

METEOR 60DX



Gematronik Weather Radar Systems

METEOR 60DX COMPACT WEATHER RADAR

The METEOR 60DX sets the benchmark in cost efficient, high-end X-Band weather radar technology.

With its ultra compact design and receiver/transmitter-over-elevation configuration, the 60DX is suitable both for fixed installation and mobile applications. The innovative mobility option is based on a trailer approved for road service in Europe and most countries worldwide.

With dual polarization as a standard feature, the magnetron based system is a fully fledged high-end weather radar system, which delivers high quality data for a large variety of applications. The METEOR 60DX can be used for regional campaigns in hydrological forecasting and scientific research, as a gap-filler in existing meteorological networks or to fulfil general meteorological functions in the X-Band range.

METEOR PRODUCT LINE ADVANTAGES

- Optimized for Rainbow[®] 5, the most advanced meteorological software available on the market today
- Cutting-edge 16 bit signal processor GDRX[®] 5
- Dynrex receiver technology
- Unattended remote operation 24 hours a day, 365 days a year
- Long-life, state-of-the-art technology

- Full remote surveillance and control capability based on Ravis[®] maintenance tool
- Comprehensive BITE system
- Full network capability in heterogeneous networks
- Maximum use of COTS components (e.g. PC-based signal processing)

METEOR 60DX SYSTEM ADVANTAGES

- All METEOR high-end features in compact design
- Full METEOR system capabilities at X-Band price
- Dual Polarization capability is a STANDARD feature
- Proven magnetron technology
- Improved range resolution and scanning speed through multi-trip echo recovery
- X-Band advantage: Optimized for maximum sensitivity in short to medium ranges
- Suitable for fixed installation and mobile applications
- Trailer-based mobility solution is officially approved for road service according to EU law
- Mobile radar operation is independent from fixed electricity and telco networks
- Trailer can be towed by most SUVs





TECHNICAL DATA

SYSTEM	METEOR 60DX	
Mode	Doppler, Dual-Polarization	
Type	mobile	fixed
Operating Frequency Range	9300 - 9500 MHz (X-Band)	
Pulse Width	0.3 - 2.5 μs	
Pulse Repetition Frequency [PRF]	250 - 3000 Hz, user selectable	
Typical Operational Range /Technical Range	100 km / 600 km	
Maximum Velocity	± 96 m/s	
System Phase Stability	≤ 0.5°	
ANTENNA		
Type	Parabolic, prime-focus reflector	
Reflector Diameter	1.8 m	2.4 m
Minimum Gain	≥ 42.3 dBi	≥ 44.5 dBi
Maximum Half Power Beam Width	≤ 1.35°	≤ 1.0°
Step Response Time for 2° step ± 0.1°	≤ 1.0 s	
Polarization	Horizontal and vertical	
Angle Span	0° - 360° continuous in azimuth, -5° - +185° in elevation	
Angular Positioning Accuracy	± 0.05°	
Maximum AZ Scanning Speed	6 rpm	
RADOME		
Size	2.55 m	3.5 m
Type	Sandwich, fiberglass with polyurethane foam core; helix-cut	
Transmission Losses - one-way, dry surface	≤ 0.3 dB	
TRANSMITTER		
Type	Coaxial Magnetron with solid state, switched modulator	
Peak Power	75 kW	
RECEIVER		
Type	Superheterodyne	
Noise Figure (RF-to-IF Receiver)	≤ 2.2 dB	
Linear Dynamic Range @ 2.0 μs	≥ 93 dB	

GDRX® 5 DIGITAL RECEIVER & SIGNAL PROCESSOR	
Type	Modular, multi-channel digital receiver, connected to commercial-off-the-shelf industrial PC as signal processor
Intermediate Frequency [IF]	60 MHz
IF Sampling	16 bit, 180 MHz, 6 channels
Maximum Number of Processed Range Bins	10.000 per polarization @ fully activated algorithm chain
Minimum Processing Resolution	17.5 m
Processing Mode	PPP, FFT/DFT, Trip recovery and filtering
Clutter Filters	IIR, DFT linear or GIP (Gaussian iterative) interpolation
RAVIS® MAINTENANCE SOFTWARE	
Recommended Computer Platform	Commercial Off-the-Shelf Notebook
Operating System	Linux or Windows
RAINBOW® 5 METEOROLOGICAL SOFTWARE	
Recommended Computer Platform	Commercial Off-the-Shelf PC
Operating System	Linux or Windows
Standard Radar Meteorological Products	PPI, MPPI, RHI, CAPPI, Pseudo-CAPPI, MCAPPI, MAX, VCUT, MVCUT, EHT
Optional Product Groups	Hydrological, Aviation, Shear, Short-Term Forecasting, Phenomena Detection, Dual-Polarization, Pre- and Post-Processing, Warning

standard values, not an absolute limitation

TRAILER SPECIFICATIONS	
Total Weight (incl. Radome)	3500 kg
Length	2808 mm
Width	2550 mm
Height (incl. Radome)	3891 mm

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