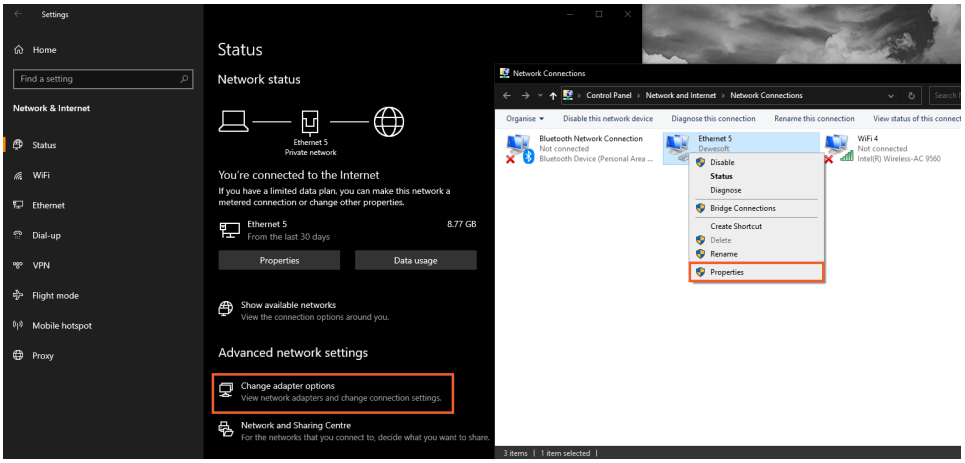
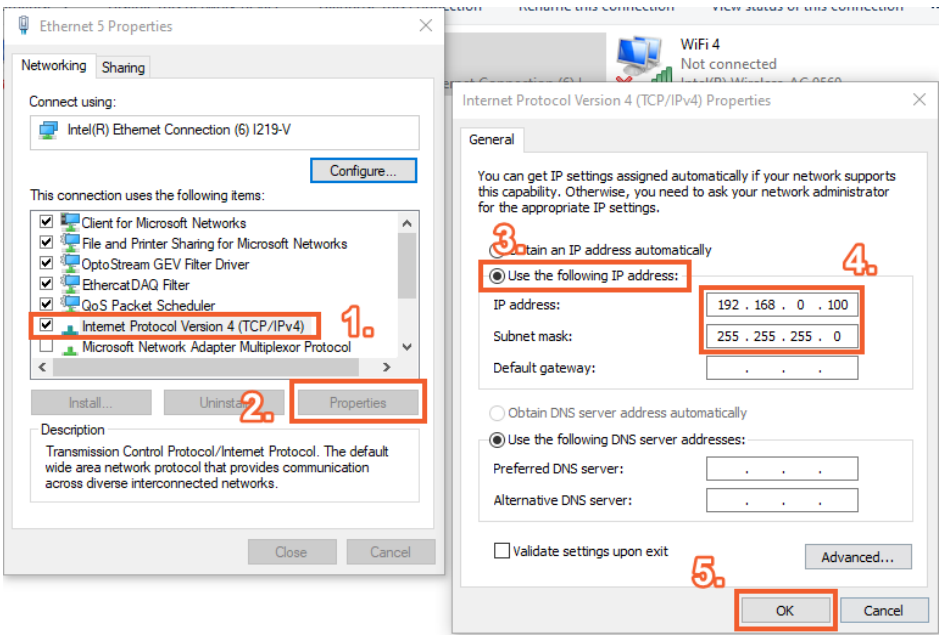
Ethernet setup

Before Navion can be connected the network card IP address has to be configured to be configured to the same subnet as the device. Navion devices have the IP address of 192.168.0.**5** .
Since the network card has to have the same subnet as Navion but a different IP address. The suggested network card IP to successfully connect to Navion would be 192.168.0.100.

Note: When connecting Navion from one network card to another, power cycle is required.





Hardware setup

Scope of supply:

- NAVION i2 Instrument + Suction cups for mounting
- NAVION i2 Connection-Box
- Antenna with magnetic mounting + Suction cup for antenna mounting + Antenna cable
- 2x LEMO 8 pin connecting cables for connection box
- Y-cable with power in, sync and data out for basic use
- 2 pin Lemo power supply
- RJ45 data cable

