

Z8

Vision-Fused Multi-Point Deformation Monitoring System



► Vision-Fused Multi-Point Deformation Monitoring System

Z8 utilizes phase-differential measurement and deformation inversion methods to obtain precise displacement changes. By integrating video surveillance, edge computing, and other functionalities, it enables multi-point and areal deformation monitoring. Z8 identifies parameters such as the line-of-sight deformation of the target geological body, while the visual sensor is employed for regular patrol inspections, focused observation of key locations, and auxiliary validation of Z8 data to reduce false alarms. It is well-suited for applications including tailings dam slopes, highway slopes, reservoir dams, and geohazard slopes.



► No More Sudden Disasters



Full-Coverage, Contact-Free,
High-Precision
Areal Monitoring



Adaptive Data Acquisition
with Automatic Anomaly
Reporting



Intelligent Image
Verification

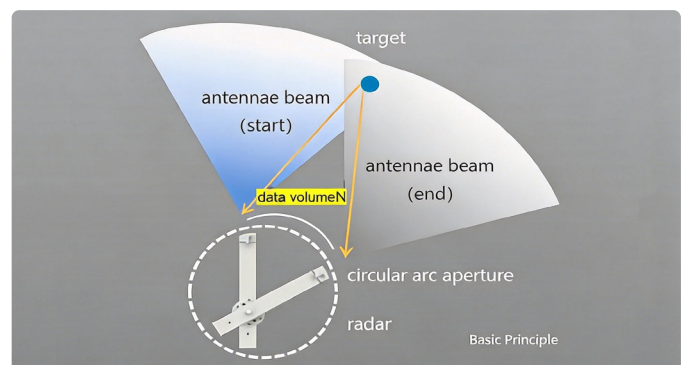


All-Weather Durability & High
Protection Rating

► Omni-Directional Areal Monitoring

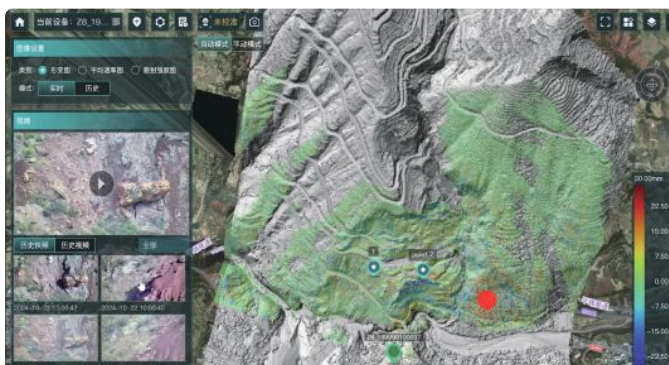


Features horizontal 360° and vertical -30° to 60° adjustment, enabling comprehensive, wide-area areal monitoring.

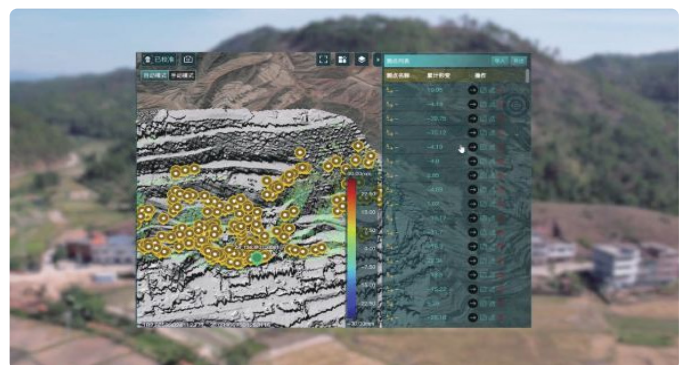


Employs synthetic aperture imaging technology and phase differential interferometric deformation extraction algorithms to achieve sub-millimeter-level high-precision monitoring.

► Adaptive Data Acquisition & Automatic Anomaly Reporting



The adaptive data processing algorithm autonomously adjusts the sampling and uploading frequency based on on-site conditions, implementing "measuring when moving".



Built-in algorithms automatically report anomalies outside the predefined monitoring points, alerting users to potential risks in a timely manner.

