In | (HSHKin) |
| 4. Handshake Out | (HSHKout) |
| 5. Return | (Gnd) |

Digital Input and Output Terminals

The Sentinel M24 has terminals for 16 digital inputs and 16 outputs. The digital inputs and outputs are segmented with 4 inputs and 4 outputs per test. Dual pressure test stations have 4 inputs and 4 outputs per test for a total of eight inputs and eight outputs for the part test.

The programmable inputs and outputs are selected via software for a variety of options. There are four inputs and four outputs for each single test module and eight for dual pressure modules. The inputs and outputs are labeled 1-16 and correspond with the numbering in software on the 'Digital Input' and 'Digital Output' instrument screens. Use pins 2-4 "Switched Hot (120 V or +24 V)" as a source for the inputs and 5-6 or 12-13 "Neutral (120 V or 24V Return)" as the return for the outputs on the 'Main Power Entry' connector.

