

Bridge wing instrument type VTR-3

***Marine bridge instrumentation
4189350011C (UK)***



- *Approved according to the Marine Equipment Directive*
- *IP66, waterproof construction*
- *LED illumination (long life)*
- *Robust construction*
- *Easily-read scale*
- *Built-in dimmer potentiometer*



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1. Description

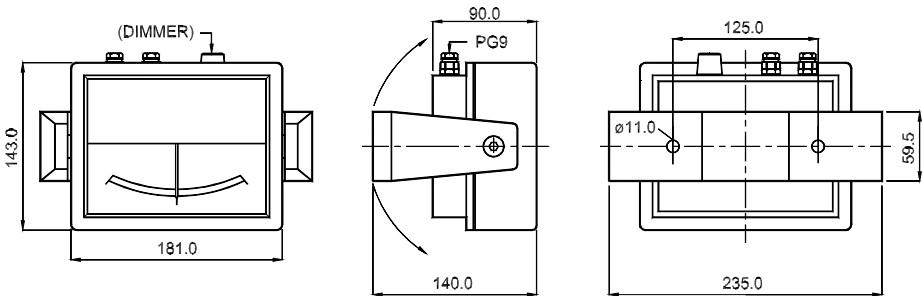
The VTR-3 is normally used for indication of the rudder position. The upside-down position of the pointer gives the user a pedagogical information of the rudder position. The instruments are designed for mounting on open bridge wings.

The light intensity can be changed by means of a built-in dimmer accessible on the instrument.

2. Mounting instructions

VTR-3 is base mounted by means of two 8...10 mm screws.

The mounting clamp allows the user to adjust the instrument for optimal reading position.



3. Auxiliary voltage illumination

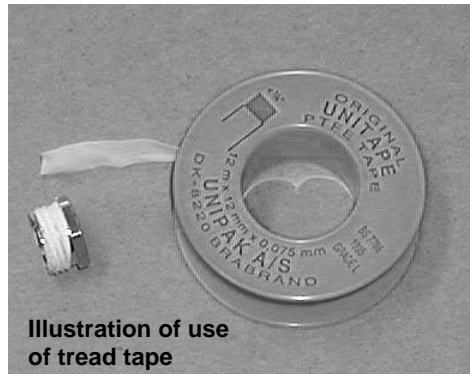
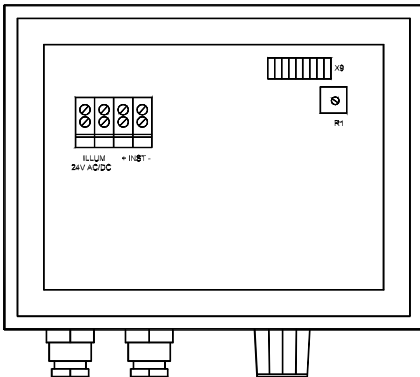
Voltage for illumination is 24V AC/DC.

4. Connection

VTR-3 is protected from ESD (static electricity). Therefore, when mounting no special protection from ESD is needed.

After dismantling the back plate, the connection terminals are visible. Cable dimensions between 0.2 and 2.5 mm² multi-stranded or max. 4 mm² single-stranded can be used for the screw terminals. Cable entry is obtained via 2 PG 9 glands. Cable dimensions 7.5 mm. It is recommended to use liquid packing or tread tape (the same kind as the plumber is using) for the PG glands to avoid any intrusion of water. It is also strongly recommended to arrange the cable entry (or use liquid packing) to avoid water getting inside the instrument via the cables.

Connect the illumination supply 24V AC or DC to terminals marked Illum. Connect the input signal to terminals marked INSTR + and -.



Before the back plate is re-mounted it is recommended to treat the cork sealing with liquid packing to avoid any intrusion of water.

5. Adjustment and control

The potentiometer marked "R1" located near by the plug connector can be used for adjusting the deflection of the instrument within +/-10% of full-scale (or according to information on type sign) to fit the scaling of the indicator to the existing installation. Please note that instruments with measuring ranges 0...1mA, -0.5...0...0.5mA and 4...20mA do not have this adjustment. Normally mechanical adjustment is not needed, but during time small deviations can occur. To correct the zero adjustment see chapters 6.1, 6.5 and 6.6 "Change of scale".

The back plate is mounted by means of the 8 screws. Recommended torque 1.5...2 Nm.

6. Change of scale

Normally the VTR-3 is supplied with a scale according to the order specifications. However, the scale can be changed by following the below instructions.

1. Demount the instrument house by unscrewing the 10 screws holding the 2 housing parts together.
2. Demount the 2 scale screws.
3. Remove the scale by dragging it carefully past the pointer.
4. Mount the new scale.
5. Check the zero position of the pointer and adjust if necessary. The mechanical zero adjustment is done by moving the fork to one side or another. The fork is placed in the front of the moving coil system.
6. Mount the instrument house. Recommended torque 1.5...2 Nm.

Before the instrument house is re-mounted it is recommended to treat the cork sealing with liquid packing to avoid any intrusion of water.

7. Technical specifications

Accuracy:	Class 1.5 (-10... <u>15...30</u> ...55°C) to EN 60051 and IEC 51
Aux. voltage illumination:	24V AC/DC
Consumption at 24V:	80mA
Galvanic separation:	2kV - 50Hz - 1 min
Compass safety distance:	1 m
EMC:	To EN 50081-1/2, EN 50082-1/2, SS4361503 (PL4) and IEC 255-22-1
Connections:	Built-on screw terminals
Cable dimensions:	0.2...2.5 mm ² multi-stranded, 4 mm ² single-stranded
Cable entries:	Via two PG 9 cable glands. Cable diameter 7.5 mm
Materials:	Matt black polyurethane. Fire retarding and self-extinguishing to UL94 (V0)
Protection:	IP66 to IEC 529 and EN 60529

Errors and changes excepted