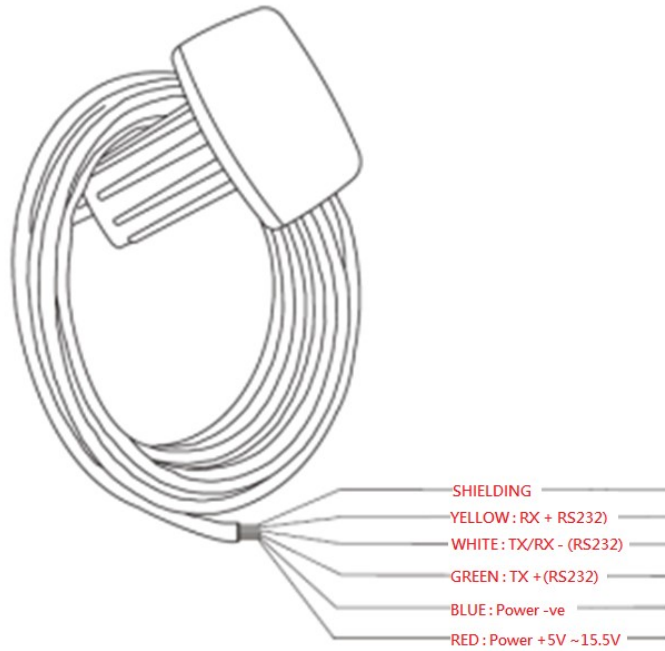


9 AXIS E-COMPASS MANAGER PC SOFTWARE FOR ONWA GPS ELECTRONICS COMPASS KA-GC9A

KA-GC9A is used to replace our previous product KA-GCxx. The advantages of KA-GC9A are:

- 1) Quicker response rate (real-time)
- 2) User programmable
- 3) More stable heading output
- 4) Provide online upgrade
- 5) Wider supply voltage



1) PREPARATION

- You need to prepare a RS232 -> USB converter (suggested to use LX08A)



- Connect KA-GC9A to LX08A as shown below



KA-GC9A




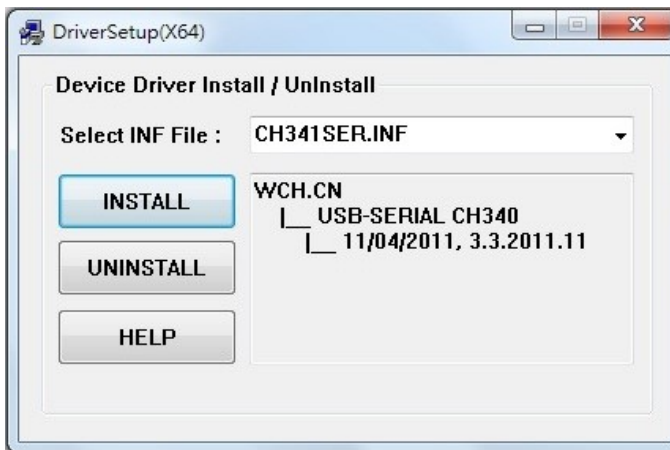
Connect KA-GC9A to LX08A

- Insert LX08A to any USB port of your PC





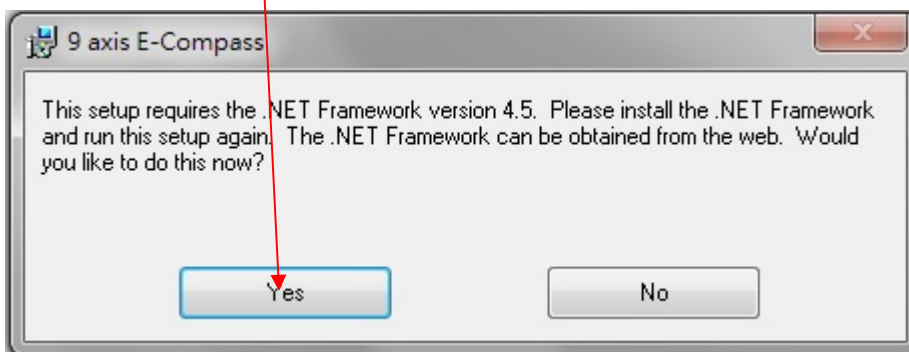
INSTALL THE LX08A DRIVER

- Download the LX08A driver from the link below:
<https://drive.google.com/drive/folders/1rVialDMTYe1R-bRjg7wruWOkY9lpNhby?usp=sharing>
- Install the LX08A driver  CH341SER.EXE in your PC



2) DOWNLOAD AND INSTALL “9 AXIS E-COMPASS MANAGER”

- Download the “9 axis E-Compass Manager” PC software  9 axis E-Compass installer.msi from the link below
https://drive.google.com/open?id=1xRSVO_6oevQ8yRCPWyBR-OoVPAsPluzn&authuser=vincent@onwamarine.com
- Follow the instructions below on how to install  9 axis E-Compass installer.msi
- During Installation, you will see a prompt as shown below, and you will need to connect your PC to the internet and click [Yes] to start download and install “.NET Framework 4.5”



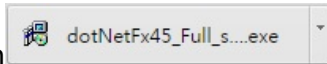
- The website below will automatically pop-up. Please click [Download] to obtain

Microsoft .NET Framework 4.5

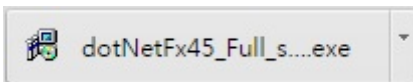


.NET Framework 4.5 is a highly compatible, in-place update to .NET Framework 4.

