

THE MEASURABLE DIFFERENCE.



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▼

OXYGEN TRAINING > GPS DATA ACQUISITION



TRION MODULES FOR GPS-DAQ



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- ① TRION-TIMING
 - > Max. 10 Hz refresh rate
- ② TRION-VGPS-20
 - > Max. 20 Hz refresh rate
- TRION-VGPS-100
 - > Max. 100 Hz refresh rate
- ③ Data acquired by the GPS receiver
 - > Latitude
 - > Longitude
 - > Altitude
 - > Velocity
 - > Heading
 - > Satellites
 - > Fix Quality
 - > H. Dilution
 - > SoD; Seconds of Day
 - > Date
 - > Acceleration (Calculated from Velocity)
 - > Distance (Calculated from Velocity)

GPS 1/1 Sim	TRION-VGPS-100-V3	nan	NMEA	100 Hz
GPS 1/1 Sim	GPS 1/1 Sim	nan	Latitude	100 Hz
Latitude_GPS 1/1 Sim	Latitude	NaN	Latitude	100 Hz
Longitude_GPS 1/1 Sim	Longitude	NaN	Longitude	100 Hz
Altitude_GPS 1/1 Sim	Altitude	NaN	Altitude	100 Hz
Velocity_GPS 1/1 Sim	Velocity	NaN	Velocity	100 Hz
Heading_GPS 1/1 Sim	Direction	NaN	Direction	100 Hz
Satellites_GPS 1/1 Sim	Satellites	NaN	Satellites	100 Hz
Fix Quality_GPS 1/1 Sim	Quality	nan	Quality	100 Hz
H. Dilution_GPS 1/1 Sim	HDOP	NaN	HDOP	100 Hz
SoD_GPS 1/1 Sim	Second	NaN	Second	100 Hz
Date_GPS 1/1 Sim	Date	nan	Date	100 Hz
Acceleration_GPS 1/1 Sim	Acceleration	NaN	Acceleration	100 Hz
Distance_GPS 1/1 Sim	Distance	NaN	Distance	100 Hz

Default Channel Name	Data	Channel description	Range	Unit
GPS	NMEA	GPS NMEA channel	-	-
Latitude_GPS	Latitude	Current latitude of the object	-90° ... 90°	°
Longitude_GPS	Longitude	Current longitude of the object	-180° ... 180°	°
Altitude_GPS	Altitude	Current altitude of the object	-100m ... 1000 m	m
Velocity_GPS	Velocity	Current velocity of the object	0 km/h ... 300 km/h	km/h
Heading_GPS	Direction	Current heading of the object	0° ... 360°	°
Satellites_GPS	Satellites	Number of satellites in view	0 ... 24	-
Fix Quality_GPS	Quality	GPS Fix Quality	-	-
H. Dilution_GPS	HDOP	2D deviation of longitude and latitude	0m ... 100 m	m
SoD_GPS	Second	Current second of the day	0s ... 86400 s	m
Date_GPS	Date	Current date in the format yyy-mm-dd hh:mm:ss:ms	-	-
Acceleration_GPS	Acceleration	Current acceleration of the object	-1000 m/s ² ... 1000 m/s ²	m/s ²
Distance_GPS	Distance	Distance covered from start of measurement	0m ... 1000000 m	m



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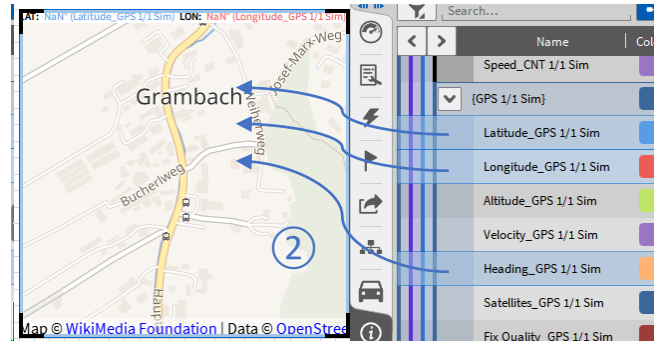
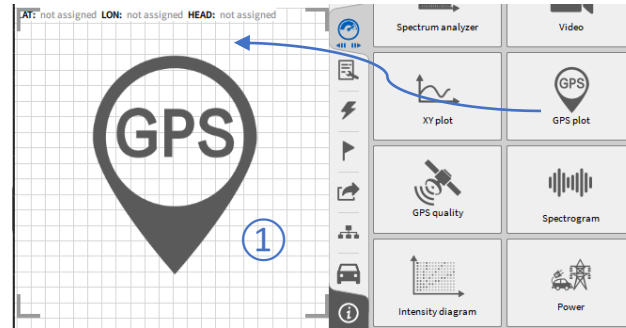
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GPS PLOT INSTRUMENT

