



# Component Manual

**Rudder Angle Indicator and Rudder Order Indicator  
Model: RAI 150 or ROI 150**



**Document No.: MAN01101W**

This manual is subject to change without prior notice.



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# 1 INTRODUCTION

## 1.1 Description

Wagner indicators accurately show the rudder angle position on a back lit analog display.

The indicators are designed to be flush-mounted into any convenient panel. The water-resistant front face allows for mounting in exposed outdoor locations. If the rear of the indicator is exposed to moisture, a water proofing kit is available from Wagner.

Indicators with a reversed scale are also available for installation at aft facing stations.

The RAI 150 Rudder Angle Indicator displays the present rudder angle and is designed to be used with a Wagner Rudder Feedback Unit (RFU). Refer to the appropriate RFU or custom system manual for wiring of the RAI 150.

The Wagner ROI 150 Rudder Order Indicator displays the rudder order command at a full follow up steering controller. The ROI 150 is designed to be used with a Wagner Steering Control Amplifier (SCA). Refer to the appropriate SCA or custom system manual for wiring of the ROI 150.

Three back light bulbs are supplied with the RAI, be certain the bulb voltage matches the supply voltage.

## 1.2 Specifications

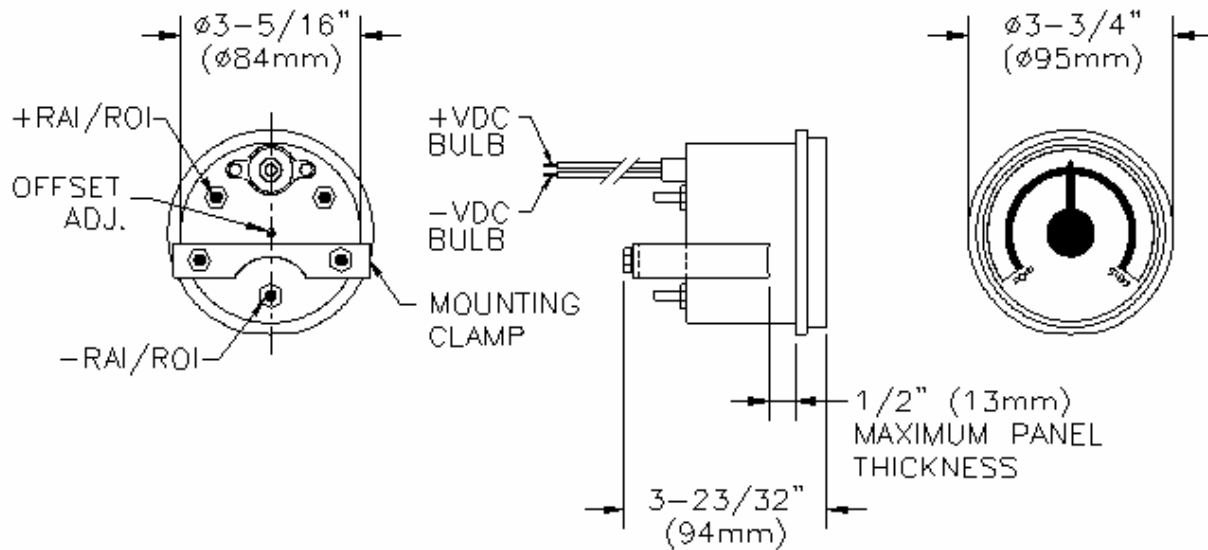
Bulb Voltage:	12 VDC	Bulb No. 161
	24 VDC	Bulb No. 2840
	36 VDC	Bulb No. 657
Meter Movement:	400 Ohms	
	0 Volts at 0 Degrees	
	±1mA / 50 Degrees	

**CAUTION:** All specifications are subject to change without prior notice.



## 2 INSTALLATION

### 2.1 Mounting



- NOTES:** 1.  $\pm$ VDC ARE FOR BACKLIGHT BULB.  
 2. ADDITIONAL INDICATORS TO BE CONNECTED IN PARALLEL.