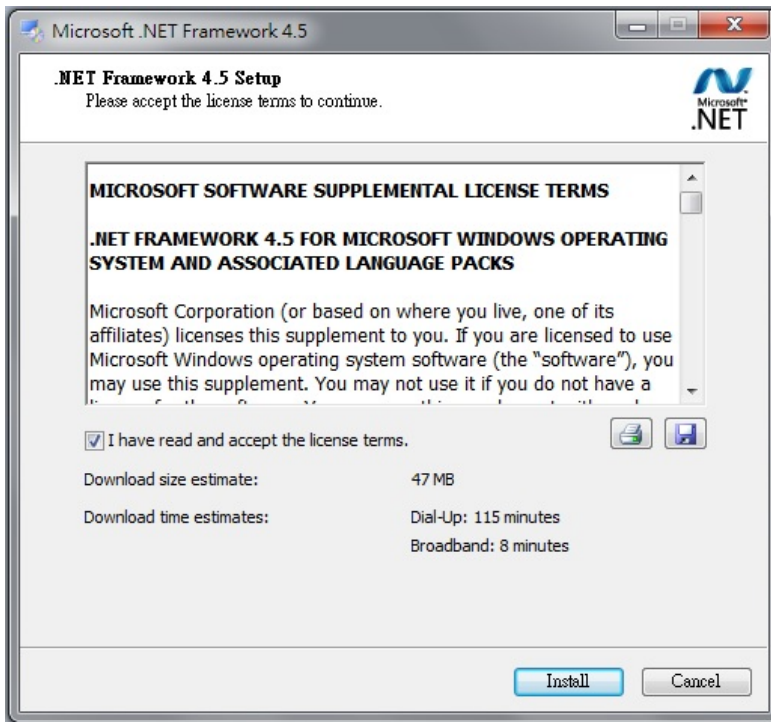
- After downloading, you will obtain

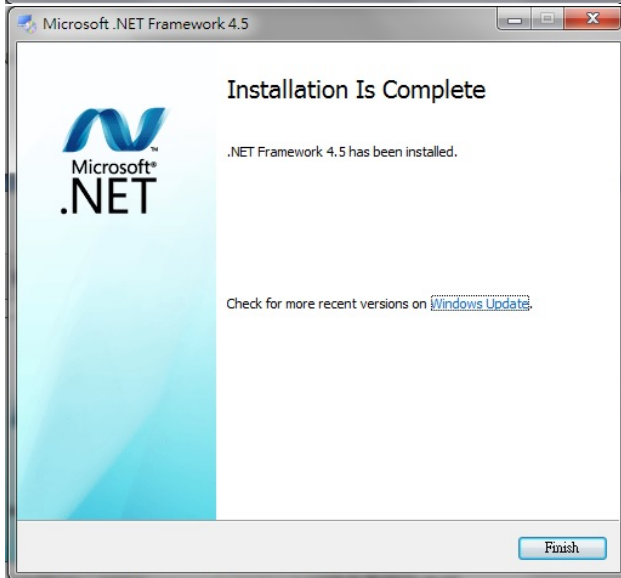
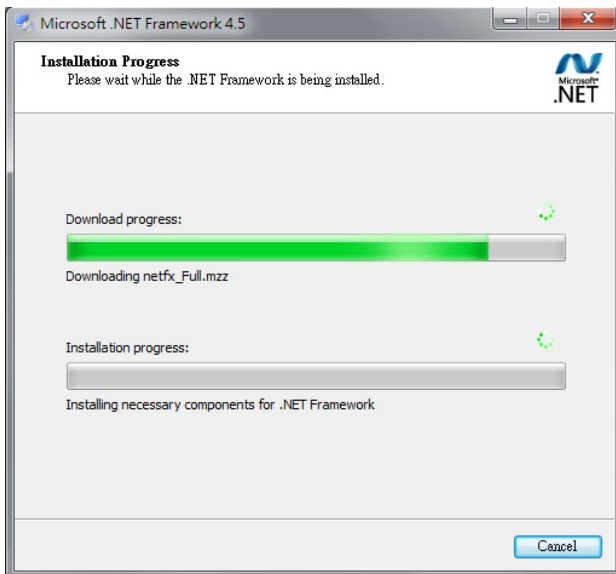


