Set 16 Rudder Angle Indicator Instrument

Introduction

The Midas Set16 rudder angle indicator is a precision marine instrument, providing (when correctly fitted and adjusted) accurate feedback of rudder angle from 0-40 degrees for both port and starboard directions. Data on rudder angle is obtained from a wirewound potentiometer transducer mechanically coupled to the rudder quadrant.

Midas Marine Instrument's Set16 is designed and manufactured for use in yachts, pleasure launches and commercial vessels, and is sold with a 24 month guarantee from the date of purchase.

Specification

Set16 rudder angle indicator:
- Range: 0-40 degrees port and starboard
- Resolution: essentially infinite
- Accuracy: <+/- 1%
- Supply voltage: 11.5-28V DC regulated
- Current drain: (Instrument) 12mA max.
  (Backlighting) 95mA max.

The performance of any instrument depends upon:

- The selection of an instrument suitable for the intended use
- The quality of its design and manufacture
- The standard of workmanship and quality of components used in the installation
- The environment into which it has been installed

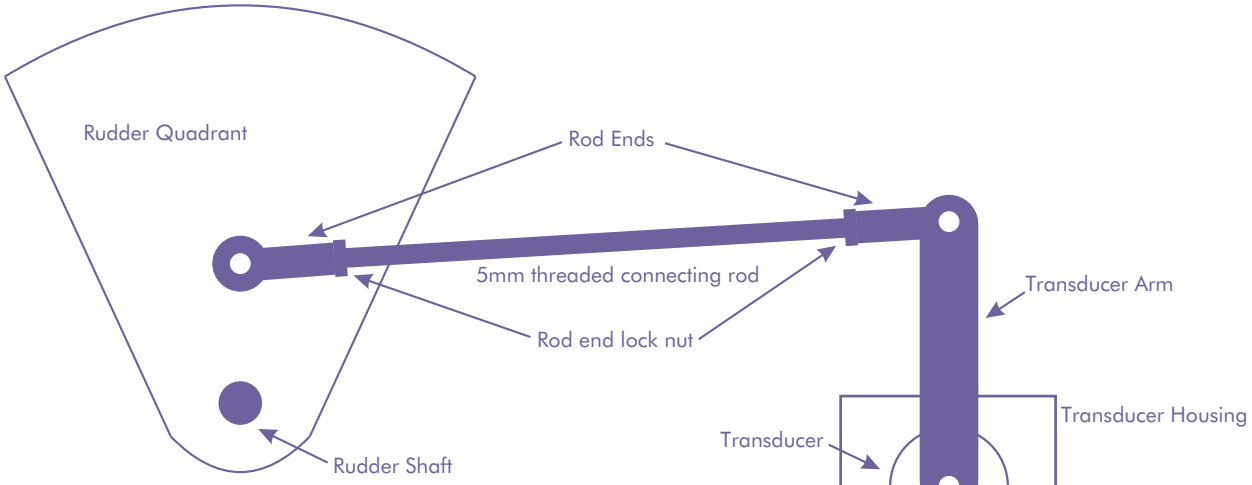
Midas instruments are not difficult to install or set up, and providing some simple rules are followed during installation, excellent performance will be obtained from the instrument.

Fitting the instrument

The instrument case can be mounted by cutting a 105mm hole in a bulkhead or console and sealing it into place with a bead of silicone rubber on the back of the front flange. The instrument may then be secured using the supplied stainless self-tapping screws or bolted if desired. Note: although all our instruments are waterproof in front, care should be exercised when selecting the location so that moisture can not enter the rear of the instrument.

Fitting the Potentiometer Transducer Unit

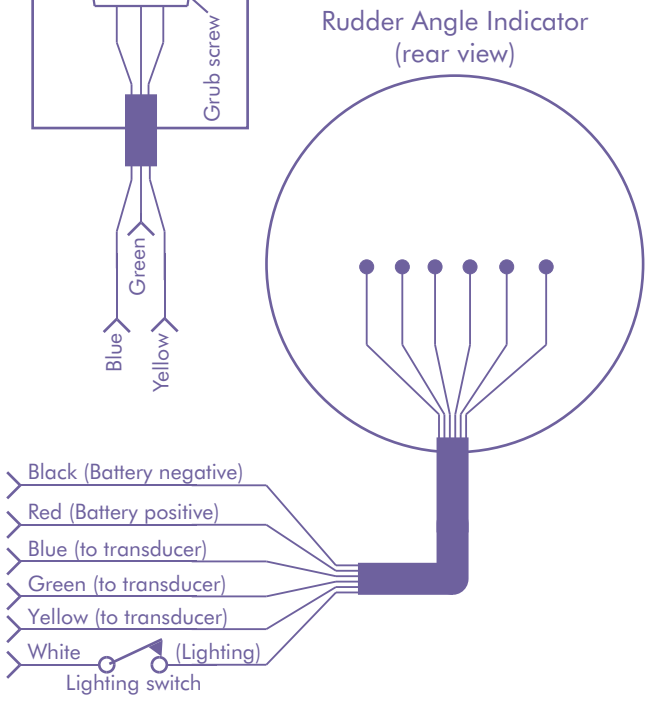
This should be positioned adjacent to the rudder quadrant (as shown in the diagram) with one ball joint attached to the quadrant to drive the transducer. Both the ball joints and the threaded rod have a 5mm thread.



Electrical Connections

The electrical wiring should be connected as per the wiring diagram, with yellow, green and blue wires connected to the transducer wires of the same colour.

The instrument utilises LED backlighting, drawing approx 40mA @ 12V (85mA @ 24V)DC. The light circuit could be connected to an existing lighting circuit, the navigation lighting circuit, or the instrument power circuit (i.e., link the white wire to the supply +ve). If the backlighting brightness is excessive at 24V, a 220ohm 0.5W resistor can be fitted in series with the lighting connection. Finally, lightly spray or grease all connections with a waterproof grease or petroleum jelly.



MIDAS Set16 Rudder Angle Indicator wiring diagram

Mechanical Adjustment

1. Connect power to the instrument.
2. Set the rudder to amidships (mid position).
3. Remove arm from transducer and rotate transducer (potentiometer) shaft until the meter needle reads centre position (0 rudder angle).
4. Carefully refit arm and tighten grubscrew on arm.

Electrical Adjustment

1. Set rudder to maximum angle (either port or starboard).
2. Adjust sensitivity preset on back of instrument so that the meter reads the correct rudder angle.

Note: Should the needle swing in the opposite direction to the rudder, transpose the blue and yellow wires leading to the transducer.

Serial #

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