**Figure 1 – Rudder Angle Indicator Overall Dimensions**



## 2.2 Optional Equipment

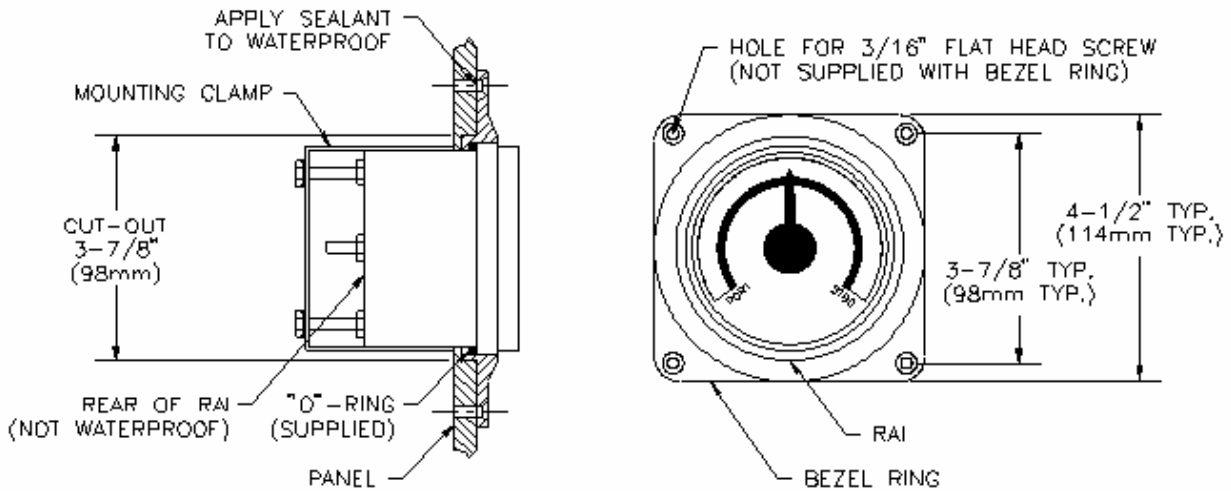


Figure 2 – Installation of RAI / ROI with Optional Bezel Ring

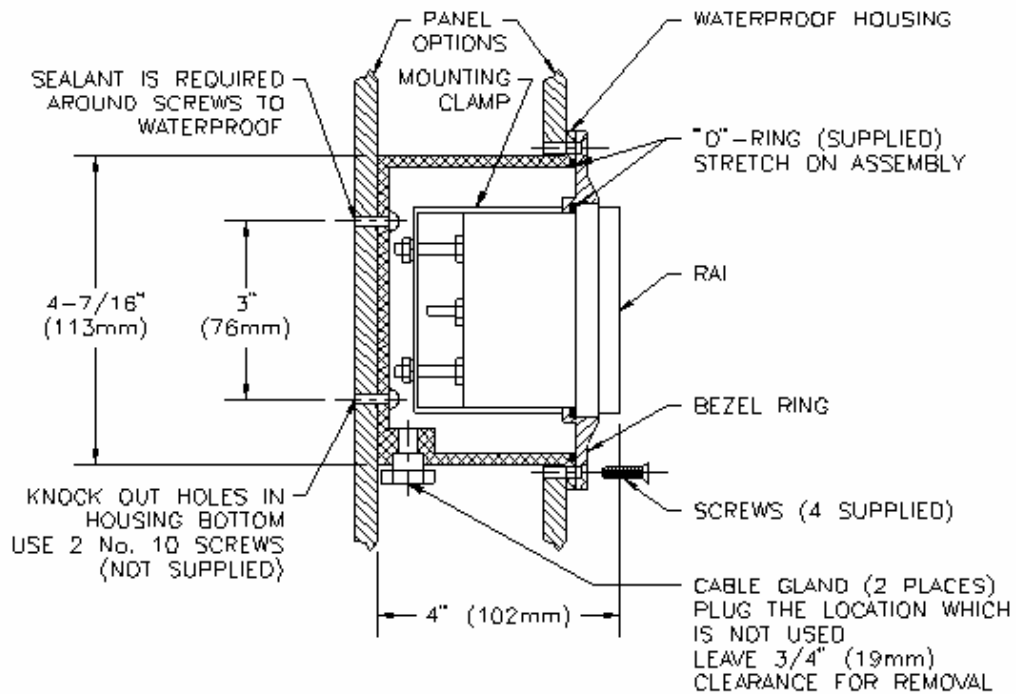


Figure 3 – Installation of RAI / ROI with Optional Waterproof Housing

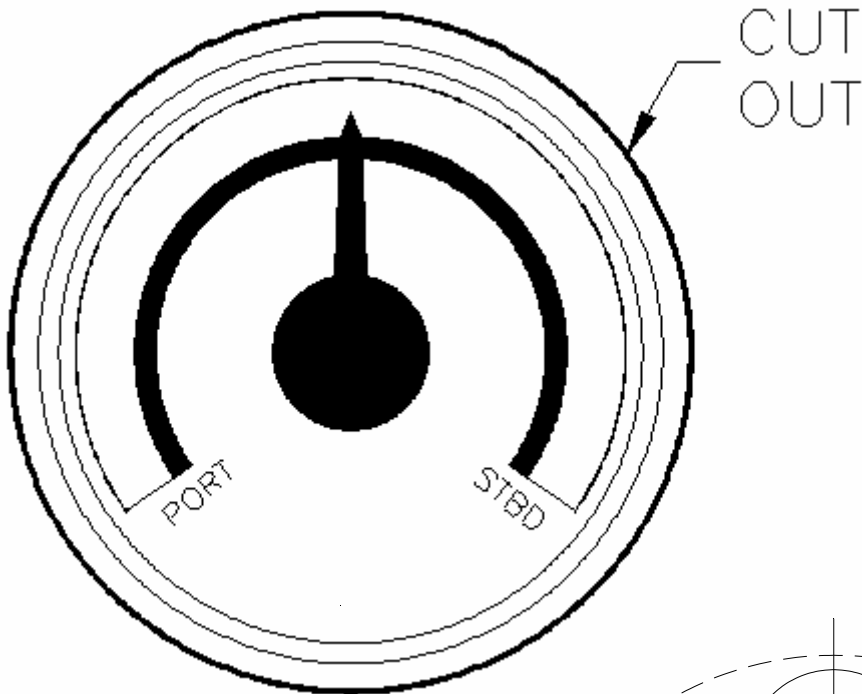


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Installation template on the following page.



