PERISKAL
GROUP

MANUAL

PERISKAL INLAND ECDIS VIEWER WITH ARGONICS TRACKPILOT

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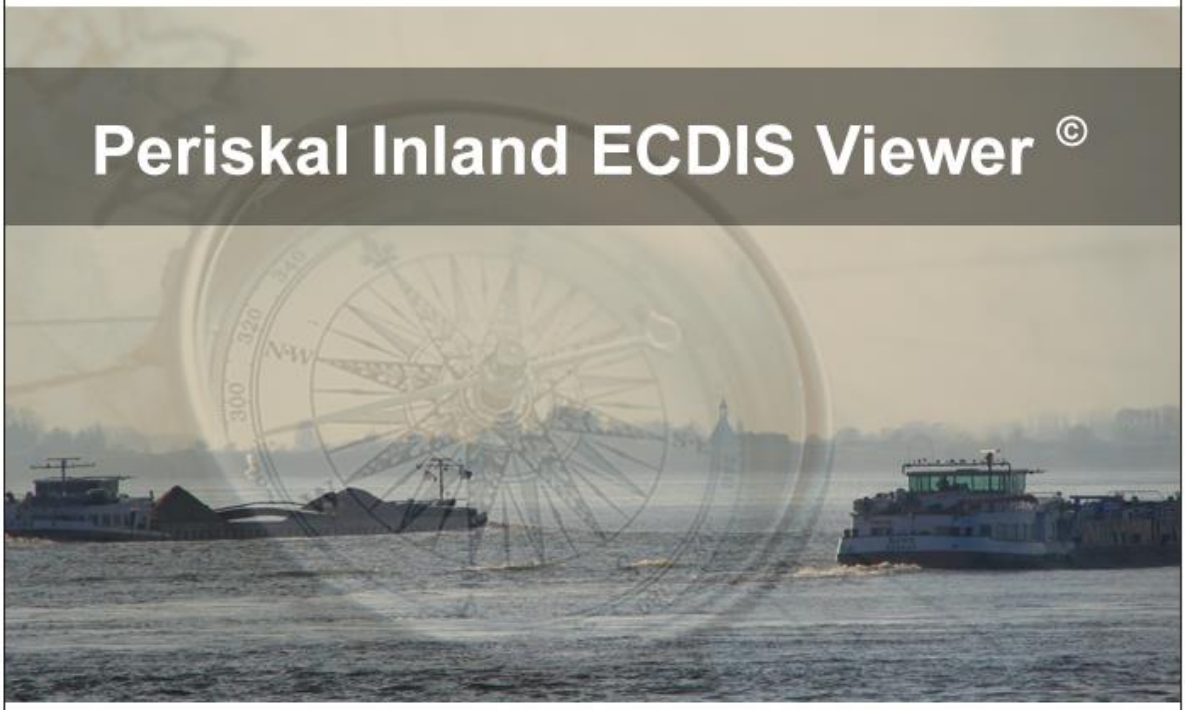

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1. Required hardware and options

1.1 **Hardware for the Periskal Inland ECDIS Viewer**

- argoTrackPilot (also known as: argonics TrackPilot, AlphaRiverTrackPilot, Radio Holland TrackPilot)
- Internal LAN connection build in the PC for connection with the TrackPilot, configured with a static IP-address: 192.168.31.160 and Subnet Mask: 255.255.255.0
  If the only LAN connection is used for an internet connection or connection to the Periskal PM-1 Blackbox AIS Transponder, we recommend to install a second network card to have a second LAN connection.

1.2 **argonics expansion module for the Periskal Inland ECDIS Viewer**

To be able to use the TrackPilot with the Periskal Inland ECDIS Viewer, it is mandatory to expand the currently Periskal Inland ECDIS Viewer package with a module which activates the link to communicate with the TrackPilot. This module shall be activated by Periskal remotely (an internet connection is required).

Normally this module is supplied as standard by your installer when ordering the TrackPilot and is included in the total price. However, if you do not have the Periskal argonics module (because you have had the TrackPilot installed with another Inland ECDIS chart system) and you want to activate the TrackPilot option for the Periskal Inland ECDIS Viewer afterwards, this module still needs to be purchased.
*Recommended retail price: € 750,-**

1.3 **TrackPilot support**

When the end-user (with active Periskal maintenance contract) chooses to install a Trackpilot and activate the argonics Trackpilot module, the Trackpilot support expansion is automatically activated in their active maintenance contract. This support expansion costs € 75,- annually* and is an additional cost upon the regular maintenance contract concluded between the end-user and Periskal.
This expansion is mandatory and not optional.

** Mentioned prices are exclusive of VAT (and any other possible additional costs).*

2. Configuration of the Periskal Inland ECDIS Viewer and the TrackPilot

2.1 System > NMEA settings

Via the menu 'Settings > System', we are able to change the NMEA settings for usage with the TrackPilot. *Since argonics advises to send the GPS data unfiltered to the TrackPilot, the Periskal Inland ECDIS Viewer must be set up so that the position-, course-, speed-, heading- and possibly rotation information can be read from the TrackPilot.*

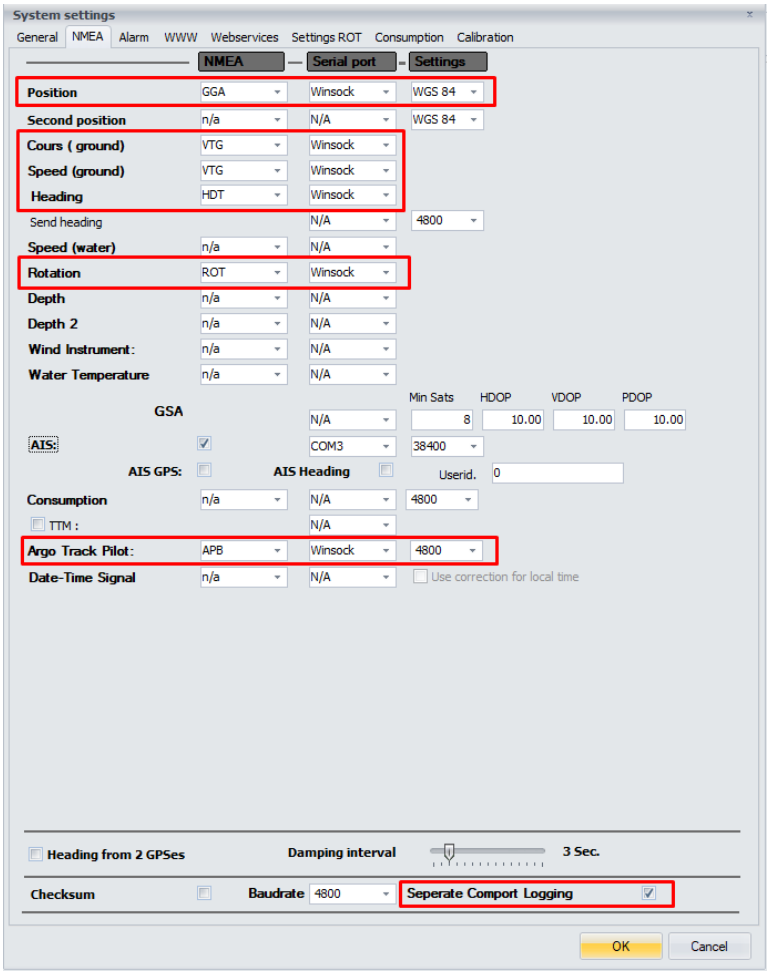
In the top of the system settings screen, click on the tab 'NMEA' and give in the following information :

- Position NMEA : GGA COM : Winsock
- Course (ground) NMEA : VTG COM : Winsock
- Speed (ground) NMEA : VTG COM : Winsock
- Heading NMEA : HDT COM : Winsock
- Rotation* NMEA : ROT COM : Winsock
- Argo Track Pilot NMEA : APB COM : Winsock

** The option for 'Rotation' is only available when the course-prediction module is activated in the dongle.*

Please leave the 'AIS' option untouched and keep it configured to the current COM port.
The options 'AIS-GPS' and 'AIS Heading' need to be both turned **off**.

