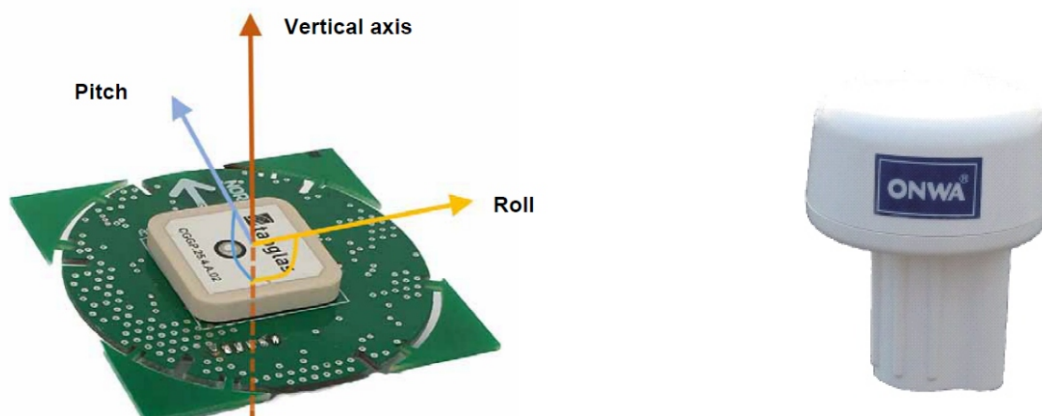


Installation Manual of 9 axis E-Compass/GPS, model : KA-GC9A

KA-GC9A is another advance marine electronic product from Onwa Marine. KA-GC9A is a 9-axis Electronic compass with built-in high accuracy GPS module.



KA-GC9A is installed in a high-grade waterproof housing, which guarantees longevity of working on marine environment. KA-GC9A provides electronic heading data output and GPS data output in the format of NMEA0183. The standard sentences from KA-GC9A are as below :

GPS data (NMEA sentences) : RMC, GSA, GGA, GLL, VTG in interval of 1Hz

Heading data (NMEA sentences) : HDT in intervals of 5Hz

Baud rate : 4800

KA-GC9A also allows the user to customize the GPS output sentences, baudrate and heading output sentences intervals by means of a PC software “9 axis E-Compass Manager” , for details please visit the Onwa website : www.onwamarine.com or contact Onwa by sending an email to info@onwamarine.com

Selectable NMEA output sentences: GGA, GLL, GMS, GNS, GSA, GSV, RMC, VTG

Selectable output baudrate: 4800, 9600, 19200 and 38400

Selectable output intervals for HDT: 1Hz, 5Hz and 10Hz

1) Output (factory Pre-set) and interconnection :

