PERMALERT
Environmental Specialty Products

Sensor Cables
Product Data

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.

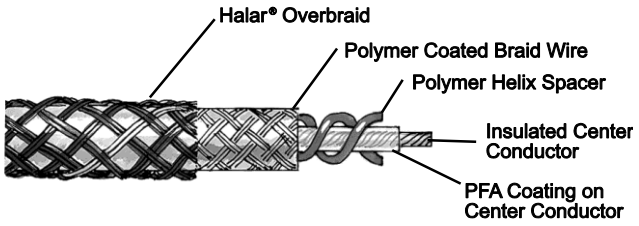
PAL-AT TFH hydrocarbon sensor cable uses a hydrocarbon permeable jacket to detect hydrocarbon liquids while ignoring water-based liquids. In most cases, the sensor cable must be replaced after exposure to hydrocarbons.

ATP

ATP is a cable designed to monitor pre-fabricated 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.

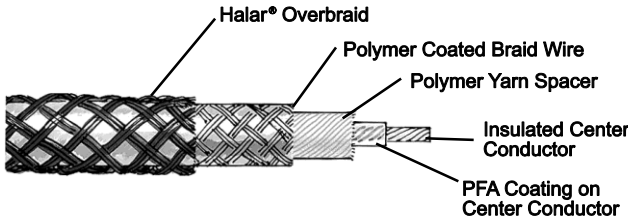
AGW-Gold

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.



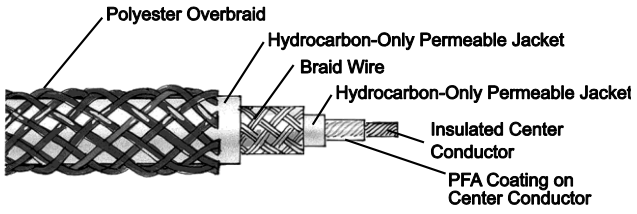
AGT-Gold

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 and equipment applications. AGT-Gold should be installed in temperature and humidity controlled environments. This cable requires more drying time than AGW-Gold.



TFH

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



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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 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 and Accuracy

Effective Length ft m)		<2,500 (750)	<5,000 (1500)	<7,500 (2300)
Sensitivity				
AGW-Gold, AGT-Gold	Water	3 (1.0)	3 (1.0)	3 (1.0)
AGW-Gold, AGT-Gold	Hydrocarbon	5 (1.5)	12 (3.6)	20 (6.0)
TFH	Hydrocarbon	5 (1.5)	12 (3.6)	20 (6.0)
ATP	Water	3 (1.0)	6 (2.0)	N/A
Accuracy ft(m)				
AGW-Gold, AGT-Gold	Water	±5 (1.5)	±5 (1.5)	±15 (4.5)
AGW-Gold, AGT-Gold	Hydrocarbon	±5 (1.5)	±10 (3.0)	±20 (6.0)
TFH	Hydrocarbon	±5 (1.5)	±10 (3.0)	±20 (6.0)
ATP	Water	±10 (3.0)	±30 (9.0)	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	8017635	250 (120)	.31 (8.0)	hydrocarbon only
ATP	8017732	302 (150)	.20 (5.0)	water-based only

NOTES:

- 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.
- 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.

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. 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.

TFH

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

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

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