NAVION i2 scope of supply

Navion i2 Quick start

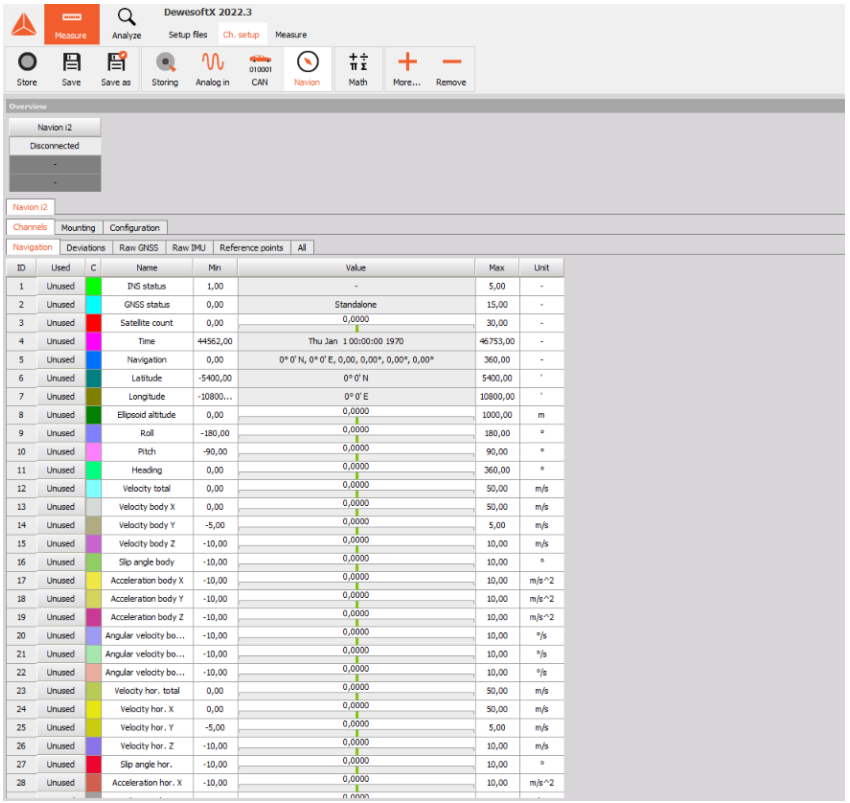
Software setup

- Open DewesoftX, go to settings -> Devices, add device (+) -> Navion plugin.
- We use IP 192.168.0.5 to connect with the device.

Synchronization

Device can be used as a GPS PPS clock source providing absolute clock to Dewesoft and PPS synchronization pulse to Dewesoft DAQ devices. If the Dewesoft clock source is set as GPS PPS that isn't a Navion device, Navion data is synchronized by absolute timestamps. When the Dewesoft clock source isn't set as GPS PPS, Navion data is software synchronized to the Dewesoft clock.

Channel setup



ID	Used	C	Name	Min	Value	Max	Unit
1	Unused		INS status	1,00	-	5,00	-
2	Unused		GNSS status	0,00	Standalone	15,00	-
3	Unused		Satellite count	0,00	0,0000	30,00	-
4	Unused		Time	44562,00	Thu Jan 1 00:00:00 1970	46753,00	-
5	Unused		Navigation	0,00	0° 0' N, 0° 0' E, 0,00, 0,00°, 0,00°, 0,00°	360,00	-
6	Unused		Latitude	-5400,00	0° 0' N	5400,00	'
7	Unused		Longitude	-10800...	0° 0' E	10800,00	'
8	Unused		Ellipsoid altitude	0,00	0,0000	1000,00	m
9	Unused		Roll	-180,00	0,0000	180,00	°
10	Unused		Pitch	-90,00	0,0000	90,00	°
11	Unused		Heading	0,00	0,0000	360,00	°
12	Unused		Velocity total	0,00	0,0000	50,00	m/s
13	Unused		Velocity body X	0,00	0,0000	50,00	m/s
14	Unused		Velocity body Y	-5,00	0,0000	5,00	m/s
15	Unused		Velocity body Z	-10,00	0,0000	10,00	m/s
16	Unused		Slip angle body	-10,00	0,0000	10,00	°
17	Unused		Acceleration body X	-10,00	0,0000	10,00	m/s^2
18	Unused		Acceleration body Y	-10,00	0,0000	10,00	m/s^2
19	Unused		Acceleration body Z	-10,00	0,0000	10,00	m/s^2
20	Unused		Angular velocity bo...	-10,00	0,0000	10,00	°/s
21	Unused		Angular velocity bo...	-10,00	0,0000	10,00	°/s
22	Unused		Angular velocity bo...	-10,00	0,0000	10,00	°/s
23	Unused		Velocity hor. total	0,00	0,0000	50,00	m/s
24	Unused		Velocity hor. X	0,00	0,0000	50,00	m/s
25	Unused		Velocity hor. Y	-5,00	0,0000	5,00	m/s
26	Unused		Velocity hor. Z	-10,00	0,0000	10,00	m/s
27	Unused		Slip angle hor.	-10,00	0,0000	10,00	°
28	Unused		Acceleration hor. X	-10,00	0,0000	10,00	m/s^2

- In channels setup it's possible to enable channels that are required for measurement. Navigation channel can be used in combination with Map plugin, to display position of device.
- On top there is a status grid that displays the current connection status, navigation status and GNSS status..
    - Disconnected state: No device was found.
    - Not initialized: Device doesn't have heading yet. Device should be initialized by standard GPS initialization process (either use single antenna + drive forward at correct speed, or use dual antennas). Power cycle is required to reset initialization.
    - Ready: Device is operating normally.
    - No GPS fix: Device doesn't have enough satellites yet to be able to receive time. Channels will not have any data in this state.