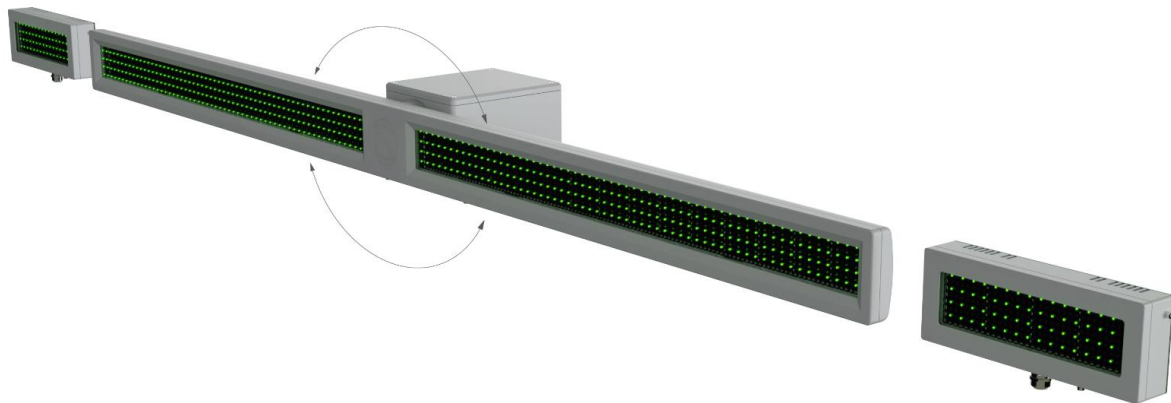


## Horizon Reference System

Product HRB H20002-00-005  
Product UTL-R H20034-00-001



The Horizon Reference System (HRS) assists the pilot to touch down while hovering above the deck. It is mounted at the wall facing the landing deck and consists of an oscillating light bar (HRB), counteracting ship's roll motion and thus always maintaining an exactly horizontal position, and two fixed reference lights (UTL-R) installed at both ends of the light bar. An inertial measurement unit (IMU) combined with a powerful servo actuator counteracts ship's roll motions of up to  $\pm 30^\circ / \pm 20^\circ$  optional; the system starts blinking if a misalignment of more than  $0,5^\circ$  occurs. Further on, the HRB aligns automatically to its horizontal position after installation, no interface to ship's gyro is needed.

The standard light colour is green to ensure compatibility with NVG mode acc. STANAG 1445, stage 2. Other colours are available on request. The light intensity can be dimmed in 65K steps, configured in eight or more user defined levels via the control system. The rigid design in full body seawater resistant aluminium is optimized for performance in extreme marine environments.

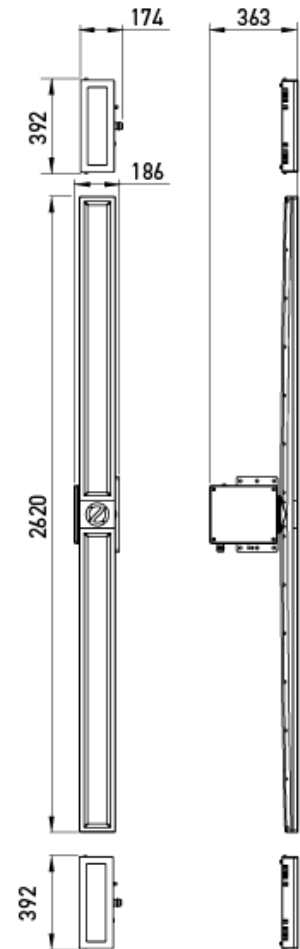
System integrity and operational reliability is monitored by multiple sensors measuring temperature, and humidity. These internal electronics provide constant monitoring of the HRB status and ensure that degradations can be detected generally before such event.

Benefit of the electronic features is granted in combination with Optonaval's software suite Albatross, starting with the module AlbaNavy. Please refer to the relevant Software Documentation.

## PRODUCT SPECIFICATION HRB

For Reference Side Light please refer to H20034-72-001\_UTL-R\_Datasheet\_1\_0

ELECTRICAL SPECIFICATION	
Supply voltage	48 V DC
Power	250 W rated / 350 W max.
OPERATING CONDITIONS	
Ambient temperature	-25°C to 45°C
Ingress protection level	IP66
Shock	acc. to MIL-STD-810H / 10G
Vibration	acc. to MIL-STD-810H
EMC	acc. to MIL-STD-461G
NVIS	acc. to STANAG 1445, Stage 2
MECHANICAL SPECIFICATION	
Dimensions (LxHxD)	2620x189x363 mm
Weight	approx. 45 kg
Housing colour	RAL 7000, gloss grade 80%
Housing material	sea water resistant aluminium alloy
Surface coating	anodized & powder coated
Front glass material	laminated safety glass (LG)
OPTICAL SPECIFICATION	
Light source	LED
Light Standard	MPP-02-VOL-I-EDH-V1-E (STANAG 1194)
Light colours	GN, CGN, AM
Beam angle	FWHM 55°
Beam intensity	GN: max. 430 cd / AM: max. 300 cd
CONNECTION & CONTROL SPECIFICATION	
Power supply / Data cable	4*2*0,75 mm <sup>2</sup> twisted shielded
Controls	MODBUS RTU



## SPECIAL FEATURES

✓	Self-aligned, no external gyro interface
✓	Horizon Reference Bar of 2,5 m length
✓	Suitable for the use of Night Vision Goggles (NVG)
✓	Multiple colour option
✓	Dimmable
✓	Health monitoring and reporting
✓	Smart weight saving cabling
✓	Integrated in Albatross software suite
✓	Comprehensive service package and ILS support available