FURUNO



SOLID-STATE

Compact X-band Dual Polarimetric

Doppler Weather Radar



Model **WR2120**

Dual polarimetry for High performance!

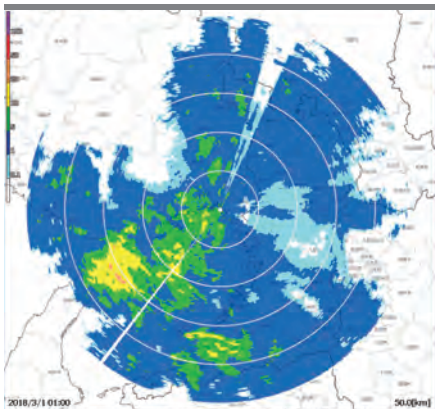
www.furuno.com

Dual Polarization

Vertical / Horizontal

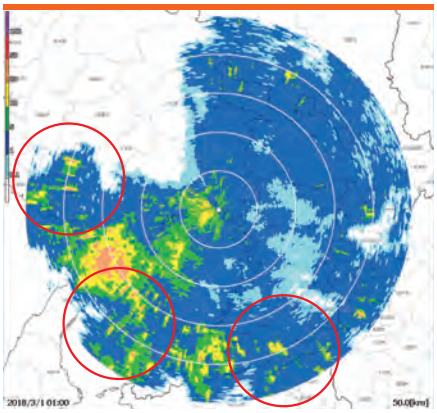
High Precision Rain Observation & Accurate Measurements

Single Polarization



Standard measurement

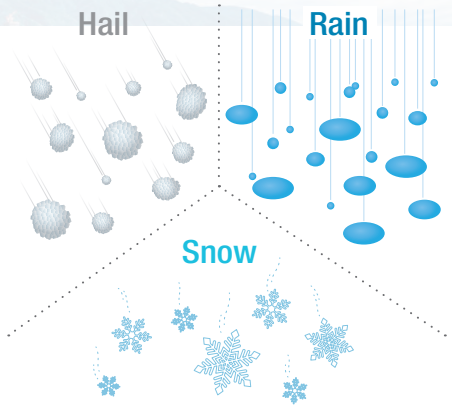
Dual Polarization



Compensates
Rain intensity loss

The Dual Polarization of the WR2120 recovers signal intensity loss and attenuation caused by heavy rain (see example above).

Particles Classification (option)



- Particle Uniformity Assessment
- Aspect Ratio Measurement

Several data such as echo strength or phase difference, provided by the WR2120, can be utilized to assess the nature of the detected particles and can identify snow, hail or rain.

Various data format compatibilities

Various data formats used in major software packages, such as Baron Lynx
and Vaisala IRIS Focus, are available

Reduced Operating Costs

Solid-State

- Reliable, less maintenance, long life solid-state transmission device
- Lower power consumption

Radar status monitoring for optimized

Easy Installation

- Very compact and lightweight (1 m, 65 kg)
- No heavy equipment required for installation
- Compatible with regular power outlet

Carbon Fiber Antenna Dish

- Reduction of the antenna weight
- Reduction of damage and mechanical stress due to shocks and vibrations








For Various Situations

Several different locations

Cities

Local weather observation capabilities for optimal wastewater treatment efficiency, increased public safety and minimizing property loss through enhanced flood damage prevention control.

Airports

Observation and identification of approaching rainfall/snowfall around airports for improved traffic management and safety.

Mountains

Observation of rainfalls and their effect in mountainous areas allowing easier prediction of water flows for disaster prevention.

Safe relocation, easy transportation

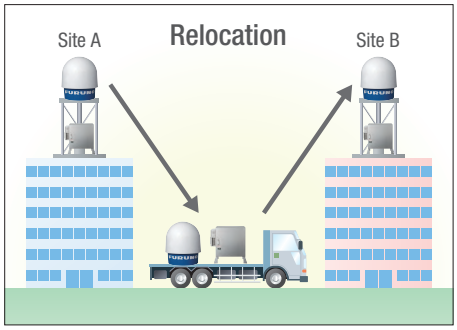
Wide range of transportation choices
Pickup, Trailer, Small trucks...

