

Periodic Preventive Maintenance

Fiber SenSys recommends utilizing a regularly scheduled periodic Preventive Maintenance (PM) program. Your company's program should be tailored to your site's security level and specific requirements. While each installation is unique, all sites should, at a minimum, follow the basic maintenance steps highlighted in this document. A well rounded and regularly followed PM program will ensure that your Fiber SenSys system will continue to perform as designed to high industry standards for many years.

Visual Inspection

The first step in preventive maintenance is a visual inspection of the installed sensor system. The on-site security and maintenance personnel should be familiar with the system and take notice if anything appears out of order. Fiber SenSys recommends performing a thorough inspection approximately every 90 days. This should include examining each alarm processor, each zone sensor cable and conduit, wire ties, all non-sensing lead-in cables, patch cords, tamper switches, relay wiring, power supply, and backup battery. In addition to inspecting the equipment, the area around the perimeter should be inspected for vegetation that may be in contact with the fence material. Below are images of possible issues that would need to be addressed.



Wildlife damage can occur in areas where cables are mounted low to the ground.



Conduit kinked when exceeding the minimum bend radius.



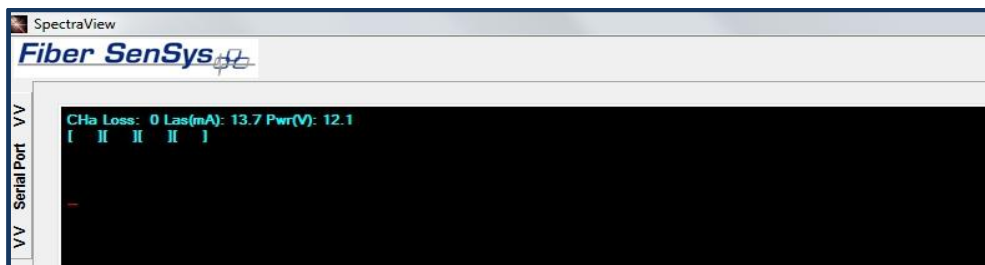
Rusty, damaged, or missing wire ties should be replaced.



Bushes and trees should be trimmed so that they do not come into contact with the fence and/or sensor.

Alarm Processing Unit (APU) Status Check (300 Series)

Checking the health of 300 Series APUs and the optical cable assembly is a quick task. By using the STATUS command to query the alarm processor, it will report its current input voltage in VDC as well as the laser's current draw in mA. It also reports the optical loss of the attached cable assembly as measured by the alarm processor. Fiber SenSys recommends performing the status check approximately every 180 days. The status check is performed by using Fiber SenSys SpectraView™ software on a Windows®-based computer. Details on the process of checking the status can be found in Tech Tip “Using the STATUS Function to Troubleshoot Your FSI System” found at FiberSenSys.com.



Status check using Fiber SenSys SpectraView software.

System Status Check (500 Series)

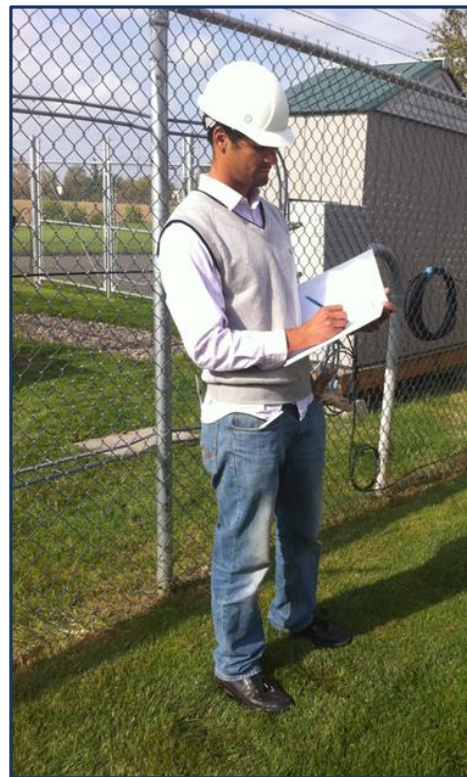
Checking the health of 500 Series APUs and the optical cable assembly is a two-step process performed using the Fiber SenSys 500 Series Suite software connected to the alarm processor's USB port. Step one is performed by opening the "View" application. Select the "Cable Status" tab and observe the zone reflection power values. Verify that no reflection values have dropped below the minimum 35%. Step two is performed using the "Config" application. Use the APU drop-down menu and select the "Advanced" button. In the new pop-up window observe the "Laser Current." Compare the current value to the "Reference" value taken when the system was initially commissioned. A healthy system should be within 30mA of the reference value.

Performance Testing

Performance testing is a must for maintaining an alarm system that consistently performs at a high level over time. At regular intervals, each zone should be tested to verify that it is capturing intrusions. Zones should be tested in various ways and at multiple locations within the zone. The Probability of Detection (PD) should be calculated based on these performance tests and recorded in a log.



Simulated intrusions should be performed in the same manner as the expected actual intrusions.



An inspection and test log will help ensure long-term performance and maintain accountability.

Maintenance Log

A written log containing the results of system inspections and intrusion tests will assist in maintaining accountability for the security team. The maintenance log can help identify performance trends over time. Systems can be configured based on seasonal trends to minimize nuisance alarms. The maintenance log should include the date, name(s) of the test personnel, inspection criteria, pass/fail assessment for output relays, and pass/fail assessment for simulated intrusions. Other optional data that can be recorded is the weather at the time of testing, the number of days in operation for each APU, and the tuning parameter set for each zone at the time of testing.

Additional Reference Documentation

These additional documents may be found at FiberSenSys.com or by contacting Fiber SenSys Technical Support via support@fibersensys.com or 503-726-4455.

- PI-SM-501 Using the STATUS Function to Troubleshoot Your FSI System
- FM-ENS-004 Fiber SenSys FD3XX Functionality Test Set
- FM-ENS-005 Fiber SenSys FD5XX Functionality Test Set
- Alarm Processor User's Manual
- Software User's Manual

For more information, contact us at:
info@fibersensys.com
Tel: +1(503) 692-4430
Toll free (US) +1(800) 641-8150

Fiber SenSys 
High Performance - High Reliability - High Security