cable pressure *AirMAIL*

System Studies Incorporated

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New PressureMAP Device Type

The latest version of our PressureMAP software (Version 27.00.06) provides support for a new "PA" Device Type for Sparton and Puregas PVD 800 monitors only.

This new device type makes it possible to use a dedicated or subscriber module, rather than the standard binary module to read 270/540K ohm devices, such as the water level sensor described in this newsletter.

When a 270/540K ohm device is connected to a dedicated or subscriber module, the Sparton reads it as if it were a two-value resistive pressure transducer. It sees either 6.8 psi (540K ohms) or 4.6 psi (270K ohms).

Since the resistance on the contact alarm device pair measured by the Sparton will vary, PressureMAP averages the two output pressure values and assigns an "OK" status to any reading above the average (5.7 psi) or "ALRM" to any reading below this average.

System Studies Incorporated

Quick Access to Website Information

In the last AirMAIL issue we introduced our new AirtTalk website (www.airtalk.com). If you haven't had a chance yet to visit the site, we invite you to take a look. There's a tremendous amount of information there—from company history to newsletter leak locating articles, Technical Services information, Sales personnel introductions and, of course, product descriptions.

Once you've logged onto to AirTalk.com, you might want to navigate to the bottom of any page and click on the Site Map link (it's the last thing on each page). The Site Map gives you a visual snapshot of the site's main content categories.

There's even a link to a PDF Datasheet Directory at the bottom of the Reference section that does not appear anywhere else on the website. This link provides quick access to printable product information. Check it out.

If you have any questions or comments about using the site or accessing information, give us a call at (800) 247-8255 or (831) 477-8904.

Water Level Sensor

Several years ago System Studies developed a monitoring device that provides early warning of the presence of water in a central office equipment room. This device, called the Water Level Sensor (Part No. 9800-4400-T), was designed for installation in a central office sump, or along the base of a wall.

It consists of an electronic contactor device that is housed in a 3/4 inch by 6 inch protective copper tube. Attached to the sensor are two PIC insulated conductors with sensing tips that sample moisture at the device's point of installation (see illustration). The Water Level Sensor is read by a central office monitor, such as a 289H LSS or uM260 Micro Monitor, over a single pair of conductor wires.

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Water Level Sensor *(continued)*
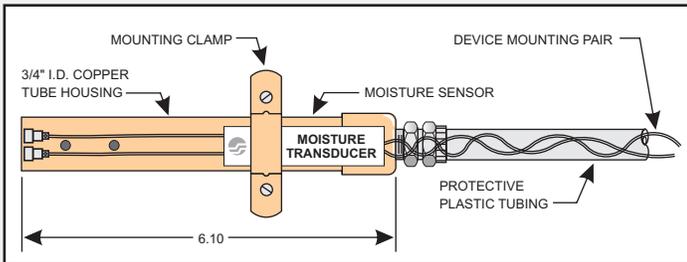
The monitor supplies voltage to the device and takes an electrical resistance reading on the pair. In the open (non-alarm) condition, the contactor device will read approximately 540K ohms. If moisture is detected at the installation location, the device shorts and a 270K ohm output is generated. PressureMAP then translates the reading into a status condition, displaying ALRM for a 270K ohm reading and OK for a 540K ohm reading.

If you'd like to add some additional capability to your monitoring and remotely detect potential equipment problems and other damage due to water intrusion, the Water Level Sensor is the perfect upgrade for your system. It's inexpensive, easy to install and effective. Give us a call for pricing and availability information.

Identifying Bad Resistive Flow TDs

Before the introduction of our solid-state, 4-20 mA transducers, resistive flow transducers were used exclusively to monitor air consumption at central office panels, air pipe manifolds and other air sources. These devices provided important leak locating information, but they also were subject to inaccuracies due to their stepped measurement output and internal mechanical components. Because some areas still use these resistive flow transducers, we thought it would be helpful to describe a method that you can use to determine whether or not your resistive flow transducers are providing accurate readings.