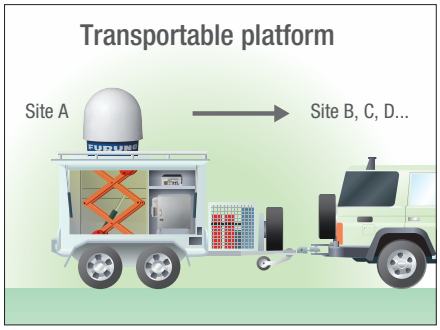
Heading sensor for azimuth adjustment*

Vibration isolator for safe relocation and transport*
MIL-STD-810G Test Method 514.7 ANNEX C Category 4 Secured Cargo, Common carrier (US highway truck vibration exposure) Test1

WR2120 case for easy transportation*
WR2120 on a trailer (example)

*Option

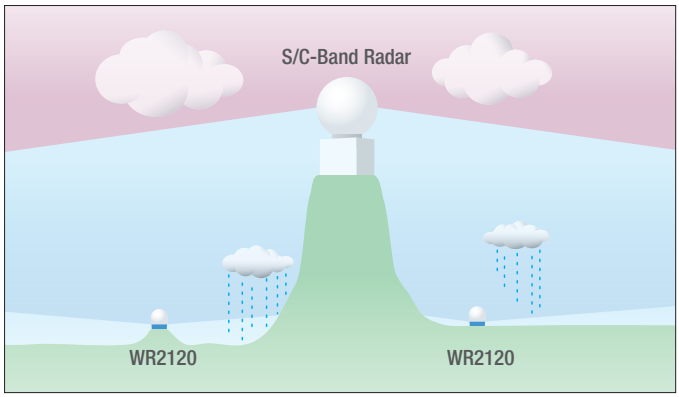




Large Radars (S/C-Band) supplement

The WR2120 can supplement, reinforce and fill-in areas conventional S/C-Band Radars cannot reach.

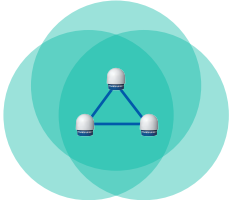
*Example diagram of an efficient combination using WR2120 X-Band Radar to detect local weather changes with high precision in lower elevation areas while large S/C band radars sweep higher elevations for longer range observation.

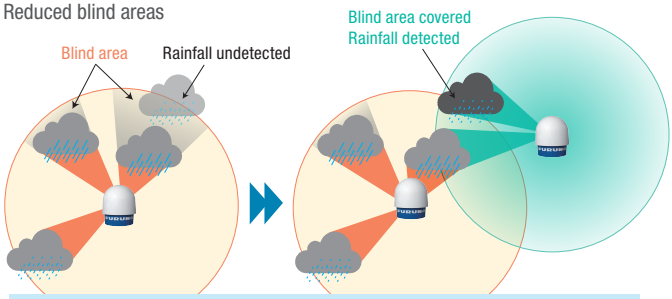


Multi-Radar Configuration

Multi-radar configuration for higher precision and reduced blind areas

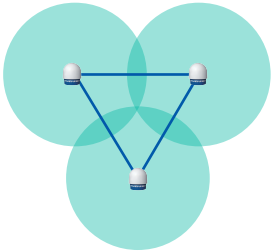
● High precision measurements ● Reduced blind areas





Signal power attenuation due to heavy rain
(Blind areas can be covered by other WR2120 radars)

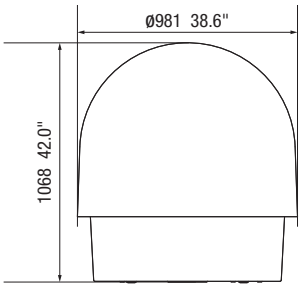
Multi-radar configuration for increased observation range