- Run

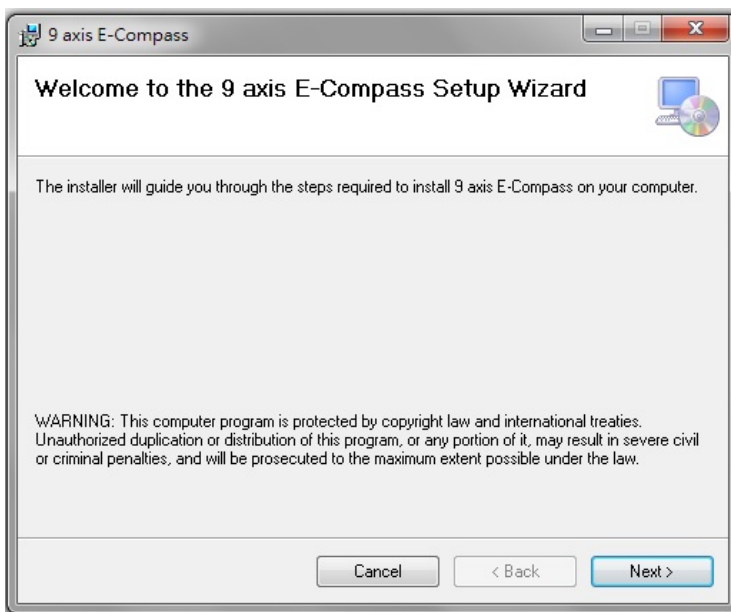


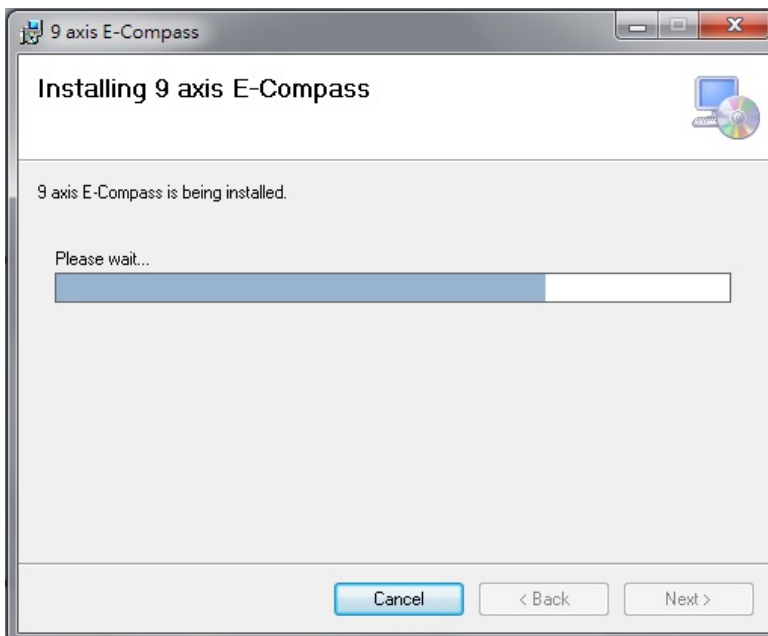
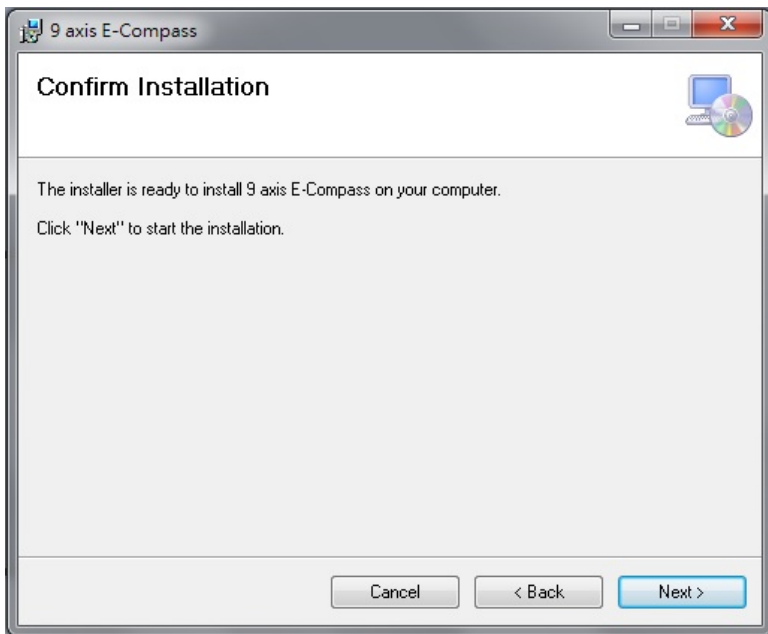
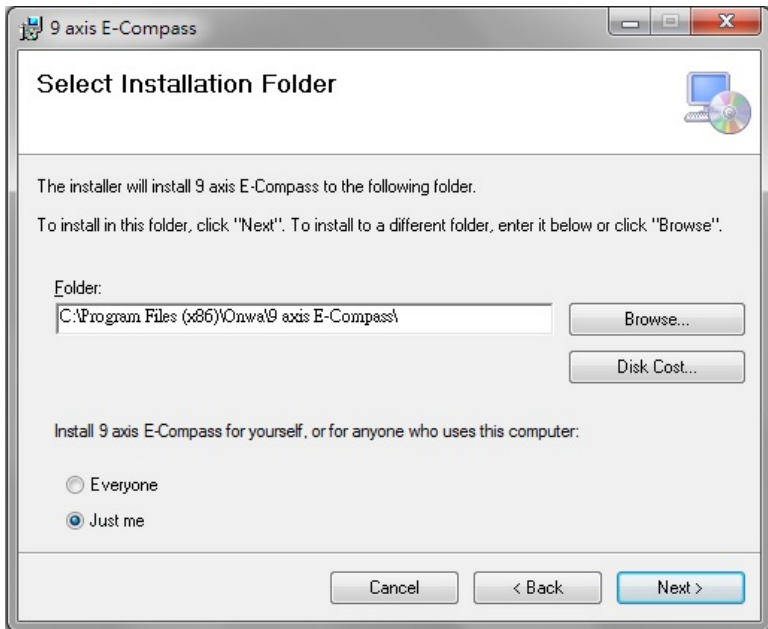
- Follow the instructions below to finish the installation of "The .NET Framework version 4.5"

