

# **INDUSTRIAL SCIENTIFIC**

## **CORPORATION**

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### **DS1000 Docking Station Instructions**

The DS1000 Docking Station is a PC controlled system which allows automatic testing, calibration and battery charging of the Industrial Scientific ATX612 and ATX620 multi-gas monitoring instruments. The system and software incorporate a database which stores calibration and test records of all instruments used with the system. The DS1000 serves as a complete instrument management system and will significantly reduce the time associated with routine instrument maintenance, calibration and record keeping.

### **Getting Started**

Prior to operating the DS1000 Docking Station, the system software must be installed on the controlling PC. The system requires an IBM-PC or compatible computer with an Intel 486 – 66 MHz. processor or better with the Windows 95 or better operating system. The PC must have one unused COM (serial communications port) for use with the DS1000.

### **Preparing the System Hardware**

The DS1000 Docking Station hardware consists of a master control station and up to five instrument docking modules. At least one instrument docking module (IDM) must be used with each system. To prepare the hardware for operation:

- Connect the power cord to the power inlet on the back of the master control station.
- Connect the RS-232 communications cable to the 9-pin serial communications computer port on the back of the master control station.
- Connect the other end of the RS232 communications cable to the desired COM port on the PC. The system software will automatically recognize which COM port the DS1000 is connected to if more than one COM port exist.
- Connect the communications cable from the IDM IN port on the Instrument Docking Module to the IDM OUT port on the master control station.
- Connect the teflon-lined Tygon tubing from the GAS OUT port on the back of the master control station to the GAS IN/OUT port on the IDM.
- Connect the instrument gas delivery tube to the INSTRUMENT OUT port on the IDM.
- Connect the communications cable and gas delivery tube from the IDM to each additional IDM being used in the system in succession to form a daisy-chain configuration between each of the IDMs.
- Plug the power cord into a grounded wall outlet. The universal power supply in the DS1000 master control station will accept an AC power input from 110–240 VAC.

*Note: The DS1000 is designed and intended for indoor use only. After installation, the DS1000 should be cleaned only with a soft cloth. Do not use solvents or other liquids to clean the DS1000.*

### **Installing the Software**

Turn on the DS1000 Docking Station System. The DS1000 must be connected to the computer and turned on before installing the software. Insert the CD-ROM disk included with the DS1000 into the CD-ROM drive on the personal computer. From the Windows command line, run the Setup.exe file located on the CD-ROM. The software will be installed on the PC hard drive automatically. Follow the on-screen prompts to complete the software installation. You will be prompted to enter a CD Key identification number during the installation. The CD Key number can be found on the listed on a sticker on the CD Rom storage envelope. The software HELP files can assist in detailed software operations.

#### **O U R M I S S I O N**

**Design - Manufacture - Sell:** Highest quality products for the preservation of life and property  
**Provide:** Best customer service available

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### Connecting the Gas Cylinders

The DS1000 Docking Station has solenoid inputs to accept gas from up to six separate cylinders as standard. Optionally the master control unit may have six additional solenoid inputs installed to accept a total of 12 gas cylinders. A pressure transducer input may optionally be available for each gas cylinder connected to the system. The pressure transducers allow the DS1000 to monitor and automatically determine when the gas cylinders are near empty.

To connect the gas cylinders:

- Install an appropriate regulator to each cylinder being used.
- Connect a piece of Tygon or teflon lined Tygon tubing from each cylinder regulator to the desired solenoid input on the master control station. Be certain to note which cylinder is connected to which gas input port. (Highly reactive gases such as chlorine, nitrogen dioxide, hydrogen cyanide or hydrogen chloride should always be used with Teflon-lined Tygon tubing.)
- If pressure transducers are being used, connect the pressure transducer from the regulator to the corresponding transducer input port on the master control unit.

**CAUTION:** Compressed gas cylinders and their contents may present specific hazards to the user. Use only in a well ventilated area. Use only in accordance with the instructions and warnings as marked on the cylinder and the appropriate Material Safety Data Sheets.

### Beginning Operation

- Turn the power switch on the back of the master control unit to the ON position. A short tone will come from the DS1000 master control unit and the green power on indicator light will be on. A series of status indicators will light in sequence on each IDM installed in the system.
- Open the Docking Station software by double clicking on the Docking Station program under the listing on the Windows desktop Programs menu. Note: The power switch on the master control unit must be turned ON before starting the software. The software will automatically run a series of system checks and will then be ready for operation.