IMPORTANT: Enable the option 'Separated Comport Logging'.
If this option is not enabled, all created logs will contain AIS and TrackPilot NMEA data. In case of an incident of accident, these logs will be so good as useless. Enabling this option will separate the log data from the AIS and the TrackPilot.

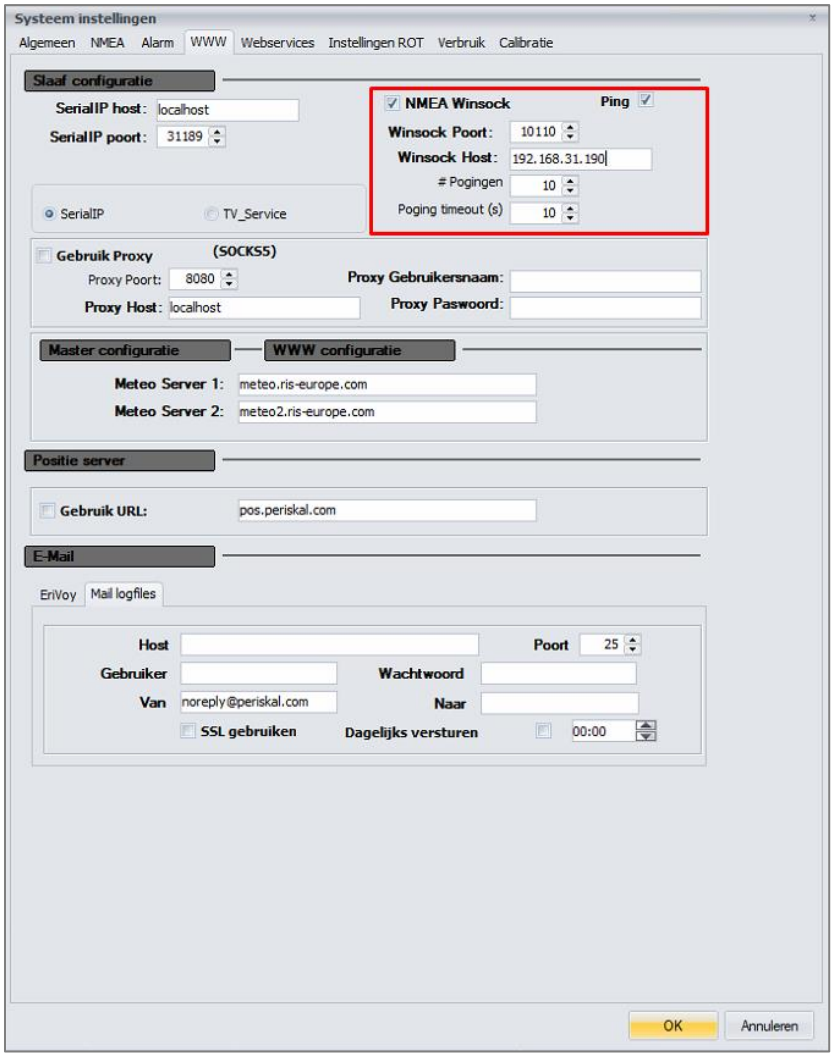


2.2 **System > Webservices**

In the menu ‘Webservices’, we can configure the communication details for the TrackPilot (IP address and Port number).

Fill in the information below and enable the option ‘NMEA Winsock’ (as shown) and click on OK. Now you have configured the Periskal Inland ECDIS Viewer to be able to connect to the TrackPilot.

- Winsock Port: 10110
- Winsock Host: 192.168.31.190

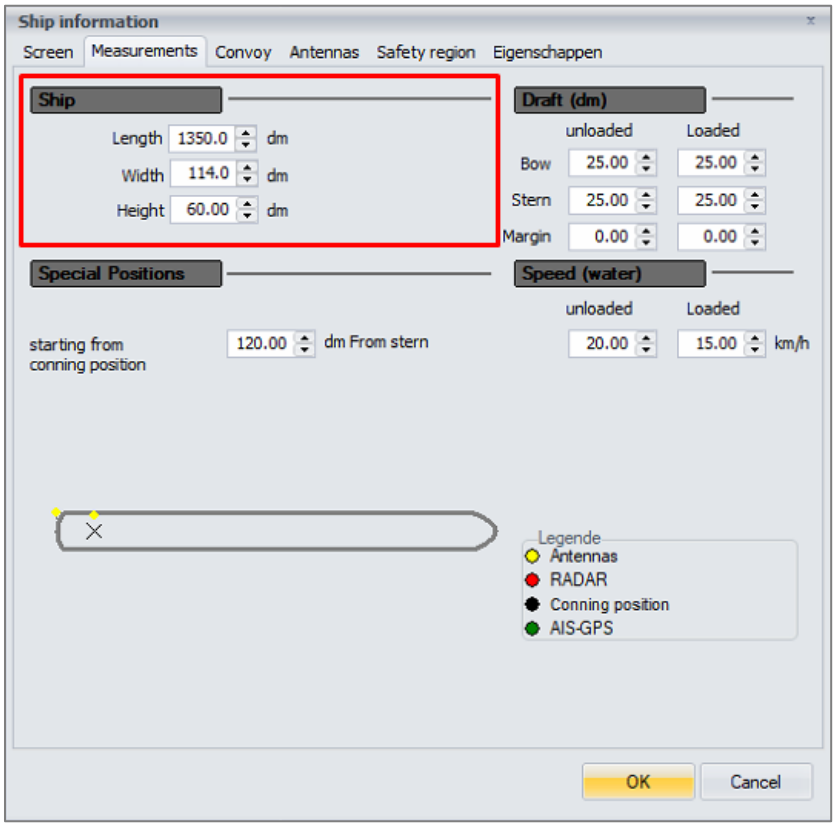


3. Ships measurements and antenna positions

It is very important that the values for ship measurements and antenna positions are correctly filled in and that these values are the same as values that are set in the TrackPilot. If these values/positions are not correct, the positions of the waypoints in converted tracks won't match the exact GPS position.

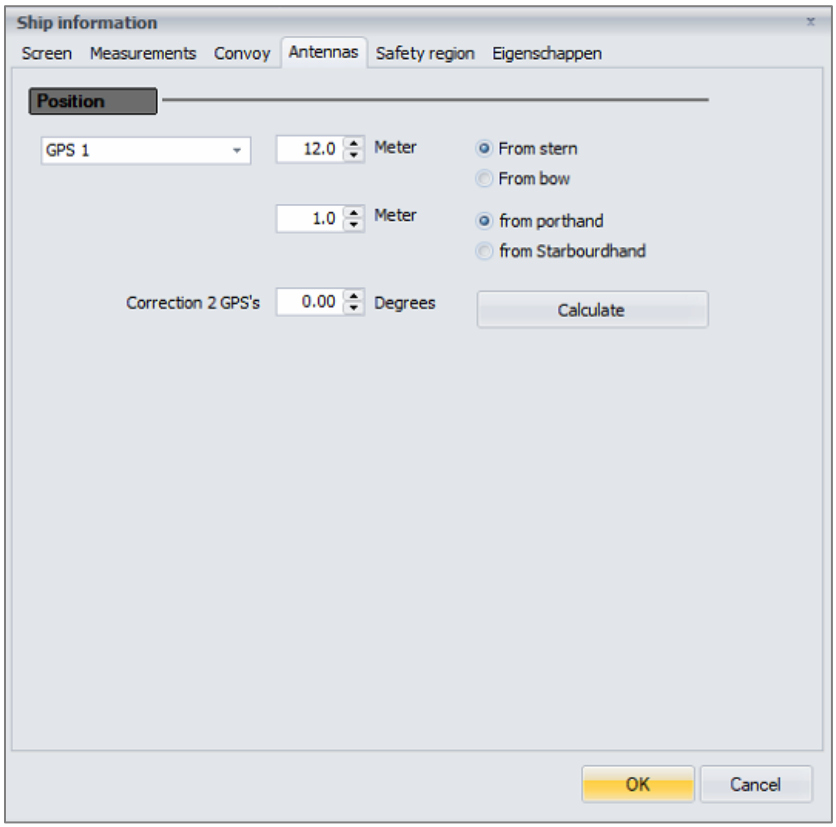
3.1 **Settings > Ship**

To configure the length and width of the ship, open the tab 'Measurements' in the Ship information screen. Please note: The measurements are in decimetres.



