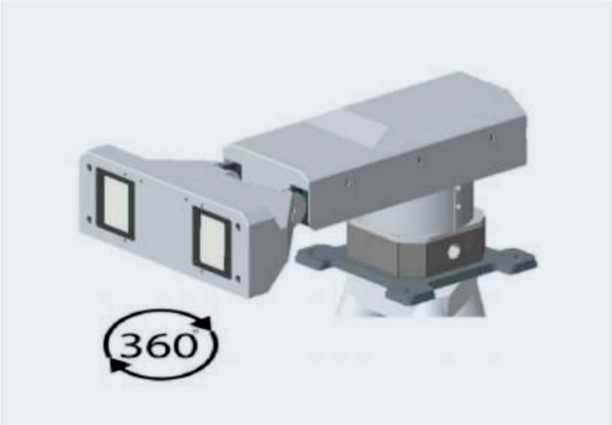


SAR-360-U

A synthetic-aperture radar designed for full-azimuth slope monitoring, all-weather unattended operation, and automated early warning.

Radar Technology Innovation

SAR-360-U is a universal lightweight 360° deformation monitoring radar based on arc synthetic aperture radar imaging and interferometric differential technology. It is built for concealed hazards in geological disasters, water conservancy projects, railways, highways, mines and large earthworks, enabling real-time scanning, deformation tracking, long-term unmanned monitoring and automated alarms.



Full-Azimuth Wide-Area Sensing

360° full-azimuth rotation, with a monitoring coverage of up to 800 m in one installation.



Ultra-Low Power Design

The complete unit weighs about 6 kg and typically runs at 15 W, greatly reducing field power demand.



Affordable Deployment Cost

Low cost of ownership and installation; supports operation down to -20°C.



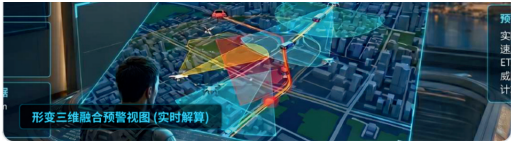
Built for Harsh Outdoor Sites

Enclosed structure enables all-weather monitoring in wind, rain, snow, fog and dust.

Radar System Specifications

Key Metric	Value / Description
Deformation Accuracy	0.1 mm
Radar Scan Coverage	360° / 800 m
Overall Weight	≤ 6 kg
Typical Power	15 W
Display & System	3D Fusion Display / Alarms
Operating Temperature	≥ -20°C

Application Scenarios



Application note:

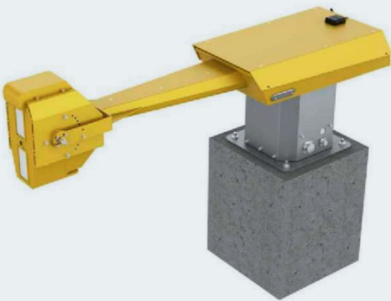
Suitable for wide-surface deformation monitoring of highway and railway slopes, reservoirs, geological hazard points and mine slopes.

SAR-360-P

Tip-mounted InSAR equipment with 5 km ultra-long-range coverage for 24/7 sub-millimeter monitoring of large projects and geological hazards.

Ground Radar Innovation

SAR-360-P is a professional fixed 360° deformation monitoring radar, also known as ground-based InSAR / ground-based radar / interferometric radar. It combines arc synthetic aperture radar imaging with interferometric differential technology for broad-area deformation measurement over open-pit mines, geological hazards, water projects and major earthworks.



5 km Long-Range Coverage

360° full-azimuth rotation with ultra-long-range deformation monitoring up to 5 km.

Sub-Millimeter Accuracy, No Prism Needed

Industry-grade 0.1 mm deformation accuracy without reflective prisms or fixed control points.

Field-Ready Protection

Integrated structure and temperature-control system support operation from -40°C to extreme heat.

All-Weather Unattended Operation

Stable monitoring in rain, snow, dense fog and dusty conditions.

Radar System Specifications

Key Metric	Value / Description
Deformation Accuracy	0.1 mm
Radar Scan Coverage	360° / 5 km
Display & System	3D Fusion Display / Alarms
Protection Rating	IP65

Application Scenarios



Application note:

Designed for large open-pit mines, high slopes and large reservoirs where 5 km range and fixed installation are required.

SAR-MP2-360

A flexible dual-branch system for small-to-medium open-pit mines and geological hazard monitoring, supporting 360°/2 km and 120°/4 km options.

Core Product Overview

SAR-MP2-360 is a standard fixed deformation monitoring radar based on synthetic aperture radar imaging and interferometric differential technology. The series offers Type A and Type B configurations to adapt to different monitoring requirements, delivering high-precision, wide-area deformation monitoring for small-to-medium mines and major earthworks.



