

# Micro Rain Radar MRR-2



## Data sheet



## Unique profiling of hydrometeors at high-resolution

The Micro Rain Radar MRR-2 is a unique meteorological radar profiler for Doppler spectra of hydrometeors in height ranges 15 m ... 6000 m. The MRR-2 is easy to install and generally independent of site conditions. The high resolution in time and height allows the MRR-2 to monitor the genesis of frozen hydrometeors, the melting zone (bright band) and the formation of rain drops. With the derived rain rate the MRR-2 offers a calibration of weather radar. The MRR-2, as the predecessor of the advanced MRR-PRO, continues to provide the proven measurement principle that yields the complete drop size distribution.



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## Key features

- Vertical profiling of Doppler spectra, drop size distribution, equivalent radar reflectivity, vertical velocity, spectral width, rain rate, liquid water content, etc.
- Computes complete drop size distribution
- Automatic melting layer detection
- Detection of frozen particles
- Height range up to 6000 m with 30 range gates
- Very low maintenance efforts with high system reliability
- Long-term unattended operation
- High quality measurements free of wind effects, sea spray and surroundings
- Icing protection by antenna heating

## Typical applications

- Melting layer detection
- Calibration of weather radars
- Present weather classification
- Investigation of hydrometeors at remote locations all over the world

## Why METEK?

- We offer high quality in-situ sensors and remote sensing profilers to measure relevant meteorological variables such as wind, temperature, turbulence, precipitation or clouds.
- Our products are operated worldwide at governmental, commercial and scientific facilities including national weather services, climatologic monitoring networks, power plants, airports and research stations even under harsh weather conditions.
- Since 1989, METEK's scientists and engineers have been working with passion to deliver value(s).

## Parameter overview

Operating frequency	<b>24.23 GHz K-band</b>
Operation type	<b>FMCW</b>
Transmit power	<b>50 mW</b>
Sampling frequency	<b>125 kHz</b>
Acquisition time for one set of spectra	<b>32.8 ms</b>
Velocity resolution	<b>0.188 m/s</b>
Velocity analyzing range (Nyquist)	<b>0 ... 12.3 m/s</b>
Number of height gates	<b>30</b>
Spectra sampling rate	<b>10 s</b>
Height resolution, adjustable	<b>10 ... 200 m</b>
Min. detectable radar reflectivity (z=1000 m, $\Delta z=100$ m, $\Delta t=60$ s)	<b>-2 dBZ</b>
Antenna diameter, offset type	<b>600 mm</b>
Antenna gain	<b>40.1 dBi</b>
Beam width 3 dB	<b>1.5 °</b>
Weight	<b>~15.5 kg</b>
Power supply	<b>230 or 115 VAC, 25 W</b>