PRODUCT DATASHEET

SENSOR CABLES

PermAlert is the leak detection and location systems technology specialist since 1988. We work with customers to address their most complex leak detection challenges and to deliver innovative business solutions that bring higher value to every facility.

PermAlert offers continuous monitoring, multi-level alerts, system logging, BMS integration, and cost savings to the data centers, oil & gas, commercial buildings, and healthcare industries.

No matter where the leak location is, we are confident that our stability as a company, team of technical expertise, and international network are at your disposal to help minimize leaks and to maximize asset protection.




OVERVIEW

The PAL-AT® family of sensor cables are able to meet the specific requirements of a wide variety of applications and environments including subfloors, containment pipe systems, direct burial and foam insulated pipes. The sensor cables offer the leak detection designer flexibility and choice in selecting the proper cable for the desired system sensitivity.

All PAL-AT cables and connectors are easily spliced or repaired in the field to minimize downtime and repair cost.

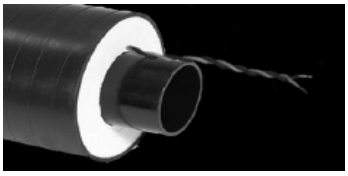
PAL-AT AGW-Gold and AGT-Gold sensor cables have the ability to detect both water-based and hydrocarbon liquids. This reduces the number of sensor cables required in many applications.

Each of these PAL-AT sensor cables can be dried and reused after a water-based or volatile hydrocarbon leak has been cleaned up. These cables have no exposed metal and are designed for corrosive chemical applications. Each individual strand of braid wire is coated with a high-temperature, corrosion-resistant polymer and the length of the cable is covered with a fluoropolymer overbraid. Because there is no exposed metal, the Gold cables eliminate the need for special isolation precautions in cathodic-protected pipe applications.

PAL-AT TFH-Gold hydrocarbon sensor cable uses a hydrocarbon permeable core to detect hydrocarbon liquids while ignoring water-based liquids. In most cases, the sensor cable must be replaced after exposure to hydrocarbons.

ATP

ATP is a cable designed to monitor prefabricated polyurethane insulated pipes. The twisted pair type sensor cable will detect water-based liquids. The cable is factory installed in the insulation of each pipe length. The sections of ATP cable are easily spliced together as the pipe is assembled in the field.



Liquids Detected with TFH-Gold < 5 Minutes

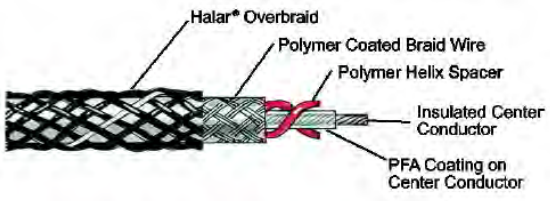
Liquid (tested at 70°F)		
Gasoline*	Alcohol	Acetone
Diesel Fuel	Naptha	Crude Oil**
Kerosene	MEK	Transformer
Jet Fuel*	Xylene	Oil**

* GW-Gold and TFH-Gold 3rd Party Tested

** Contact PermAlert for details on these and other liquids.

AGW-Gold

AGW-Gold is a quick drying cable that is chemically resistant and designed to detect highly corrosive liquid leaks such as acids, bases and solvents. Typical applications are secondary contained pipes in chemical installations, subfloors of clean room manufacturing areas, computer rooms and high temperature applications such as steam pipe containment systems. The cable has passed UL 910 for Plenum Rating.



Minimize Leaks. Maximize Asset Protection.

PERMALERT Business Benefits

24 X 7 MONITORING
Continuous monitoring of critical infrastructure and equipment.

MULTI-LEVEL ALERTS
Capable of detecting multiple and growing leaks while maintain continuous operations.

SYSTEM LOGGING
Every leak detection event is recorded in system log to allow full audit trail and ease of troubleshoot.

BMS INTEGRATION
Support BMS integration via RS485, Modbus, BACnet and dry contacts.

COST SAVINGS
Minimize downtime and damages to critical infrastructures. And reduction of insurance premium.

REGULATORY COMPLIANCE
c UL us LISTED · RoHS · CE

PermAlert™
Division of Perma-Pipe, Inc.

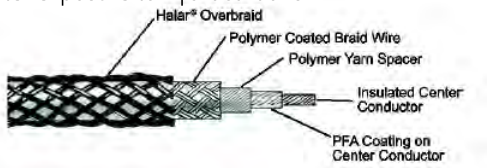
permalert.com | PermAlert Global Offices

PermAlert™
Division of Perma-Pipe, Inc.

PRODUCT DATASHEET
SENSOR CABLES

AGT-Gold

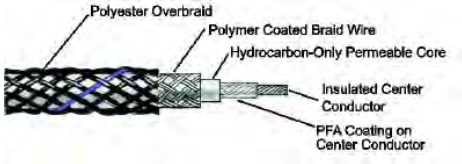
AGT-Gold is a wicking cable that is chemically resistant and designed to detect highly corrosive acid, base, and solvent leaks. Typical applications are clean rooms, subfloors, aboveground single-wall pipes (water-based liquids only) and equipment applications. AGT-Gold should be installed in temperature and humidity controlled environments. This cable requires more drying time than AGW-Gold. Must be replaced after exposure to hydrocarbons.