3.2 **Antenna positions**

To fill in the correct antenna positions, open the tab ‘Antennas’.
This needs to be done for the GPS 1 and the AIS-GPS antenna position.



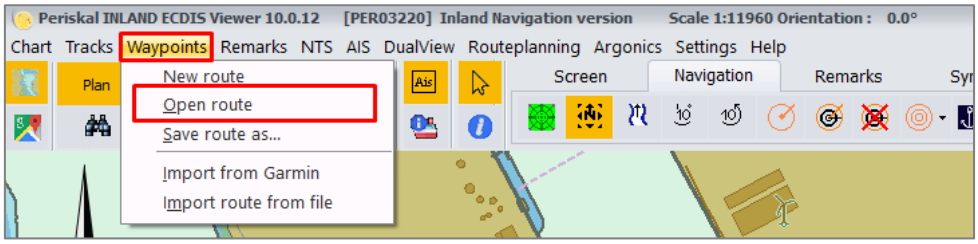
4. Send routes as track to the TrackPilot

The Periskal Inland ECDIS Viewer sends waypoint routes as track to the TrackPilot. To be able to send a route to the TrackPilot, you must open them in the Periskal Inland ECDIS Viewer first.

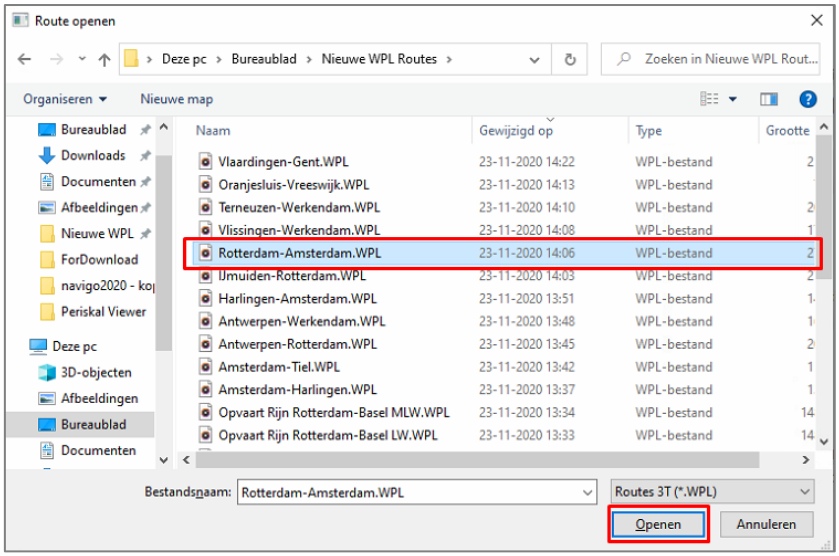
***Tip**: Switch to PLAN mode. This makes it much easier to work the waypoints routes..*

Your TrackPilot needs to be deactivated, when sending a track your TrackPilot.

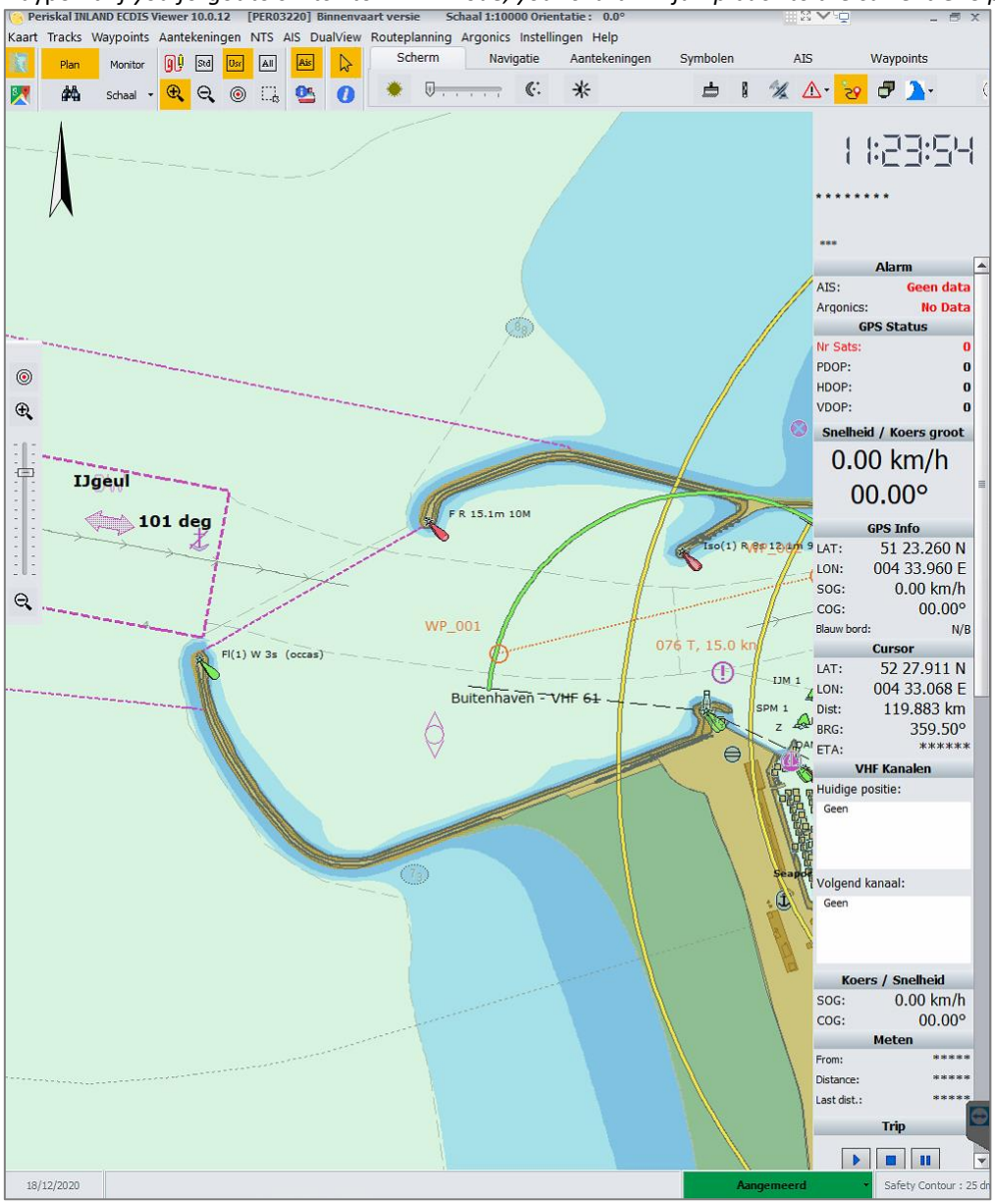
1. Open the menu 'Waypoints' and click on 'Open route'.



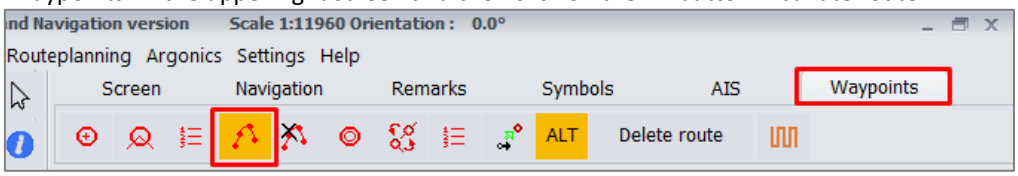
2. Using the screen 'Open route' search the route you want to open. Click on the route and click on 'Open'.



