SABIK
a Carmanah company

PEL-4

3.5°, 5° and 10° horizontal divergences

The PEL-4 is a precise aid to navigation. When sailing through hazardous waters, the PEL-4 will provide sharp visual feedback whether you are inside or outside a sector. If combined with oscillating boundary, the exact position within the sector will be known also.

The PEL-4 is equipped with LED technology and is bright enough to be used day and night. It is energy efficient and maintenance free as well. This makes it solar-power friendly and removes costly re-lamping visits.

- **Horizontal divergence available from 3.5° to 10°**
- **Weatherproof enclosure suitable for external mounting**
- **Maintenance-free LED (easy to replace if needed)**
- **Constant-current LED drivers**
- **Fully programmable IALA flash characters**
- **Adjustable day and night intensity from 0.3% to 100%**
- **Automatic day/night detection and change-over**
- **Optional security code**
- **Programmable low-voltage cut-out**
- **Selectable master/back-up operation mode**
- **Digital input/output**
- **Optional oscillating boundary**

Monitoring

- **VegaWeb Cellular Transmitter (VWEB-GPRS)**
- **VegaWeb Satellite Transmitter (to marine conditions, VWEB-SAT)**
- **Vega AIS Transponder (VAIS-1E/3E)**

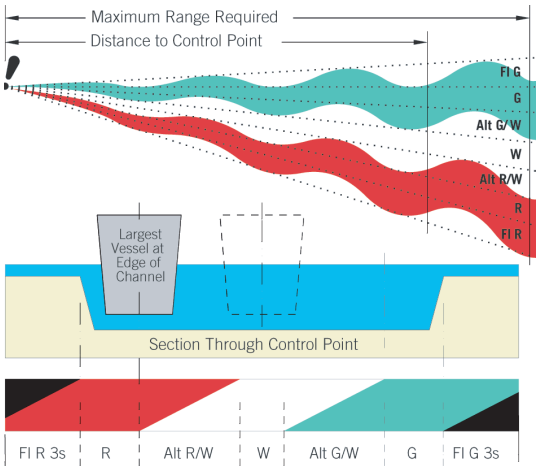
Functionality and Features PEL-4

About the PEL-4

The PEL-4 commonly has three sectors (red, white and green). In some applications, additional precision is required.

If the PEL-4 is purchased with an oscillating boundary, up to seven sectors can be projected by alternating two colours. As well as giving the mariner greater accuracy of their position, it also tells them where they are within a sector.

For example, a long red flash with a short white flash tells the mariner they are about to exit the red/white sector and enter the solid red sector. When combined with the information on their marine chart, they will know exactly where they are within their sector.



Maintanance

The PEL-4 does not need re-lamping. Maintenance has been reduced to simple checks as to the condition of the beacon.

Robust for marine use

The PEL-4 is made of heavy-duty marine alloys. Hundreds of Vega PELs are still in use after 30 years of being exposed to marine conditions.

Energy efficient

The PEL-4 uses efficient high-intensity LED technology. At full intensity, the PEL-4-5° produces 225,000cd while consuming less than 50W of power. This makes the PEL-4 bright and efficient for solar-powered sites.

Oscillating boundary

The PEL-4 has a complete colour change between sectors over 1 minute of arc. This allows the mariner to make instant corrections before they stray off-course. If the mariner is 2NM from the PEL-4, they will see a complete colour change within 1m of sideways movement as they sail into the next sector.

Brightness

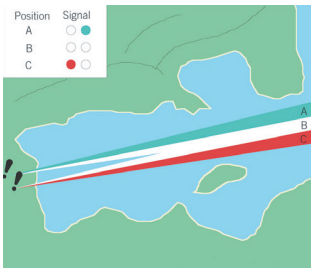
The PEL-4 is bright enough to be seen day and night. The intensity depends on which model is used (see specifications). All models have a large vertical divergence to ensure that they can be seen by short and tall vessels at all times.

Mounting

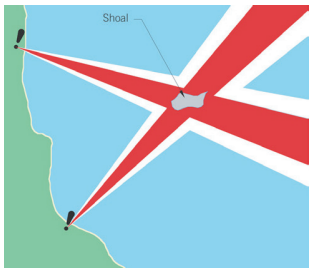
The structure that is used to hold a sector light must be resistant to any twisting in gale-force winds. Minor twisting of the tower affects the direction in which the sector light is pointing and may reduce its effectiveness. The PEL-4 is heavy-duty, to match the rigid structure which is designed to hold it.

