

ACI Sensing Cable Installation Guidelines

Thank you for purchasing SeaHawk sensing cable. This guide outlines sensing cable installation.

If you need further assistance, please contact ACI at techsupport@workaci.com

Test the ACI Sensing Cable and Controller

Before you lay any sensing cable in an installation, it is wise to connect the cable to the controller and ensure proper communications.

1. Attach the leader cable to the controller.
2. Connect the sensing cable to the leader cable.
3. Attach the end-of-line terminator to the end of the last run of sensing cable.
4. Turn on the controller and test the sensing cable. The easiest way to test the cable is to pour a 2" (5cm) puddle of water on the floor and put a strand of sensing cable in the puddle. If you're not able to pour a puddle of water on the floor, wrap a clean damp cloth or paper towel around a small section of cable. Do not hold the cloth or towel with your hand - this creates uneven pressure on the cable and can cause erratic readings on distance read controllers. Once the cable is dampened, the controller should alarm within a reasonable time. This time may vary depending on controller type and the alarm time frame set within the controller.
   Do not saturate a section of cable - the cable will go into alarm with a very small amount of water, and if you saturate the cable fully, it will take a longer for the cable to dry and the alarm to reset.
5. Once the cable passes the initial test, proceed to the sensing cable installation.

Install ACI Sensing Cable on Floors

ACI sensing cable is durable, flexible, and designed to mitigate false alarms. While installation is fairly straightforward - lay the sensing cable according to the preconfigured layout on your map and secure the sensing cable to the floor with J-clips - keep the following guidelines in mind to avoid complications:

- Do not install sensing cable that is damaged or dirty - while the cable is designed to mitigate false alarms, visibly dirty cable will need to be cleaned before installation. If your sensing cable needs to be cleaned, refer to the Sensing Cable Care and Maintenance Guide.
- Do not run sensing cable through contaminants - ie. dirty or greasy areas. The floor must be clean of contaminants for the sensing cable to function properly and for J-clips to adhere. If necessary, clean the floor before installation.
- Avoid laying sensing cable in the direct downstream of air conditioning units - these units discharge moisture, which will skew leak detection readings. Place the cable 4 to 6 feet (1.2 to 1.8m) away from air conditioning units to avoid false alarms and contamination.
- Tools or heavy objects can damage sensing cable. Avoid rolling, dropping, or setting heavy items on sensing cable. Whenever possible, install sensing cable out of the way of foot traffic.
- Use J-clips to secure the sensing cable. J-clips are nylon cable clips with a self-adhesive backing. J-clips hold sensing cable securely in place without pinching or binding the cable, which can cause false alarms.
- J-Clips should be placed 5 to 6 feet apart throughout an installation, and 3 feet apart when cable is routed in front of CRAC units. Additional J-clips may be needed to maintain placement around corners or curves.
- Because the J-clip's adhesive backing does not work well on porous concrete floors, apply a drop of silicone or another nonconductive adhesive to help secure the J-clip to the floor.
- Ensure the sensing cable is installed directly on the floor, and there are no gaps between the cable and the floor. Use additional J-clips as necessary to avoid large gaps.
- Cable caution tags (SC-T) are fluorescent adhesive tags that serve two purposes: they clearly designate the cable as leak detection cable and also provide a place to record the distance from that point on the cable back to the controller. Caution tags should be placed every 10' along the length of the cable. When you are testing and mapping the system, apply water to that spot on the cable and write the distance reported by the controller on the distance line provided on the tag. When the controller detects an alarm, you will use the distances recorded on the tags, as well as your leak detection map, to quickly locate the leak.

Install ACI Sensing Cable on Pipes

Since ACI sensing cable is very flexible, it can be installed around pipes. This can help pinpoint leaks in a wide variety of applications. Verify whether your pipe installation is horizontal or vertical. Cable is installed differently in each application.

If sensing cable is installed on horizontal pipes:

- Run the cable along the bottom of the pipe and secure it with cable ties or tape every two to three feet (0.6 to 0.9m).

If sensing cable is installed on vertical pipes:

- Wrap the cable around the pipe at a 30 - 45 degree angle, repeating the angle at appropriate spacing as you move down the pipe. Use cable ties every 3 to 5 feet (0.9 to 1.5m) to secure the cable to the pipe.

If the sensing cable is installed on chilled water lines, wrap the pipes with insulation after installing the cable. This helps control condensation, which can trigger alarms.

ACI Sensing Cable FAQ

Question	Response
How do I secure sensing cable to the floor?	ACI recommends the use of J-clips. J-clips are nylon cable clips with a self-adhesive backing. J-clips hold sensing cable securely in place without pinching or binding the cable, which can cause false alarms. J-Clips should be placed 5 to 6 feet apart throughout an installation, and 3 feet apart when cable is routed in front of CRAC units. Because the J-clip's adhesive backing does not work well on porous concrete floors, apply a drop of silicone or another nonconductive adhesive to help secure the J-Clip to the floor.
My water leak detection cable touches metal. Is this a problem or potential problem?	In general, no. The two water sensing wires are covered by a nonconductive polymer weave. This weave isolates the cable from metal surfaces. However, as with all electrical wires and cable, avoid sharp objects that can slice or pierce through the insulation and nonconductive polymer weave.
The sensing cable is routed so that it has to cross over itself. Can this cause false alarms?	Crossing sensing cables will not cause false alarms, but it can cause a false distance reading if a leak occurs at the crossover point. If the cables must cross, use a 10 foot section of non-sensing cable to jump over the section of sensing cable.
If I suspect a bad section of sensing cable, how can I verify that it is ok without sending it back to ACI for warranty evaluation?	It can be very difficult to remove sensing cable, so verify the cable is working before you attempt to remove it and return it to the manufacturer. Use either a cable tester (part # LDCE) or request a Cable Break Alarm assessment document from ACI to determine which section of cable may be faulty.
My system shows an alarm condition, but a leak is not found at location shown on display. The system will not clear. It is in alarm all the time!	The most common causes for this condition includes: 1. Water is touching the cable in two places at the same time. The distance reading is an average of the two values. For example, if leaks are detected at 200 feet and at 100 feet, the system would register a leak at 150 feet ((200 + 100)/2 = 150). This is a common problem when, after an alarm sounds, the operator resets the system without recording the first value displayed. It is very rare that water will touch two places on the same cable at the exact same time. This situation is true for all systems which measure distance. Check the Alarm History log for the first incidence of the leak. 2. The cable has been exposed to high humidity, or the dew point has been reached. This is especially common when two or more air conditioners share the same under-floor space. Problems of this nature can be resolved as follows: a. Fix the air conditioners. This is sometimes easier said than done as most people believe if the unit is on and cooling, it is working properly. Extensive investigation may have to be done just to prove the air conditioner is faulty. b. Turn the sensitivity adjustment on the controller to its least sensitive setting. This should keep the system from alarming, but will not resolve the air conditioner problem. c. Move the cable at least 10' away from the front of the air conditioner. d. Cover the sensing cable in front of the air conditioner with spiral wrap (plastic covering which allows water in but keeps dew point from condensing water on the cable). 3. A cable has been contaminated either chemically (floor sealing chemicals dissolve and damage cable), or physically (small metallic chips from filings or solder around pipes or wires from electrical installation). This requires replacement of the cable. 4. The cable has become damaged - most often from a floor tile being dropped on it. Damaged cable must be repaired or replaced.