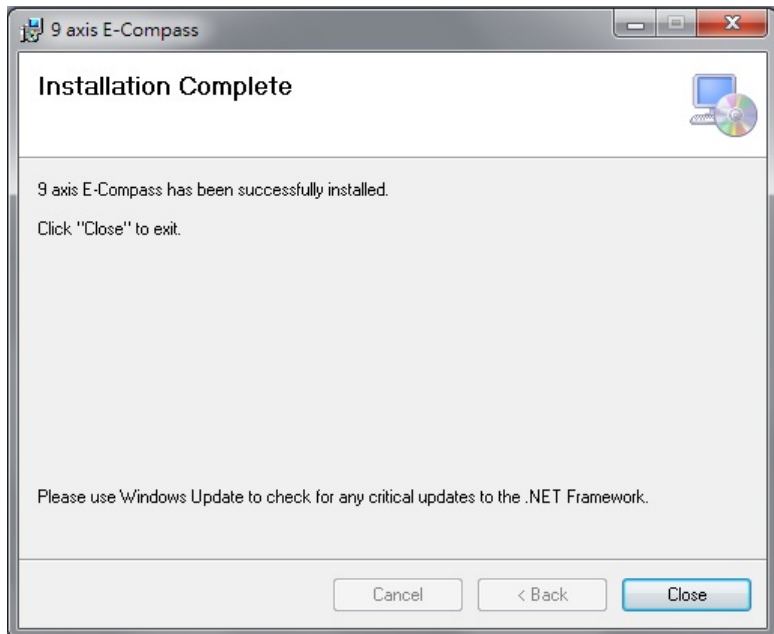




- Re-run  9 axis E-Compass installer.msi again to finish the installation of "9 axis E-Compass Manager".

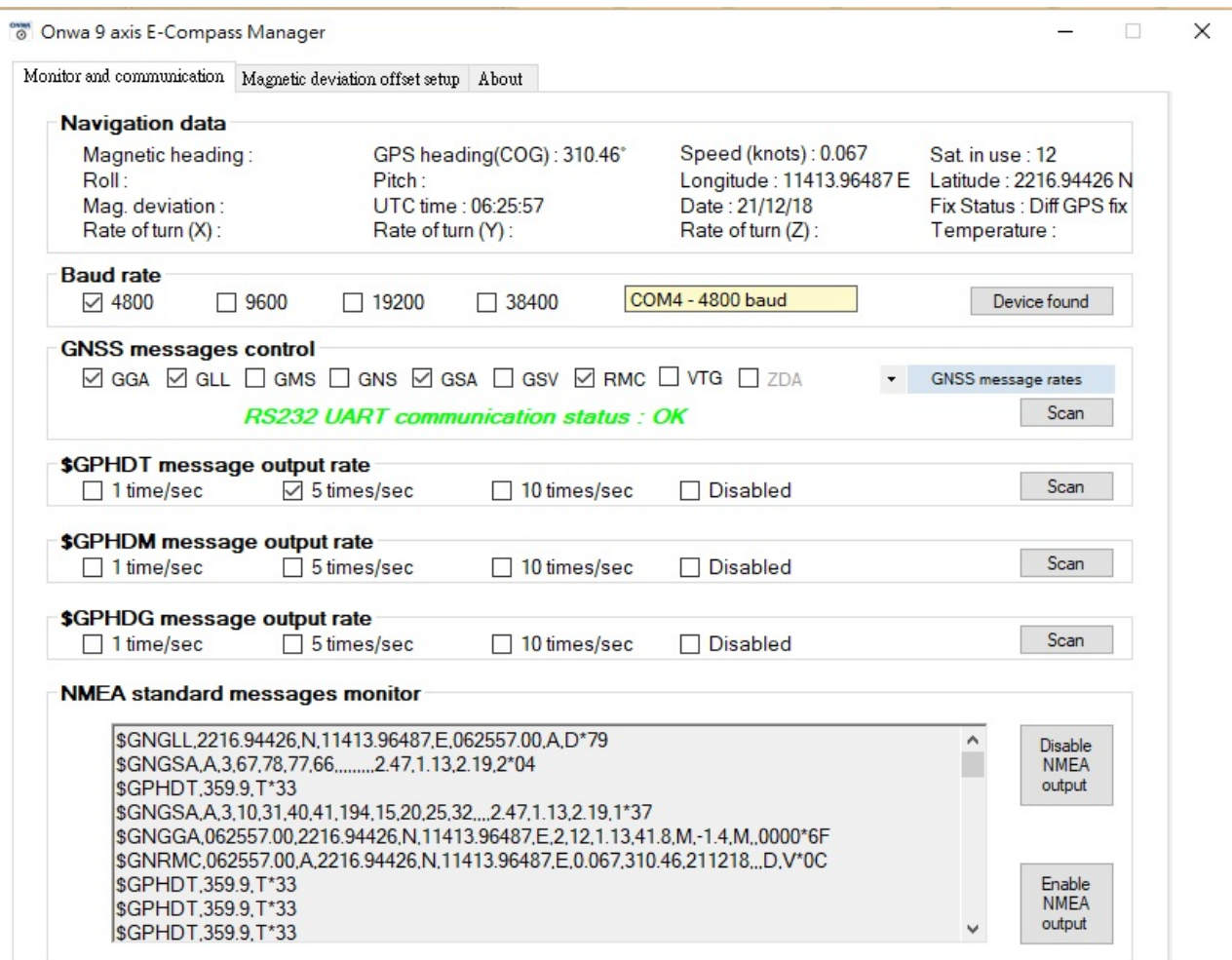






3) HOW TO USE “9 AXIS E-COMPASS MANAGER”

- Run “9 axis E-Compass Manager”, it will auto detect the COMPort and baud rate. You will see a Green Word “**Connected**” as shown below.



