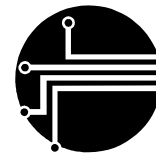


EZ SDI™ Sample Interface

Installation and Operating Manual

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RODI
systems

EZ SDI™ Automatic Sample Interface

Installation and Operating Manual

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Version 1.01

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Version Log

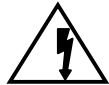
Version	Date	Effective Pages	Description of Changes
1.00	09/27/02	-	Original Issue
1.01	01/30/03	TOC, 2-1	Power connection diagram.

Conventions and Symbols

Special characters, listed and described below, are used in this documentation to emphasize certain information.



Note: Emphasizes additional information pertinent to the subject matter.



Warning: Emphasizes information about actions, which may result in personal injury.



Caution: Emphasizes information about actions, which may result in equipment damage.

The following electrical symbols may be used in this documentation.

Symbol

Meaning



Direct current.



Alternating current.



Both direct and alternating current.



Earth (ground) terminal.



Frame or chassis terminal.

General Limited Warranty

Warranty

1. In no event will RODI Systems Corp., or any of its representatives, be responsible or liable for indirect or consequential damages resulting from the use or application of any product. The user and those responsible for applying the product must satisfy themselves with the acceptability of the application.
2. RODI Systems Corp. extends a one (1) year warranty covering parts and labor on any factory manufactured product. Any product, which is found to have a defect in workmanship or components, shall be replaced or repaired at the option of RODI Systems Corp.
3. A prepaid minimum inspection fee is required for the repair of products not covered by the warranty period. Contact RODI Systems Corp. for repair information and repair rates.
4. RODI Systems Corp. will not be responsible for replacement or repair of any product that was damaged by improper installation, mishandling, or user modifications.
5. All units returned for repair must have a RA (return authorization) number obtained from RODI Systems Corp. This RA number must be included with the returned product and any correspondence regarding the returned product must reference that number. Shipping on all returned products must be pre-paid and insured. RODI Systems Corp. will not be responsible for any shipping damage incurred. Repaired products will be shipped pre-paid and insured.
6. RODI Systems Corp. reserves the right to change any specification or feature of any product at any time. This right also extends to repair fees or any warranty conditions contained herein.

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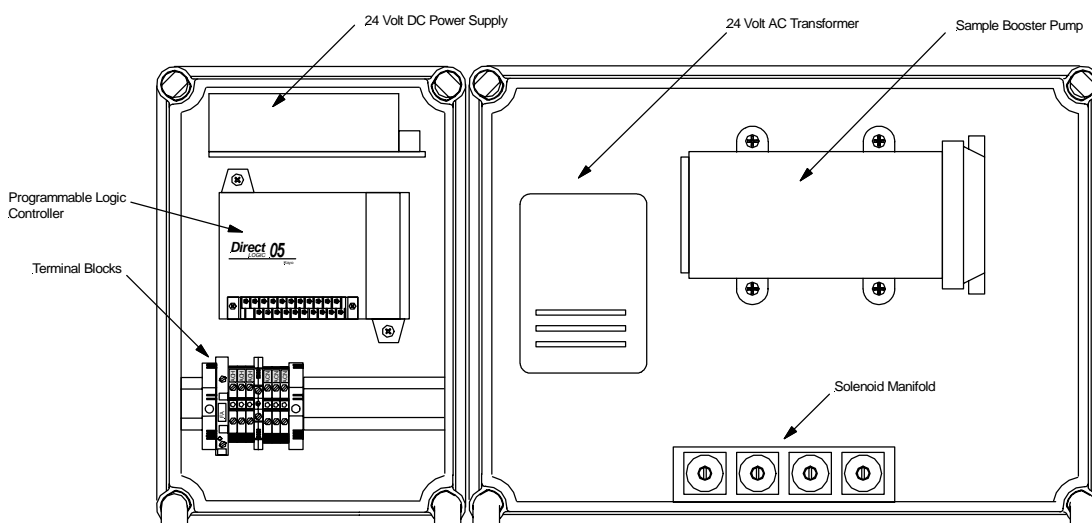
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EZ SDI™ Sample Interface Overview

1

Introduction

The EZ SDI™ Sample Interface is designed to allow the EZ SDI-4™ to perform tests on four separate sample points. The Sample Interface contains a solenoid manifold which automatically selects a different sample stream for each of the four tests performed by the EZ SDI-4™. The sample pressure is boosted after exiting the solenoid manifold which allows sample points to be taken from low pressure points of the pre-treatment system.



