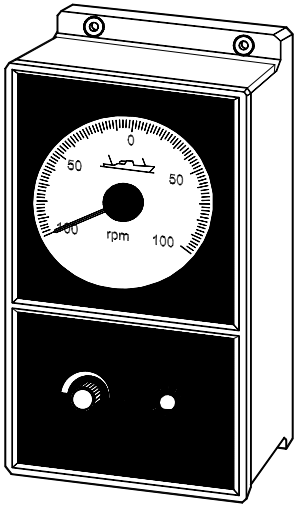
DEIF A/S

*Installation instructions*

# *Bridge wing instruments type BRW-1*

## *Marine bridge instrumentation*

***4189350007D (UK)***




- *Approved according to the Marine Equipment Directive*
- *IP66, waterproof construction*
- *LED illumination (long life)*
- *Black scale version with separate pointer illumination*
- *Large, easily-read scale*
- *Built-in dimmer potentiometer*

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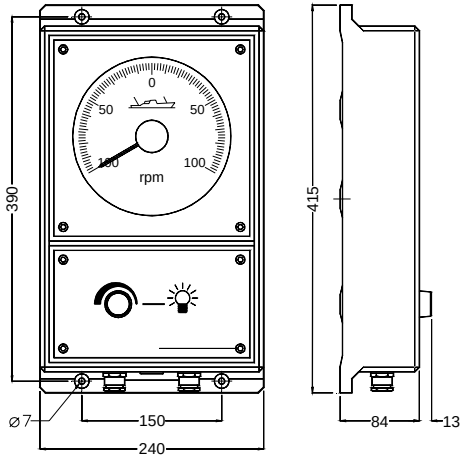
## 1. Description

The BRW-1 is designed for outdoor use, e.g. used as a propeller RPM indicator on the bridge wings.

The light intensity can be changed by means of a built-in dimmer accessible from the front of the indicator. On request remote dimming from a control panel can be arranged by an external potentiometer.

## 2. Mounting instructions

BRW-1 is base mounted by means of four 6-mm screws.




Weight: Approx. 2.8 kg

## 3. Auxiliary voltage illumination

Standard voltage for illumination is 24V AC/DC. Alternatively the BRW-1 can be delivered for 110/220V AC with a built-in supply transformer. In this configuration it is possible to connect both the 110/220V AC supply and the 24V DC supply as a back up supply. **Note: the 110/220V AC supply is connected directly on the transformer, not on the terminals marked SUPPLY ILLUM. 24V AC/DC.**

## 4. Connection

BRW-1 is protected from ESD (static electricity). Therefore, when mounting no special protection from ESD is needed.

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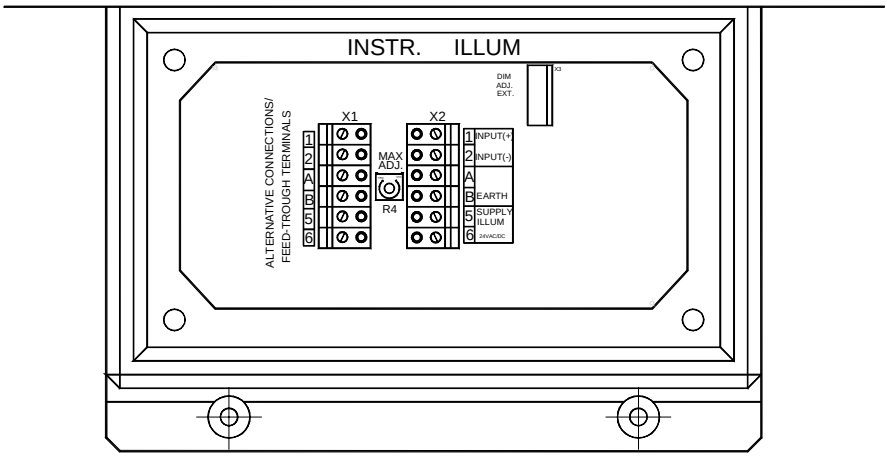
After dismantling the potentiometer plate (use a standard 4 mm allen key), the connection terminals are visible. Be careful that the special silicone sealing is not damaged when the potentiometer plate is demounted from the housing. Cable dimensions between 0.2 and 2.5 $mm^2$ multi-stranded or max. 4 $mm^2$ single-stranded can be used for the screw terminals. Cable entry is obtained via 2 PG 13.5 glands (1 PG 21 optional). Cable dimensions between 7.5/10/12.5 mm are possible with PG 13.5 gland, and cable dimensions between 10/13/16/19 mm are possible with PG 21 gland. The BRW-1 is equipped with a set of alternative connectors so-called “FEED–TROUGH TERMINALS”. These connectors can i.e. be used for supply to other instrumentation.




Connect the illumination supply 24V AC or DC to terminals Nos. 5 and 6. If the BRW-1 is equipped with a transformer for 110/220V AC supply, then connect the 110 or 220V AC to the terminals mounted directly on the transformer. The 3 terminals on the transformer are marked 0…110…220V. Connect the input signal to terminals Nos. 1(+) and 2(-). For personal protection the terminal marked “EARTH” must be connected to the ships hull. This is also recommended in order to avoid any static electricity to influence the instrument accuracy.

## 5. Adjustment and control

The potentiometer marked “MAX. ADJ” located between the two connectors 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 do not have this adjustment (the potentiometer is sealed with a label). Mechanical adjustment is normally not needed, but during time small deviations can occur. To correct the zero adjustment see chapters 6.1 and 6.11 “Change of scale”. Please note that generally suppressed measuring ranges (i.e. 4…20mA) do not have the possibility of zero adjustment. Also please note that if the potentiometer “MAX. ADJ” is sealed with a label, the maximum adjustment is not possible.

## 6. Change of scale

Normally the BRW-1 is supplied with a scale according to the order specifications. However, the scale can be changed by following the below instructions.

1. Demount the aluminium frame and the glass by removing the 4 screws in the bezel. Be careful that the special silicone sealing is not damaged when the bezel is demounted from the housing.
2. Demount the 4 corner screws securing the scale.
3. Demount the 4 corner screws at the bottom securing the PCB. (Use a standard magnetic bit adaptor and a crosshead bit).
4. The PCB and the scale are lifted up. At the same time the connection to the PCB is removed.
5. Demount the 2 scale screws mounted in the scale center.
6. Remove the scale by dragging it carefully past the pointer.
7. Mount the new scale.
8. Insert the PCB and mount the connection to the PCB at the same time.
9. Mount the 4 corner screws securing the PCB.
10. Mount the 4 corner screws securing the scale.
11. 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.
12. Mount the bezel.

## 7. Technical specifications

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|---|---|
| Accuracy: | Class 1.5 (-10...15...30...55°C) to EN 60051 and IEC 51. |
| Auxiliary voltage illumination: | 24V AC/DC or 110V/220V AC. |
| Consumption at 24V: | White scale base: 150mA/24V. Black scale base: 300mA. |
| Galvanic separation: | 2kV - 50Hz - 1 min. |
| Compas safety dist.: | 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. Alternative connection 26AWG cable. |
| Cable entries: | Via two PG 21 cable glands. Cable diameter 10/13/16/19 mm. |
| Materials - plastic housing: | ABS/PC blend. Fire retarding and self-extinguishing to UL94 (V0). |
| Protection: | IP66 to IEC 529 and EN 60529. |

Errors and changes excepted