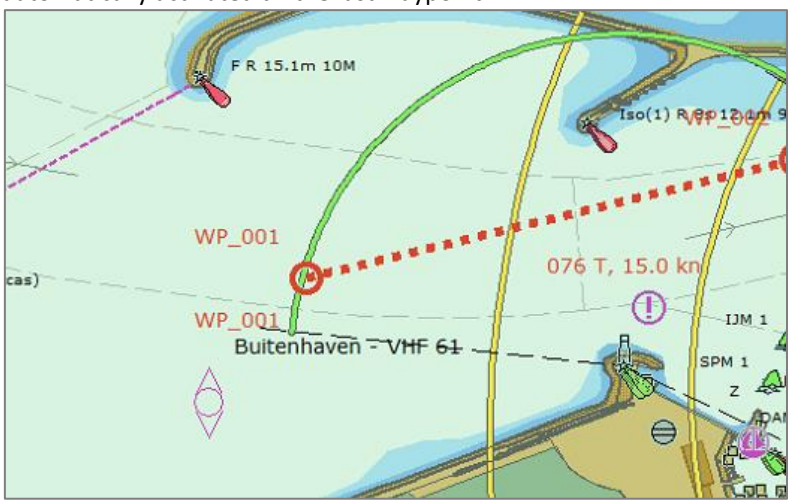
3. After opening the route, the chart of the Periskal Inland ECDIS Viewer will jump to the location of the first waypoint. *If you forgot to switch to PLAN Mode, your chart will jump back to the current GPS position.*



4. Before we can send the route to the TrackPilot, we need to activate the route. To do so click on the tab 'Waypoints' in the upper right screen and then click on the 4th button 'Activate route'.

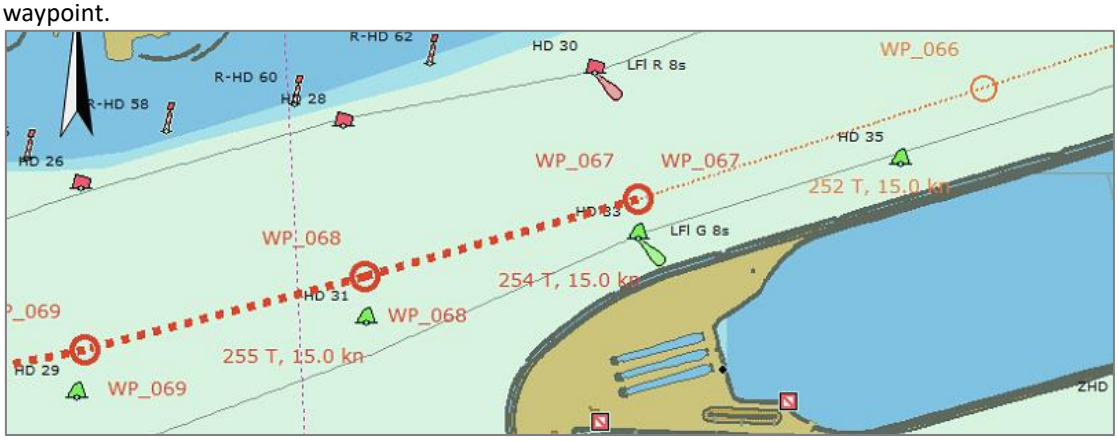


5. After clicking the 'Activate route' button, click on the first waypoint (WP_001) of the route. The route will automatically activated till the last waypoint.



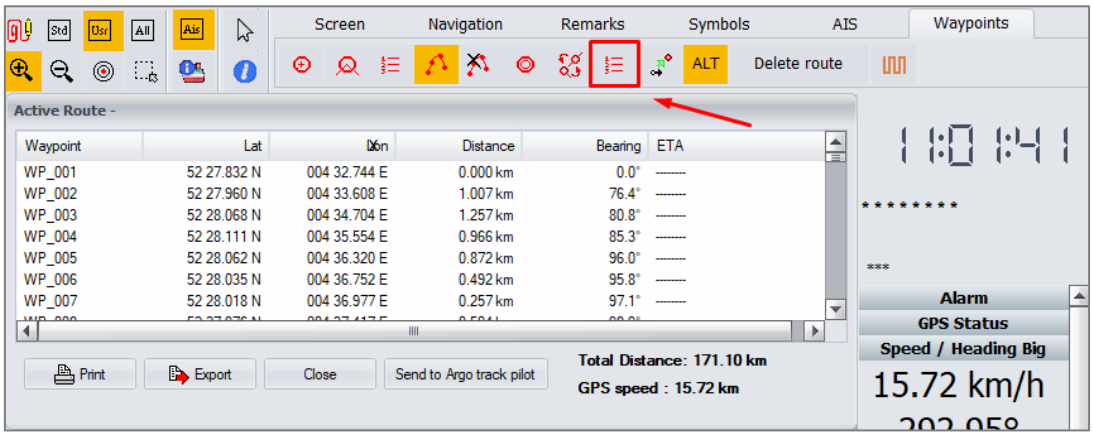
It is also possible to activate only a part of the route instead of the complete route. This feature can be used when you are already sailing and you are past a couple of waypoints.

After clicking the 'Activate route' button, click on the waypoint from where you would like to start. Then with the right mouse button, you click on the connected dotted legline in the direction you want to go. Now you will see that the route is automatically activated from the selected waypoint all the way to the last waypoint.

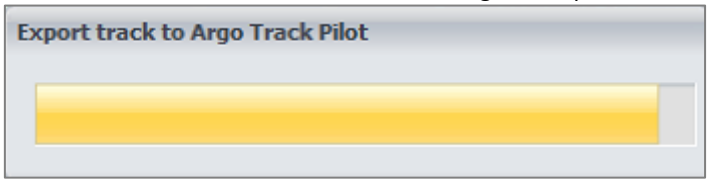


6. After activating the route, open 'Route management'. From this menu you can send the route to the TrackPilot (see step 7). You can also view/check the waypoint-list of the activated route and see what the overall distance is.

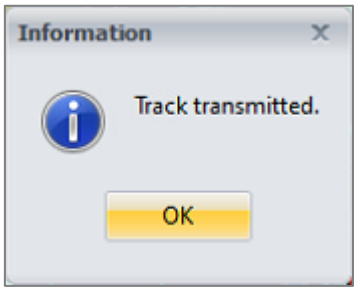
Always check if the order of the waypoints is consecutive and that no waypoints are missing. Non-consecutive or missing waypoints cause a bad trackline!



7. Click in the screen on the button ‘Send to Argo track pilot’. The route will be send to the TrackPilot.

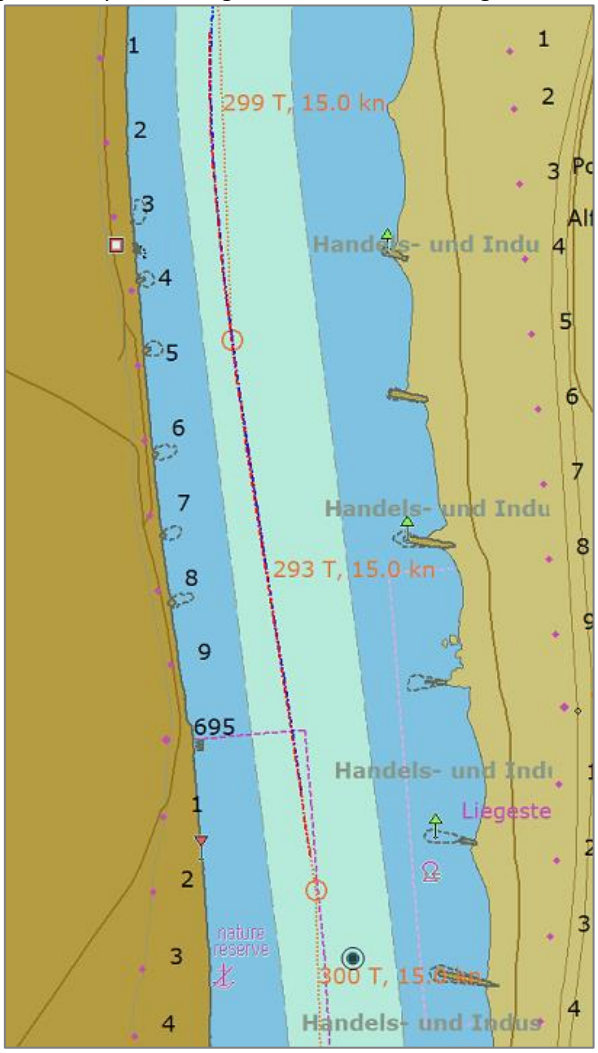


If the route has been sent, the below screen will appear. Click OK to continue.



