

# The AV-PCL01 Pipeline & Cable Locator



## INTRODUCTION

The AV-PCL01 Pipeline & Cable Locator is designed for the underground utilities route locating, the depth measuring and distance tracing.

The multi-coil electromagnetism technology is adopted to enhance the capability of pipeline/cable locating, depth measurement and recognition. A distance trace of the pipeline/cable can be recorded to spot the pipeline/cable from the crowded complex. It is widely used in the telecommunication, electric, tap water, natural gas and physical prospecting.

## FEATURES

- Detect the route of underground cable and pipeline
- Measure the depth of underground cable and pipeline
- Determine the insulation degree of underground cable and pipeline
- With no physical touching of underground cable and pipeline
- 12 month warranty

## SPECIFICATIONS

Transmitter	
Signal frequency	a) Inject mode: 480 Hz, 7.7 KHz, 31 KHz and 61KHz b) Induct mode: 31 KHz, 61 KHz c) Inductive clamp mode: 31 KHz
Output Pressure	0-400 VP-P automatic/manual adjust due to the insulated instance
Output wave form	Sine wave
Power source	11.1 VDC 4.4 AH Li-ion
Peak output power	10 W
Receiver	
Max test buried depth	4.5 meters (normal instance)
The test buried depth error	$\leq 0.05 H \pm 5$ cm ("H" is the pipeline/cable buried depth)
The test route error	$\leq 5$ cm (normal condition)
The effective length under detecting pipeline route and depth	With Inject mode: $\geq 10$ Km (normal instance) With Induct mode: $\geq 6$ Km (normal instance)
Insulation Fault Finding	Insulation deterioration From a short circuit until 2 M $\Omega$
Power loss	< 1 W
Power source	11.1 VDC 1.8 AH Li-ion
Note: The objective pipeline has no insulated failure or other interruption in the above-mentioned range in the normal instances.	
Environmental request	
Operating Temperature	-20 to +50 °C, 10% to 90%
Storage temperature	-40 to +70 °C, 10% to 90%
Atmospheric pressure	86 to 106 KPa Environment noise
Physical property	
Weight / Dimensions	Transmitter: 3.4 kg / 348 × 239 × 175 mm
	Receiver: 2.6 kg / 648 × 260 × 130 mm
	The whole machine: 14 kg / 790 × 250 × 420 mm

## STANDARD ACCESSORIES

S/N	Picture	Description	Quantity
1		Transmitter	1
2		Receiver	1
3		Large Carrying Case with travel wheels	1
4		Charger	2
5		Earthing Stick	1
6		Signal Output line	1
7		Inductive Clamp	1
8		Stethoscope	1

## MAIN CHARACTERISTICS

- The survey signal transmission mode:

Direct Inject mode: to inject the spot on the pipeline to survey the route and the burying depth, it has high measurement accuracy and anti-jamming ability.

Induction coupling mode: to be used in the railway, the coal gas, the physical prospecting, where the line cable does not have pours into the spot on the pipeline to survey the route and the burying depth.

Inductive clamp mode: to use the inductive clamp for inflicting the transmitter signals directly onto the objective pipelines.

- Many survey frequency: 480 Hz, 7.7 KHz, 31 KHz, 61 KHz and 50 Hz of passive frequency for Power cable, which allows the operator to select according to the environment.

(Customized survey frequency is available on request).

- Improved test efficiency with the following localization pattern and function: Peak value pattern: Determines the position through the maximum route signal. Valley value pattern: Determines the position through the minimum route signal.

Route direction detection: Direct-viewing, instructs the route rapidly the direction. Current test (CM): find the target pipeline/cable by using the current.

Stethoscope: find the pipeline/cable through stethoscope from the multitudinous pipelines.

- Auxiliary function:

Automatic control receiver gain: The automatic control receiver gain keeps the receiver to be at the optimized condition.

Sound function: The receiver reflects the survey intuitively through the tonality change the signal size.

Pipeline state detection: when the transmitter in inject mode, first test is the resistance and voltage of pipeline, then send the signal to a pipeline. If the resistance is too small (almost in short-circuits) the transmitter will withdraw from inject mode, when the voltage is too large the transmitter will warning, the operator must stop the transmitter.

Battery test: Real-time detection of battery, when the voltage lower than the protect value, the transmitter will automatic shutdown.

Power saving function: Under the following two situations the machine will automatically shut down to conserve battery power,

- 1) Do not press any other key after Transmitter opened for 30 seconds.
- 2) About 10 minutes did not press any other key after the receiver power operation.