### 2.3 Templates

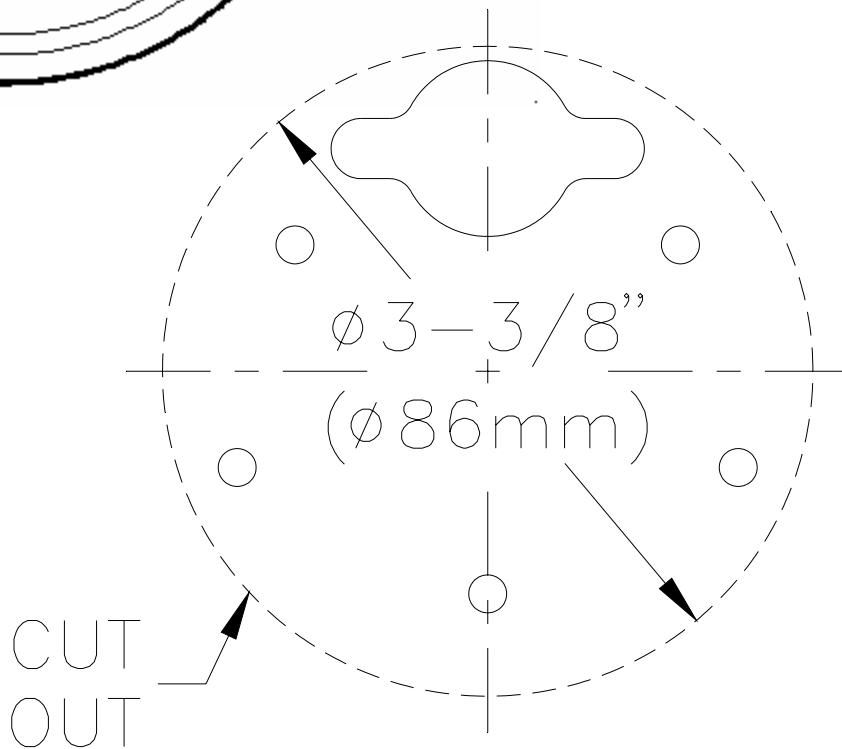
#### INDICATOR FRONT FACE TEMPLATE



The indicator front face template has been included to assist in the selection of the best viewing position.

Simply cut out and move until best viewing location is found

Once the location has been found, cut out the indicator back face template. Secure it to the dash and cut a hole around the outside edge (at 3-3/8" or 86mm diameter)



#### INDICATOR BACK FACE TEMPLATE



