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RSP 305 Remote Panel

Installation Manual

auto MASKIN

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1 Introduction

This manual has been published primarily for professionals and qualified personnel. A person using this material is assumed to have knowledge of marine systems and can carry out related electrical work.

Only qualified and experienced people should work on the boat's low-tension circuit, and only electricians authorised to work with such installations should install or work on the shore power equipment.

It is the sole responsibility of the installer to ensure that the installation work is carried out satisfactorily, that it is operationally in good order, that the approved material and accessories are used and that the installation meets all applicable rules and regulations.

Note! Auto-Maskin continuously upgrades its products and reserves the right to make changes and improvements without prior notice. All information in this manual is based on the information available at the time of printing. For updated information, please contact your dealer.

Document Revisions

Date	Revision
April 2004	Created
July 2010	Update
January 2025	New manual template and rewrite

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2 The RSP 305 Remote Panel

The RSP 305 Remote Panel is a remote panel for all variants of the DCU 305 R2 and the DCU 305 R3 range of engine controllers, hereafter referred to as the DCU 305 engine controller.

It grants users full remote control of 1-4 DCU 305 engine controllers.

Note! There can be only one RSP 305 in the network.

A typical configuration where the RSP 305 is connected to four DCU 305 units is illustrated below.

An RSP 305 communicating with four DCU 305 R3 engine controllers

The engine controllers in the network can be a mix of DCU 305 R2 and DCU 305 R3. Supported controllers are:

- DCU 305 R2 A
- DCU 305 R2 P
- DCU 305 R3
- DCU 305 R3 LT

3 Installation

The installation can be divided into four easy steps.

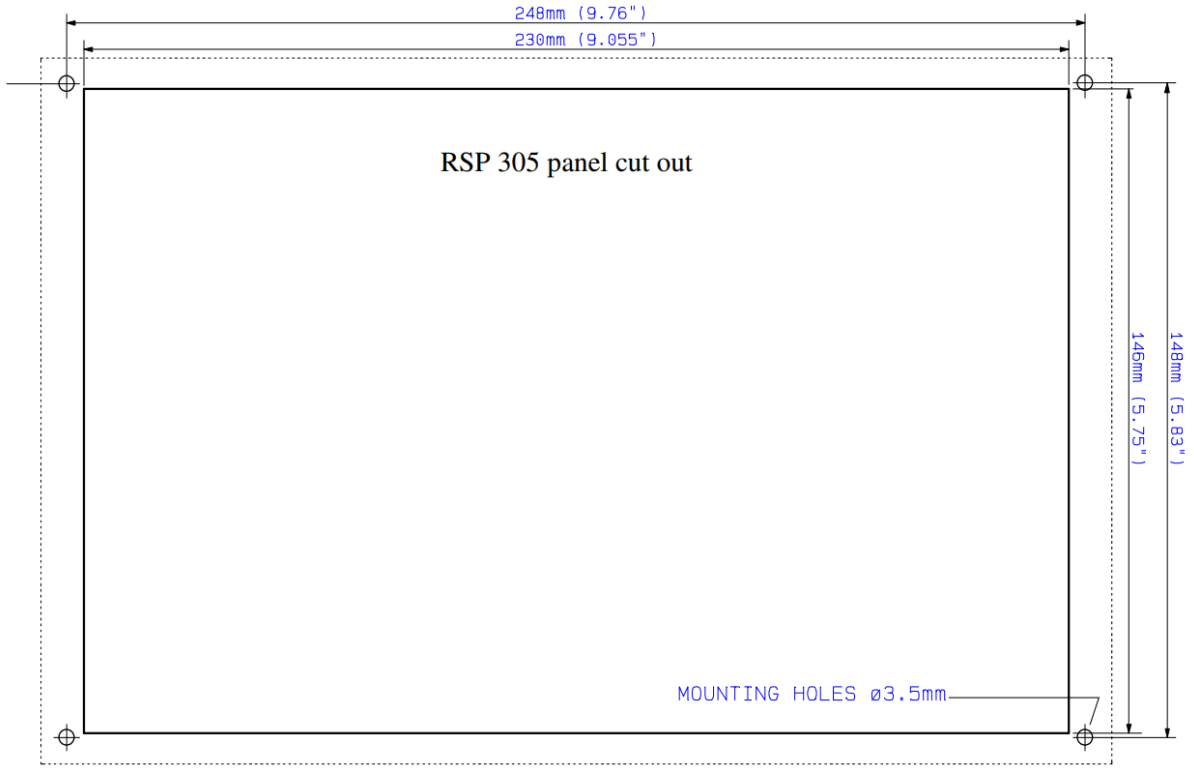
- Mechanical installation
- Power supply
- Communication
- Configuration

3.1 Mechanical

Place the RSP 305 Remote Panel in a suitable location, such as the engine control room or the bridge.

Make a cut-out for the RSP 305 Remote Panel. The cut-out dimensions are 146 x 230 mm (height x width).

Four holes must be drilled on the mounting surface for the 3 mm machine screw threads. The screws are in the package.