9 Axis E-Compass **Connected**

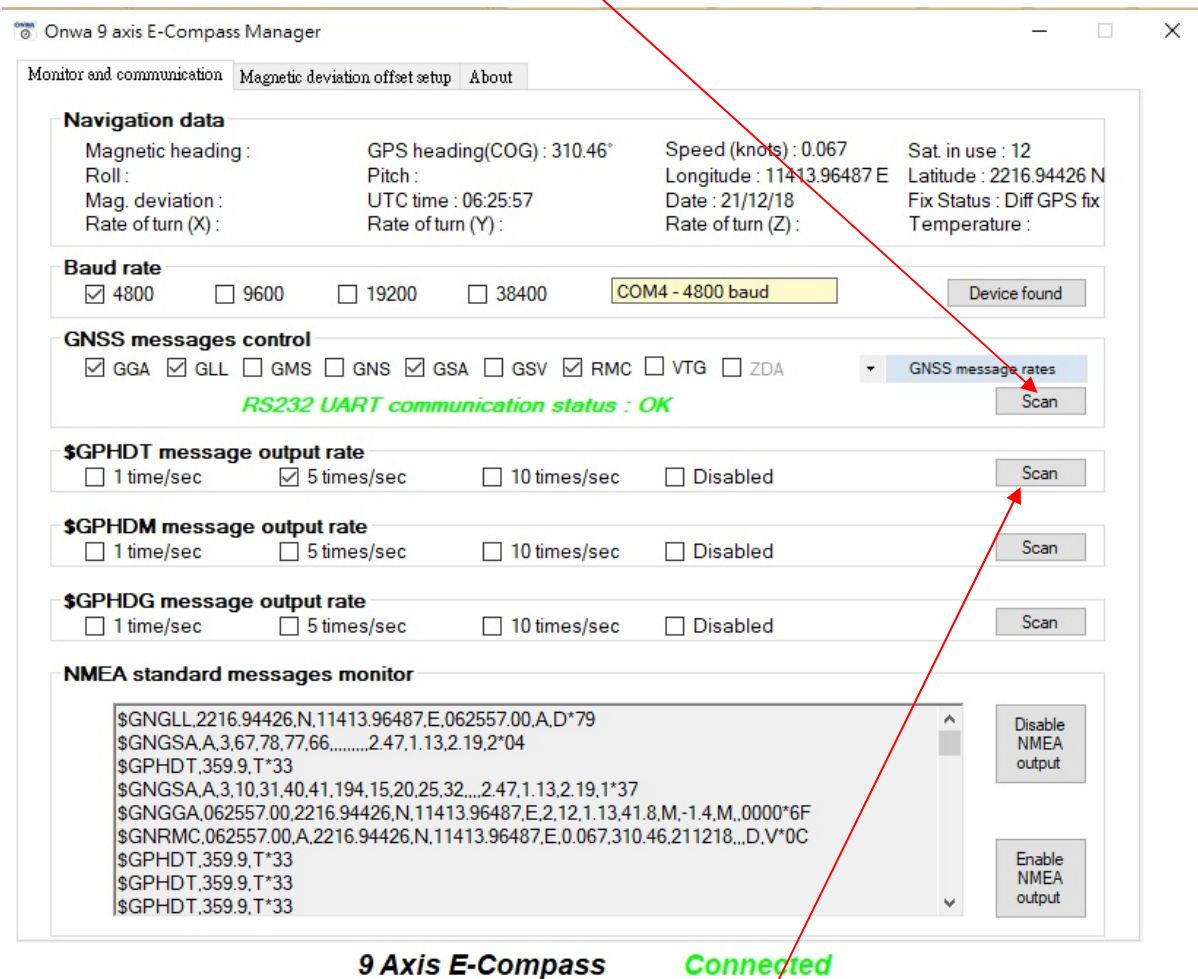
3.1) Output setting

You can set the following items:

- A) Output baud rate
- B) Output NMEA sentences
- C) Heading (HDT) output intervals

- Click [Scan] to check the original settings in your KA-GC9A.

