

Ground Surveillance Radar

GSR 216-1S / S band



GSR216-1S, working in S-band, adopting the digital technology of active phased array system through the modular, satisfactory design, the integrated use of adaptive moving target detection, digital T/R (transmit/receive), DBF (digital beam forming), analogue to digital integration design, with a stable detection performance, high precision, and low cost.

Is an excellent ground-moving target detection radar, which can realize the critical monitoring area ground-moving target detection, vigilance and position indicator for monitoring the system to provide real-time, accurate and continuous target information.

Technical Highlights

- All-digital active phased array technology system, receiving and receiving DBF technology
- Digital T/R technology and highly integrated RF and digital integration design technology
- Adaptive moving target detection and doppler clutter suppression
- Stabilization tracking technology of ground moving target



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Advanced technology

GSR216-1S radar adopts the phased array system of one-dimensional phase sweep, carries out electrical scanning in azimuth, as the result the beam pointing is flexible and fast, and can realize rapid scanning without inertia. At the same time, it can carry out non-uniform detection, and adopt different detection schemes for different regions to improve the overall detection performance. The software radar design scheme based on the full digital phased array system has strong expansibility and online upgrade capability.

Excellent ground moving target detection ability

GSR216-1S Radar with Doppler filtering system, is designed based on the phased array system, which completely eliminates the clutter spectrum diffusion problem caused by the scanning modulation of radar antenna. It can be configured online for a long time and has stronger clutter suppression ability, which is more conducive to detection and tracking of low speed moving targets in a strong clutter environment.

High reliability

GSR216-1S radar does not need mechanical rotating equipment, which will not affect radar operation due to mechanical and electrical failure, and with higher reliability.

At the same time, compared with the parabolic radar with single channel, the phased array radar works in parallel with multiple channels, which can work normally even if some channels fail, thus improving the mission reliability of the product.

Simple installation, easy to operate

GSR216-1S radar adopts modular design, simple structure, easy installation, no rotating joint, and can be applied to different installation conditions.

Radar array interface is simple, including only a power interface and a network interface, simple and convenient wiring. The radar outputs the target position and feature information, which is displayed and operated in the supporting terminal software. The terminal software is simple to operate and easy to learn and use.

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Item	Specification
Working system	Phased array system (Azimuth phase sweep)
Working mode	Pulse doppler
Working frequency	S band (5 operating frequency points)
Maximum detection range	≥ 8km (Pedestrians) ≥ 15km (Vehicle/ships)
Minimum detection range	≤ 100m
Detection range	Azimuth coverage : 90° (Can be multi - planar array splicing, to 360°) Elevation coverage : 18° (Center to adjustable range -12°- 12°)
Detection speed	0.5m/s~45m/s
Accuracy of measurement	Range accuracy : ≤ 10m Azimuth accuracy : ≤ 1.0° Speed accuracy : ≤ 0.5m/s -45m/s
Data rate	Searching : ≤2s
Data interface	RJ45, UDP
Power supply	AC 220V
Power consumption	≤ 200W
Working environment	Working temperature : -40°C~+55°C ; Storage temperature : -45°C~+65°C ; Waterproof grade is IP 66 at least.
Dimension	682mm×474mm×232mm
Weight	≤30kg
Note: Detection range condition: for pedestrians or vehicles (ships) with radial velocity not less than 0.5m/s, false alarm probability is 10-6, and detection probability is 0.8.	