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OXYGEN TRAINING
> GPS DATA ACQUISITION



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TRION MODULES FOR GPS-DAQ

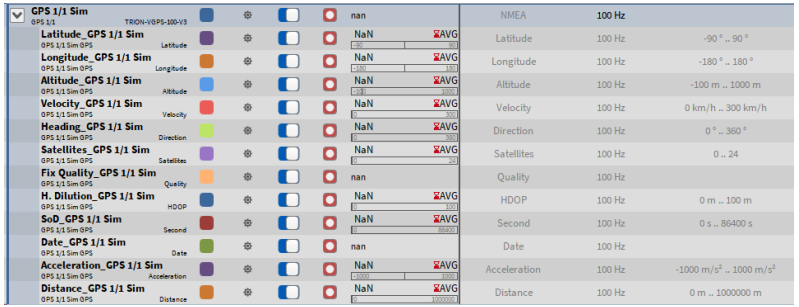
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① TRION-TIMING
> Max. 10 Hz refresh rate

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)



③

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/s² ... 1000 m/s²	m/s²
Distance_GPS	Distance	Distance covered from start of measurement	0m ... 1000000 m	m

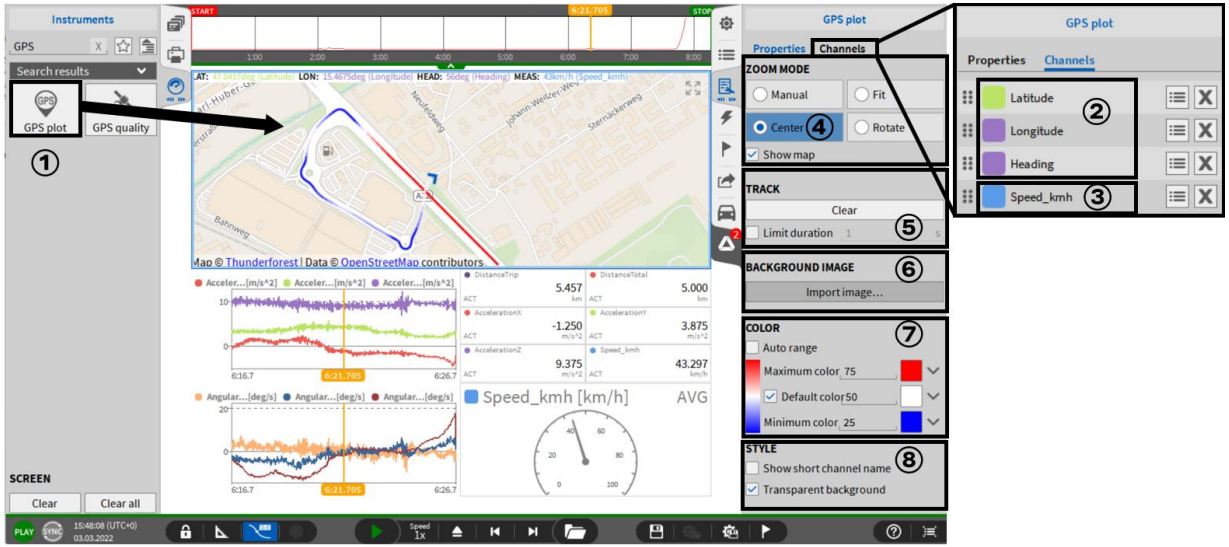


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GPS PLOT INSTRUMENT

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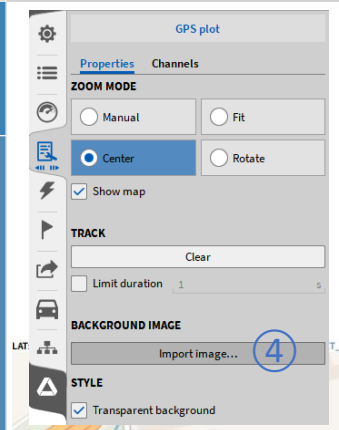
	For visualizing the current position and the travelled track, the GPS plot can be used
①	The GPS plot can be dragged and dropped from the Instruments menu
②	Latitude, Longitude and Heading can be assigned to the GPS plot instrument In case a internet connection is active, an Open Street Map is loaded
③	An additional channel can be added to colorcode the GPS-trail
④	The zoom mode determines how the map is centered in the instrument
⑤	By default the whole gps trail is shown, with a limit duration the trail fades after x seconds
⑥	If no internet is available a image can be loaded
⑦	Select max/min/defaultcolor and value
⑧	Toggle background obacity