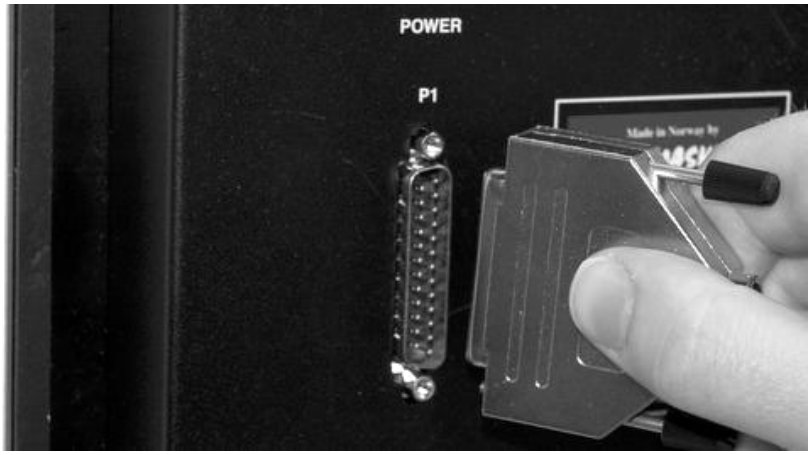


3.2 Power Supply

The RSP 305 Remote Panel shall be connected to a 24 VDC supply. Do as follows.

1. Power off the supply.
2. Connect the power supply wires in the cable to the 24 VDC supply (20-30 volts) and the ground wire to the ground.
3. Connect the 25-pin DSUB connector to the accompanying P1 connector on the panel.
4. Power on the supply and observe the panel is active.

This completes the power supply installation.



3.3 Communication

The RSP 305 Remote Panel can connect to 1-4 DCU 305 engine controllers.

The communication wiring differs depending on the number of engine controllers connected and the distance between them and the remote panel.

3.3.1 With 1 DCU 305 Engine Controller

Depending on the distance between the two panels, there are two choices for communication.

Short distance – less than 15 meters

Use an RS232 cable of suitable length, and connect the 9-pin DSUB connector directly to the P3 port on each panel. The wire layout for this cable is below.

9-pin DSUB F	9-pin DSUB F	Comment
2	3	TX/RX
3	2	
5	5	0V
Shield		Shield connected at one end only

Note! The Rudolf Cable has this layout and can be used for testing purposes, but it is only two meters long.

Long distance – more than 15 meters

The RS232 cable is not approved or reliable for longer distances, and an installation for 2-4 DCU engine controllers must be used.

See the chapter With 2-4 DCU 305 Engine Controllers

3.3.2 With 2-4 DCU 305 Engine Controllers

When communicating with more than one DCU 305 engine controller – or when the distance from the RSP 305 to the DCU 305 is greater than 15 meters – the communication shall be on a 4-wire twisted pair RS422 network. The overall distance can then be up to 1200 meters.

As the panels support RS232 only, RS232/RS422 converters must be used. There must be one RS232/RS422 converter at each panel end.

The RS232 cable

This cable shall be used between the panel and the converter and shall be made as in the chapter With 1 DCU 305 Engine Controller under Short distance – less than 15 meters.

The RS422 network

The wiring layout for the RS422 network side of the converters is below.

RSP 305 Remote Panel	DCU 305 Engine Controller #1	DCU 305 Engine Controller #2-4	Comment
TX+	RX+	RX+	Twisted pair
TX-	RX-	RX-	
RX+	TX+	TX+	Twisted pair
RX-	TX-	TX-	
Shield	Shield	Shield	

3.4 Configuration

The RSP 305 Remote Panel configures itself. However, it needs to know which engine controllers to include. This is done by searching the network for available engine controllers.

Search the network for engine controllers

- From the RSP 305 menu, select **DCU Scan.**
- Watch as the RSP 305 now searches the network for connected engine controllers with ID numbers 1-32. This takes about a minute.
- Finally, the RSP 305 summarises the engine controllers found and reads each panel's configuration. This takes a few seconds.

The RSP 305 is now ready for use.

If no DCU panels are found during this process, verify all wiring and ensure that each connected DCU 305 engine controller has a unique ID number between 1 and 32.

Note! The factory default ID number on a DCU 305 Engine Controller is 1.

The purpose of the **DCU Scan** is to search for engine controllers on the network. This is only necessary

- once during commissioning, or
- when adding or removing engine controllers, or
- when changing the ID number of an engine controller

It is unnecessary after an RSP 305 power cycle or if there is a configuration change (other than the ID number) in the engine controllers.

