ATI-5005F

Floor Water Sensor

INSTRUCTIONS

Installation and Maintenance of the ATI-5005F Floor Water Sensor

IMPORTANT

Please read these installation and operating instructions completely and carefully before starting. Failure to do so will void the warranty.

filename:
ATI.MAN.5005F_Floor Water Sensor

Revised 3/12/2009

A.T.Monitors, a division of Armstrong Technologies Inc.
14 Birch Drive, Kemptville, Ontario, K0G 1J0, CANADA
Tel: 613-258-5225 • Fax: 613-258-2698
E-mail: info@atmonitors.com • Internet: www.atmonitors.com

TABLE OF CONTENTS

1 – WARRANTY

The ATI-5005F Floor Water Sensor is warranted against defects in material and workmanship for a period of one (1) year from date of shipment. During the warranty period, *Armstrong Technologies Inc. (ATI)* will repair or replace components that prove to be defective in the opinion of ATI. ATI is not liable for auxiliary interfaced equipment, or consequential damage. This warranty shall not apply to any product, which has been modified in any way, which has been repaired by any other party other than a qualified technician or authorized ATI representative, or when such failure is due to misuse or conditions of use.

1.1 – LIABILITY

All ATI products must be installed and maintained according to instructions. Only qualified technicians should install and maintain the equipment. ATI shall have no liability arising from auxiliary interfaced equipment, for consequential damage, or the installation and operation of this equipment. ATI shall have no liability for labour or freight costs, or any other costs or charges in excess of the amount of the invoice for the products.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND SPECIFICALLY THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE THEREOF.

1.2 – MODIFICATIONS AND SUBSTITUTIONS

Due to an ongoing development program, ATI reserves the right to substitute components and change specifications at any time without incurring any obligations.

1.3 – PRODUCT RETURN

All products returned for warranty service will be by prepaid freight and they will only be accepted with an R.G.A. number issued by ATI. All products returned to the client will be freight collect.

WARNING

USING ELECTRICALLY OPERATED EQUIPMENT NEAR GASOLINE OR OTHER COMBUSTIBLE VAPOURS MAY RESULT IN FIRE OR EXPLOSION, CAUSING PERSONAL INJURY AND PROPERTY DAMAGE. CHECK TO ASSURE THE WORKING AREA IS FREE FROM SUCH HAZARDS DURING INSTALLATION OR WHEN PERFORMING MAINTENANCE, AND USE PROPER PRECAUTIONS.

2 – PRODUCT INFORMATION

2.1 – WATER DETECTION SENSOR

Sensor Warranty Period ……..…….....	1 year
Operating Temperature ……...…….....	0 to +60 °C (+32 to +140 °F)
Operating Pressure ……..…..…….....	Ambient atmospheric pressure

Note:

All *Armstrong Technologies Inc.* products must be installed and maintained according to instructions, to ensure proper operation. Only qualified technicians should install and maintain the equipment.

3 – PRODUCT DESCRIPTION

3.1 – GENERAL DESCRIPTION

The ATI-5005F Floor Water Sensor is primarily designed to detect the presence of water at a point location directly on the floor or on the base of a wall. The sensor is designed to operate with monitors accepting Normally Open sensor inputs.

The ATI-5005F Floor Water Sensor features:

- Reusable
- Instant response
- Single point location sensing
- Intrinsically safe (when connected through an approved I.S. barrier, or to an ATI liquid monitor)

3.1.1 – SENSOR SPECIFICATIONS

DETECTABLE LIQUIDS	Water and other conductive liquids (as long as resistance is less than 4 Meg). Contact factory for more information if required.
SENSOR	Contact/immersion type conductivity sensor.
RESPONSE TIME	Instantaneous for water.
REPEATABILITY	Excellent even after repeated contact with or immersion in non-contaminating liquids.
OPERATING TEMPERATURE	Most liquids: 0 to +60 °C (+32 to +140 °F). Will also function with conductive liquids with freezing points below 0°C (32°F) as long as liquid does not solidify (i.e.: water/glycol mix).
STORAGE	10 years @ -20 to +60 °C (-4 to +140 °F).

4 – INSTALLATION

4.1 – LOCATION AND MOUNTING

The ATI-5005F Floor Water Sensor can be easily installed simply by placing the sensor on the floor at the selected location, or mounting it to the wall with the contacts close to the floor (see Figure 1 for wall mounting holes). The wiring end of the lead cable is then connected at a nearby junction box.

