

# LED Buoy Lantern E8232

LED Buoy Lanterns E8232 are intended for use on navigational buoys with matching mounting platform as smart sources of omnidirectional light signal with wide vertical divergence. An E8232 provides one of the widest vertical divergence profiles in the industry, providing remarkable FWHM and FWTM intensities at moderate power consumption. While the lanterns own cupola provides sufficient protection in applications excluding direct wave action and mechanical contacts, use of an external protective cupola is recommended.

An E8232 is supplied with integrated programmable flasher that has full control of output light signal intensity using pulse width modulation (PWM), and a telematics module E9261 **TelFiCon™** for provision of GSM/GPRS or 3G cellular network based remote monitoring, GPS based positioning and synchronisation of flashing. The lantern is typically supplied with flash character, luminous intensity and ON/OFF switching threshold of the flasher configured in accordance with mission specifications, in readiness for operation within the **TeViNSA™** AtoN telematics framework developed at Cybernetica.

The E9261 TelFiCon™ module is fitted with a built-in three-axial solid state acceleration sensor that performs constant monitoring of buoy hull heel angles and collisions, sending corresponding alarm messages to the monitoring centre and switching off flashing at excessive heel angles (submersion). It can be utilized for buoy dynamics research by acceleration measurements on demand, and supports full Firmware-over-the-Air re-programming for future software upgrades. Work is in progress to implement other uses of buoy acceleration data, such as wave height estimation.

## Features

|                                      |                            |
|--------------------------------------|----------------------------|
| Red, green, or white LEDs            | 10 in angled arrangement   |
| Typical light signal intensity       | 60 cd typical, up to 90 cd |
| Nominal range (T=0.74, 0.2 μlx)      | 4 to 5 NM                  |
| Vertical divergence $2\Theta_{1/2}$  | 26° (W), 20° (R), 26° (G)  |
| Vertical divergence $2\Theta_{1/10}$ | 60° (W), 32° (R), 70° (G)  |
| Power consumption in flash           | 4 W (W) to 6 W (R, G)      |
| Power supply voltage                 | 9...24 VDC                 |
| Diameter / height                    | 207 mm / 231 mm            |
| Weight                               | 5.6 kg                     |
| Enclosure protection class           | IP67                       |



Cupola material: UV-stable PETG  
 Body material: Aluminium with anodized surface, partly powder coated  
 Mounting arrangement: 6 x Ø 9 mm on a circle with diameter of Ø150 mm  
 Operating environment: -30°C to +55°C (-20°C to +55°C for monitoring)

Note: Fixed LED current is configured at the factory to provide the required nominal range.

**Cybernetica AS**  
 Department of Navigation Systems  
 Mäealuse 2/1, 12618 Tallinn, ESTONIA  
 www.ekta.ee e-mail: [ekta@ekta.ee](mailto:ekta@ekta.ee)



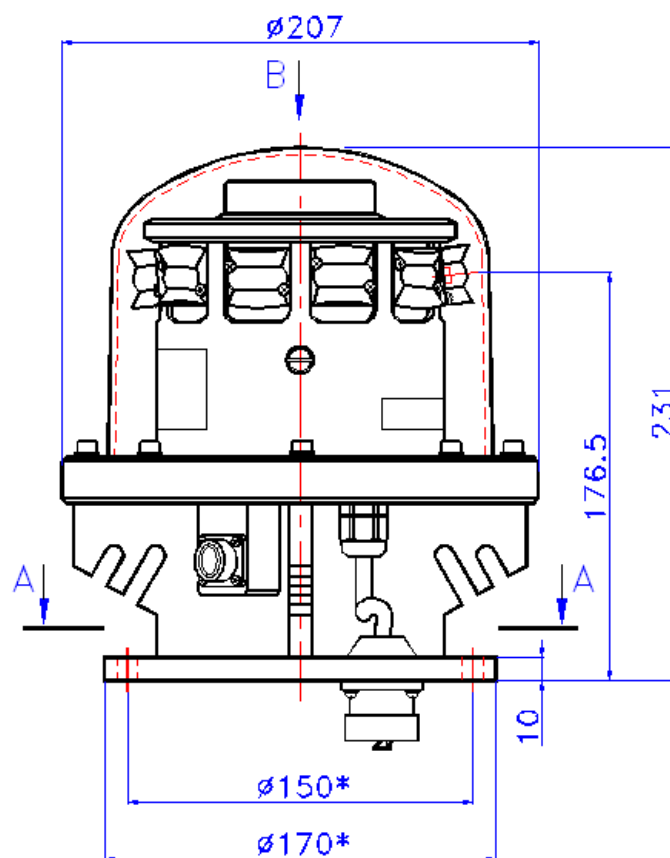


Figure 1. LED Buoy Lantern E8232 dimensions

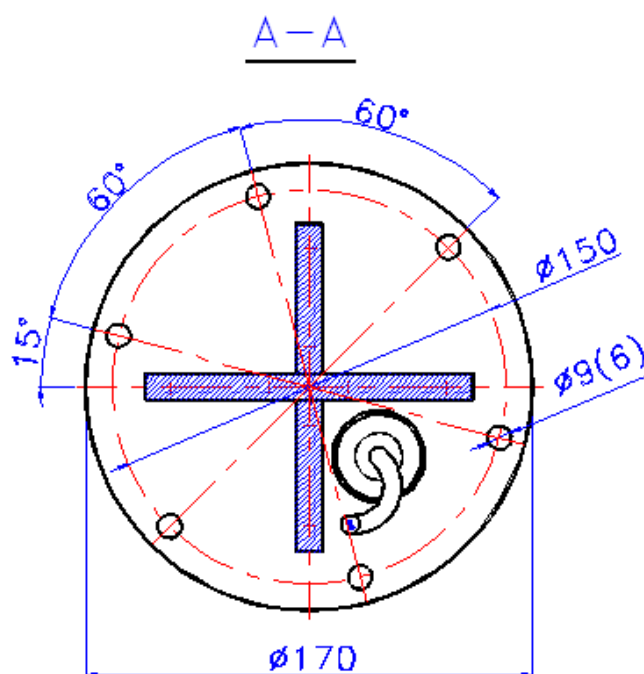


Figure 2. LED Buoy Lantern E8232 bottom view of the mounting flange