Are your resistive flow transducers calibrated? It has been our experience that when flow transducer readings at air pipe manifolds don't add up to the flow measured at the pipe alarm panel, one or more bad flow transducers may be the problem. This possibility becomes even more probable if the pipe alarm panel reads 45 Standard Cubic Feet per Hour (SCFH), for example, and the total sum of the flow readings in the field is only around 20 SCFH. If the cause of this discrepancy is not a bad flow transducer, it could be a leak in the air pipe, a cheater hose, or a ghost manifold. Whatever the reason, Flow Finders™ will help to solve the mystery.

How do you determine what's causing the difference in flow readings? The simplest and quickest way is to install Flow Finders at key locations on the pipe route. We recommend that you install a 0-47.5 SCFH or 0-95 SCFH Flow Finder at the pipe alarm panel (the correct one depends on the pipe's current flow rate) and a 0-19 SCFH Flow Finder between the air pipe and each of the manifolds. That's assuming, of course, that you are using old-style air pipe manifolds and not the System Studies Flow Finder Manifolds, which are equipped with built-in Flow Finders. The Flow Finder at the pipe alarm panel will verify the reading provided by the panel's flow transducer. If the readings aren't the same, part—or possibly all—of the problem can be identified before you even leave the office. The Flow Finders in the field can then be used to verify individual manifold flow transducer readings and whether or not there are other problems in the system.

In addition, PressureMAP™ users may want to check the pipe alarm panel flow transducers on routes that have a low System Quality Index (SQI). By investigating the flow monitoring device, you may find that the cause for a low SQI is something other than a leak. Think of all the money you'd save by not looking for a leak that doesn't exist!

Emergency Air Dryer System

Telephone companies have long been aware of the devastating consequences to a central office that fire, flooding and other types of structural damage can cause. The loss of an air pressure system for several days or longer could easily result in multiple, major cable failures if the underground plant were to become unpressurized. Without access to the wire center or surrounding two or three city blocks, standard backup equipment simply cannot do the job.
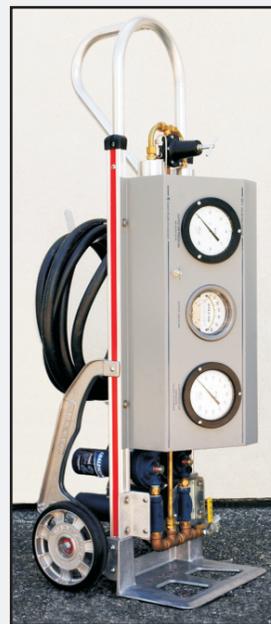
To provide insurance against catastrophic failure of a wire center, System Studies has devised an Emergency Air Dryer System. At the heart of this system is the 0911 Air Dryer (Part No. 9800-0911), shown below. This portable, light weight air dryer assembly is designed to be used with commercial air compressor equipment. With only minimal hardware requirements for each wire center, and the purchase of a 0911 Emergency Air Dryer for use locally among multiple centers, telcos can be prepared for swift response to possible disasters that could occur in a central office or surrounding areas.

The 0911 Emergency Air Dyer consists of modified hand truck with toe plate and stair climber. It is constructed of welded aluminum with semi-pneumatic tires. It stands 46 inches tall by 22 inches wide. At only 66 pounds, it can be easily lifted and transported from truck to job site.

It consists of the following components:

- Compressor input connection
- Air input shut off valve
- Air dryer membrane to lower the dew point of the compressed air, so that water vapor won't condense even as the compressed air cools
- Two 3.0 Micron Particulate Filters—for solid bulk, large particle contamination removal
- Two 0.3 Micron Fine Coalescer Filters—for removal of small particles of oil, water and rust
- Control panel assembly with pressure regulator and three gauges: Compressor Input—0 to 200 PSI, Flow Consumption—0 to 40,000 SCFD, Output Pressure—0 to 60 PSI
- Output tubing—30 foot length, 3/4-inch diameter, 3/4-inch barbed connector end fitting for 1-inch nyla-braid tubing.

Other Emergency Air Dryer system components include a one inch air pipe, an air feeder assembly, and an air receiver assembly. For more information about how the system works, check out the Hardware Documents in the PDF Library of our website. Or, you can call us directly at 800-247-8255.