PROFESSIONAL RUDDER ANGLE INDICATOR

OPERATING INSTRUCTIONS
rev. AA

EN
DE
IT
FR
SP
PT

CE

B000856

CONTENT

INTRODUCTION

PACKAGING CONTENT

1x Rudder Angle Indicator gauge
B00067401

1x Wire Harness
A2C1507870001

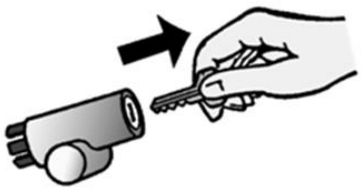
1x Mounting Spinlock
A2C1376090001

1x Safety Instructions
B000100

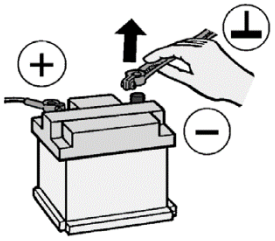
INSTALLATION

BEFORE THE ASSEMBLY

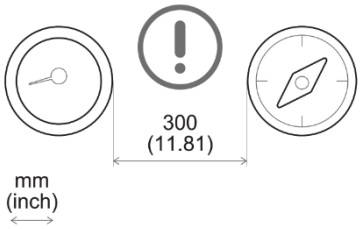
1. Before beginning, turn off the ignition and remove the ignition key. If necessary, remove the main circuit switch



2. Disconnect the negative terminal on the battery. Make sure the battery cannot unintentionally restart.



3. Place the device at least 300 mm away from any magnetic compass.



INSTALLATION WITH SPINLOCK

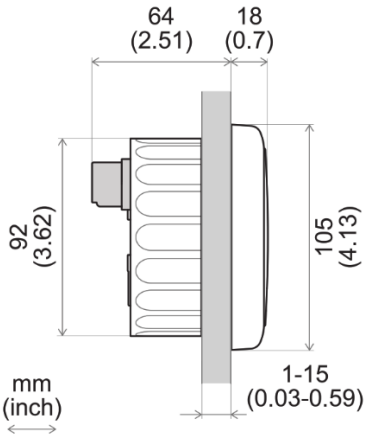
1. Create a circular hole in the panel considering the device dimensions. [A]

2. Remove the spinlock and insert the device from the front. [B]

3. Adjust the spinlock ad shown in picture [C] according to the panel thickness

4. Carefully screw in the spinlock by hand at least two turns and install the connector.

A



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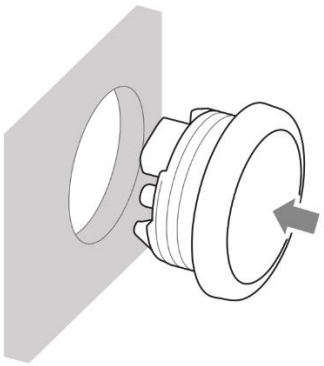

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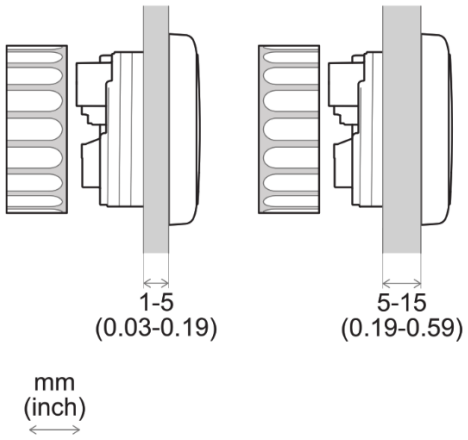
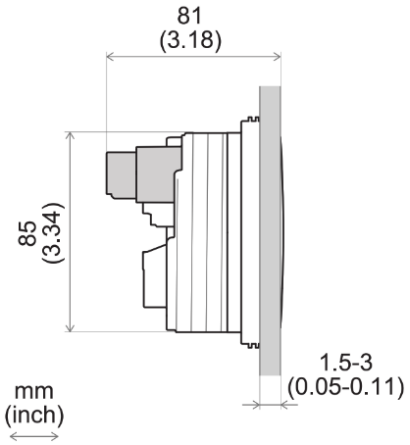


