RAS3 Manual

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Version 2.3

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3 Introduction

This is the quick start manual for the RAS3 Radar Sensor.

The smaller and shorter range sensor within the Navtech Robust Automation Sensor family (RAS) is available in a variety of configurations as shown in the infographic at the bottom of the page

The “DEV” variants of the RAS3 radar expose a wider range of configurable options to the end user via the radar’s web user interface.

Figure 1 - RAS6 & RAS3 Models

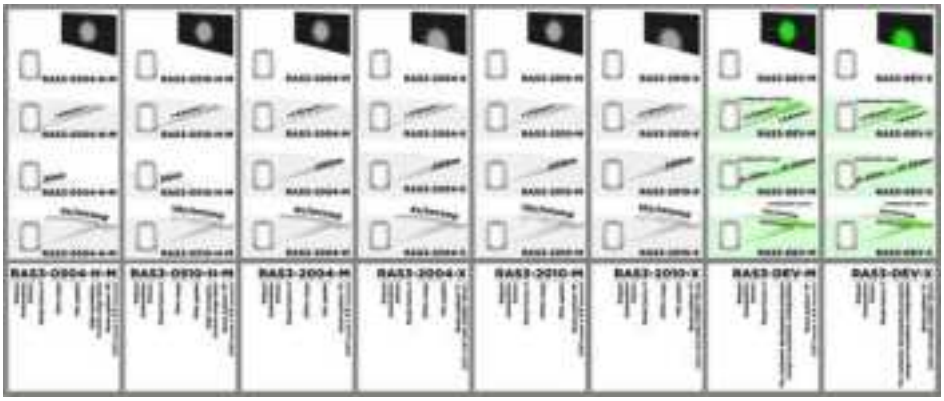

Figure 2 - Example Configurations

The product datasheet can be found at the Navtech Radar website: [Sensors - Navtech Radar]

The safe working distance for the RAS3 radar is 20cm from the radome for normal operation.

4 Product Notices

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. *This device may not cause interference.*
2. *This device must accept any interference, including interference that may cause undesired operation of the device.*

Cet appareil contient des émetteurs/récepteurs sans licence qui sont conformes aux RSS sans licence d'Innovation, Sciences et Développement économique Canada. L'exploitation est soumise aux deux conditions suivantes:

1. Cet appareil ne doit pas provoquer d'interférences.
2. Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

FCC Part 15.21 statement
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

5 Radar Mounting

All variants in the RAS family of robust radars have 4x M8 tapped holes in the underside, in a 4” PCD arrangement.

The RAS3 radar fixing holes are 11mm deep: care should be taken in the selection of fixing lengths.

4” PCD dictates hole centres with a 71.84mm spacing.

Figure 3 - RAS3 mounting holes

Every radar is supplied with a stainless steel M8 fixings pack.

It is recommended that these are tightened to 20 Nm, and that the fixing selected allows for ≥8mm thread engagement within the base of the radar.

Figure 4 - Fixings kit provided with RAS3 radar unit containing 2 sets of M8 fixings.

It is recommended to orient the radar with the connector panel facing “down”,”back”, “South” or “in”.

The radar presents its' output referenced to a 0° or North point directly opposite to the connectors.

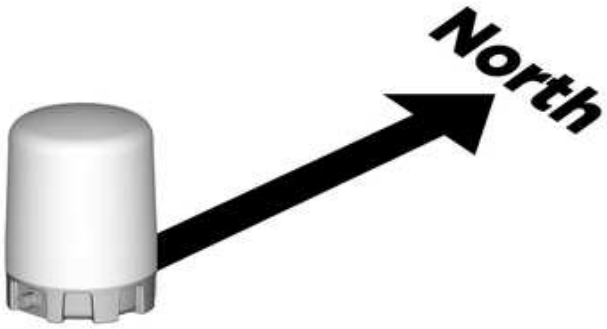

Figure 5 - Radar North

Be sure to mount the radar level, to ensure that it presents a consistent view of its’s surroundings in every direction.

When designing a mounting bracket for a specific application, it can sometimes be helpful to add in the opportunity for adjustment in each of the mounting angles to aid easy commissioning

