

## NMEA2000<sup>®</sup> Rudder Angle Adaptor



- Adapts European or American standard resistive senders to NMEA2000®
- Port / Starboard indicator LEDs simplify mechanical installation
- Switch settable Device Instance
- No calibration required
- No complicated menu setups required
- Very low power
- Manufactured to NMEA2000® network
  standard

The Oceanic Systems' 3165 Rudder Angle Adaptor allows standard European or American standard resistive rudder angle senders to transmit their rudder position over the NMEA2000® network.

The unit is designed to greatly simplify installation with NO user setup or calibration required and NO display menus to struggle through.

In multiple rudder installations the sender type selection and the device instance setup is simply done with the small rotary switch on the unit.

The 3165 has a red port LED and a green starboard LED that flash to indicate the unit is transmitting the appropriate rudder position. The mechanical setup of the rudder angle sender is greatly simplified by setting the rudder midships and then adjusting the linkage to the sender until both LEDs illuminate when the sender is also at midships.

It comes with a 1 metre  $\mathsf{NMEA2000}$  cable and a 2 metre rudder sensor cable to allow the unit to be placed in a convenient location.

It is fully waterproof to IP67 and ruggedly constructed for years of reliable and accurate service.

The unit comes with a detailed user manual and is manufactured to the NMEA2000 $\ensuremath{\mathbb{R}}$  network standard.

## NMEA2000<sup>®</sup> Rudder Angle Adaptor Part No. 3165

Dimensions



Resistive Rudder Angle to NMEA2000® backbone



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Design Standards			
NMEA2000®	Level B		
Maritime Nav & RadioComm	IEC60945		
CE & FCC	Electromagnetic Compatibility		
NMEA2000® Parameter Group Numbers (PGNs)			
Туре	PGN No.	PGN Name	
Periodic	PGN127245	Rudder	
Protocol	PGN126464	Tx/Rx PGN List	
	PGN126996	Product Information	
	PGN059392	ISO Acknowledge	
	PGN059904	ISO Request	
	PGN060928	ISO Address Claim	
	PGN126208	Command/Request Group	
Electrical and Mechanical			
Operating Voltage	9 to 16 Volts		
Power Consumption	< 50mA		
Load Equivalence Number	1		
Reverse Battery Protection	Indefinitely		
Load Dump Protection	Yes to SAE J1113		
Size	90 x 30 x 16mm		
Weight	225 grams		
Environmental			
IEC06954 Classification	Exposed		
Degree of protection	IP67		
Operating Temperature	-25C to 50C		
Storage Temperature	-40C to 70C		
Relative Humidity	93%RH @ 40C per IEC 60945-8.2		
Electromagnetic Emission	Conducted/Radiated per IEC 60945-9		
Electromagnetic Immunity	Conducted/Radiated per IEC 60945-10		

Resistive Rudder Angle Sender (not included)



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