FLUSH MOUNTING

1. Create a circular hole in the panel considering the device dimensions. [A]
2. Remove the spinlock.
3. Remove the bezel using slip joint pliers. [B]
   Note: the bezel cannot be used after removal since damaged.
4. Insert the instrument into the drill hole from the back. [C]
5. Adjust the instrument so that the gauge is level and fasten it to the stud bolts on the rear side of the panel, using the assembly kit accessories. [D]
6. Insert the connector

A



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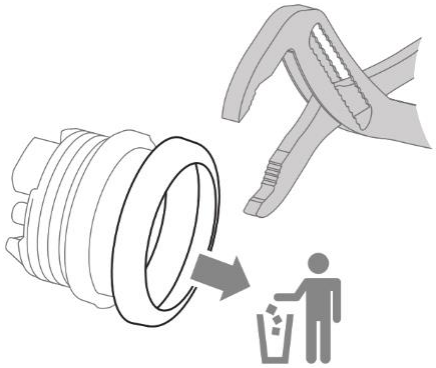

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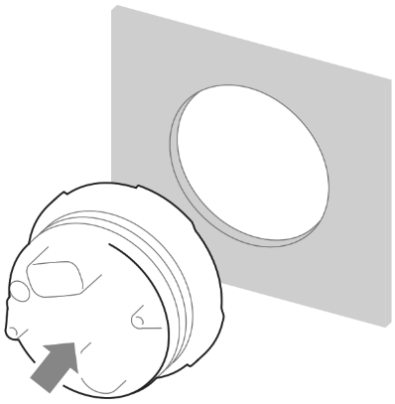
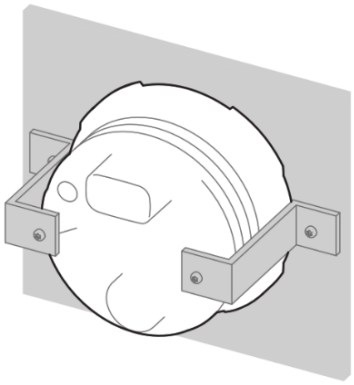


D

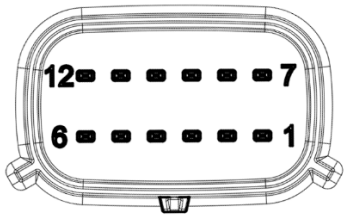


DEVICE CONNECTION

PINOUT

Pin No.	Wire color	Description
1	Red	KL. 30 – Battery Power 12 / 24 V
2	Black	KL. 31 – Ground
3	White	Signal GND
4	Green	5 V output (Sensor feed)
5	Blue	NMEA 0183 OUT +
6	Blue / White	NMEA 0183 OUT -
7	Yellow	KL. 15 – Ignition
8	Grey	Resistive sensor input 0 – 400 Ω
9	Brown	0-5 V sensor input
10	Orange	KL.58 – Illumination
11	Light Blue	NMEA 0183 IN +
12	Purple	NMEA 0183 IN -