8. The track is now sent to the TrackPilot! If you are sailing near the route you will see a blue and red line appear on the screen. These are the sailing- and control lines of the TrackPilot.
Do not forget to active your TrackPilot, to let your follow the track!

It might happen that the first time you send a route to the TrackPilot, just after starting the Periskal Inland ECDIS Viewer, the TrackPilot did not receive the route. This can happen by initialisation of the communication between the Periskal Inland ECDIS Viewer and the TrackPilot. When this happens, please follow steps 3 till 8 again to send the route again.



5. Create or edit your own routes

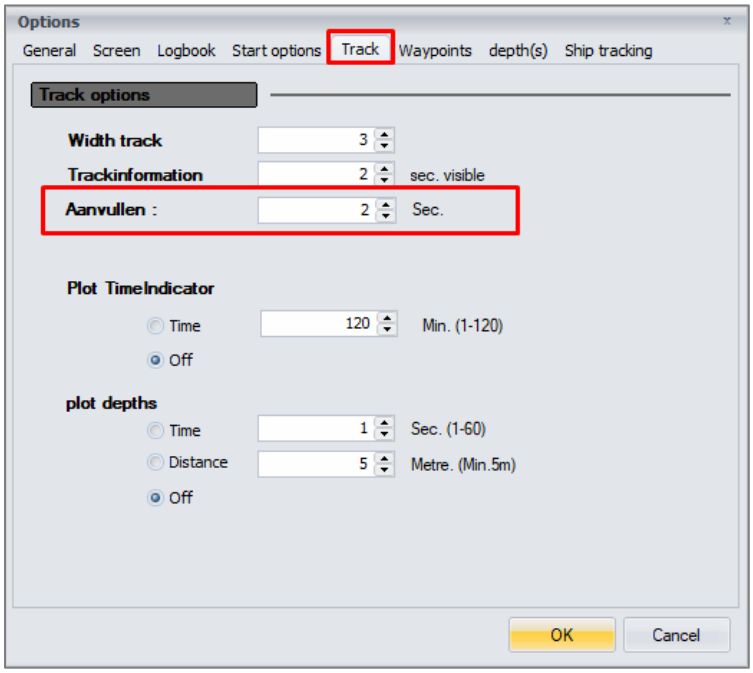
Instead of using existing waypoint routes, you can also create and/or edit them yourself. In this chapter we discuss the two possibilities to create routes yourself. You can either convert a recorded trackline (a copy of the line you sailed yourself) to waypoint route of create one yourself using waypoints.

5.1 Creating waypoint routes by recording a trackline

You can create a new waypoint route by recording a trackline while you are sailing and converting it afterwards to a waypoint route. Before you start recording the trackline, you have to set an interval (in seconds) on which you want the program to create waypoints (the waypoints are created on the background and are not visible in the trackline). After setting the interval you may start recording your trackline.

5.1.1 Setting the interval of the trackline

The interval can be adjusted via the menu 'Settings > Options'. In the screen that opens, click on the tab 'Track'.



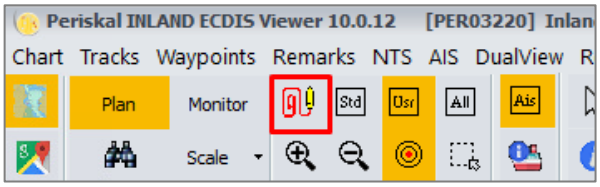
In this tab, you will find the option 'Aanvullen' (the third option). You set this option according to the expected sailing speed. The speed during sailing and the set interval will determine how many waypoints there will be created in the trackline. Ideally we want to see a waypoint is being created approximately every 100 meters on the straight parts. For example; When you are sailing 15 km/h is this equal to about 4 meters per second. To place a waypoint every 100 meters we need to set the interval at 25 seconds (25 seconds is the time needed to sail 100 meters with a speed of 15 km/h).
The advantage to create waypoints according to a certain time instead of distance, is that there will be more waypoints created in turns because a ship is usually sailing at a lower pace in turns. It is preferably to have more waypoints in a turn as the TrackPilot creates a smoother line than.

Below you will find an overview of how many seconds you need to set for the interval to create a waypoint in the trackline every 100 meters at a certain speed.

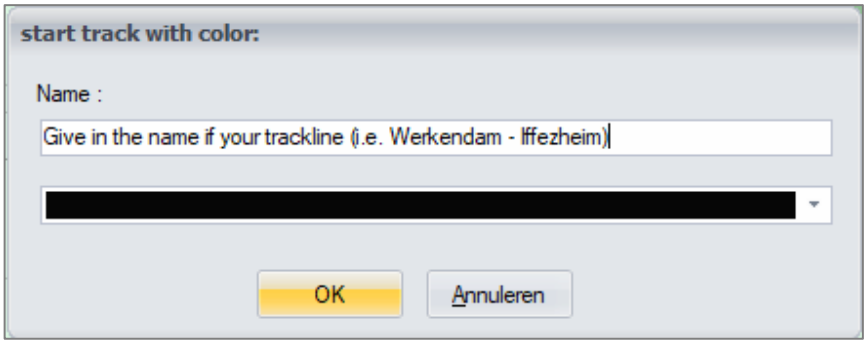
Snelheid	Seconden		Snelheid	Seconden		Snelheid	Seconden		Snelheid	Seconden
1 km/u	360		6 km/u	60		11 km/u	33		16 km/u	23
2 km/u	180		7 km/u	52		12 km/u	30		17 km/u	21
3 km/u	120		8 km/u	45		13 km/u	28		18 km/u	20
4 km/u	90		9 km/u	40		14 km/u	26		19 km/u	19
5 km/u	72		10 km/u	36		15 km/u	25		20 km/u	18

5.1.2 **Recording the trackline**

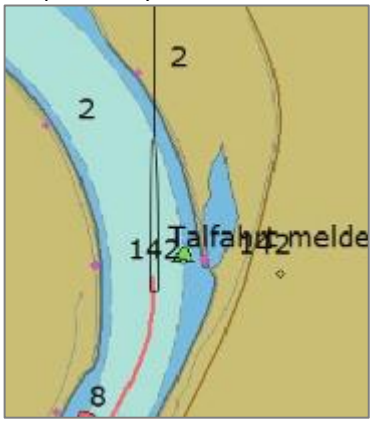
1. When the interval has been set, you can start recording your trackline by clicking on the button in the toolbar.



2. A new screen appears where you can give in the name of the trackline (i.e. Werkendam - Iffezheim) and you can choose a desired colour in which you want the trackline to be shown on the chart. When done, click 'OK'.



3. After clicking 'OK' the recording of your trackline is started and the line starts the show where you sail in the previously selected colour.

