

**FURUNO**

***Solid State!***

**Compact X-band Dual Polarimetric Doppler**

# **Weather Radar**



Model **WR-2100**

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

[www.furuno.com](http://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.

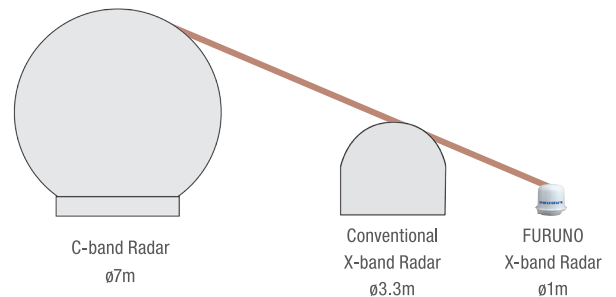
With its light weight and small size, it opens up a new world of possibilities for weather observation.

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.

# Key Features

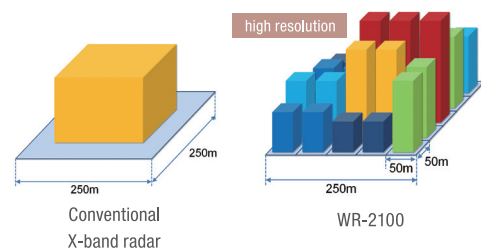
## Compact & lightweight

- ▶ 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 3 mm/h precipitation (up to 30 km)



## Simple & quick installation

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



Transport with a regular van

Fits in elevators

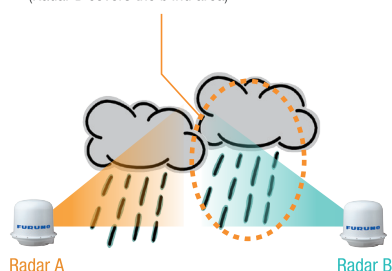
Manpower installation

## Multi-radar system for wide areas and blind area coverage

- ▶ Effectively reduce blind areas

### Blind area of Radar A

Signal power attenuation due to heavy rain  
(Radar B covers the blind area)

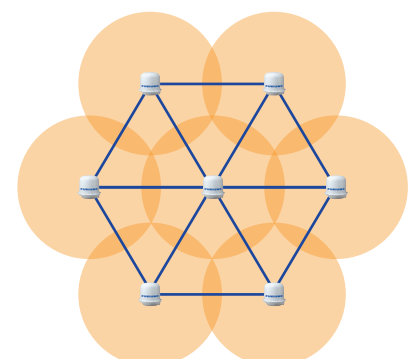


- ▶ Continuous operation with redundancy  
(When conducting maintenance on one unit in a multi-radar system)

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



- ▶ Increased observation range

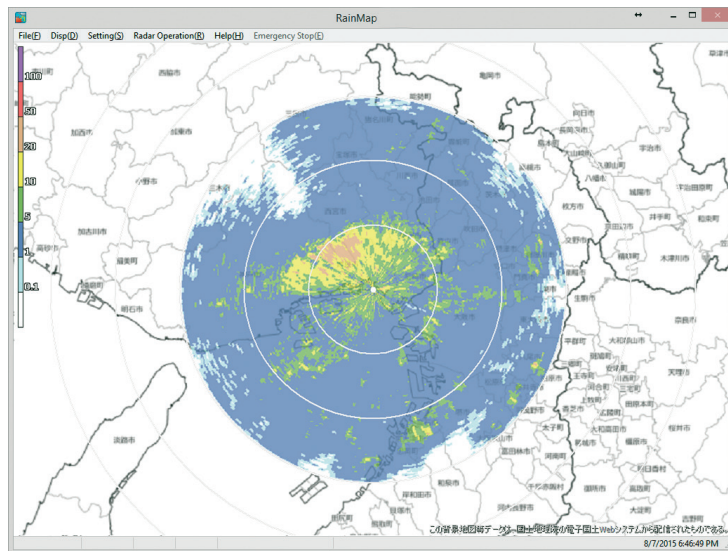


# Software

## Rainmap (Standard supply)

### Main functions

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

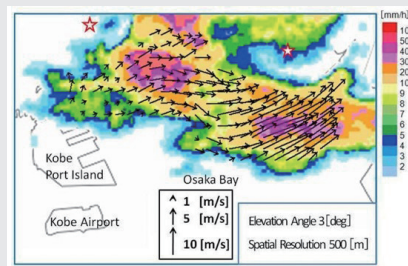


## Option Advanced signal processing

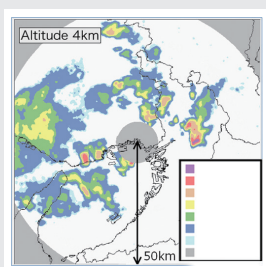
\*Requires "Server configuration" or "Multi-radar configuration"

### Flexible data processing with high usability

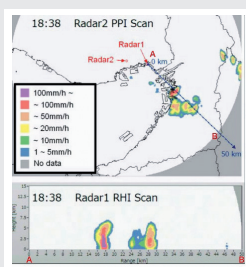
- ▶ Rainfall intensity and horizontal wind vectors using two doppler radars
- ▶ 3D monitoring with a multi-radar system
- ▶ CAPPI (Constant Altitude PPI) scan
- ▶ Vertical cross-section scanning (RHI)



