



PENETRO-1D

LIFE DETECTION RADAR



REAL-TIME HIGH
PERFORMANCE



HIGH RESOLUTION



HIGH PRECISION



ADVANCED SIGNAL
TECHNOLOGIES



STRONG COMPATIBILITY
WITH THE ENVIRONMENT



STRONG
PENETRATION

PENETRO-1D

LIFE DETECTION RADAR

GENERAL FEATURES

PENETRO-1D Portable Radar Life Detector detects human movement based on ultra-wideband radar principles. It can sense all types of motion, including chest expansion and contraction caused by human heartbeat, respiration, and limb movements. Using advanced detection and radar signal processing algorithms, PENETRO-1D captures signals reflected via the Doppler effect in the form of nanosecond-scale electromagnetic pulses. Thanks to this, it can rapidly detect and help locate individuals who are moving slightly or lying motionless, trapped under debris, in collapsed buildings, or behind obstacles, even over large areas. The device stands out with its lightweight and portable design and has strong penetration capability in collapsed structures and complex environments. Equipped with real-time multi-target detection and imaging functions, this high-tech search and rescue device is widely used by search and rescue teams, civil defense, fire departments, earthquake rescue operations, and emergency response units.



TECHNICAL SPECIFICATIONS

Radar System	UWB(ultra-wide band) radar	Detection Angle	120°
Antenna Type	UWB Antenna	Remote Control Distance	Open Area: ≥80 m
Operating Frequency	400MHz	Detection Sensitivity	≈10cm
Detection Distance Behind the Wall	Wall Thickness: 20-50 cm, Detection Distance: 25 m	Detection Mode	One-dimensional search/ Two-dimensional positioning
Number of Targets Detected	≥3	Operating Temperature	-20°~+60°
Penetrating Materials	Non-metal materials such as concrete, soil, rock, wood and material with low water content	Dimension	430x430x181 mm
		Weight	≈6.5 kg
		Working Time	≈5h x2