Specifications

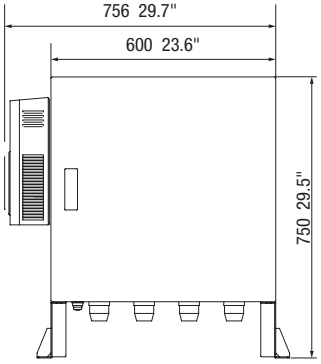
Model Name	WR2120
Antenna Polarization	Dual Polarimetric (Horizontal and Vertical) Transmit/Receive
Operating Frequency	9.4 GHz band
Pulse Width	0.5-50 µs
Pulse Repetition Frequency (PRF)	2000 Hz max.
Peak Output Power	100 W (both horizontal and vertical beams)
Beam Width	2.7° (both horizontal and vertical beams)
Gain	≧ 33.0 dBi
Vertical Scan Angle	-2 to 182 degrees (adjustable)
Horizontal Scan Angle	360 degrees (continuous)
Antenna Rotation Speed	0.5-10 rpm max. (adjustable)
Observation Range	70 km max.
Scan Modes	PPI, Volume Scan, Sector PPI, Sector RHI
Output Parameters	Reflectivity factor Zh (dBZ), Doppler velocity V (m/s), Doppler velocity width W (m/s), Cross polarization difference phase Φdp (deg), Specific differential phase KDP (deg/km), Correlation coefficient between two polarizations ρhv, Horizontal and Vertical Differential reflectivity ZDR (dB), Rainfall intensity R (mm/h)
Doppler Speed	+/-64 m/s
Available Data Formats	Binary, CSV, JPEG, CF/Radial, Opera Odim HDF5, NEXRAD Level 2
Temperature Range	-10 to +50°C (Starting), -25 to +50°C (Operating)
Relative Humidity	max. 93%RH (no condensation)
Maximum Wind Survival Speed	90 m/s
Power Supply	100-240 VAC, Single Phase, 50/60 Hz
Power Consumption	650 W max., 470 W typ.
Sensitivity-Reflectivity	Typ. 22 dBZ@50 km @Q0N 50 µs 2 MHz (SNR = 4 dB)
Transmitter Type	Solid-state

Antenna Unit WR2120-ATU
65 kg 143.3 lb

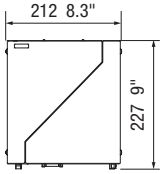


It can also be carried through narrow spaces (800 mm) if disassembled.

Signal Processing Unit WR2120-SPU
45 kg 99 lb

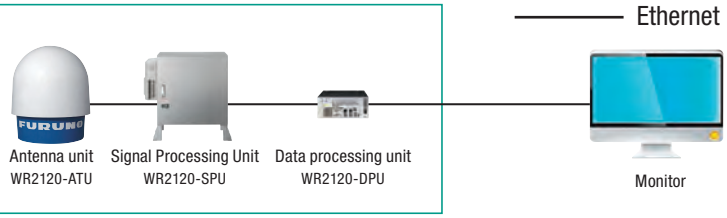


Data Processing Unit WR2120-DPU
2.2 kg 4.5 lb



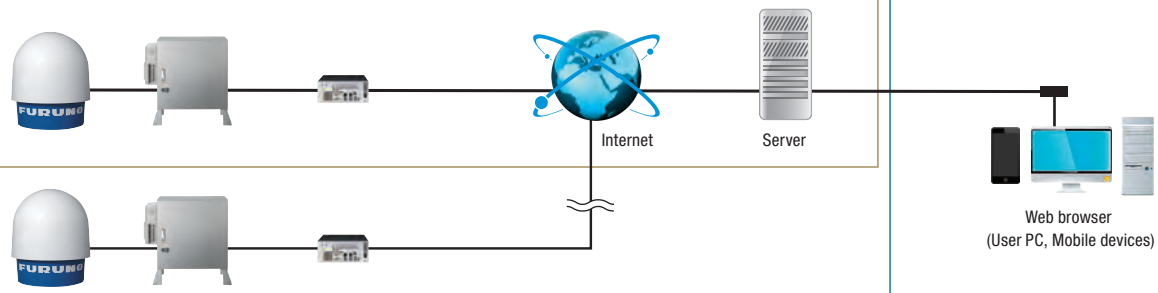
System Configuration

Standard configuration



Multi-radar configuration

Server configuration



Beware of similar products

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www.furuno.com

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