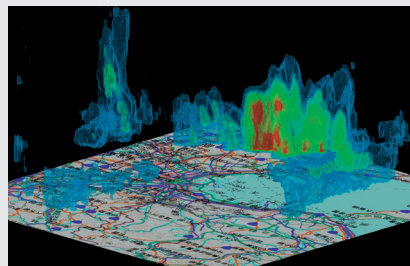
Rainfall intensity and horizontal wind vectors using two doppler radars



CAPPI scan



Vertical cross-section scanning (RHI)



3D monitoring with a multi-radar system

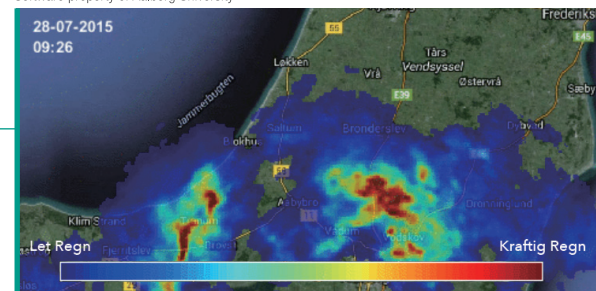
# Various application fields

## 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.

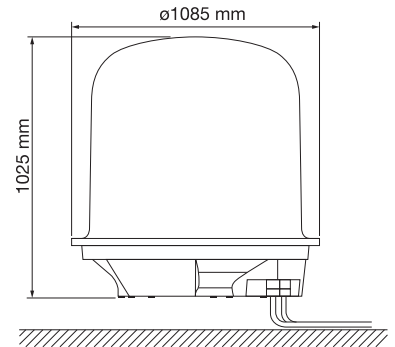


# Specifications

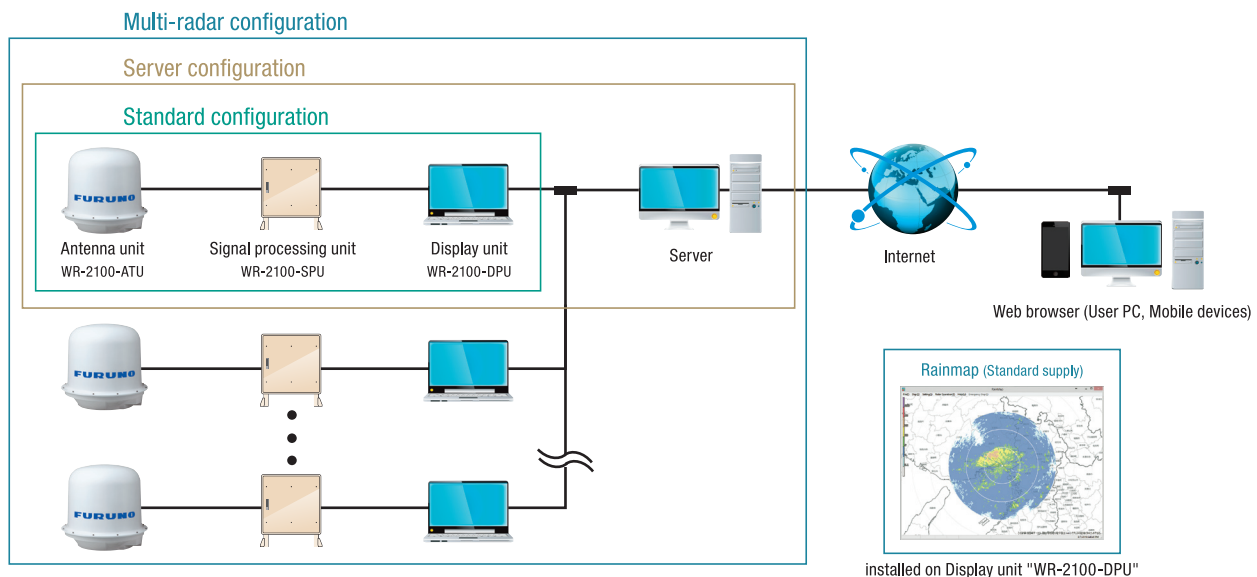
|                        |  |
|------------------------|--|
| <b>Model Name</b>      | <b>WR-2100</b>   |
| Antenna Polarity       | Dual polarimetric (Vertical and Horizontal), Simultaneous transmission/receiving   |
| Operating Frequency    | 9.4 GHz band   |
| Beam Width             | 2.7 degrees (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             | PPI, CAPPI, RHI (Sector Scan available)  |
| Output Parameters      | Reflectivity factor Zh (dBZ), Doppler velocity V (m/s), Doppler velocity width W (m/s), Cross polarization difference phase $\phi_{dp}$ (deg), Specific differential phase KDP (deg/km), Correlation coefficient between two polarizations $\rho_{HV}$ , Differential reflectivity factor ZDR, Rainfall intensity R (mm/h) Distance attenuation, Rain attenuation, Excessive Doppler |
| Data Correction        | Velocity, Suppression of signal return from land and vessel, Interference rejection  |
| 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 144 lb



# System configurations



Beware of similar products

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