

Attachment 1:

CW-C18 MP Low-Altitude Surveillance Radar Specifications

The CW-C18 MP low-altitude surveillance radar is a three-coordinate radar with integrated air-to-ground detection capabilities. This radar can quickly detect and continuously track targets such as drones, aircraft, and birds, while also monitoring ground targets (people, vehicles) and surface vessels. Thanks to its advanced dynamic platform clutter suppression algorithm, this radar possesses excellent "moving detection" capabilities, supporting stable omnidirectional scanning and high-precision tracking while the vehicle is in motion, effectively counteracting environmental interference caused by the vehicle's movement.

This radar utilizes simultaneous multi-beam technology and high-performance signal processing technology to efficiently and accurately acquire the position and motion status of multiple targets in complex and dense environments. Employing a continuous wave operating mode with lower transmission power, it significantly improves electromagnetic intercept resistance compared to pulse systems.

In a collaborative detection system, this radar can serve as a core sensing unit, providing high-precision target data to other sensors (such as optoelectronic devices and bird deterrent devices) to achieve precise guidance.

This radar can be widely used in various fields such as vehicle-mounted mobile patrol, key area protection, low-altitude economy, airport bird detection, air traffic control, and border and coastal defense.



Figure 1. Product Image

I. Product Features

- **High detection accuracy:** Based on advanced signal processing algorithms and system hardware architecture, it exhibits excellent accuracy in distance, speed, azimuth and altitude measurements, providing stable and accurate perception data for command decision-making and target tracking and countermeasures.
- **High-capacity wide-area detection:** Employing azimuth mechanical scanning and elevation DBF technology, it achieves 360° azimuth and 64° elevation coverage. Relying on a high-performance signal processor, the radar enables real-time detection and tracking of 300 moving targets across the entire field of view, easily handling complex scenarios with a wide range and multiple targets.
- **Exceptional detection capability while moving:** Employing dynamic platform clutter compensation technology, the radar maintains high-performance detection even while the vehicle is in motion. The system can correct for Doppler frequency shifts caused by vehicle movement in real time, ensuring stable target locking and tracking capabilities even during mobile patrols.

➤ **High refresh rate for precise tracking:** With a high refresh rate of 180°/s (upgradable to 360°/s), the radar utilizes a self-developed tracking filtering algorithm to significantly improve the tracking capability of high-speed and highly maneuverable targets.

➤ **Highly sensitive detection with low false alarm rate:** Through sophisticated clutter suppression technology, it can effectively extract weak target signals in complex electromagnetic environments such as strong ground clutter and weather clutter, while maintaining the false alarm probability at an extremely low level to ensure the T18MP's extremely high energy efficiency.

➤ **Strong anti-clutter interference capability:** With its extremely high visibility under clutter, it can continuously and stably track ultra-low-altitude moving targets in cluttered environments such as urban buildings.

➤ **High safety:** Low radiation power, effectively improving the operational safety of equipment and personnel.

➤ **Simple to operate and easy to carry:** The intelligent human-computer interaction design makes it easy to get started and use quickly. The equipment hardware adopts a lightweight and modular structure design, which can realize efficient setup, dismantling and mobile deployment.

II. Product Specifications and Indicators

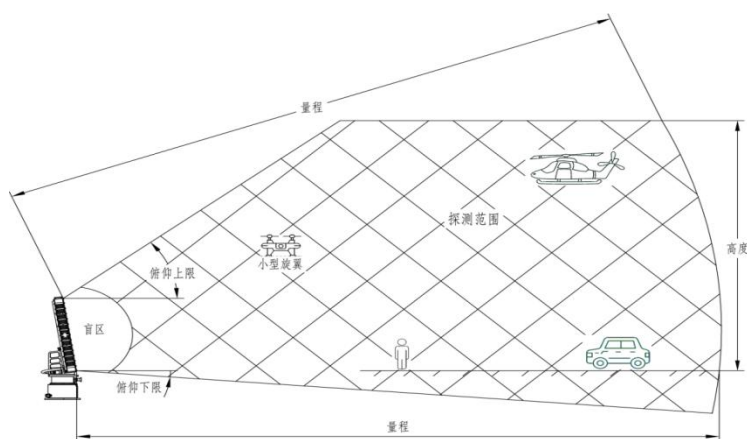


Figure 2. Schematic diagram of product detection

1. Operating frequency band: X-band
2. Technical system: Azimuth mechanical scanning + Pitch DBF
3. Vehicle tilt angle limit: $\leq \pm 10^\circ$

4. Vehicle speed limit: $\leq 40\text{km/h}$

5. Measurement range

- ① Detection range: 15km
- ② Maximum detection altitude: 4000m
- ③ Detection blind zone: 50m
- ④ Aspect coverage: 360°
- ⑤ Pitch coverage range: -4° to 60°
- ⑥ Speed measurement range:
1-150m/s (fixed installation)
5-150 m/s (during travel)

6. Detection capabilities

Fixed installation:

- ① Small drones (RCS= 0.01 m^2): $\geq 8\text{km}$
- ② Medium-sized UAV (RCS= 1 m^2): $\geq 15\text{km}$
- ③ Vehicles and helicopters (RCS= 5 m^2): $\geq 15\text{km}$

While on the move:

- ① Small drone (RCS= 0.01 m^2 , Phantom 4): $\geq 6.5\text{km}$
- ② Medium-sized UAV (RCS= 1 m^2): $\geq 15\text{km}$
- ③ Vehicles and helicopters (RCS= 5 m^2): $\geq 15\text{km}$

7. Measurement accuracy (RMS)

Fixed installation:

- ① Distance measurement accuracy: $\leq 5\text{m}$
- ② Speed measurement accuracy: $\leq 0.5\text{m/s}$
- ③ Angle measurement accuracy: $\leq 0.4^\circ$ (azimuth), $\leq 0.4^\circ$ (elevation)

While on the move:

- ① Distance measurement accuracy: $\leq 10\text{m}$
- ② Speed measurement accuracy: $\leq 1\text{m/s}$
- ③ Angle measurement accuracy: $\leq 0.8^\circ$ (azimuth), $\leq 0.8^\circ$ (elevation)

8. Refresh rate: 2s (30rpm, standard), 3s (20rpm), 1s (60rpm, upgradeable)

9. Simultaneously tracking target number: ≥ 300 batches

10. Environmental adaptability

- ① Operating temperature: -40°C~+55°C
- ② Operating humidity: ≤90%
- ③ Protection rating: IP66 (Radar main unit IP67)

11. Interface/Power Supply

- ① Power supply: DC36~52V (with AC220V-DC48V adapter)
- ② Power consumption: ≤330W
- ③ Communication: Ethernet (circular aviation connector)

12. Size/Weight:

name	size	weight	Post-packaging dimensions	Packaging weight
host	655*680*115	19kg	790*740*230	35kg
turntable	412*Φ225	14kg	360*360*480	22kg
tripod	940*230*230	12kg	1140*290*290	15kg

III. Delivery List

Serial Number	name	quantity	unit	describe
1	Radar main unit	2	department	
2	Radar turntable	2	tower	
3	tripod	2	indivual	
4	Radar main unit transport box	2	indivual	Aluminum alloy transport box
5	Radar turntable transport box	2	indivual	Aluminum alloy transport box
6	power adapter	2	root	AC220 to DC48V (15m)
7	Communication cables	2	root	15m
8	Assembly tools and screws	2	set	

9	Display and control software DEMO	2	share	Executable file .EXE
10	Random Documents	2	share	User manuals and other documents (electronic version)