For visualizing the current position and the travelled track, the GPS plot can be used

- 1 The GPS plot can be dragged and dropped from the Instruments menu
- 2 Latitude, Longitude and Heading can be assigned to the GPS plot instrument
- 3 In case a internet connection is active, an Open Street Map from the current position is automatically loaded





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GPS PLOT INSTRUMENT

④ A background image (Satellite image) can be imported in the instrument properties

⑤ After selecting the image, a popup will appear
The known coordinates for 2 points on this image have to be entered and a cursor needs to be placed on the reference point on this picture

That's required for positioning the picture absolutely on the map

⑥ The picture will be overlaid to the map afterwards

The screenshot displays the 'GPS plot' instrument interface. On the left, a settings panel includes 'ZOOM MODE' (Manual, Center, Fit, Rotate), 'TRACK' (Clear, Limit duration), and 'BACKGROUND IMAGE' (Import image...). A blue circle '4' highlights the 'Import image...' button. Below the settings is a map showing a satellite image of a building complex. A blue circle '6' is placed on the map. A 'Positioning' popup window is open, showing 'MAP POINT 1' and 'MAP POINT 2' with fields for Latitude and Longitude, and X and Y coordinates in pixels. Blue circles '5' and '5' are placed on the popup. A blue arrow points from the popup to the satellite image on the map. At the bottom of the popup are 'Cancel' and 'Apply' buttons.

GPS plot

ZOOM MODE

Manual Fit

Center Rotate

Show map

TRACK

Clear

Limit duration 1 s

BACKGROUND IMAGE

Import image...

Positioning

MAP POINT 1

Latitude 47.020532

Longitude 15.496724

X 364 px

Y 117 px

MAP POINT 2

Latitude 47.017844

Longitude 15.502278

X 1141 px

Y 666 px

Cancel Apply

LAT: 47.0186° (GPS_Lat_Abs@NET_VUT) LON: NaN° (GPS_Long_Abs@NET_VUT) HEAD: not assigned

L370

Forstgartenweg

Kiesweg

Unmarked Road

8271 Oberbach

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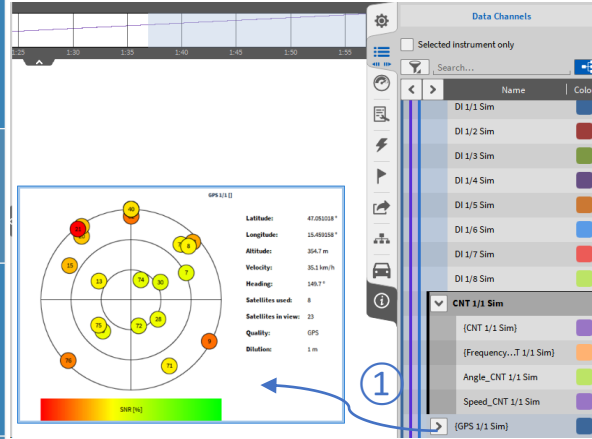


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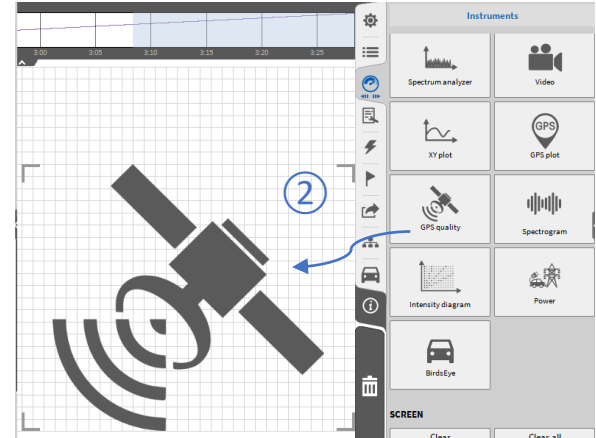
GPS QUALITY INSTRUMENT

Displays the Position of the satellites in view and gives an overview of the current GPS data



1 Can be added to the measurement screen by dragging and dropping the GPS NMEA string to the screen...

2 ... or by selecting the *GPS quality* instrument form the Instrument and assigning the GPS NMEA string afterwards



3 Explanation of the *satellites* plot