Click [Scan] to check output NMEA sentences



Click [Scan] to check heading output intervals

- From the above figure you can see the original data of KA-GC9A after clicking [Scan] :

- A) Output baud rate: 4800
- B) Output NMEA sentences: GGA, GLL, GSA, RMC
- C) Heading output intervals: 5Hz

- To change any of the above settings,

A) To change the Output Baud rate:

Ex: 38400

(Check the box beside [38400])

B) To Add output NMEA sentences:

Ex: GSV & VTG

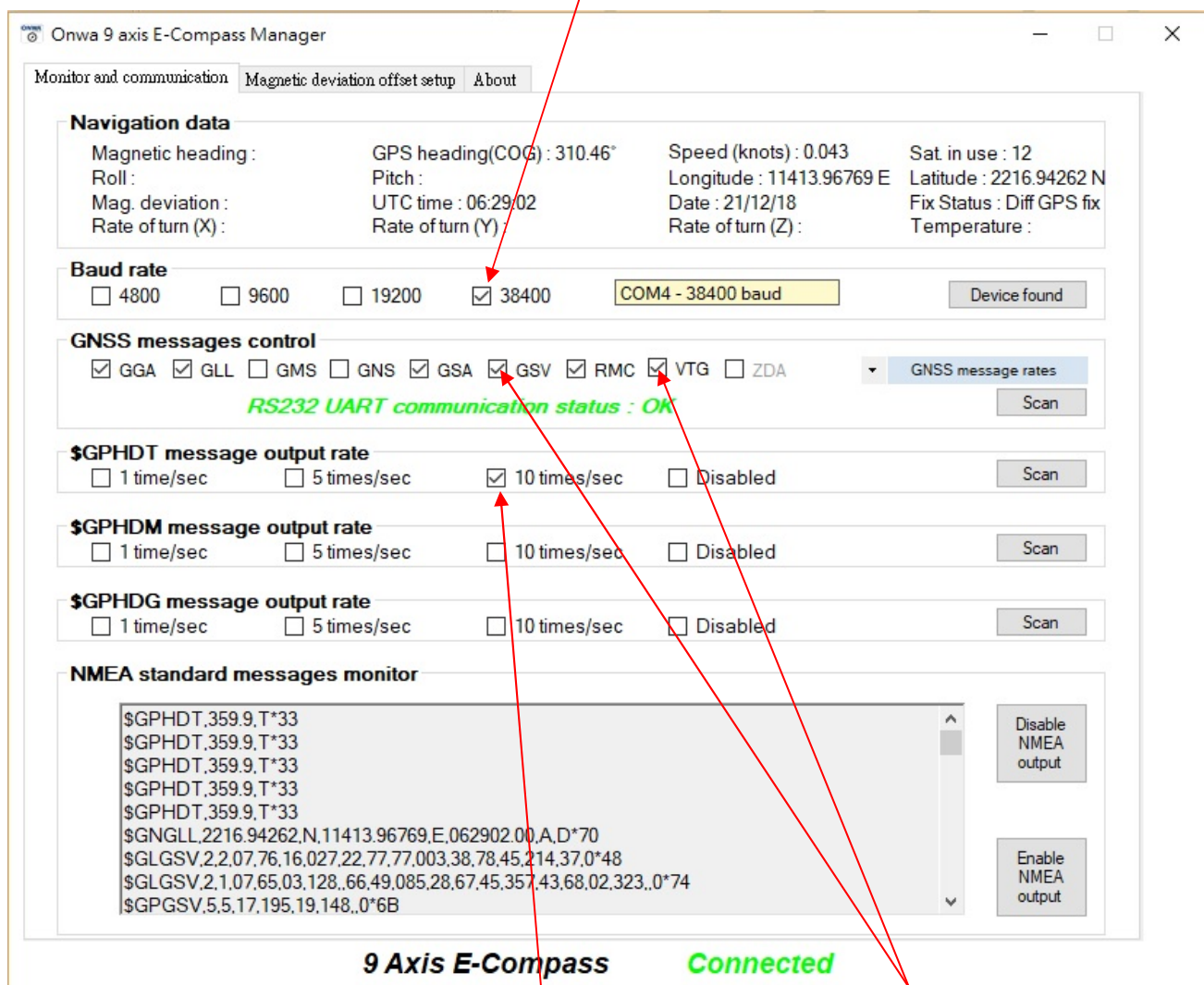
(Check the box beside [GSV] and [VTG], if you want to de-select just simply uncheck the related box.)

C) To Change the Heading output intervals:

Ex: 10Hz

(Check the box beside [10 times/sec])

A) Change baud rate to : 38400



C.) Change heading output intervals to: 10

B.) Add output NMEA sentences: GSV and VTG

Note : Changes will be completed when you check on the box or boxes.