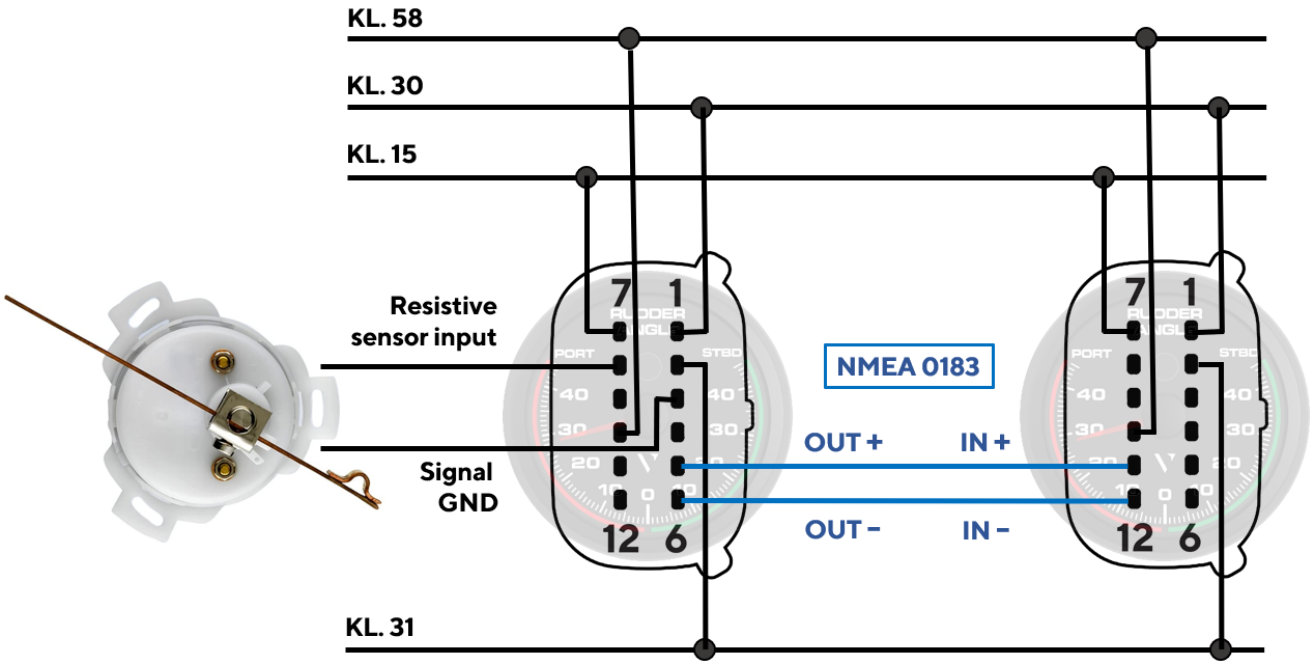
Gauge rear view



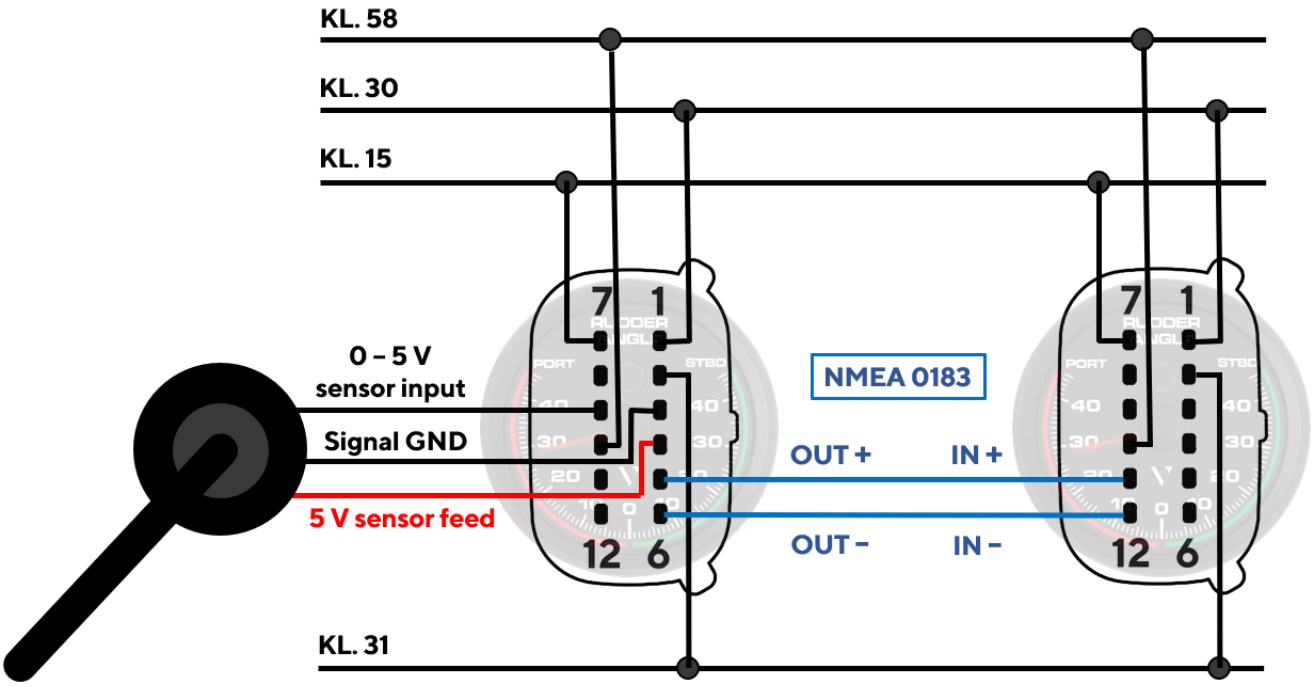
Molex MX150
12-poles plug

Male, product
side view

CONNECTIONS DIAGRAMS



Connections diagram for resistive rudder angle sensor and second gauge connected via NMEA 0183



Connections diagram for 0 – 5 V rudder angle sensor and second gauge connected via NMEA 0183

CONFIGURATION

DEFAULT SENSOR CALIBRATION

0 – 5 V sensor	Rudder position
0 V	40° PORT
2.5 V	Center
5 V	40° STBD

Resistive sensor	Rudder position
3 Ω	40° PORT
90 Ω	Center
180 Ω	40° STBD

CALIBRATION ADJUSTMENT

In order to adjust the default calibration of the sensor, a simple three-steps procedure is implemented.