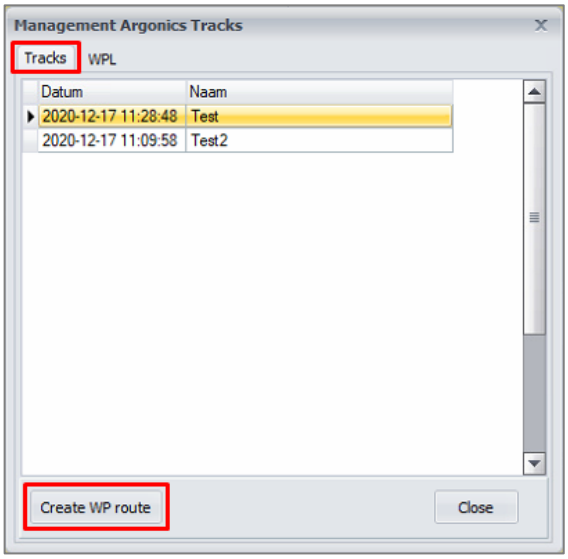


4. When you have reached your destination and you want to stop the recording of the trackline, click again on the button to stop and save the trackline.

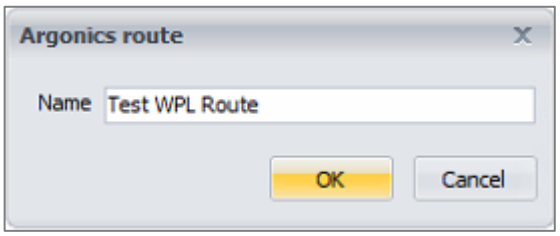
5.1.3 Converting a trackline to waypoint route

Using the menu ‘Argonics > Manage tracks’ we can convert a (self-created) trackline to waypoint route (also called WPL route).

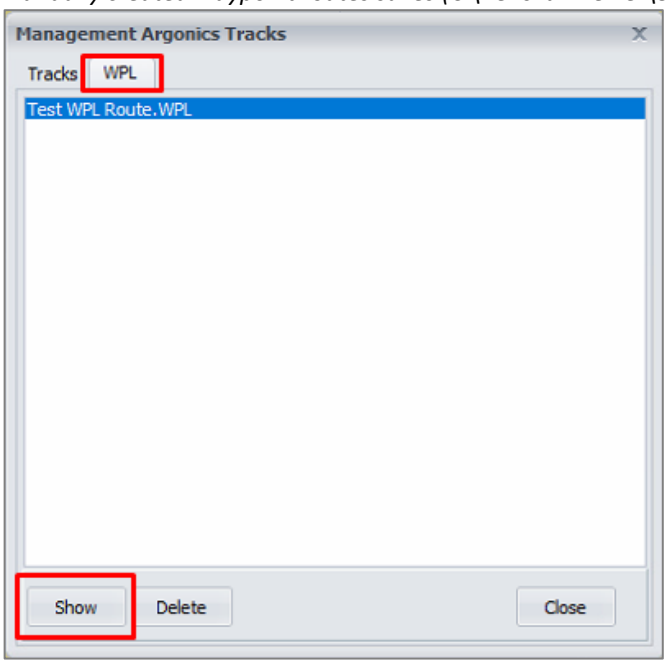
1. In the ‘Management Argonics Tracks’ screen, click on the tab ‘Tracks’. Then select the desired trackline which you want to convert and click on the button ‘Create WP route’.



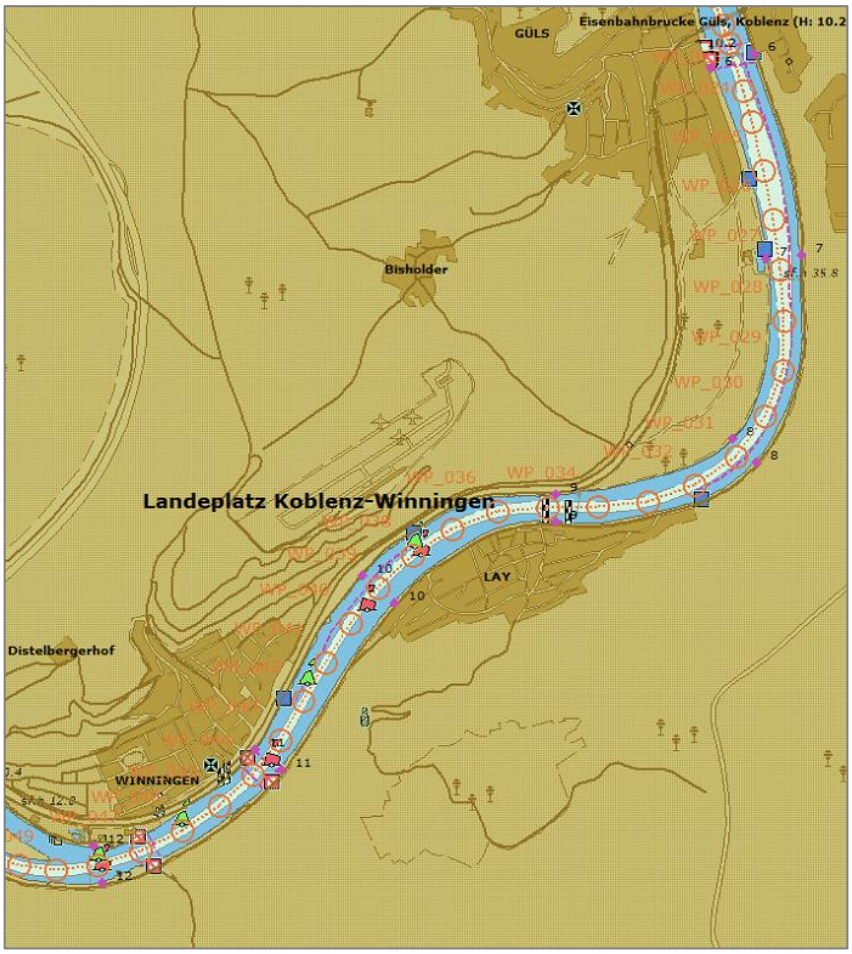
2. A new screen appears where you can fill in the name of your new waypoint route and after doing that click on ‘OK’.



3. When you have converted the trackline to a waypoint route (WPL route), you can click the tab ‘WPL’. Here all converted tracklines will be listed, as well as your newly converted route.
The route will also be saved in the default route folder, where the Periskal Inland ECDIS Viewer also the manually created waypoint routes saves (C:\Periskal Viewer\3TData\route).



4. After selecting your newly converted route, you can click the button ‘Show’. Now the route will be shown on the chart.



5.2 **Create/edit routes using waypoints**

Another way to create routes yourself, is by manually placing and connecting waypoints. To do this, we use the toolbar available after click the tab 'Waypoints'. Below you will find an explanation of the buttons we will be using when manually creating a waypoint route.

Explanation of the buttons:

1. Select button (cursor)
   Use this button to select waypoints or leglines. You can move waypoints after selecting them by clicking on them with the left mouse button and then dragging the waypoint to a new location while still holding the left mouse button. Delete waypoints and leglines by selecting them with the left mouse button and pressing the DELETE key on your keyboard.

2. Adding a waypoint
   You can use this button to add waypoints on the chart, which can later be connected by leglines to connect them to a route. You can also use this button to add a waypoint between two existing waypoints, that are connected to each other by a legline, by clicking on the legline.
   Note: When placing only a waypoint, no leglines are being placed. To place leglines as well, use button no3.

3. Adding a legline
   This button allows you to create a legline between two existing waypoints. You can also use this button to create waypoints with a legline connected to the last placed/selected waypoint.
   Note: When using this function on a clean chart (without any waypoints or opened routes) it adds only the first waypoint. When placing the second waypoint it automatically connects the previous waypoint with a legline.

4. Select planned route *(also known as activating route)*
   To verify if the route is correctly connected, you can click this button and then click on the first waypoint of your route. When connected correctly the complete route will be shown as a fat red line. To activate only a part of the route, click on the waypoint where you would like to start the route and then click with the right mouse button on the connected legline in the direction you want the route to go to.
   Activating routes is an important step, as only activated routes can be send to the TrackPilot.

