

## Viewline Rudder gauges

### Description

Gauge to indicate rudder angle (rudder position).



Picture: rudder gauge 52mm

### Features

- \_ Integrated Warning LED.
- \_ Changeable Frontbezels.
- \_ LED Illumination
- \_ Flush mount possibility
- \_ High reliability

### Concept

|              |   |
|--------------|---|
| Housing      | PC; flame retarding (UL94)  |
| Bezel        | PC or ABS; several colors and shapes (see table)  |
| Lens         | PMMA; double lens   |
| Dial         | backlit; different colors (see table)   |
| Pointer      | backlit, white on black dials; red on white dials   |
| Illumination | Dial: LED amber (605nm)<br>Pointer: LED red (632nm)   |
| Warning LED  | red (632nm)   |
| Mounting     | spinlock Nut; locking height 0,5mm – 20mm,<br>optional Studs and Bracket; locking height 2 – 15mm |
| Connection   | 8 pin MQS connector system  |

**Technical Data**

|                             |  |   |
|-----------------------------|--|---|
| Installation depth          | 50mm   |   |
| Installation diameter       | 52mm, 85mm (see table)   |   |
| Deflection angle            | 90°  |   |
| Operating Voltage           | 10 – 16 Volt   |   |
| Accuracy                    | < 3,6 angular degrees  |   |
| Current consumption         | < 140 mA, including Warning LED  |   |
| Operating temperature       | -30°C to +80°C; plated bezels (chrome) -30°C to +70°C  |   |
| Storage temperature         | -40°C to +80°C for 48h; plated bezels (chrome) -40°C to +70°C<br>+90°C for 1h  |   |
| Temperature shock           | Range  | -40°C to +85°C; plated bezels (chrome) -40°C to +70°C |
|                             | Transformation time  | 10 seconds  |
|                             | Retention time   | 2h  |
| Climatic test               | Range  | +25°C to +55°C  |
|                             | Rel. Humidity  | 95%   |
| EMC in conformity with      | DIN_EN 61000-6-3<br>DIN_EN 61000-6-1<br>DIN_EN 61000-6-4<br>DIN_EN 61000-6-2   |   |
| Standards                   | EN 60945   |   |
|                             | GL, Category C, F (under preparation)  |   |
| Vibration                   | Sinus 2g; 10-500Hz; duration 16h   |   |
|                             | Noise 3g; 10-1000Hz, duration 8h   |   |
| Mechanical shock            | continuous   | 25g; 6ms; 1Hz   |
|                             | Single shock   | 100g; 11ms  |
|                             | Free fall  | 1m; 3 times   |
| Chemical resistance against | <ul style="list-style-type: none"> <li>- preservative agent</li> <li>- preservative agent remover</li> <li>- cold cleaner</li> <li>- methylated spirit</li> <li>- interior cleaner</li> <li>- drinks containing caffeine and tannin</li> </ul> |   |
| Nominal position            | NL 0 to NL 85 (DIN16257)   |   |
| Protection class            | according to IEC 60529   |   |
|                             | Front: IP67 (in Nominal position)  |   |
|                             | Rear: IP52 (in Nominal position)   |   |
| Reverse polarity protection | yes, 5 minute  |   |
| Over voltage protection     | yes, 24V for1 minute   |   |

## available Gauges:

| No. packed  | No. unpacked | colour | Diameter | Measurement range        | ISO Symbol | Voltage  | Sensor type       | Double lens |
|-------------|--------------|--------|----------|--------------------------|------------|----------|-------------------|-------------|
| A2C60100327 | A2C53192577  | Black  | 52mm     | 45°Port to 45° Starboard | Ship       | 12V      | VDO Rudder sensor | yes         |
| A2C60100328 | A2C53192578  | white  | 52mm     | 45°Port to 45° Starboard | Ship       | 12V      | VDO Rudder sensor | yes         |
| A2C59510106 | A2C53194714  | Black  | 85mm     | 45°Port to 45° Starboard | Ship       | 12 – 24V | VDO Rudder sensor | yes         |
| A2C59510107 | A2C53194715  | white  | 85mm     | 45°Port to 45° Starboard | Ship       | 12 – 24V | VDO Rudder sensor | yes         |

**Accessories:**

|                    |  |
|--------------------|--|
| A2C59510221        | VL Dropping resistor 24V without connector (for 52mm Gauges) |
| A2C59510886        | VL Makepoint switch 12V (for 52mm Gauges)                    |
| A2C59510854        | VL Mounting Kit (studs and brackets) 52, 85, 110mm           |
| A2C59510864        | VL Mounting bracket flush mount                              |
| A2C53215640        | VL Sealing Ring 52mm 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 mm <sup>2</sup> tin plated       |
| Tyco No. 963729-1  | Single contacts 0.5 – 0.75 mm <sup>2</sup> tin plated        |
| Tyco No. 1355717-1 | Strip 0.14 – 0.22 mm <sup>2</sup> tin plated                 |
| Tyco No. 928999-1  | Strip 0.25 – 0.5 mm <sup>2</sup> tin plated                  |
| Tyco No. 963715-1  | Strip 0.5 – 0.75 mm <sup>2</sup> tin plated                  |

**Bezels 52mm**

|          | <b>black</b> | <b>black nickel</b> | <b>brush aluminium</b> | <b>chrome</b> | <b>gold</b> | <b>white</b> |
|----------|--------------|---------------------|------------------------|---------------|-------------|--------------|
| flat     | A2C53186040  | A2C53293468         | A2C53293480            | A2C53186023   | A2C53293482 | A2C53186022  |
| round    | A2C53186027  | A2C53293494         | A2C53293495            | A2C53186029   | A2C53293496 | A2C53186028  |
| triangle | A2C53186024  | A2C53293545         | A2C53293546            | A2C53186026   | A2C53293548 | A2C53186025  |

**Bezels 85mm**

|          | <b>black</b> | <b>black nickel</b> | <b>brush aluminium</b> | <b>chrome</b> | <b>gold</b> | <b>white</b> |
|----------|--------------|---------------------|------------------------|---------------|-------------|--------------|
| flat     | A2C53192911  | A2C53293487         | A2C53293488            | A2C53192910   | A2C53293490 | A2C53192912  |
| round    | A2C53192913  | A2C53293541         | A2C53293499            | A2C53192914   | A2C53293540 | A2C53192916  |
| triangle | A2C53192917  | A2C53293549         | A2C53293560            | A2C53192918   | A2C53293561 | A2C53192920  |