Features

The EZ SDI™ Sample Interface incorporates the following features:

- One four-position solenoid manifold which allows four separate points to be sampled.
- One microprocessor-based controller (PLC) which controls the solenoid valves and sample pump based upon the EZ SDI-4™ test position.
- One sample booster pump which allows the four samples to be taken from points under low pressure.
- One 24 VAC transformer for powering the booster pump.
- One 24 VDC power supply for powering the solenoid valves.

Specifications

The EZ SDI™ Sample Interface incorporates the following specifications:

Power Requirements: The controller requires 120 volts AC, 60 Hz, single phase, 1 amp maximum.

Flow Requirements: Each of the four sample feed streams to the Sample Interface requires the following conditions:

- 500 mL / Min.
- 5-50 PSI

Tubing connections: The five tubing connections located at the bottom and top of the enclosure are as follows:

- 4 feed water connections: each are 1/4" Tubing Fast & Tite connectors
- 1 supply connection: 3/8" poly tubing, requires a 1/4" x 3/8" Fast & Tite connector on the EZ SDI-4™.



The sample booster pump will only run while a test is being conducted by the EZ SDI-4™. However, during the period between tests, sample inlet valve No. 1 will be open to allow feed water to flow through the SDI unit. This allows the EZ SDI-4™ to be continually purged with water. For this reason, always connect the best (i.e., cleanest) sample to inlet valve No. 1.

Environment: The controller can operate at a temperature from 0° to 55° C (32° to 131° F). Relative humidity must not exceed 95 percent.

Operation

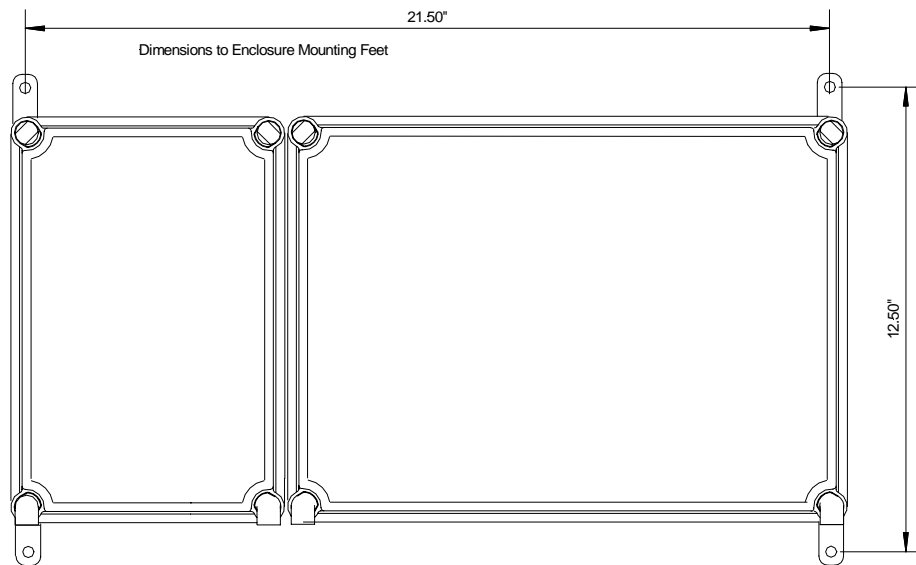
When properly connected to the EZ SDI-4™, the Sample Interface will automatically open each of the four sample valves corresponding to the four filter test positions on the EZ SDI-4™. In other words, when connected to four sample sources, the four tests performed by the EZ SDI-4™ will correspond to each of the four sample points.