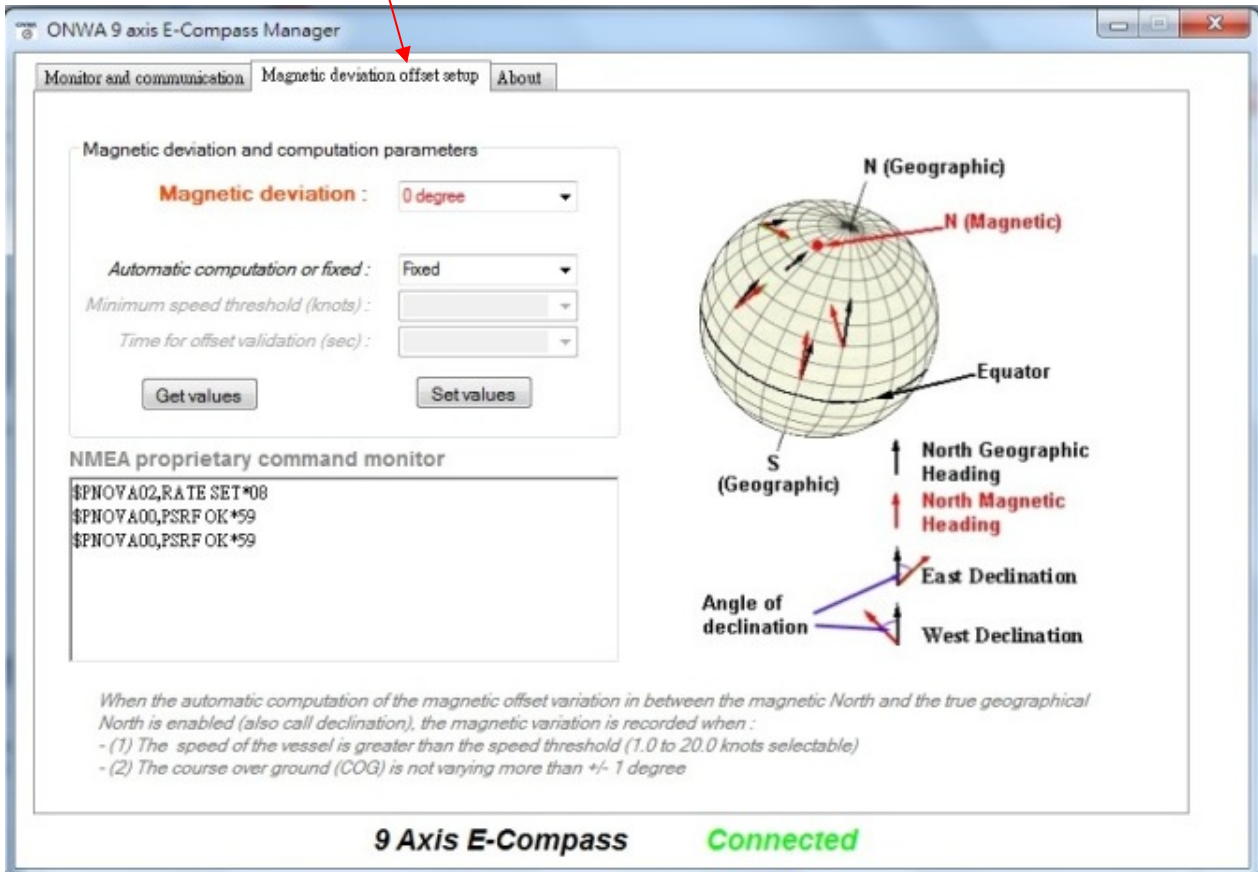
SUGGESTED SETTING FOR DIFFERENT APPLICATIONS:

	Baud rate	Output NMEA sentences	Heading output intervals
KA-GC9A_05(for KEC30G)	4800	RMC, GSA, GGA, GMS, ZDA	5 times/sec
KA-GC9A_10(for KAP866)	4800		10 times/sec
For others applications (Radar, Plotters, etc.)	Will depend on the application	RMC, GSA, GGA, GLL, VTG	5 times/sec

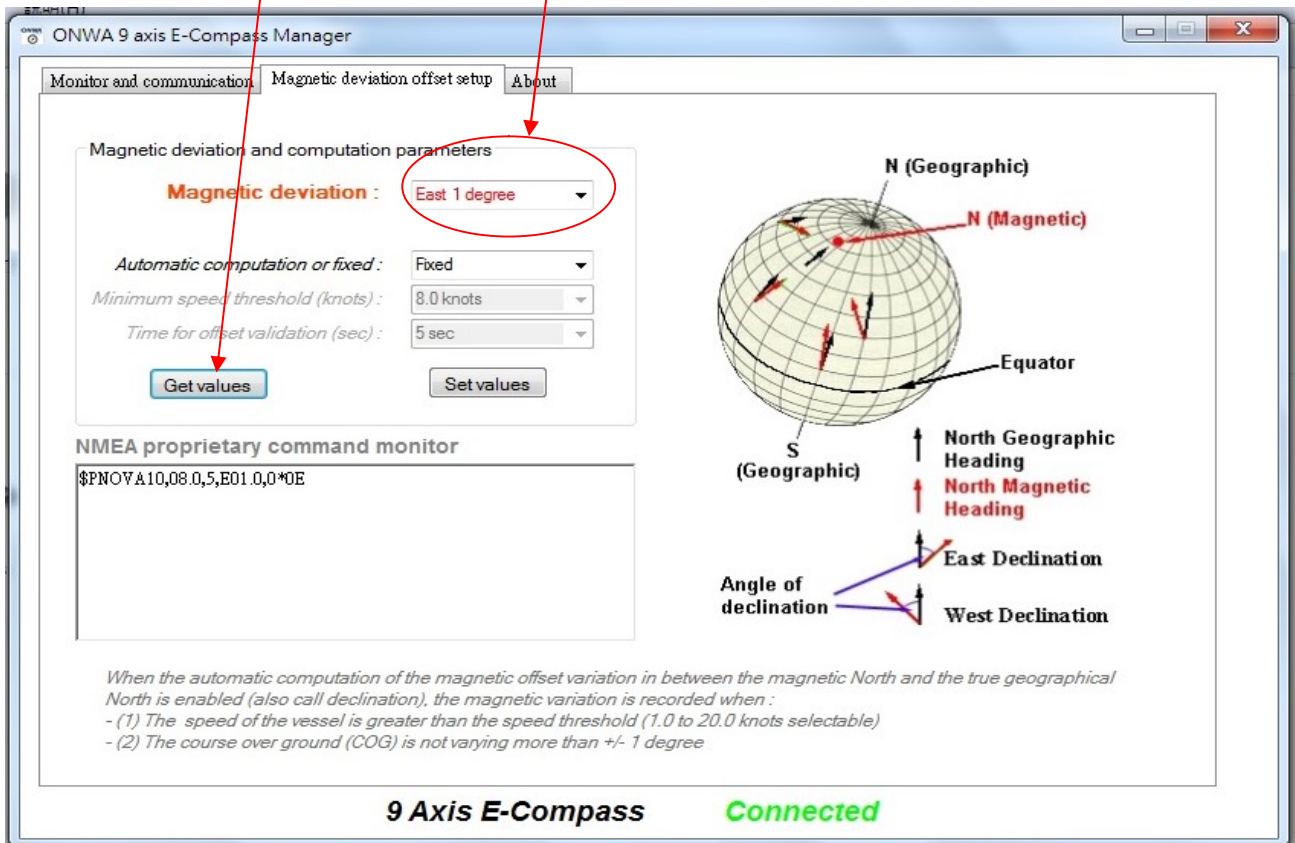
Note: Heading (HDT) is a must sentence, you can only choose the output intervals

