

Tinley Electronics "Rudder 3 NMEA" Installation Diagram

Software Version 1.01

Calibration

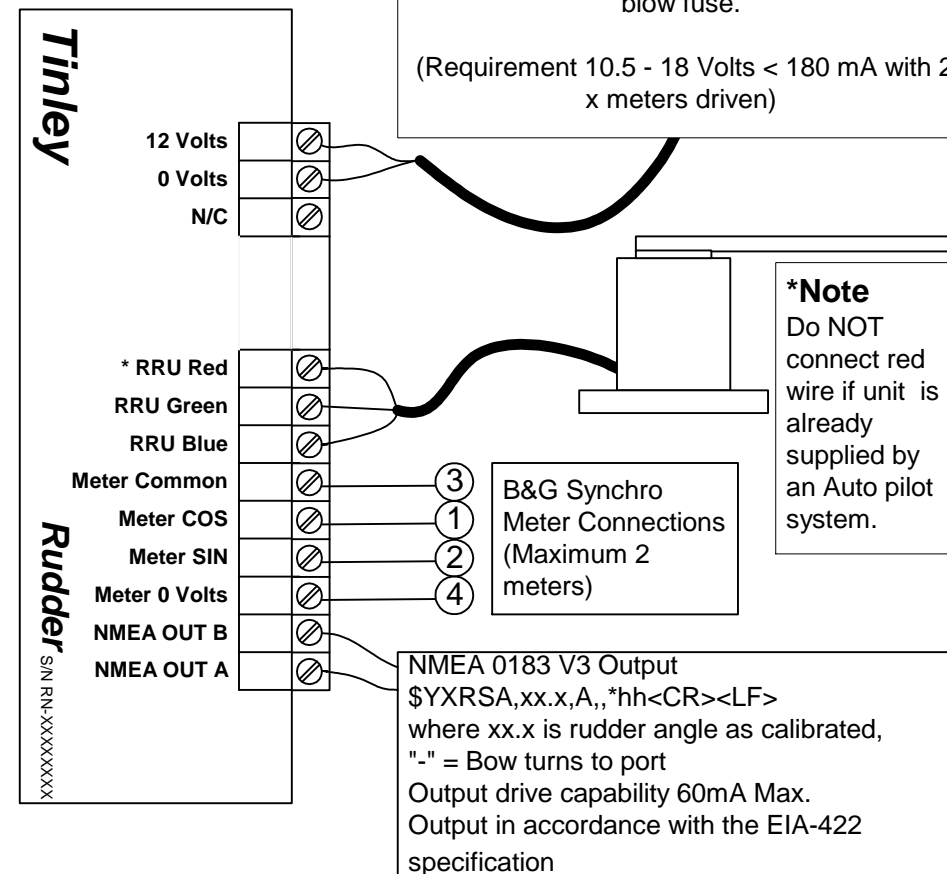
There are four modes of calibration depending on the type of operation intended. The mode required is selected by simply switching power to the unit off to terminate further calibration procedure once the necessary information has been stored. The four modes are:

1. Amidships calibration, which can be performed either at the dock, or later during a sea trial without affecting the previously stored end stops or factory default calibration range. i.e.. 1 degree of RRU movement indicates 1 degree on meter.
2. Amidships and 'Hand' calibration but keeping factory default range. 'Hand' corrects for clockwise or anticlockwise RRU movement.
3. Amidships and end stop calibration so that meter points to full scale, (normally 40), at each rudder end stop.
4. Reset. The unit may be reset to factory default calibration by setting the amidships and port calibration to the same rudder position.

Procedure

1. Set helm to mid position.
2. Whilst holding in calibrate button, switch on power to Rudder unit, then release push button. Wait for meter to rotate 360 degrees, (to signify calibration mode and allow electronics to settle), and rest pointing at amidships. (NMEA output swings from port 40 to starboard 40 at this time and then rests at amidships). Either switch off and back on to complete amidships calibration or continue to next procedure.
3. Turn Helm to Port end stop. (Or for reset, just press button without moving helm to complete reset procedure with no power off required). Press and release push button. Wait for meter to point to Port full scale. Note that the range remains at the factory default or end stops remain at last user setting until the Starboard end stop is recorded. However, the 'Hand' has now been stored. Either switch off to complete hand calibration or continue to next procedure.
4. Turn helm to Starboard end stop. Press and release push button. Wait for meter to point to Starboard full scale. No power off is required and the unit is now working and ready for use.

Note that NMEA sentences are output as 'Valid' data to enable NMEA displaying devices to be used during calibration. These sentences are only output once during each calibration mode and some NMEA receiving devices may 'time out' if a long time is taken to perform the calibration procedure. This will not effect the performance of the Tinley Rudder Interface.



Note: Some interfaces that are not compliant with NMEA 0183 or EIA-422, (PC's for example), can cause a conflict with this output. This results in excessive current drawn and corruption of data. If this happens connect 'Output A' as the output signal and use 'Meter 0Volts' as signal ground. Do not connect NMEA Output B to 0V or ships ground.

Tinley Electronics Ltd.
235 Bentley Way
Lymington SO41 8JW
England

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Tel: +44 (0) 1590 610071
Fax: +44 (0) 1590 610072
e-mail: electronics@tinley.net
Website: www.tinleyelectronics.com