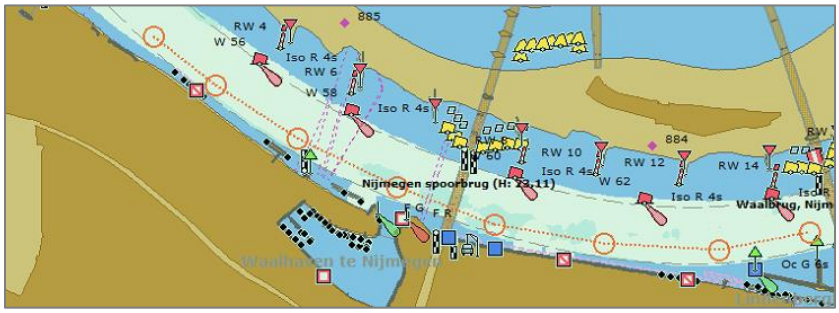
5. Clear planned route *(also known as deactivating route)*
   Use this button to click anywhere on the route to complete deactivate it. Deactivating routes is only needed when you want to edit a route, but it currently activated. Activated routes cannot be edited.

6. Inverse planned route
   This button allows you to invert the activated route, meaning the start- and endpoints will be reversed in order to create same route but in the other direction.
   Note: Activated inversed routes will show their consecutive order in reverse order in the route management screen.

7. Route management
   In this list all waypoints from the activated route are shown. Also the complete distance of the waypoint route is shown. When you have verified the route and you want to send it to the TrackPilot you can use the button 'Send to Argo track pilot'.

5.2.1 **Placing waypoints**

To start with a new route, it is best to begin placing waypoints using the button which is also used to create leglines (button no3 as described on the previous page). This button does not only places waypoints, but also a legline to the last placed waypoint. When this button is used on an empty chart only a waypoint is placed.

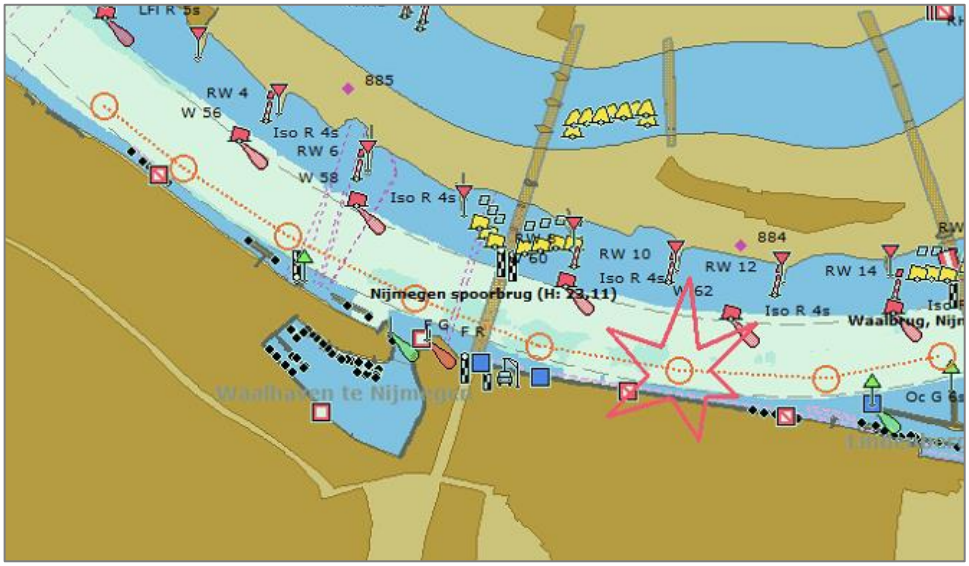


5.2.2 **Moving waypoints**

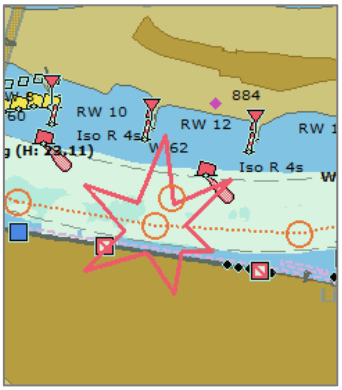
You can also move (earlier) placed or existing waypoints in case you have added them in the wrong place. Use this function also allows you to move waypoints on previous made waypoints route (even if they are converted from a trackline).

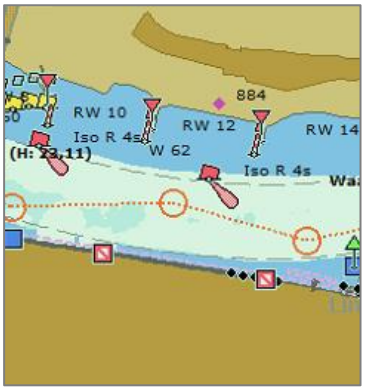
1. Click on the select button on the toolbar (button no1)

2. Now click the waypoint you would like to move to select it



3. After selecting click the waypoint again drag the waypoint to the new location while holding the left mouse button. Once on the correct position you may let go of the left mouse button.
   If the new position of the waypoint crosses the old position, the replacement is not applied.





5.2.3 **Inserting waypoints**

It is also possible to insert a waypoint on a legline between two existing waypoints.

1. Click on the first button under the tab 'Waypoints (button no.2 as seen in chapter 5.2)

2. Then click on the legline where you want to place your new waypoint.

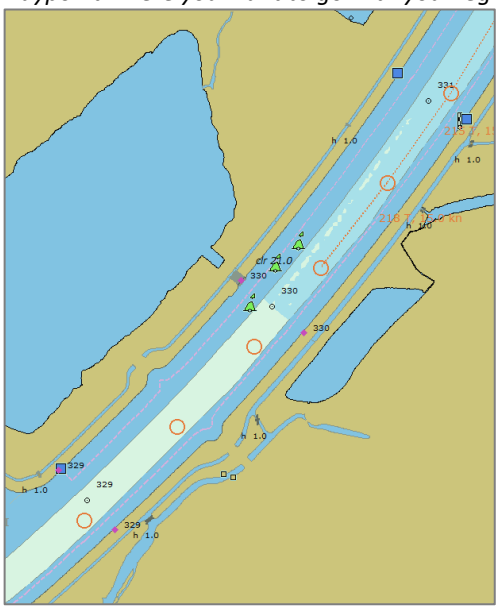
5.2.4 **Creating leglines**

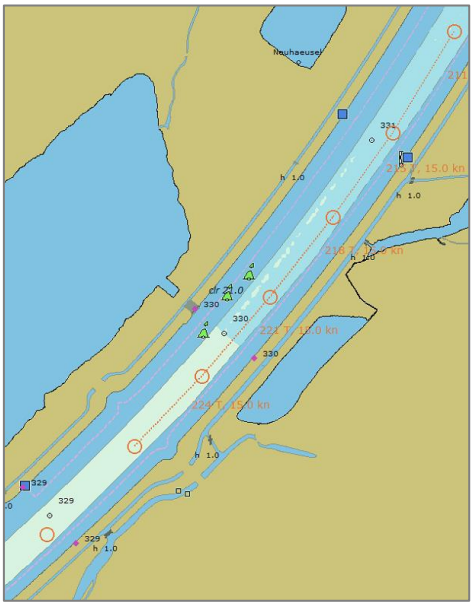
To create leglines, we use the same button as we normally use when creating a new route. The legline is placed from the last selected waypoint to the newly selected waypoint. You can also extend existing routes using this same method.

It is possible that the legline runs over the chart instead of connecting the selected waypoints (for example when your last selected waypoints is at the beginning of a long route). When this is the case, you can delete the legline using the selection button *and then pressing the DELETE button on your keyboard.*

1. Click on the legline button found under the tab 'Waypoints'

2. Now click on the waypoint whereto you want to connect the legline.
   When placing the first legline in a route, you must click on the starting waypoint first before clicking the waypoint where you want to go with your legline.





