

FURUNO

Solid State!

Compact X-band Dual Polarimetric Doppler

Weather Radar



Model **WR-2100**

***World's smallest
and lightest!***

www.furuno.com

FURUNO Meteorological Solutions

State of the art radar technology

Having developed radar for the marine industry for decades, we are now using our experience and knowledge to develop a compact weather radar. Combining the robustness of marine technology together with the performance of a professional weather radar has been a great but ultimately successful challenge for FURUNO.



A weather radar for many applications

Using solid state technology combined with a dual polarization doppler function, the WR-2100 has been designed to provide the best possible precipitation monitoring in all conditions.

With its light weight and small size, it opens up a new world of possibilities for weather observation.

Saving human lives, as well as increasing the quality of services for citizens and corporations, are both made possible thanks to the flexibility of WR-2100.

Various application fields

Weather research

(Precipitation, tornados, rainstorms etc.)

The WR-2100 is greatly appreciated by researchers for its performance and high precision display. Futhermore, the dual polarization opens up for many research fields.

Software property of Aalborg University



Water management

(Dams, rivers, sewage etc.)

With its compact size and advanced capabilities, measuring and predicting water throughput at dams is possible. The water management field now has another tool at their hands for observing and acting upon rainfall.



Disasters prevention

(Landslides, floods, etc.)

In early disaster detection, every minute counts. Installed in dangerous areas, a WR-2100 combined with an alarm system can save lives as well as provide rescue teams with useful information.



Transport industry support

(Aviation, highways, railways, etc.)

By providing traffic management with updated information about precipitation like heavy snowfalls, a more safe and efficient operation is possible.



Temporary use

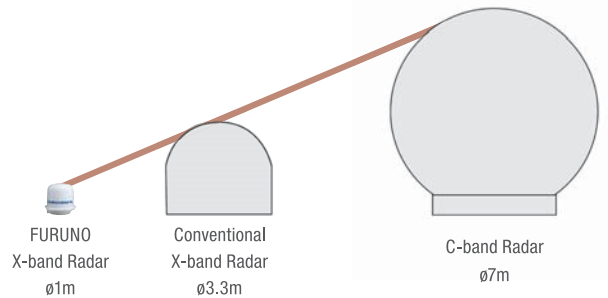
Due to its light weight and compact size of the WR-2100, temporary installations and observations are now possible. Temporary use solution is suitable for disaster risk evaluation or temporary outdoor events.



Key Features

Compact & lightweight

- ▶ Only 1 m in diameter, weighing in at 68 kg
- ▶ Low power consumption
(Regular household power outlet can be used)
- ▶ Many application areas



High resolution & high performance

- ▶ Maximum resolution of 50 m
- ▶ Measures 1 mm/h precipitation up to 50 km (clear weather)
Measures 3 mm/h precipitation up to 30 km (10 mm/h rain condition)

Simple & quick installation

- ▶ Manpower installation, no heavy machinery needed
- ▶ No specific building or structure necessary



Transport with a regular van



Fits in elevators



Manpower installation

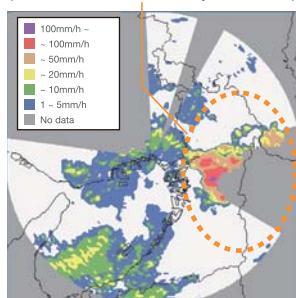


Multi-radar system for wide areas and blind area coverage

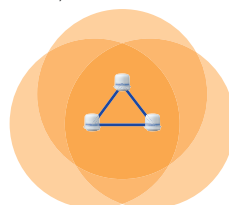
- ▶ Effectively reduce blind areas

Blind area

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

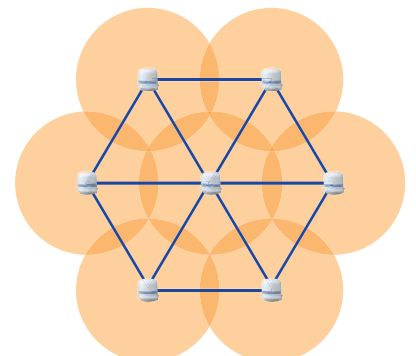


- ▶ Continuous operation with redundancy
(When conducting maintenance on one unit in a multi-radar system)