Installation and Operation

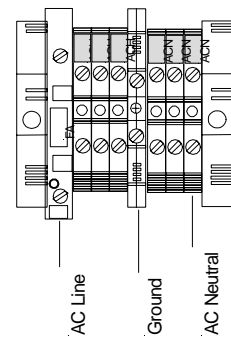
Environmental The EZ SDI™ Sample Interface is mounted onto a flat wall or panel surface. The unit should be mounted as close to the EZ SDI-4™ as possible. The Sample Interface should not be used in explosive environments. General environmental specifications are listed below.

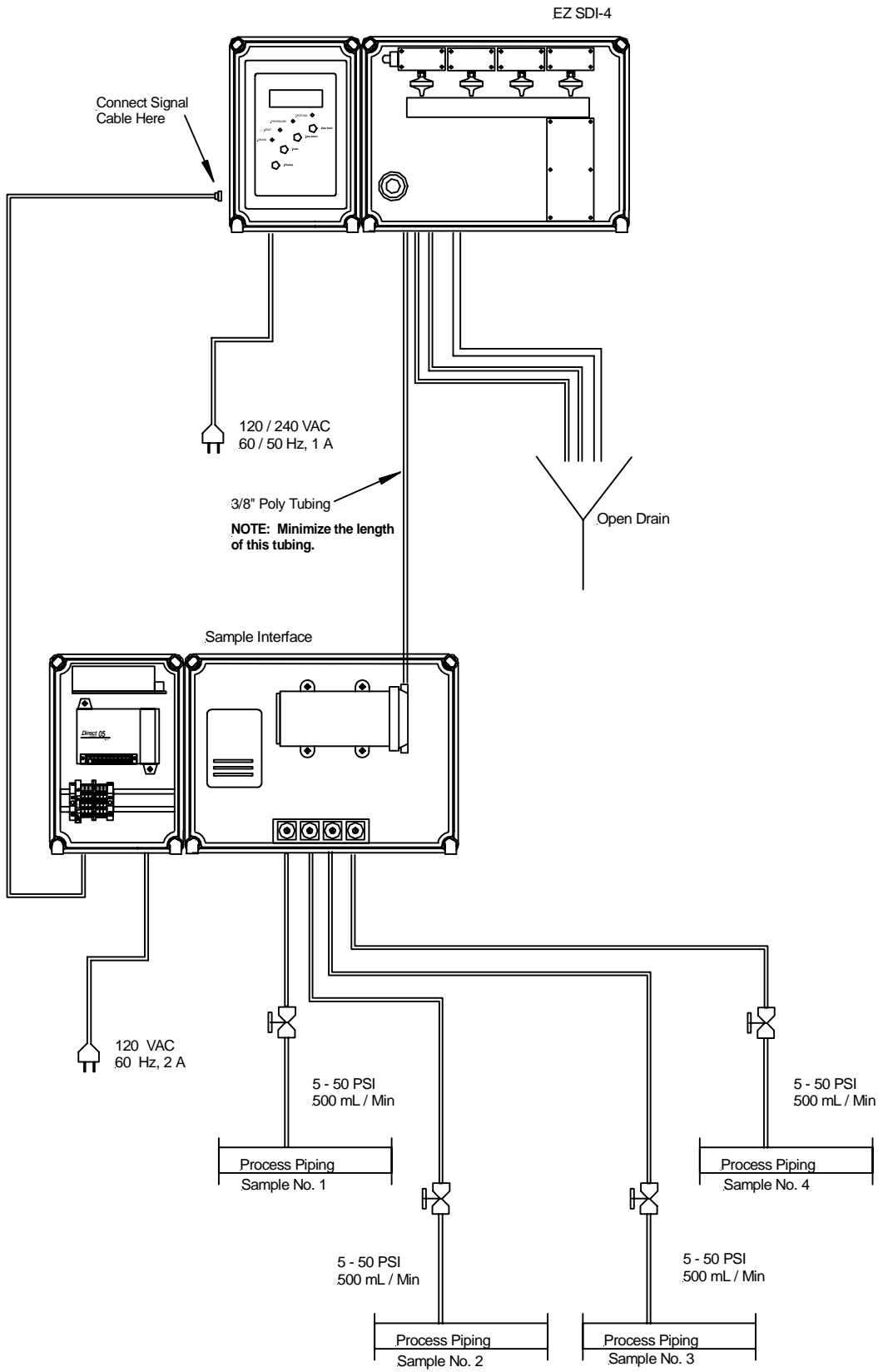
Environmental Specifications	
Specification	Rating
Storage Temperature	-20 to 70 Deg C
Ambient Operating Temperature	0 to 55 Deg C
Ambient Humidity	30% to 95 % Relative Humidity (Non-Condensing)