There are two types of ATI-5005F sensors, one with straight pins for wall mounting and one with bent pins for the floor.

IMPORTANT: When using the adhesive backing pad for mounting, the surface must be smooth, flat and free of any oil and dirt.

When the sensor is mounted to the wall, adjust the sensor so that the tips of the contact pins are approximately 1/16" (1.6mm) above the floor.

CAUTION: Be careful to NOT over-tighten the mounting screws when installing the sensor.

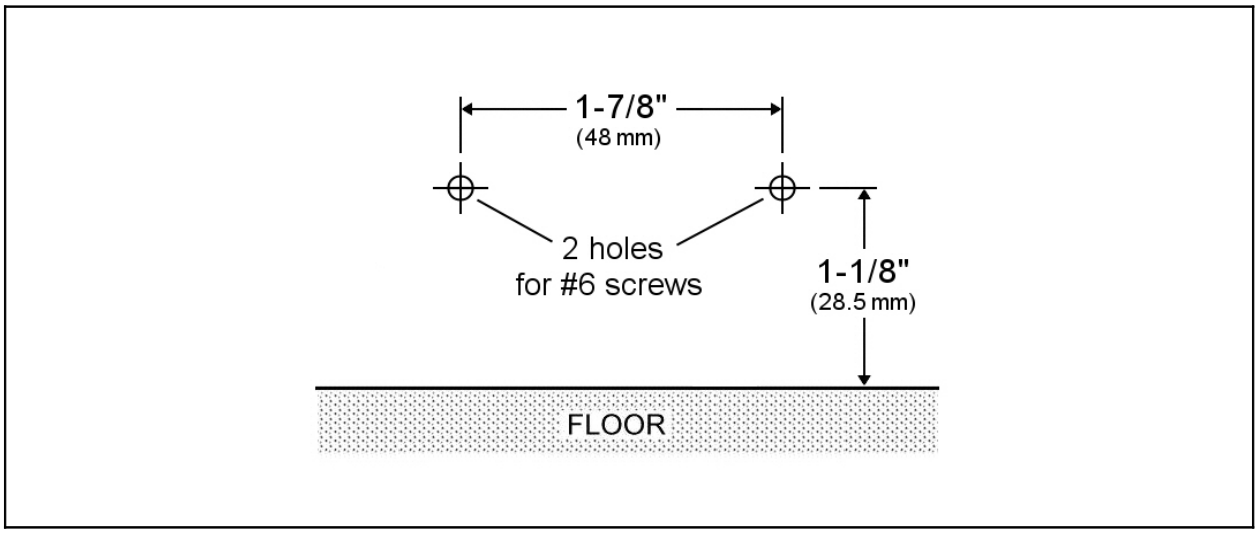

FIGURE 1: Dimensions of wall mounting screw holes for the ATI-5005F sensor.

4.2 – WIRING TO MONITOR

The ATI-5005F Floor Water Sensor is a 2-wire device that may be wired to a monitor that accepts Normally Open sensor inputs. Each sensor should be on a separate cable but more than one cable can be run through the same conduit. For hazardous locations, the cabling must be installed through conduit and conduit sealing fittings.

On the liquid circuit, each ATI-5005F sensor connects to the terminals of one channel (zone). Connect the BLACK sensor lead to the sensor input Ground (–) terminal, and the RED sensor lead to the Positive (+) terminal of one channel.

A water sensor (Normally Open) and a petroleum sensor (Normally Closed) **MUST NOT** be connected to the same terminals. Multiple Normally Open sensors CAN be connected together in parallel. For more details on multiple liquid sensor wiring and monitor configuration, please refer to the instruction manuals for the monitor used.