### Initializing the Gas Cylinders

- Select the Cylinders icon from the DS1000 control screen.
- Select ADD cylinder from the menu.
- Type the name of the cylinder on the command line shown on the screen. The cylinder can be named anything that makes it easily identifiable to the user, ie. 4-gas, 4-in-1, etc... (DO NOT use an apostrophe). The system will prompt the user to enter the gas components and concentrations for each component contained in the cylinder. Select the gas components from the by double clicking on the appropriate gas in the list on the display.
- At the display prompt enter the appropriate gas concentration as marked on the cylinder label.
- When all cylinder components have been entered, click the ADD button to install the cylinder into the system menu.
- Select the Solenoids icon from the DS1000 control screen.
- Assign each cylinder installed to the appropriate solenoid input by clicking the box next to each cylinder in the right hand column and the appropriate solenoid input in the left hand column.

*Note: Fresh Air must always be assigned to and reserved for solenoid number one. This may come from fresh ambient air or from a cylinder of Zero Grade air.*

- Click on the ASSIGN button to have the cylinder assigned to the solenoid input by the system database.

Once all cylinders and solenoid inputs have been assigned, the system is ready for use.

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### Performing Instrument Calibrations with the DS1000

Now that the system set-up is complete, the DS1000 Docking Station is ready for use. To interface with and calibrate an instrument.

- Turn the instrument to be calibrated ON.
- Connect the gas delivery tube on the IDM to the inlet port on the back of the ATX612 or ATX620.
- Place the instrument on the cradle of the IDM being sure to engage the infrared communications port and the battery charging adapter with the appropriate ports on the back of the ATX612 or ATX620.
- Within 5-seconds the DS1000 will recognize the instrument installed and begin communication.
- If the instrument has not been previously installed on the docking station the software will prompt the user if registration into the database is required. Click OK and follow the remaining display prompts.

The DS1000 will recognize the instrument's sensor configuration and will calibrate the instrument automatically, selecting and applying the appropriate gases as necessary. Once calibration is complete the instrument will be turned OFF and the instrument battery pack will begin recharging until the instrument is removed from the docking module.

The calibration record and history may be viewed by selecting the INSTRUMENTS icon and opening the instrument database. Double click on the appropriate instrument serial number to see a complete record of all instrument sensor and alarm settings and a full calibration and test history.

The previous steps may be completed for all instruments contained in the DS1000 instrument database.

### Specifications

CAUTION: Equipment is rated for indoor use only. Use only indoors at altitudes below 2000 meters (6000 ft.)

Electrical Input: 110 – 120 VAC @ 2.5A  
210 – 240 VAC @ 1.5A, 50/60 Hz.

*Note: Mains supply voltage not to exceed  $\pm 10\%$  of nominal voltage.*

Installation Category #2

Gas Inlet Pressure: 2500 PSI max.

Operating Temperature Range: 5°C to 40°C

Operating Humidity Range: 0 – 80%RH up to 31°C, decreasing linearly to 50%RH at 40°C.

Pollution Degree 2

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For Technical Assistance contact

DDW 12/9/99

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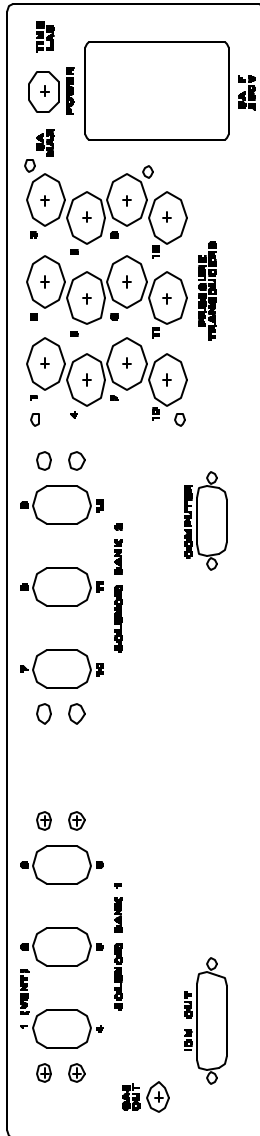
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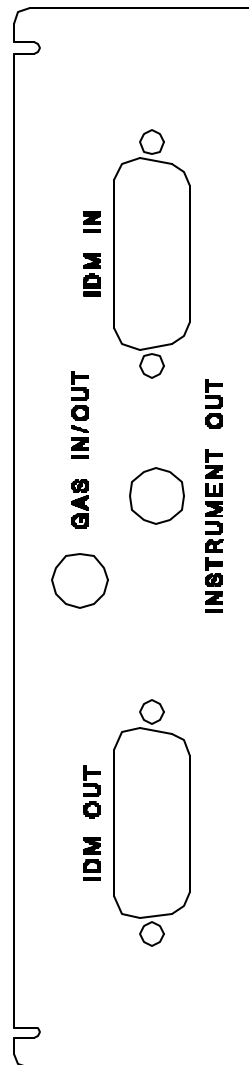
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### Industrial Scientific Corporation

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**DS1000 Master Station**



**Instrument Docking Module**

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