Cloud Radar MIRA-35 / 35S

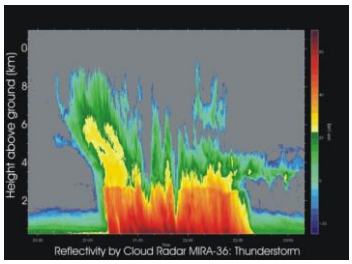
- Tropospheric profiler for long term observation of clouds
- Full hemisphere scanning option for 3-dimensional imaging of clouds structures (MIRA-35S)
- Profiles of Doppler spectra and reflectivity
- Very fine Doppler resolution (5 cm/s)
- Derivation of mean velocity and spectral width
- Characterization of cloud particles by dual-polarization parameters
- Up to 800 range gates
- Very high time resolution (> 0.1 seconds)

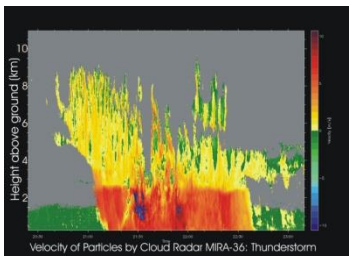
METEK Meteorologische Messtechnik GmbH

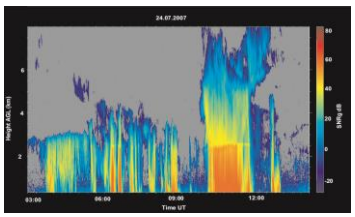
Cloud Radar MIRA-35 / 35S

Typical Applications

- Research in meteorology
- Cloud particle characterization
- Icing hazard detection
- Fog detection and nowcasting
- Wake vortex monitoring
- Eddy correlation fluxes
- Wind shear detection
- Synergy with other remote sensing instruments
- Meteorological networks
- Input for weather prediction
- Research stations
- Airports
- Marine and offshore platforms
- Industrial sites
- Wind energy
- Sport events







MIRA-35 / 35S is a Ka-Band Doppler radar with high sensitivity allowing to observe even light clouds. It is designed for unattended long-term operation. MIRA-35S is mounted on a pedestal allowing elevation and azimuth scanning within zenith angles from -90 to +90° and azimuth angles from 0 to 360° (continuous rotations).

Transmit frequency	33 … 37 GHz, 35.2 GHz recommended by ECC
Peak power / average power	30 kW / 30 … 60 W (approx.)
Sensitivity	-53 dBZ (5 km range, 30 m range resolution and 10 s time resolution, 1 m antenna)
Max. measuring range	Depending on pulse width and PRF, up to 58.8 km
Min. measuring range	Typically, 100 …150 m, depending on pulse width, full sensitivity above 450 m
Max. number of gates	Adjustable, max. 800 (each in-phase and quadrature phase)
Min. time resolution	0.1 s
Antenna diameter	1.2 m (0.8 m on request)
Beam width	0.55 ° with 1.2 m
Pulse width / range resolution	100 … 400 ns / 15 … 60 m
Pulse repetition frequency	2.5 … 10 kHz
Velocity resolution	≥ 5 cm/s
Polarization parameters	Linear polarization on transmit, co and cross polarized signals are received simultaneously. LDR and co-/cross correlation can be computed. As an option also STSR mode can be provided.
Dimensions of the radar electronics	Transmitter 19" Chassis 9 U, receiver 4 U, PC 1 U (depth of all units 530 mm).
Power consumption depending on the duty cycle	Radar: 950 W at 1/500, 600 W at 1/1000 PC+DSP: 150 W Air conditioning: 800 W for the vertically viewing and 1.6 kW for the scanning system. Wave guide dehumidifier, pressurization: ≤ 100 W

*All technical specifications are subjet to change.

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TÜV CERT DIN EN ISO 9001

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