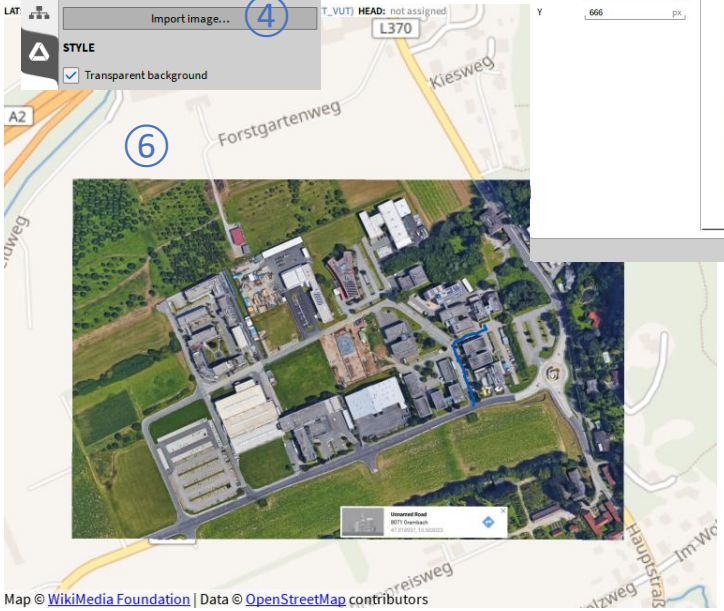


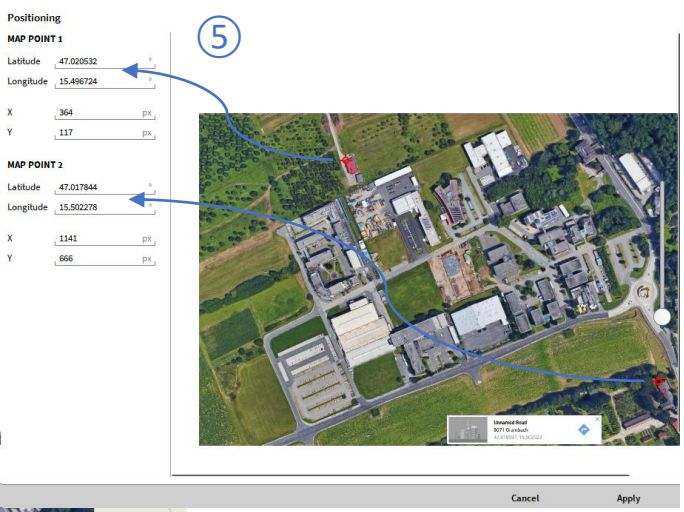
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GPS PLOT INSTRUMENT

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 overlayed to the map afterwards



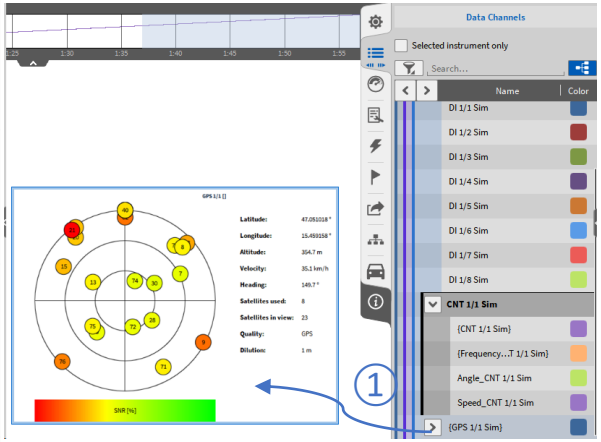




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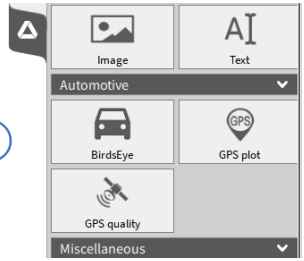
GPS QUALITY INSTRUMENT

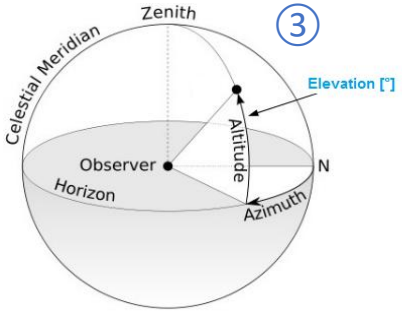
	Displays the Position of the satellites in view and gives an overview of the current GPS data
①	Can be added to the measurement screen by dragging and dropping the GPS NMEA string to the screen…
②	… or by selecting the *GPS quality* instrument form the Instrument and assigning the GPS NMEA string afterwards
③	Explanation of the *satellites* plot

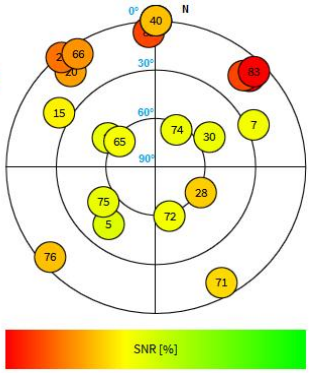




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