5.2.5 **Extending an existing route**

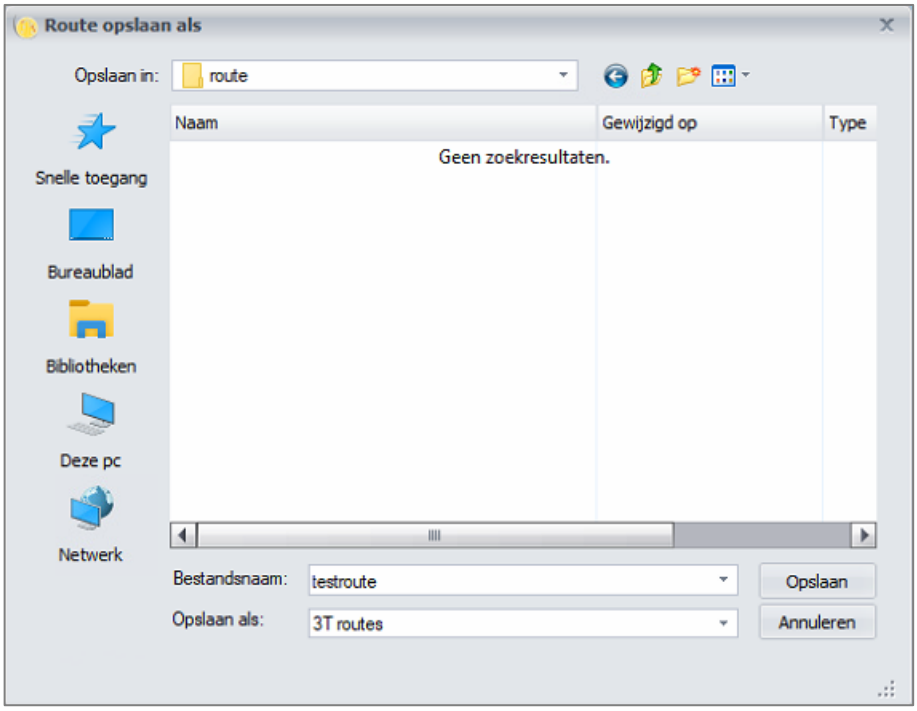
To extend (or edit) an existing route, you first need to open this route. This is done via the menu ‘Waypoints > Open route’. Once the route is opened, you can use the earlier written techniques to extend or edit the route.

5.2.6 **Saving a route**

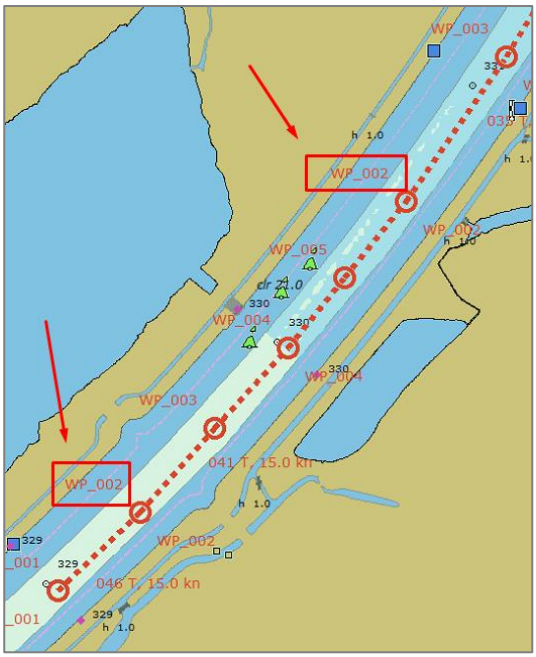
Before you can save a route, it is important for the system itself that the route is checked to be complete and it does not have any double or missing leglines. To do so we need to make the route active starting from the first waypoint (see Chapter 4.4). If the complete is shown active (bold red), you can save the route.

1. Go to the menu ‘Waypoints > Save route as’

2. A new screen opens (it automatically opens the default folder for saved routes or the last used folder). Here you can give the route a name and save it.



5.2.7 **Reset waypoint numbering**



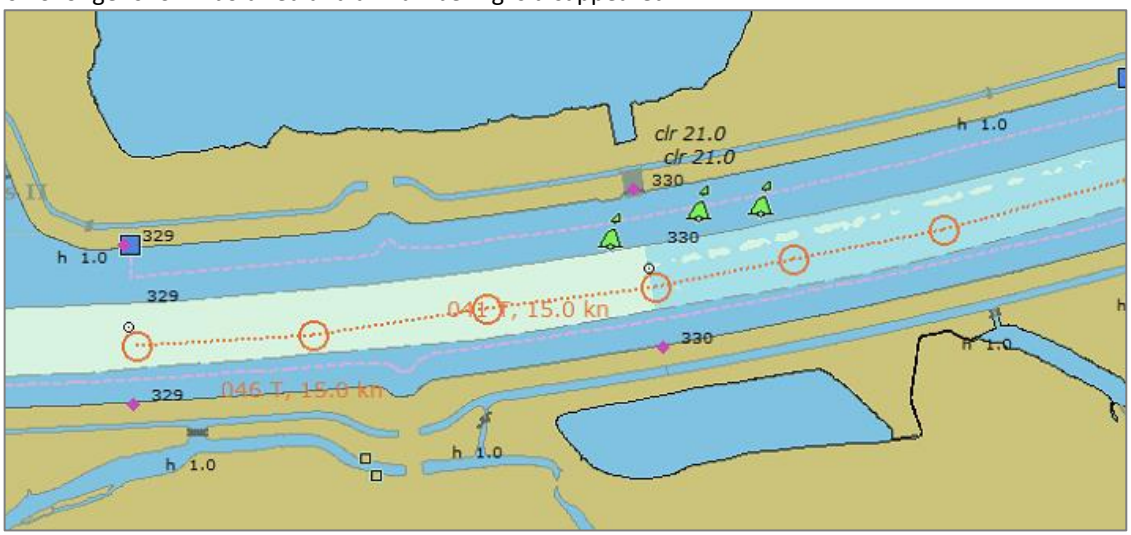
When editing an existing route (by adding extra waypoints between existing waypoints) it might be possible that the order of the numbering is no longer correct. Then you will see for example; WP_001, WP_002, WP_003, WP_004, WP_005 and then WP_002 again (as shown in the image on the right).

To reset the numbering before we save the route, we need to activate, de-activate and activate the route again. This is important for the TrackPilot, otherwise he can follow the waypoints in a different order.

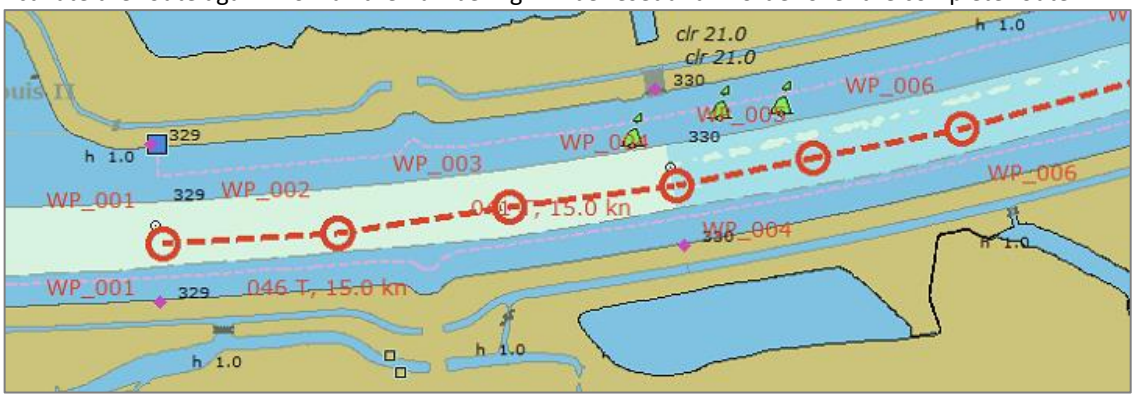
When de-activating the route, all numbers disappear and will be re-created when re-activating the route.

1. Activate the created route from the first waypoint.

2. Now click the 'de-activate route button' under the tab 'Waypoints' and click on the route. The route is no longer shown bold red and all numbering is disappeared.



3. Activate the route again. Now all the numbering will be reset and in order over the complete route.



4. The route can now be saved.