

# RAS3 DATA SHEET



## KEY FEATURES

### Pencil Beam

2.8°

### Range

70m | 275m

### Field of view

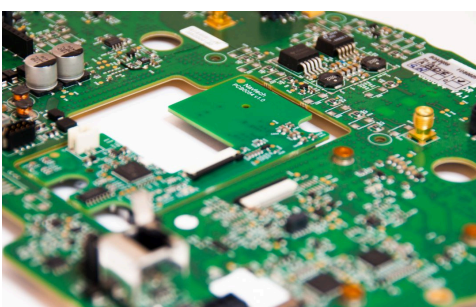
360° via 400 azimuths

### Weather

All-weather conditions

## BUILD WITH OUR SDK

Our software development kit provides developers an interface which works with our radar sensors and recorded data. The SDK is suitable for prototyping and evaluation, offering extensive documentation, sample codes, and technical support for seamless integration and development.



**Ruggedised Design  
for Mission-Critical  
Applications**

## Small, robust form: powerful, reliable output

Navtech Radar's Robust Automation Sensors (RAS), are market-leading, long-range, millimetre wave radars. With a 360° field of view, they provide ultra, high-resolution radar images, in all weather, light and environmental conditions. As a result, they overcome some of the fundamental limitations of other sensing technologies.

Our radars provide a live view of their environment, presenting solid or reflective objects distinctly from their surroundings. The high-resolution sensors produce output in either streamed 'radar video' or as a network source of range and bearing point data. Compact in design, yet engineered to withstand extreme vibration and temperatures, our sensors are the most reliable for us in automation applications.

## TECHNICAL SPECIFICATIONS

### PERFORMANCE

<b>Operating Frequency</b>	76-77 GHz
<b>Range Resolution</b>	0.04m   0.16m
<b>Instrumented Range</b>	70m   275m
<b>Azimuth Beamwidth</b>	2.8°
<b>Elevation Beamwidth</b>	<sup>1</sup> 3.6° with infill
<b>Field of View</b>	360°
<b>Update Rate</b>	4Hz   <sup>2</sup> 10Hz

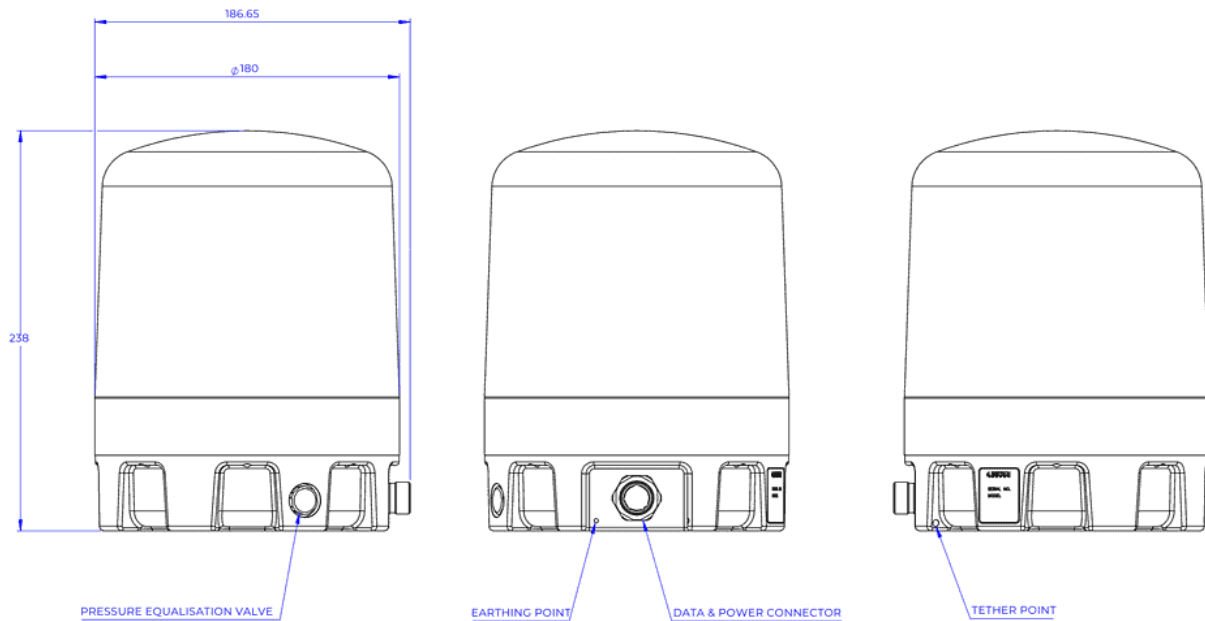
### OUTPUT AND INTEGRATION

<b>Data Format</b>	Timestamped azimuth with FFT Navigation Mode "Sub resolved Peaks" CFAR "Point Cloud" ASTERIX CAT-240 "Radar Video"
<b>Measurement Rate</b>	400
<b>Time Synchronisation</b>	NTP   PTP
<b>Data Connection</b>	TCP   UDP over gigabit ethernet

### PHYSICAL

<b>Diameter</b>	180mm
<b>Height</b>	238mm
<b>Mounting</b>	4 x M8 mounting holes on 4" (101.6mm) equally spaced PCD
<b>Weight (without cables)</b>	3.8kg
<b>Power Consumption</b>	24W
<b>Operation Voltage</b>	24V DC
<b>Operating Temperature</b>	<sup>3</sup> -20°C +60°C
<b>Power and Data Connector Type</b>	D38999 Mil Spec
<b>Vibration</b>	<sup>4</sup> 5g RMS to 1,000Hz
<b>Shock</b>	<sup>4</sup> 400 m/s <sup>2</sup> (40g) 11ms duration
<b>Ingress</b>	IP69K, UL50/50E Type 4x
<b>Compliance</b>	EMC Directive - 2014/30/EU Low Voltage Directive - 2014/35/EU Radio Equipment Directive - 2014/53/EU IEC60945(EMC) ROHS

## DIMENSIONS



1 - Includes a cosecant squared antenna which directs portion of main beam energy down to create infill, minimising the blind spot when installed above ground level.

2 - 10Hz mode in development

3 - For applications in environments outside of operating temperature range, please contact [industrial.automation@navtechradar.com](mailto:industrial.automation@navtechradar.com)

4 - Environment Test Criteria for the Acceptability of Mine Instrumentation, DEF STAN 00-035

Specifications are subject to change without notice.  
All images used are for illustrative purposes only.

Due to customer use beyond our control, Navtech Radar cannot assess product relevance for specific applications. Customers are responsible for testing products and reviewing regulations to ensure safe operation.



Navtech complies with the following ISO standards

ISO 9001:2015 Quality  
ISO 27001 Information Security  
ISO 45001 Health and Safety  
ISO 14001 Environmental  
ISO 20000 IT Service Management EN301 091-1

**Navtech Radar**



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**NAVTECH**  
**RADAR**

**Safety is everything.**

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