- ▶ Precise doppler measurement (2D and 3D)

- ▶ Increased observation range

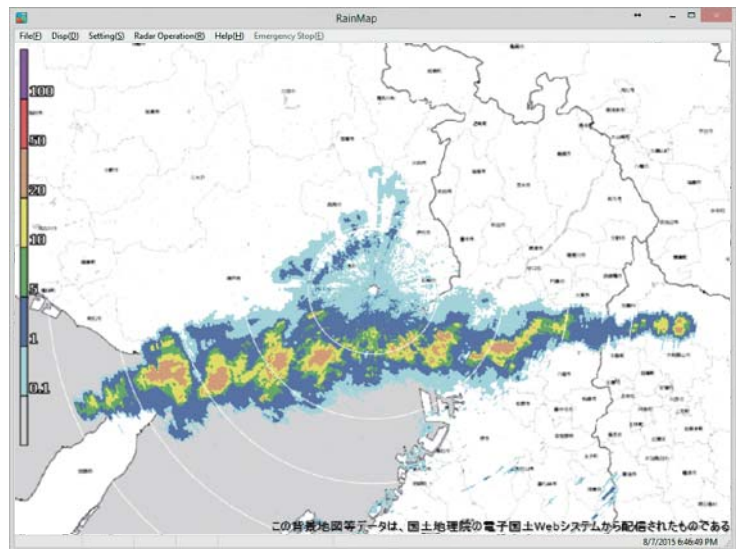


Software

Rainmap (Standard supply)

Main functions

- ▶ Radar settings and control
- ▶ Data acquisition and recording
- ▶ Real time observation display
- ▶ Data playback function

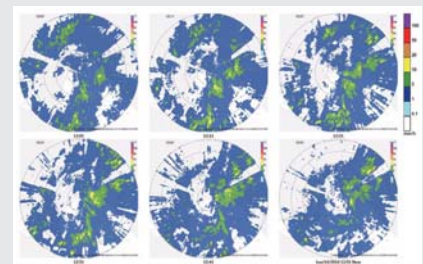


Option WEB Application "WR-NET"

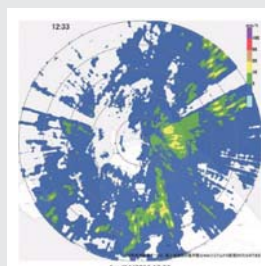
*Requires "Server configuration" or "Multi-radar configuration"

User friendly, Simple operation and Always available

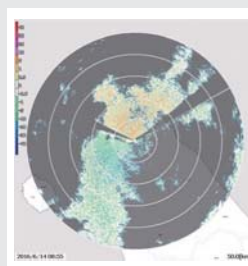
- ▶ Precipitation
- ▶ Doppler
- ▶ 3 past hours animation
(Precipitation and Doppler)
- ▶ Camera



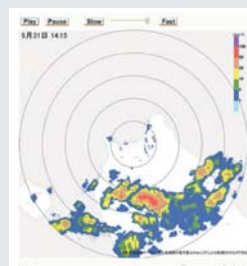
Temporal sequence of precipitation observation history in the immediate past



