



LEONARDO Germany GmbH

METEOR 2000S

Solid-State Weather Radar





Technical Data

Mode Doppler	Dual Polarization
Operating Frequency Range	2700 – 3000 MHz (S-Band)
Typical Operational Range/ Technical Range	200 km / 600 km
Maximum Doppler Velocity	± 147 m/s
System Phase Stability	$\leq 0.05^\circ$
Transmitter Type	Independent GaN Solid State amplifier modules for each polarization
Peak Power	20 kW (2x10 kW) and 10 kW (2x5 kW)
Noise Figure (Total Receiver)	≤ 2.0 dB

METEOR 2000S Solid-State Weather Radar

Reliable Long-Range Weather Surveillance

The METEOR 2000S is a next-generation solid-state S-Band weather radar designed for reliable, long-range meteorological surveillance in the world's most demanding weather environments. Operating in the S-Band frequency range, the METEOR 2000S is ideally suited for areas experiencing frequent heavy rainfall, thunderstorms, tropical weather systems, and severe precipitation events, where attenuation by intervening heavy rainfall impedes the precise measurement of precipitation. Thanks to its longer wavelength, signal attenuation caused by heavy precipitation is reduced compared to higher-frequency weather radars.

Solid-State Technology

The METEOR 2000S is a dual-polarization Doppler weather radar featuring a fully coherent solid-state architecture. Based on advanced GaN transmitter technology, the system uses independent amplifier modules for each polarization, providing high reliability, excellent phase stability, and outstanding measurement accuracy. Advanced pulse compression techniques and flexible waveform generation enable superior weather detection and observation capabilities.

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Combining the proven performance of traditional high-power weather radars with the benefits of modern solid-state technology, the METEOR 2000S delivers radar performance comparable to legacy klystron-based systems while significantly reducing maintenance requirements and lifecycle costs.

The radar is equipped with the GDRX® 6 Digital Receiver and Signal Processor and incorporates the latest pulse compression technology to maximize sensitivity and data quality. The system is supplied with Rainbow® 7, Leonardo's latest meteorological radar software suite, providing advanced data processing, visualization, and product generation capabilities.

By integrating state-of-the-art digital signal processing, a fully coherent radar design, and modern GaN solid-state transmitters, the METEOR 2000S delivers highly accurate weather information, high operational availability, and dependable long-term performance for demanding meteorological applications.

METEOR 2000S Highlights

- Modern state-of-the-art solid-state technology for high reliability and availability
- High-end weather radar with configurable transmitter power levels
- Graceful transmitter degradation
- 24/7 continuous operation
- Low maintenance requirements and reduced lifecycle costs
- Cabinet-mounted transmitter and receiver electronics, supporting easy calibration, maintenance and efficient cooling
- Excellent suitability for long-range weather surveillance
- Superior weather detection performance in heavy rain and severe storm conditions
- Reduced attenuation compared to higher-frequency weather radar bands



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