4 Appendix

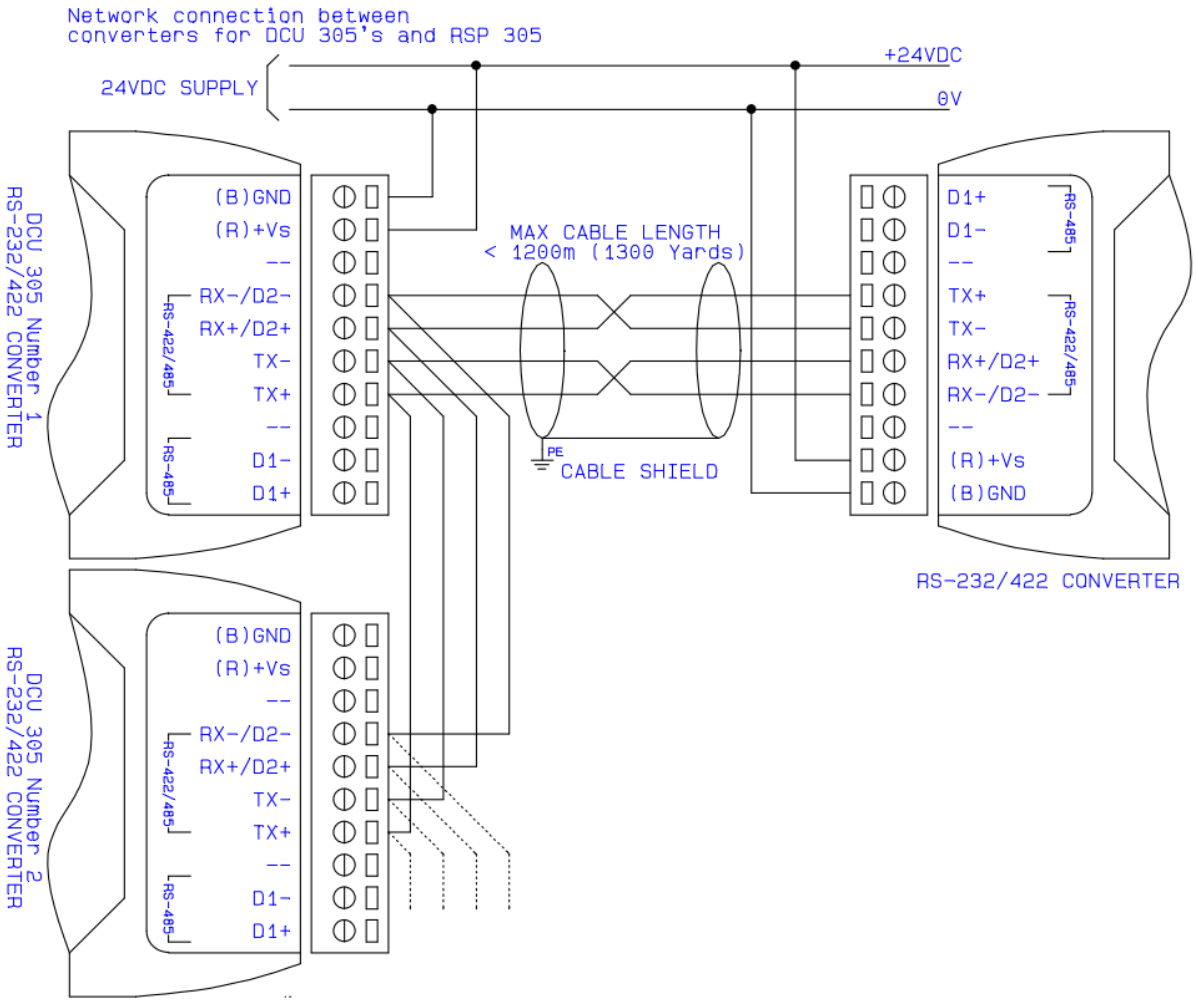
4.1 RS232/422 Converter

When communicating with more than one DCU 305 engine controller – or when the distance from the RSP 305 to the DCU 305 is greater than 15 meters – the communication shall be on a 4-wire twisted pair RS422 network.

A typical RS232/422 converter with 24 VDC supply and DIN rail mounting.

- Auto-Maskin p/n: 1008335

Installation Drawing:



4.2 RS232 Cables

Converter to Remote Panel and Converter to Engine Controller

The wiring layout for this cable is below. The cable is used between the converter and the remote panel and between the converter and the engine controller. Two lengths are available.

- Auto-Maskin p/n: 1008227, 60 cm
- Auto-Maskin p/n: 1008221, 200 cm

9-pin DSUB M	9-pin DSUB F	Comment
2	2	TX/RX
3	3	
5	5	0V
Shield		Shield connected at one end only

Power Cable

The power cable is supplied with the RSP 305 Remote Panel.

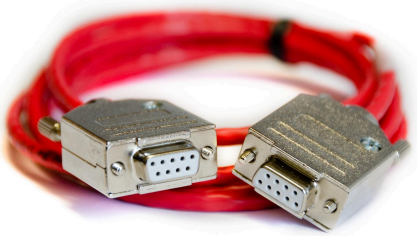
- Auto-Maskin p/n: 1075229

Rudolf Cable

The Rudolf Cable is used to configure the DCU 305 Engine Controller. The RSP 305 Remote Panel does not need to be configured.

This cable can also be used as a communication cable, albeit short, between the RSP 305 Remote Panel and one DCU 305 Engine Controller.

- Auto-Maskin p/n: 1075225



In addition to the cable above, the Rudolf configuration software is necessary to configure the DCU 305 Engine Controller.