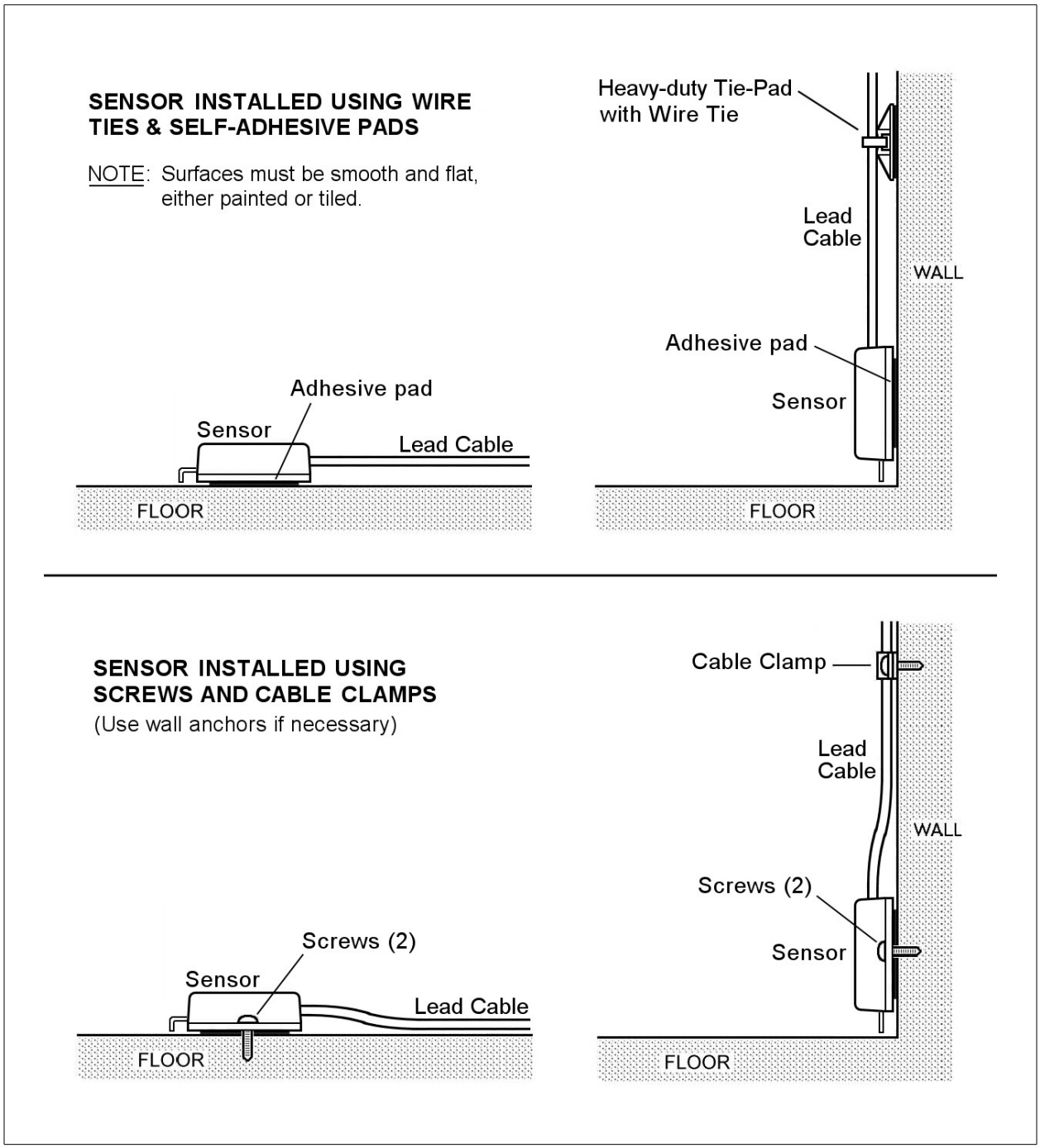

FIGURE 2: Typical installations for the ATI-5005F sensor.

5 – PREVENTIVE MAINTENANCE

5.1 – SENSOR VERIFICATION

For verifying the liquid sensor, connect an **analog multimeter** (see note) to the BLACK and RED wires and set it for resistance (Rx1K or Rx10K). The resistance should read as an open circuit. Next, immerse the sensor's contact pins into water to short out the sensor conductivity pins together and observe the meter reading — it should drop to a low resistance (tap water is less than 100K ohms).

NOTE: The use of an ANALOG multimeter is recommended to read the resistance of the liquid, since most digital multimeters cannot measure resistance of liquids.

MAKE SURE TO VERIFY THE INTEGRITY OF EACH SENSOR DURING INSTALLATION.

5.2 – TROUBLESHOOTING

If any unusual multimeter readings are obtained (other than those described in the Sensor Verification section), some wires may be shorted or the sensor may have been damaged during installation. **Remember to use caution when installing each ATI-5005F Floor Water Sensor.**

When verifying each sensor with an **analog multimeter**, make sure the readings obtained agree with the following sensor data.

5.2.1 – FLOOR WATER SENSOR DATA

Normal Status:	Circuit open (N/O)
Alarm ON status:	Circuit closed (N/C) Low resistance < 1M ohms (tap water is less than 100K ohms)