► All-Weather, 24/7 Monitoring

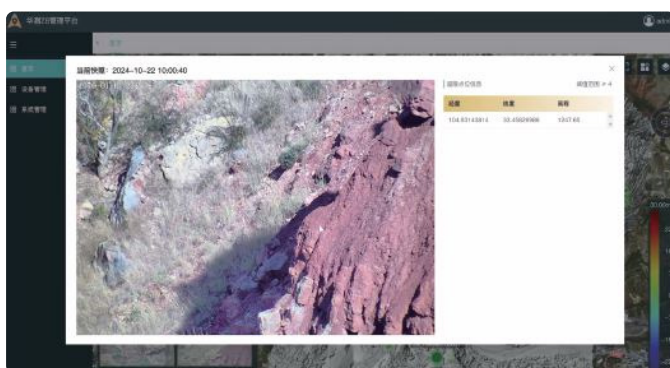


Featuring active microwave technology and an IP66 enclosure, it operates reliably in rain, snow, fog and other harsh conditions for true all-weather performance.

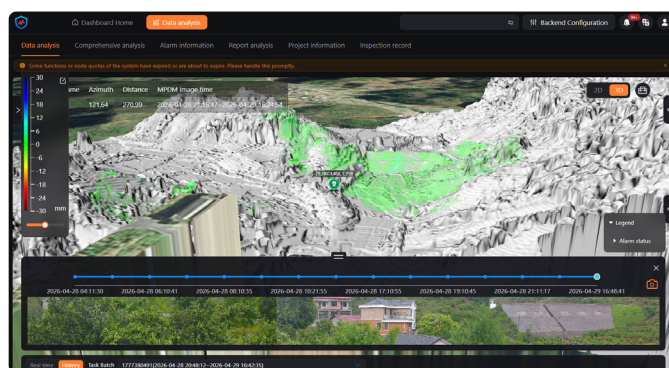


Add a laser fill light to illuminate captured photos at night.

► Visual Evidence & Panorama Linkage

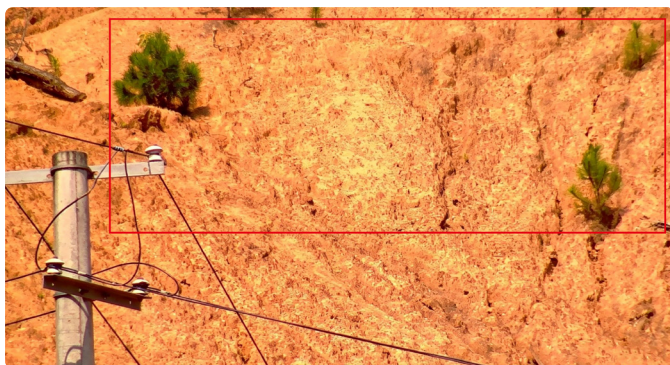


Automatically captures visual evidence upon detecting anomalies, reducing the need for personnel to conduct on-site inspections.



Built-in camera creates panoramic base map with two-way linkage of radar data and panorama.

► AI Identification of Interferences & Optional Rockfall Detection Module



AI analysis identifies interference sources such as vegetation and trees

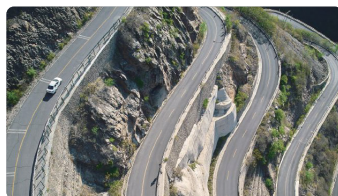


Optional AI-powered rockfall detection accessory available, capable of detecting fast-changing scenarios such as rolling rocks and sudden slope collapses.

► Use Cases



Tailings dam slope



Highway Slope



Reservoir Dam



Geohazard Slope

SPECIFICATIONS

► Technical Parameters

Maximum Monitoring Distance	1 km
Field of view	360°
Antenna adjustment	Vertical: -30° ~ +60°
Displacement Accuracy	Sub-millimeter Level
Distance Resolution	≤ 0.3 m
Angular Resolution	≤ 9 mrad
Image Resolution	≥ 2 Megapixels, Support Zoom
Minimum Sampling Interval	≤ 1 min
Upload Interval	1 min ~ 24 h
Communication Methods	Mobile Communication/Satellite Communication
Operating Frequency Band	Ku
Output Parameters	Displacement, Displacement Acceleration, Deformation Map, Complex Reflection Map, Video Static Image, etc.

► Physical Characteristics

Size (L × W × H)	475 mm × 324 mm × 398 mm
Weight	15.9 kg (without support)
Operating Temperature	-40°C ~ +65°C
Storage Temperature	-40°C ~ +70°C
Protection Class	IP66
Installation Notes	Standard Observation Pier, On-site Concrete Pier, Steel Structure, etc.

► Electrical

Average Power Consumption	≤ 20 W
Power Supply	9-22 V DC
Power Supply Mode	Supports 30 Consecutive Cloudy/Rainy Days of Normal Operation; Equipped with Overvoltage/Undervoltage Protection

*All specifications are subject to change without notice.

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