Robust Automation Sensor - RAS3

High resolution 360° imaging radar

World-class technology, smaller form factor

Available Dec 2023

Optimised for challenging, inaccessible environments, the Navtech Radar Robust Automation Sensor RAS3 delivers unparalleled radar performance in space and weight-constrained applications, such as smaller unmanned or human-operated vehicles.

Helping to turbocharge the move to automation, RAS3 is a millimetre-wave radar that includes all the world-class technology of our CIR model. This includes a 360° field of view, best-in-class high-resolution imaging and operability in all weather, light and environmental conditions, regardless of shock, vibration, and temperature fluctuations.

Small form, powerful output.

Features of RAS3

- All-weather performance through dust, rain, fog and snow.
- Medium range with an instrumented range of up to 270m.
- 360° field of view with consistent scanning performance.
- Best-in-class high-resolution radar image with access to raw data.
- Antenna options for different beam profiles.
- 10Hz refresh mode for rapid updates.
- Precision time protocol (PTP) functionality for time synchronisation.
- Ruggedised design intended for the harshest conditions:
  - Thick radome for increased impact resistance.
  - Ruggedised rotating assembly for high shock and vibration environments.
  - D38999 connector for combined power and data.

Benefits of using RAS3

Increased uptime

Unrivalled availability, able to perform whatever the conditions.

Improved safety

Designed for mission-critical applications where safety is essential.

High quality

Built and designed in Oxford by radar experts for the past 20 years.

Easy to install

Compact design with Software Development Kit for quick integration.

Robust design

Designed for long-term automation projects in the harshest environments.

RAS3 Industries

Mining | Ports | Marine | Logistics | Agriculture | Construction

RAS3: Technical specifications

Performance

Operating Frequency	76-77GHz	**Instrumented Range**	270m
Range Resolution	0.044m |0.175m	**Antenna Options (code)**	M | X
Azimuth Beamwidth	2.8°	**Elevation Beamwidth (by code)**	[1]3.6°
Field of View	360°		

Output and Integration

Data Format	Timestamped azimuth with FFT	**Measurement Rate per rotation**	400
Update Rate	4Hz/10Hz	**Time Synchronisation**	NTP | PTP
Data Connection	TCP over gigabit ethernet		

Physical

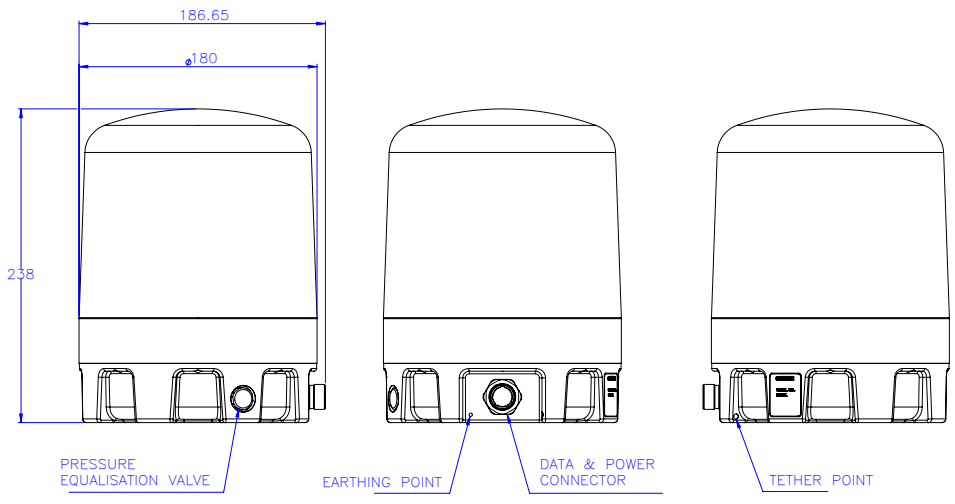
Dimensions	Diameter – 180mm Height - 238mm	**Weight (without cables)**	3.8Kg
Mounting	4x M8 mounting holes on 101.6mm equally spaced PCD	**Operating Voltage**	24V DC
Power Consumption	24W	**Ingress Protection Rating**	IP66, UL50/50E Type 4x
Operating Temperature	[2]-20 + 60°C	**Shock**	[3]400 m/s^2 (40g), 11 ms duration
Vibration	[3]5g RMS to 1,000Hz	**Power and Data Connector**	D38999

Compliance

Compliance	EMC Directive -2014/30/EU Low Voltage Directive - 2014/35/EU Radio Equipment Directive - 2014/53/EU ROHS

1. Includes cosec feature that directs portion of main beam energy down to create infill minimising blind spot when the radar is placed at height
2. For applications in environments outside of operating temperature range, please contact industrial.automation@navtechradar.com
3. Environmental Test Criteria for the Acceptability of Mine Instrumentation, DEF STAN 00-035

Dimensions



For more information and the opportunity to order, please contact:
industrial.automation@navtechradar.com

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