Precipitation



Doppler



Animation



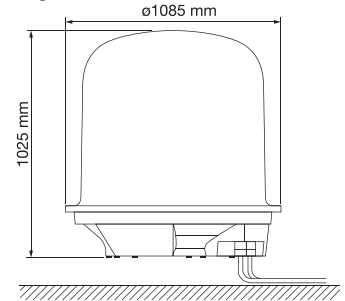
Camera

Specifications

Model Name	WR-2100
Antenna Polarity	Dual polarimetric (Vertical and Horizontal), Simultaneous transmission/receiving
Operating Frequency	9.4 GHz band
Beam Width	2.7 degrees (both horizontal and vertical beams)
Peak Output Power	100 W (both horizontal and vertical beams)
Vertical Scan Angle	-2 to 182 degrees (adjustable)
Antenna Rotation Speed	16 rpm max. (adjustable)
Observation Range	50 km max
Scan Modes	CAPPI, PPI, RHI, 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 φ_{dp} (deg), Specific differential phase KDP (deg/km), Correlation coefficient between two polarizations ρ_{HV} , Differential reflectivity factor ZDR, Rainfall intensity R (mm/h)
Data Correction	Distance attenuation, Rain attenuation, Excessive Doppler Velocity, Suppression of signal return from land and vessel, Interference rejection
Operating Temperature Range	-10 to +50 °C
Maximum Wind Survival Speed	60.0 m/sec
Power Supply	100-240 VAC, Single Phase, 50/60 Hz
Power Consumption	650 W max

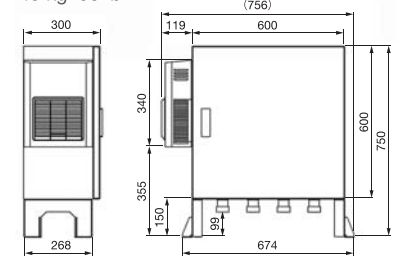
Compact X-band Dual Polarimetric Doppler Weather Radar

WR-2100
68 kg 150 lb

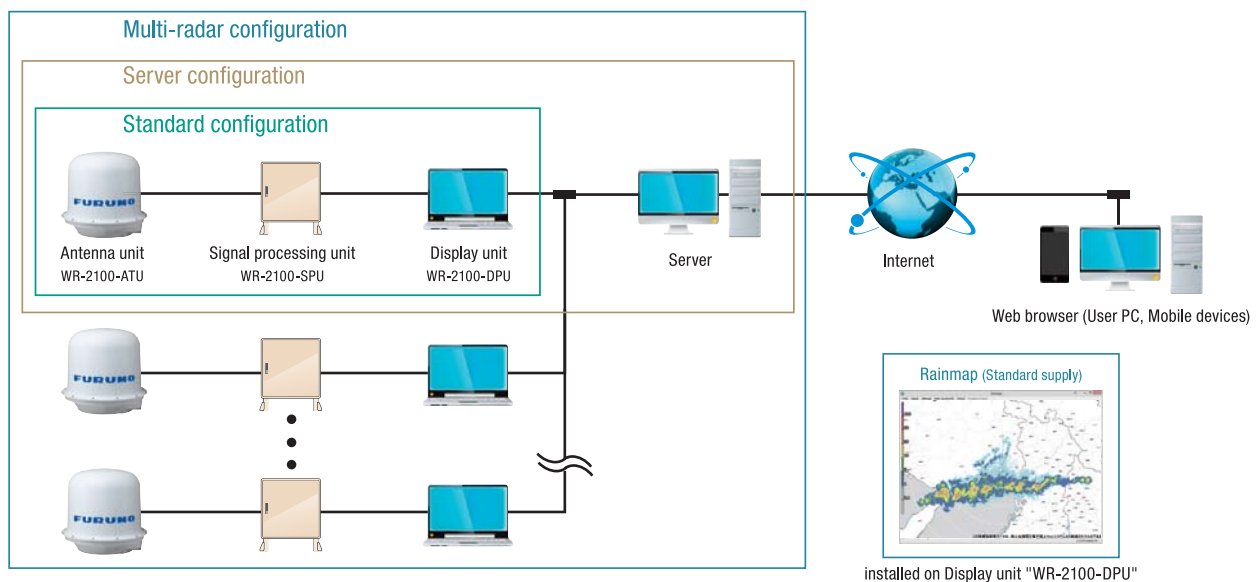


Signal Processing Unit (storage box)

45 kg 99 lb



System configurations



Beware of similar products

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