## Product Information

## Viewline Rudder Gauges

## Description

Gauge to indicate rudder angle (rudder position).

## Features

LED illumination

- Integrated Warning LED
_ Changeable bezels
_ Backlit technology
_ Antifog and splash protection
_ Panel and flush mount possibility


Picture: Rudder Gauge 85mm

## Concept

Housing
Bezel
Lens
Dial
Pointer
Illumination
Warning LED
Mounting
Connection
Polycarbonat (PC)
PC (black, white) or ABS (chrome); several colors and shapes (see table)
PMMA; double lens
backlit; different colors (black, white)
backlit, white on black dials; red on white dials
Dial: LED amber (605nm)
Pointer: LED red ( 632 nm )
red ( 632 nm ), only with optional PC Software adjustable
Spinlock Nut; locking height $0.5 \mathrm{~mm}-20 \mathrm{~mm}$,
Optional Studs and Bracket; locking height 2 - 13mm
8 pin MQS connector system

Sensor
440-102-001-001 D

| Technical Data |  |  |
| :---: | :---: | :---: |
| Installation depth | 50 mm |  |
| Installation diameter | 85 mm |  |
| Deflection angle | $90^{\circ}$ |  |
| Operating Voltage | 8-32 Volt |  |
| Accuracy | $<2.5 \%$ of full scale reading at 13.0 Volt |  |
| Current consumption | $<175 \mathrm{~mA}$, including Warning LED |  |
| Operating temperature | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$; plated bezels (chrome) $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |  |
| Storage temperature | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ for 48 h ; plated bezels (chrome) $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}+90^{\circ} \mathrm{C}$ for 1 h |  |
| Temperature shock | Range <br> Transformation time Retention time | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$; <br> 10 seconds 2h |
| Climatic test | Range Rel. Humidity | $\begin{aligned} & +25^{\circ} \mathrm{C} \text { to }+55^{\circ} \mathrm{C} \\ & 80 \% \text { to } 100 \% \end{aligned}$ |
| EMC in conformity with (Electromagnetic compatibility) | DIN EN 61000-6-2 DIN_EN 61000-6-3 DIN_EN 61000-6-4 |  |
| Standards | CE |  |
| Vibration | Sinus 2g; 10-500Hz; duration 16 h Noise 3 g ; $10-1000 \mathrm{~Hz}$, duration 8 h |  |
| Mechanical shock | continuous <br> Single shock <br> Free fall | 25g; 6ms; 1Hz $100 \mathrm{~g} ; 11 \mathrm{~ms}$ 1m; 3 times |
| Chemical resistance against | - preservative agent <br> - preservative agent remover <br> - cold cleaner <br> - methylated spirit <br> - interior cleaner <br> - drinks containing caffeine and tannin |  |
| Nominal position | NL 0 to NL 85 (DIN16257) |  |
| Protection class | according to IEC 60529 <br> Front: IP67 (in nominal position) <br> Rear: IP52 (in nominal position) |  |
| Reverse polarity protection | yes, 1 minute |  |
| Over voltage protection | yes, 1 minute |  |

## Available Gauges:

| No. unpacked * | Dial color | Measurement <br> range | ISO <br> Symbol | Voltage | Sensor |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Dia. $\mathbf{8 5} \mathbf{~ m m ~ G a u g e ~}$ |  |  |  |  |  |
| A2C53194714 | black | $45^{\circ}$ Port to $45^{\circ}$ <br> Starboard | Ship | 12/24 Volt | VDO Rudder sensor |
| A2C53194715 | white | $45^{\circ}$ Port to $45^{\circ}$ <br> Starboard | Ship | $12 / 24$ Volt | VDO Rudder sensor |

* "No. unpacked" is not a order number.


## Accessories:

| A2C59510854 | VL Mounting Kit (studs and brackets) 52, 85, 110mm |
| :--- | :--- |
| A2C59510864 | VL Mounting bracket flush mount |
| A2C53215641 | VL Sealing Ring 85mm flush mount |
| A2C59510847 | Bush housing, 8-pin |
| A2C53324664 | Protective connector cap, 8-pin |
| Tyco No. 539635-1 | Hand pliers |
| Tyco No. $539682-2$ | Tool for hand pliers. |
| Tyco No. 1355718-1 | Single contacts $0.14-0.22 \mathrm{~mm}^{2}$ tin plated |
| Tyco No. $963729-1$ | Single contacts $0.5-0.75 \mathrm{~mm}^{2}$ tin plated |
| Tyco No. 1355717-1 | Strip $0.14-0.22 \mathrm{~mm}^{2}$ tin plated |
| Tyco No. $928999-1$ | Strip $0.25-0.5 \mathrm{~mm}^{2}$ tin plated |
| Tyco No. $963715-1$ | Strip $0.5-0.75 \mathrm{~mm}^{2}$ tin plated |

## Bezels 85mm

|  | Black | Chrome | White |
| :--- | :---: | :---: | :---: |
| Flat | A2C53192911 | A2C53192910 | A2C53192912 |
| Round | A2C53192913 | A2C53192914 | A2C53192916 |
| Triangle | A2C53192917 | A2C53192918 | A2C53192920 |