Halar® is a registered trademark of Ausimont USA, Inc.

TFH-Gold

TFH-Gold is a wicking cable specifically designed to detect only hydrocarbons. This cable may be direct buried in slotted PVC pipe, or screen pipe, to a maximum depth of 20 ft (6 m) to locate fuel leaks while ignoring the presence of water. This is ideal for monitoring single-wall pipes and tanks. The cable is suitable for applications where hydrogen sulfide or other corrosive gases may be encountered, such as refineries and oil fields.



Sensitivity is the length of wet cable that is required to activate the PAL-AT under standard sensitivity settings. The length required for quick-drying AGW-Gold refers to the submerged length of the cable. Wicking cables AGT-Gold and TFH-Gold will quickly draw a liquid into the cable through capillary action when it is in contact with a 1/16" (2 mm) film of liquid. The length of wet cable required for wicking cables is the saturated length of cable. For example, if a few inches of AGT-Gold cable contact a film of water at 5,000 ft (1,500 m), in less than two minutes, the cable will be saturated sufficiently and the PAL-AT will go into alarm. The PAL-AT sensitivity can be adjusted.

Sensitivity & Accuracy

	Effective Length ft(m)		<2,500 (750)	<5,000 (1500)	<7,500 (2300)
Sensitivity ft(m)	AGW-Gold, AGT-Gold	Water	3 (1)	3 (1)	3 (1)
	AGW-Gold	Hydrocarbon	6 (2)	15 (4)	23 (7)
	AGT-Gold	Hydrocarbon	16 (5)	35 (11)	53 (16)
	TFH-Gold	Hydrocarbon	6 (2)	18 (5)	30 (9)
	ATP	Water	3 (1)	6 (2)	N/A
Accuracy ft(m)	AGW-Gold, AGT-Gold	Water	±6 (2)	±12 (4)	±18 (5)
	AGW-Gold, AGT-Gold	Hydrocarbon	±6 (2)	±26 (8)	±40 (12)
	TFH-Gold	Hydrocarbon	±6 (2)	±30 (9)	±48 (15)
	ATP	Water	±10 (3)	±30 (9)	N/A

Cable Type	Part No.	Temp. (max.) °F (°C)	O.D. In (mm)	Liquids Detected
AGW-Gold	8017705	400 (205)	.31 (8.0)	water-based & hydrocarbon
AGT-Gold	8017700	250 (120)	.31 (8.0)	water-based & hydrocarbon
TFH-Gold	8017640	250 (120)	.31 (8.0)	hydrocarbon only
TFH	8017635	250 (120)	.31 (8.0)	hydrocarbon only
ATP	8017732	250 (120)	.20 (5.0)	water-based only

- Effective length is the total length of sensor cable, and effective length of jumper cable and probes (see Jumper Cable Data Sheet) that are connected together to form the "sensing string". For cables longer than 5,000 ft, an additional effective length of 50 ft is added for each connector exceeding 1 connector per 500 ft of cable.
- Hydrocarbon sensitivity values measured with Zener Barrier Assembly installed. Hydrocarbon applications that do not require a ZBA have significantly better sensitivity.
- The actual length or the effective length of a sensor string cannot exceed the maximum cable range for the selected Leak Detection System.
- Temperatures shown are continuous operating exposures.

Sensor Cable Specifications

AGW-Gold

Sensor cable shall be of fluoropolymer and polymer coated wire construction with no exposed metal parts. Cable shall detect water-based, chemical and hydrocarbon liquids. The sensor cable can be flushed and dried in-place and will not require replacement after a leak event of any volatile liquid. The cable shall have a breaking strength of at least 100 lb (45 kg) and shall be resistant to corrosion, abrasion and most chemicals tested in accordance with exposure procedures in ASTM D-543.

TFH-Gold

Sensor cable shall detect only hydrocarbons while ignoring water and water-based liquids. The cable is designed for direct burial in slotted PVC pipe, or screen pipe, to a maximum depth of 20 ft (6 m) and capable of providing a response time of not more than four minutes after contact with most hydrocarbon liquids. The sensor cable is not reusable after exposure to hydrocarbons.

AGT-Gold

Sensor cable shall be of fluoropolymer and polymer coated wire construction with no exposed metal parts. Sensor cable shall detect accumulations at a shallow depth of 1/16" (1.5 mm) and be resistant to most acids, bases and solvents and be capable of being flushed and dried in place (water-based liquids). The cable will not require replacement after a leak event of any compatible and/or volatile liquid. The cable shall have a breaking strength of at least 100 lb (45 kg) and shall be resistant to corrosion, abrasion and most chemicals tested in accordance with exposure procedures in ASTM D-543.

ATP

Sensor cable shall be a twisted-pair construction. The cable insulation shall be irradiated cross-linked PE. The cable shall be designed to detect water-based liquids and be factory installed in polyurethane foam insulation.

ATP Components	
Part No.	**Description**
8017732	ATP Sensor Cable
8027800	ATP Crimp Splice Kit
8068308	ATP Crimp Tool

CONTACT US

The PermAlert technical staff is comprised of multidisciplinary product professionals to support you accross a range of leak detection product requirements. Rely on our technical staff to help you minimize your leaks and maximize your asset protection.

For more information about our products, please visit us at permalert.com.