It is required to steer the rudder angle sensor to three key positions (20° STBD, CENTER and 20° PORT) in order to store the sensor reading at these points.

The embedded infrared pushbutton placed above the pointer (see picture) must be used to confirm each step.

Simply near your finger to the infrared sensor area for more than two seconds [A] to activate the pushbutton.

1. Keep pushing the infrared pushbutton (IR) to start the calibration process. [A]

   The illumination now blinks every 1 sec and the pointer indicates 20° PORT

2. Move the rudder to 20° PORT. [B]

3. Keep "pushing" the IR button to store the PORT reading. [A]

   The illumination will blink twice every 1 sec and the pointer indicates the center position (0°).

4. Move the rudder to the center. [C]

5. Keep "pushing" the IR button to store the CENTER reading. [A]

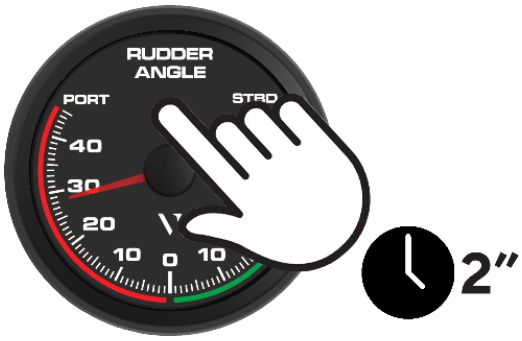
   The illumination will blink three times every 1 sec and the pointer indicates the 20° STBD.

6. Move the rudder to 20° STBD. [D]

7. Keep "pushing" the IR button to store the STBD reading. [A]

   The gauge resets and the adjusted calibration is now stored.

A



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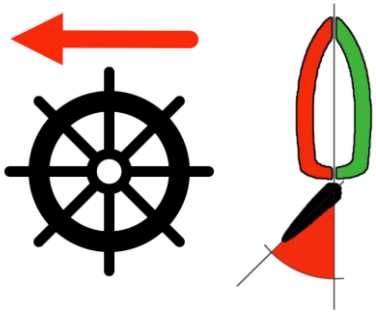
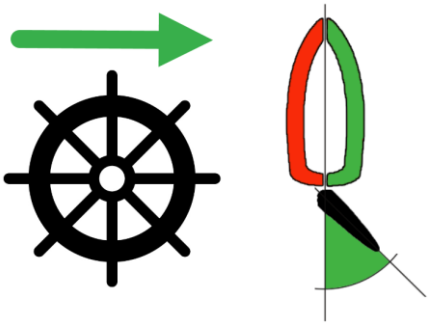


C

D



TECHNICAL DATA

DATASHEET

Nominal Voltage	12 V / 24 V
Operating Voltage	8 – 32 V
Current consumption	Max. 100 mA
Protection class	IP 6K7
Illumination	Red LED
Dial	Black with graphics
Pointer	Red illuminated, translucent backlighting, black cap
Lens	Plastic double lens anti-reflection
Housing	Plastic (flame-retardant) acc. UL94
Storage temperature	-40°C to 85°C
Operating temperature	-40°C to 115°C
Connector	Molex MX150 12 pin

SUPPORTED NMEA 0183 DATA

Data	NMEA 0183 sentence
Rudder Sensor Angle	$RSA

ACCESSORIES

Accessory	Part Number
Pigtail cable with MX 150 connector	A2C15078700
Spinlock Nut	A2C1376090001
Flush Mount kit	N05-800-792
Rudder Angle Sensor – Single Station	A2C1102950001
Rudder Angle Sensor – Dual Station	A2C1102960001

Please visit http://www.veratron.com for the complete list of accessories.

veratron AG
Industriestrasse 18
9464 Rüthi, Switzerland

T +41 71 7679 111
info@veratron.com
veratron.com

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