For Small & Medium Open-Pit Mines

Type A/B options deliver 360°/2 km or 120°/4 km coverage for flexible wide-area deployment.

Sub-Millimeter Accuracy, No Prism Needed

0.1 mm deformation accuracy with fully non-contact monitoring.

Long-Term Stable Operation

Industrial design and temperature-control system support continuous field operation down to -40°C.

All-Weather Unattended Operation

Reliable monitoring through heavy rain, snow, dust and dense fog.

Dual-Model Specification Comparison

Key Metric	Value / Description
Deformation Accuracy	0.1 mm
Type A Coverage	360° / 2 km
Type B Coverage	120° / 4 km
Display System	3D Fusion Display / Alarms
Overall Weight	≤ 10 kg

Open-Pit Mine Applications



Application note:

For small-to-medium open-pit mines and geological hazard points requiring flexible configuration and long-term deformation monitoring.

SAR-360-L

A 9 kg ultra-portable radar for urgent response and rapid deployment, delivering wide-area 5 km monitoring whenever and wherever risk emerges.

Lightweight Emergency Revolution

SAR-360-L is an emergency lightweight deformation monitoring radar based on solid-state synthetic aperture radar technology and frequency-continuous wave signal design. It is built for urgent disaster response, enabling single-person transport, rapid setup, minute-level deployment and timely safety support at sudden risk sites.



5 km Remote Wide-Area Sensing

Provides 360° full-azimuth deformation scanning and up to 5 km mid- to long-range monitoring.

9 kg Ultra-Portable Body

A lightweight frame and integrated tripod enable one-person field deployment.

Sub-Millimeter Accuracy, No Prism Needed

0.1 mm deformation accuracy with fully non-contact remote monitoring.

All-Weather Operation

Works in unmanned outdoor conditions without being interrupted by night, rain, snow, dust or fog.

Emergency Field Specifications

Key Metric	Value / Description
Deformation Accuracy	0.1 mm
Radar Scan Coverage	360° / 5 km
Portable Weight	≤ 9 kg
Display & Alarms	3D Fusion Display / Alarms

Emergency Response Applications



Application note:

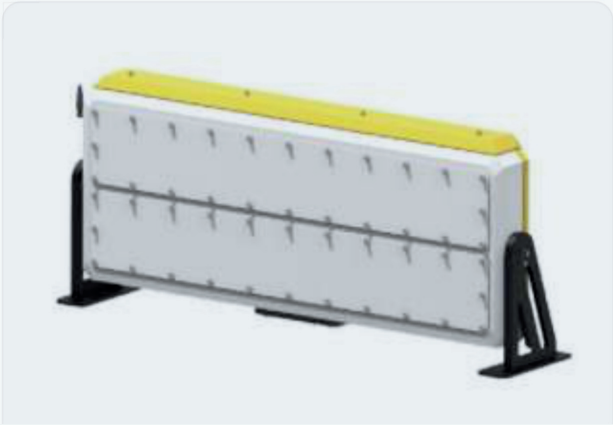
Designed for landslide rescue, emergency risk monitoring and disaster-response sites where fast deployment and portable equipment are essential.

SAR-120

A MIMO-based fully solid-state system with a 120° wide-angle beam, 10-second refresh rate and sub-millimeter accuracy.

Solid-State Radar Innovation

SAR-120 is a new-generation fully solid-state array deformation monitoring radar. Based on MIMO imaging and interferometric differential measurement, it abandons traditional mechanical moving components and uses a pure electronic array antenna scan to capture deformation data rapidly and reliably over open-pit mines, slopes, geological hazards and major earthworks.



Solid-State Array, No Moving Parts

Eliminates mechanical scanning components to improve system stability and equipment life.



120° / 4 km Wide-Area Coverage

Wide-angle beam covers large monitoring areas up to 4 km away.



Second-Level Refresh

MIMO electronic scanning refreshes data in seconds for rapid deformation capture.



Sub-Millimeter Accuracy, No Prism Needed

0.1 mm high-precision non-contact monitoring without reflective prisms or control points.

Radar System Specifications

Key Metric	Value / Description
Radar System	Fully Solid-State MIMO Array
Deformation Accuracy	0.1 mm
Scan Field of View	120° × 40°
Longest Sensing Range	4 km
Data Refresh Rate	10 s / update
Total Weight	12 kg

120° Field of View Applications



Application note:

Built for high-frequency monitoring of open-pit mines, high-risk geological hazards and water conservancy works where rapid deformation updates are required.

SAR-120R

Based on high-speed linear scanning and synthetic aperture radar technology, SAR-120R provides 120°/5 km sub-millimeter monitoring for mines and geological hazards.