3.2) Magnetic deviation offset set-up

A) Select "Magnetic deviation offset setup"



B) Click [Get values] to read the preset value in KA-GC9A(default is 0 degree)



C) Click [Magnetic deviation] to change magnetic deviation degree and direction
*(It is suggested **NOT** to change the magnetic deviation unless there are installation errors or you are sure about the magnetic deviation)*

ONWA 9 axis E-Compass Manager

Monitor and communication Magnetic deviation offset setup About

Magnetic deviation and computation parameters

Magnetic deviation : 0 degree

Automatic computation or fixed :

Minimum speed threshold (knots) :

Time for offset validation (sec) :

Get values

NMEA proprietary command mo

```
$PNOVA02,RATE SET*08
$PNOVA00,PSRF OK*59
$PNOVA00,PSRF OK*59
```

When the automatic computation of magnetic deviation is enabled (also call declination) the deviation in between the magnetic North and the true geographical North is recorded when :

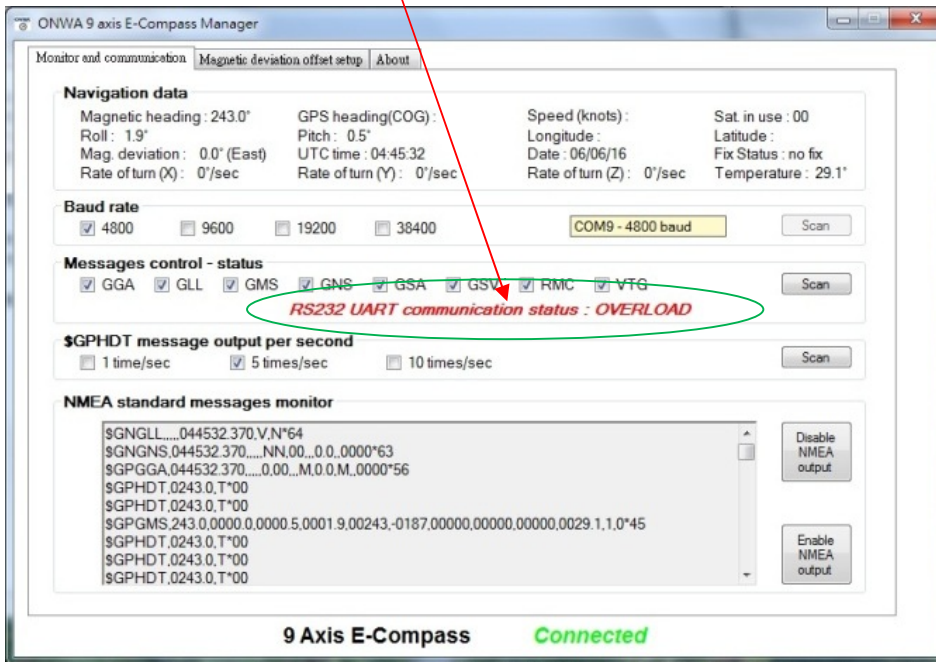
- (1) The speed of the vessel is greater than the minimum speed threshold (1.0 to 20.0 knots selectable)
- (2) The course over ground (COG) is greater than +/- 1 degree

9 Axis E-Compass **Connected**

APPENDIX A

ONWA's new version 4.0.0 9-axis E-Compass Manager, a new function was added to detect whether the customer had chosen too many output sentences against lower baud rate :

Example : if a customer choose 4800 baud rate but at the same time he had chosen too many GPS NMEA output sentences and high heading output intervals as below, then a red text "RS232 UART communication status : OVERLOAD" will appear to warn the customer he had chosen too many GPS NMEA output sentences.



The user can fix this by:

- A) de-select some GPS NMEA output sentences Or
- B) choose lower heading output intervals

The user sees a green text that shows "RS232 UART communication status : OK" when all his settings are OK, as shown below :