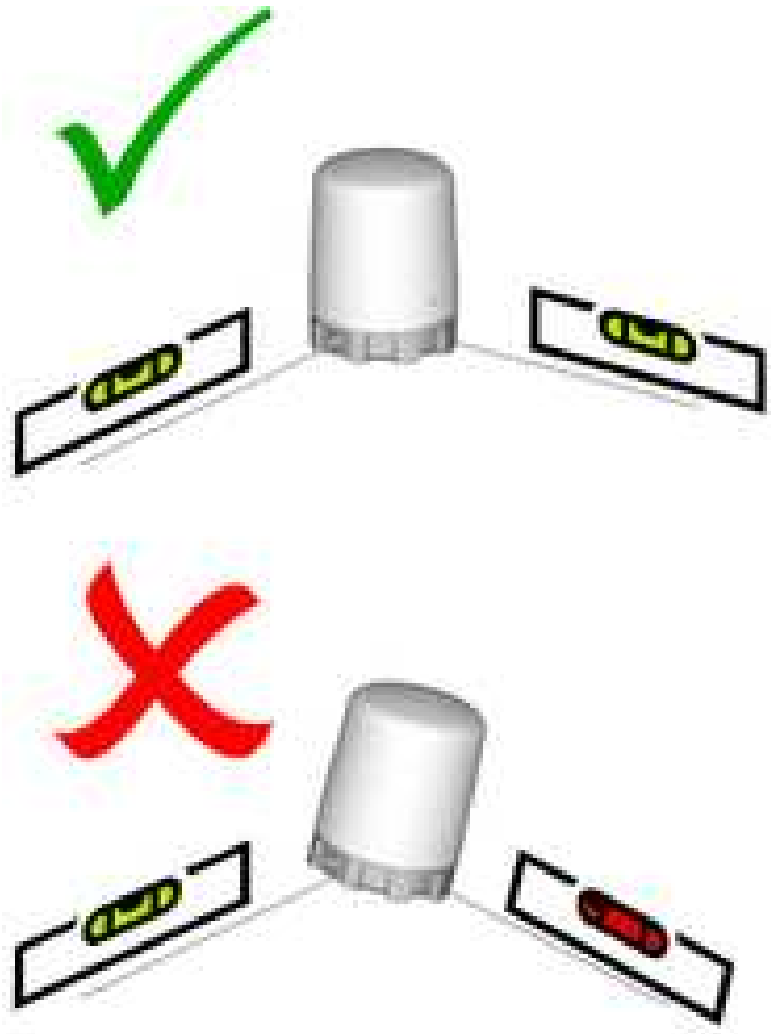

Figure 6 - Radar Levelling

The centreline of the RAS3 radar's output is approximately 175mm above the base of the unit.

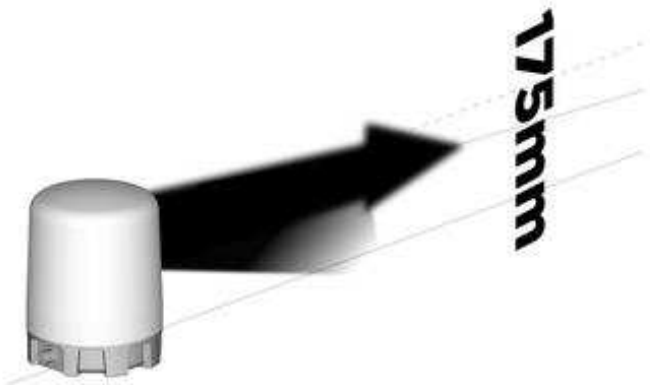

Figure 7 - Beam Centre for -X model

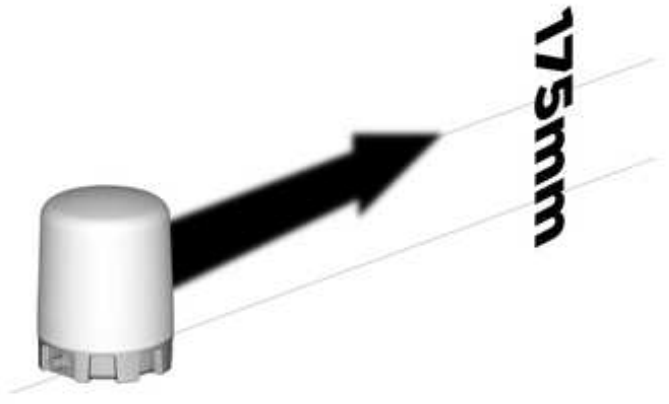

Figure 8 - Beam Centre for -M Model

6 Power & Network Connection

RAS3 radars are fitted with a single D38999 (Mil.Spec) connector for a combined power and network cable, part number WIR0159, as illustrated below. Part WIR0141 is an alternative connection cable, rated for operation down to -40°C.

RAS3-DEV-M and RAS3-DEV-X Radars are supplied, as standard, with a 5m power cable as illustrated in the drawing below. Other cable lengths are available to special order - contact Navtech Radar for details.

Unless otherwise requested at time of order the radar will be delivered with a standard IP address of 192.168.0.1.

Note that the radar's IP (ingress protection) rating is only achieved when the external connection cable is fitted and secured.
(Part **D38999/52Z35R** is the part number for a sealing plug that can be used if required.)

Scroll down the page for photographs of connector and cable termination details.