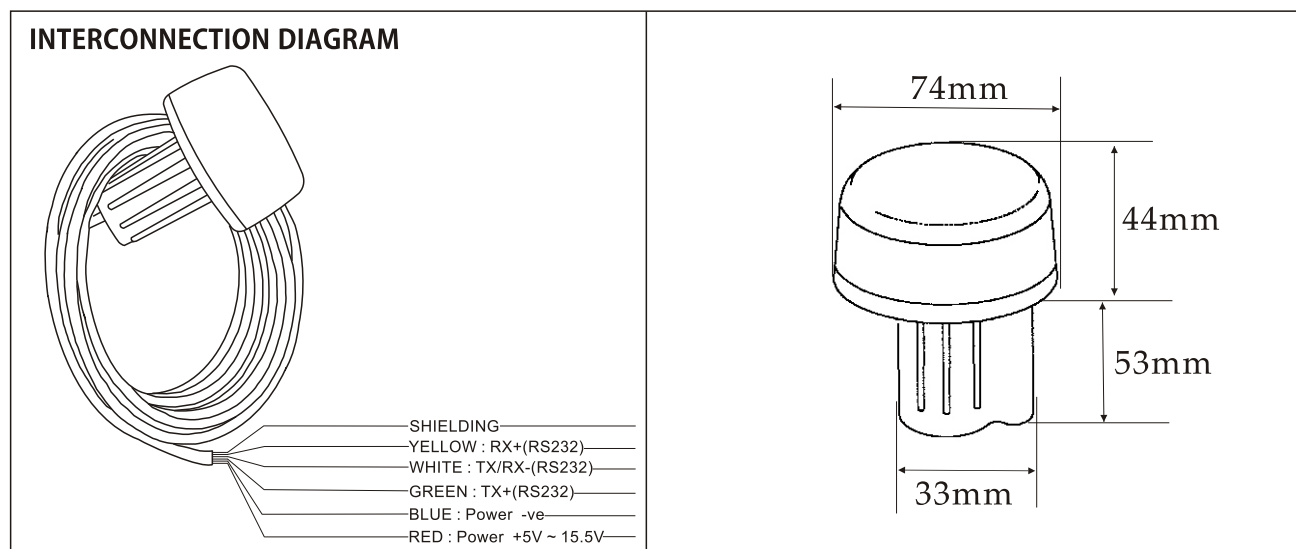
Format : NMEA0183, 2.0

Electrical : RS232

Baud rate : 4800

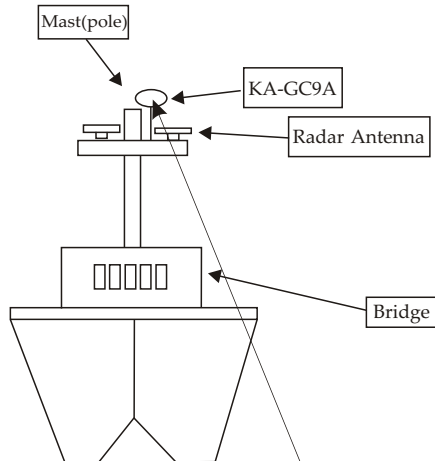
Output sentences : GPRMC, GPGSA, GPGGA, GPGLL, GPVTG, GPHDT (5Hz)

Note : all output sentences are in intervals of 1 Hz unless specified.

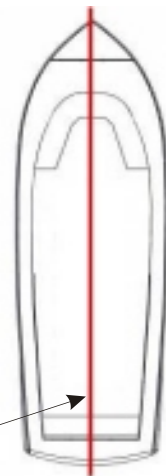
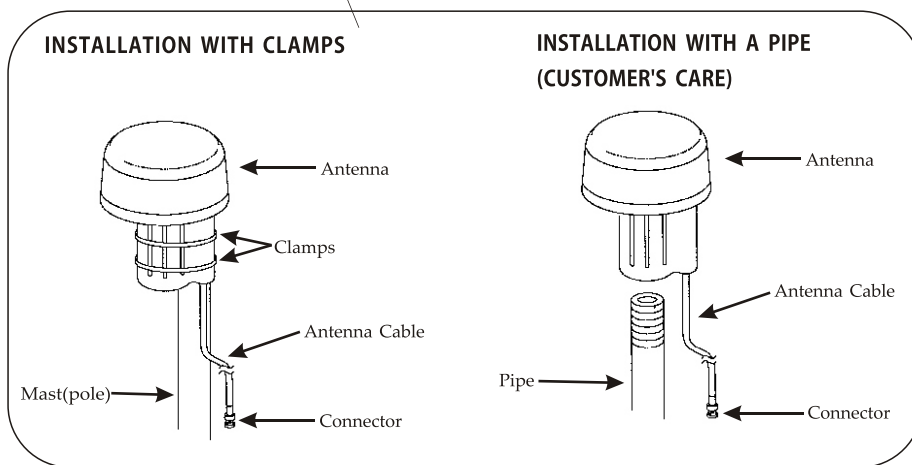


2) Onboard installation

When you turn over the KA-GC9A you can see an arrow sign on the antenna base. Please make sure this arrow should point exactly to the BOW direction.



This arrow should point exactly to the BOW direction of your boat



Considerations before installation:

- Please install the KA-GC9A as close as the central axis of your boat in order to get more accurate GMS (rolling and pitching data) output.
- Please install the KA-GC9A outside, ensure that the GPS is not covered.
- Keep the length of the cable in mind when selecting a mounting location.
- It should be installed with a minimum of 1 meter to prevent the influence of iron and steel or other magnetic materials.
- Do not use magnetic screws for fixing KA-GC9A.
- Select the vertical way position for installation.

3) Specifications:

The 9 axis E-COMPASS is a new generation IMU featuring a GPS/GLONASS receiver coupled with a 9 axis AHRS unit providing 3D orientation by integrating gyroscopes and data fusing with accelerometers and magnetometers.

Electrical characteristics :

- Low power consumption, 450mW
- Power supply : 5V-15.5V, overvoltage and reverse polarity protected
- Embedded firmware upgrade through proprietary NMEA messages
- Runtime user calibration
- 9 axis inertial measurement unit (IMU) magnetometers, accelerometers & gyroscopes data fusing with proprietary algorithm
- SIRF STARV GPS/GLONASS enabled for precise positioning and highest sensitivity
- Windows graphical user interface (9 axis E-Compass Manager) for easy setup, monitoring and upgrades