Mounting When mounting the Sample Interface, sufficient room should be allowed on the top and bottom of the device for access to the supply and sample connections. Mounting dimensions are shown below.



Power A power cord is supplied for standard 120 VAC plug-in applications. The Sample Interface has internal circuit protection on the incoming power supply in the form of a DIN rail-mounted fuse holder. Only 5mm x 20mm fuses rated at 2 amps should be used. If the supplied power is to be hardwired to the Sample Interface, the power terminals are located on DIN rail below the PLC controller (see figure at right). AC line is connected to the fuse holder. AC neutral is connected to the blue neutral terminal blocks. Ground is connected to the yellow and green ground terminal block. **Power should always be disconnected from the Sample Interface before making or changing any connections.**





Ground A good common ground reference (earth ground) is essential for safe operation of the Sample Interface. A good earth ground or power circuit ground should be connected to the terminal labeled GND. If a power cord is used then the ground terminal on the power cord must be grounded.

Signal The signal cable is pre-wired to the Sample Interface. The connector on this cable should be connected to the signal connector on the left side of the EZ SDI-4™ control enclosure.

Water The EZ SDI™ Sample Interface has five water connections: four sample inlets and one supply to the EZ-SDI-4™. The four sample inlets are located on the solenoid manifold at the bottom of the Sample Interface enclosure. Each of these sample inlets should be connected to the process piping with 1/4" poly or nylon tubing (Parker part# NB-4-035 or equivalent) by means of the Fast & Tite fittings mounted in the solenoid manifold.



The Sample Interface supplies the EZ-SDI-4™ by means of a length of 3/8" poly tubing. A 1/4" NPT x 3/8" tubing connector should be installed in the supply connection fitting of the EZ-SDI-4™. The length of the 3/8" tubing connecting the Sample Interface to the EZ-SDI-4™ should be as short as possible to minimize sample cross-contamination as the sample interface switches sample sources. Each of the four sample sources connected to the Sample Interface should be able to provide a minimum of 500 ml per minute at 5 – 50 psi. Do not feed more than 50 psi to the sample inlet connections of the manifold.



The EZ SDI-4™ is designed to operate on Reverse Osmosis feed water. This feed water should be pretreated to remove particles above 160 microns in diameter. The use of feed water with particles over 160 microns in diameter can result in plugging of the regulator or vent orifice. If the regulator or vent orifice becomes plugged then the unit will malfunction and produce invalid results.

Operation After making all connections to the Sample Interface (power, signal, sample, and supply) make sure that all valves are open supplying the four samples to the sample manifold connections. Operate the EZ-SDI-4™ following the instructions supplied with the SDI monitor. Each of the four samples will be routed to the EZ-SDI-4™ as the four tests are conducted.

The sample booster pump will only run while a test is being conducted by the EZ SDI-4™. However, during the period between tests, sample inlet valve No. 1 will be open to allow feed water to flow through the SDI unit. This allows the EZ SDI-4™ to be continually purged with water. For this reason, always connect the best (i.e., cleanest) sample to inlet valve No. 1.