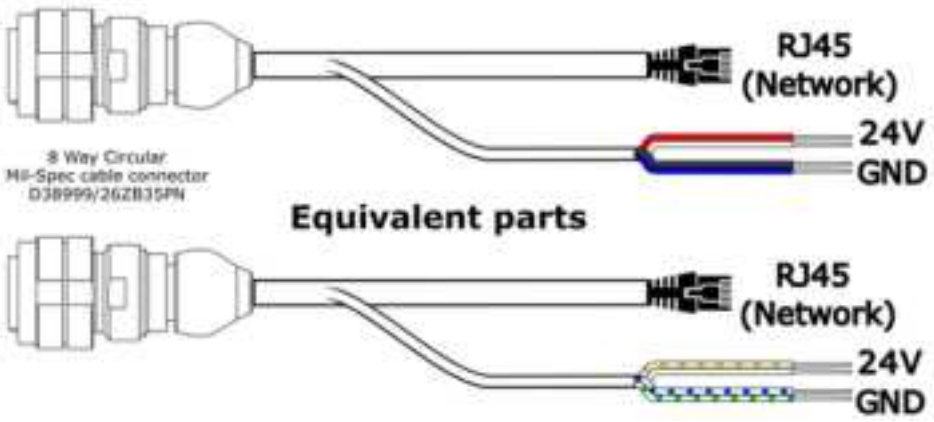

Figure 9 - Cable Diagram

D38999 Connector	Cable	RJ45 connector
1	White/Orange	1
2	Orange	2
3	White/Green	3
4	Blue	4
5	White/Blue	5
6	Green	6
7	White/Brown	7
8	Brown	8
D38999 Connector	**Cable**	**Power connection**
9	White	+24v
	Red	
10	White/Orange	+24v
	White	
11	White/Blue	0v
	Blue	
12	White/Green	0v
	Black	

Figure 10 – Connector Pinout

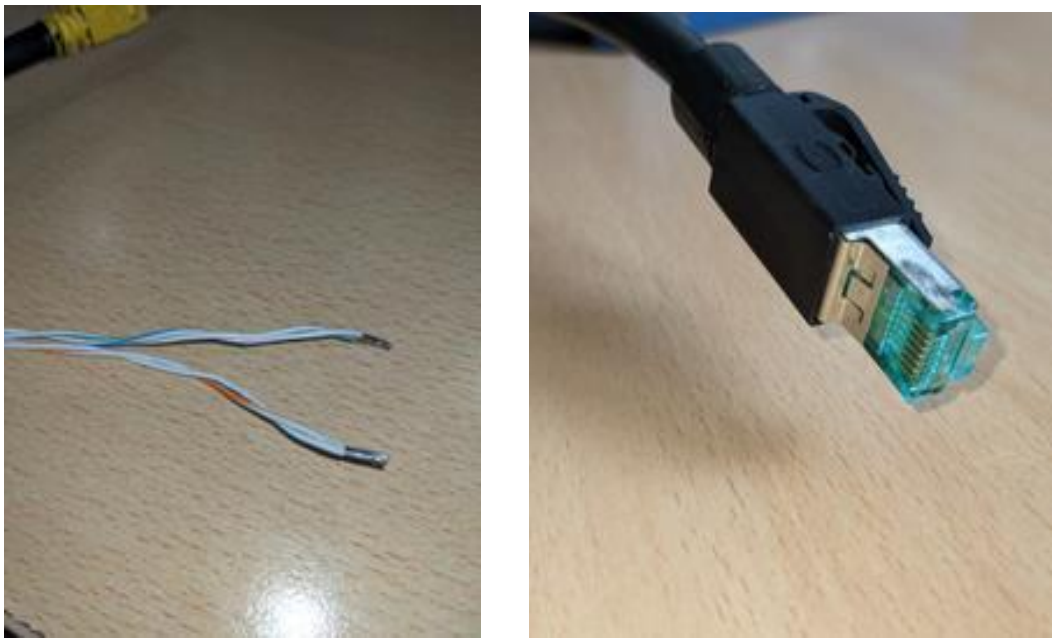

Figure 11 - Cable Terminations

6.1 Photographs of connector and cable terminations

Figure 12 - Radar Connection

7 Support

Navtech Radar Ltd offer comprehensive support services both pre and post radar commissioning to ensure you get the best performance and support for your radar installation.

We have a dedicated Customer Services Support Centre that can offer 1st and 2nd line technical support for both hardware and software queries. The centre is staffed by a highly skilled technical team who can advise and offer support with any technical questions both pre and post commissioning. In the event a fault cannot be diagnosed remotely or a repair is required, the team can arrange for your radar to be returned to base for further diagnostic tests or repair.

We also offer a number of support plan options during the lifetime of your radar, offering peace of mind for your installation.

For further information on the support plan options or any technical questions please contact the Customer Services Support Centre on +44 (0) 1235 832419, or email support@navtechradar.com

The product contains a coin cell, and this should be recycled through a battery recycling centre or collection point and not in regular or domestic trash collection.

Note: This equipment is not suitable for use in locations where children are likely to be present.