Linear Radar Innovation

SAR-120R is a rail-mounted waveform-control deformation monitoring radar developed with a self-developed synthetic aperture radar architecture and high-precision rail-based interferometric differential technology. It supports continuous linear scanning for large open-pit mines, geological hazards, water projects and railway/highway slopes.



Mine & Disaster-Specific Version

Customized rail scanning architecture for large open-pit mines, high slopes and geohazard monitoring.

Atmospheric Disturbance Compensation

Built-in atmospheric compensation algorithm reduces the impact of long-distance atmospheric fluctuation.

7×24 Continuous Scanning

Keeps scanning around the clock without interruption from rain, fog, dust or light variation.

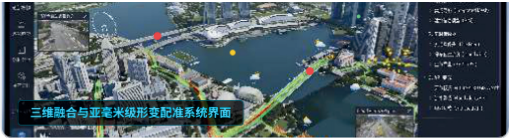
3D Fusion with Sub-Millimeter Calibration

Supports point-cloud fusion display and precision positioning of millimeter-level deformation.

Radar System Specifications

Key Metric	Value / Description
Radar Architecture	Linear SAR
Deformation Accuracy	0.1 mm
Radar Scan Coverage	120° / 5 km
Operation Mode	7×24 continuous surface scanning
Algorithm	Adaptive atmospheric compensation
Display & Alarms	3D Fusion Display / Alarms
Protection Rating	IP65

Application Scenarios



Application note:

For large open-pit mines, reservoir slopes and high-risk geohazard sites requiring continuous 5 km class linear scanning.

MR-1K

A multi-Doppler radar for rockfall and collapse disaster scenarios, enabling multi-target tracking and instant acoustic-light alarms.

Multi-Doppler Target Capture

MR-1K is a geological-collapse exploration radar for rockfall, collapse, avalanche and debris-flow scenarios. Based on multi-Doppler technology, it performs active detection and early warning over open-pit mine slopes and geohazard areas, automatically recording hazard evolution and target trajectories.



Multi-Target Tracking & Acoustic-Light Alarm

Tracks multiple moving targets at the same time and triggers high-intensity alarms immediately when abnormal motion is detected.



Trajectory + 3D Terrain Overlay

Overlays rockfall trajectories on 3D terrain to help commanders understand impact direction.



All-Weather Penetrating Sensing

Radar detection is not affected by long distance, darkness, wind, rain, snow or dust.



360° Pan-Tilt + Built-In Camera

Pan-tilt supports 360° rotation and the built-in camera enables remote visual verification.

Radar System Specifications

Key Metric	Value / Description
Radar Core	Multi-Doppler Technology
Max Detection Range	1000 m
Scan Detection Area	90° × 30°
Min. Response Speed	0.5 m/s
Alarm Linkage	Built-in camera / acoustic-light alarm
System Fusion Display	Trajectory + 3D terrain overlay
Total Weight	8 kg

Application Scenarios



Application note:

Suitable for active hazard monitoring in highway and railway slopes, mine slopes, reservoirs and other areas vulnerable to rockfall, collapse or debris flow.

SAR-A100

An integrated edge station for fixed slope monitoring and emergency deployment, enabling autonomous calculation and alarms under limited connectivity.

Integrated Edge Hub

SAR-A100 is an engineering network edge platform for indoor deployment, field edge computing and fixed/emergency monitoring. It integrates a computing unit, monitoring platform, power supply, network unit, camera, remote-control module and multiple sensors, enabling unmanned edge computing, local operation and automatic alarms under harsh outdoor conditions.



Edge Platform, Autonomous Computing

Built-in computing platform supports independent field calculation even when network connection is limited.

Multi-Source Power & Built-In Routing

Supports utility power, solar power, generators and built-in routing for reliable communication.

Remote Control & Precision Time Sync

Remote control module and time-sync unit enable remote management and data synchronization.

Built-In Temperature Control & IP65 Protection

Designed for -40°C to 60°C outdoor operation with IP65 industrial protection.

Edge Platform Configuration

Key Metric	Value / Description
Edge Computing Platform	Supports independent operation and scalable collaboration
Multi-Source Power Input	Utility / solar / generator + built-in router
Internal Modules	Compute / network / power / time-sync / control units
External Sensors	Camera, weather station, acoustic-light alarm, etc.
Mounting Accessories	Self-standing column assembly; optional installation service
Operating Temperature	-40°C ~ 60°C
Protection Rating	IP65

Field Deployment Site



Application note:

Used as a front-end edge station for railways, highways, dam slopes, reservoirs and large construction sites where remote monitoring needs local computing and autonomous alarms.