Common application

PEL-4 is used to initiate narrow turn into channel



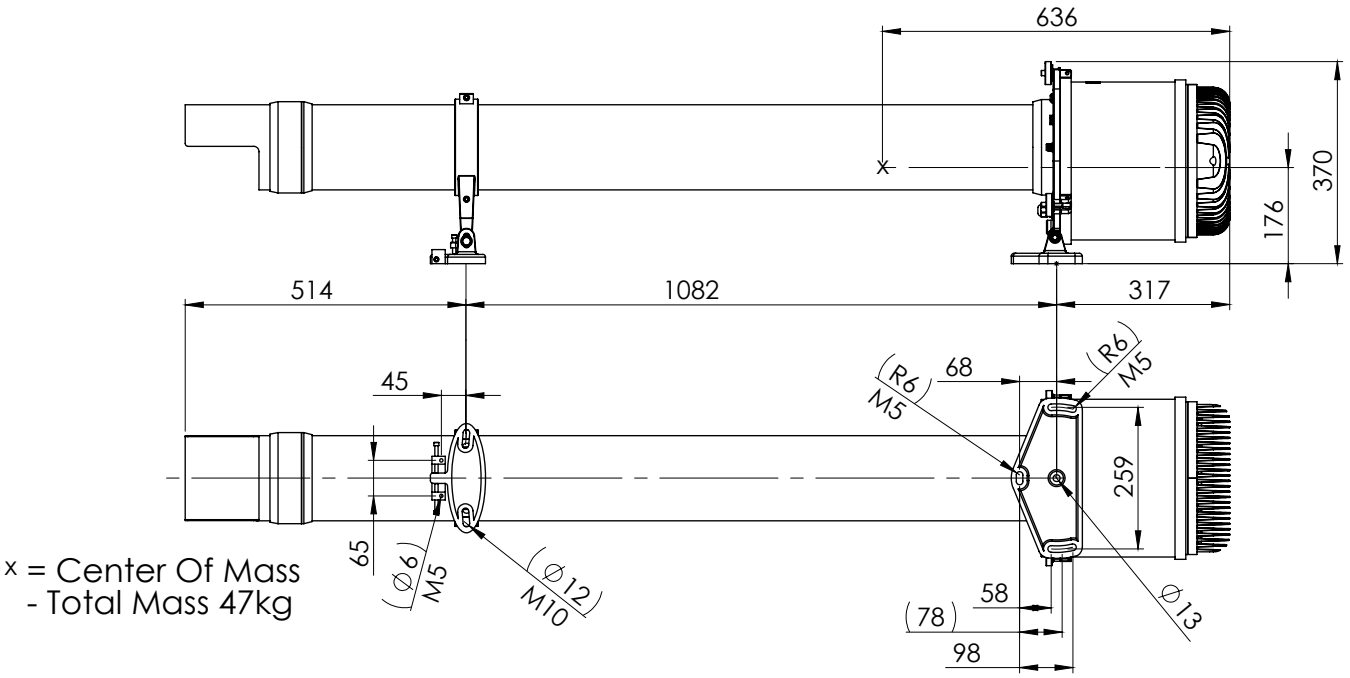
Dual PEL-4s are used to mark a parallel channel



Dual PEL-4s are used to mark a submerged hazard

Several PEL-4s can be used to guide vessels though canals

Technical Specification PEL-4



Optical Performance

Maximum intensity			
3.5D	77500cd	77500cd	350000cd
5D	50000cd	50000cd	225000cd
10D	20200cd	20200cd	91000cd

Vertical divergence	3.5D: 2° 5D: 3° 10D: 5.3°
Horizontal adjustment	3.5D: 3.5° 5D: 5° 10D: 10°
Light source	High-intensity LED
Sector colour	Red, White, Green
Flash character	Either oscillating boudary or programmable IALA flash characters
Sector Angles	Individual sector custom-made for each light
Boundary resolution	Typically 1 minute of arc

Material

Body	Bronze, stainless steel, marine-grade aluminum
Lens	Acrylic and glass
Exterior finish	Epoxy primer surfacer, 2-pot polyurethane gloss

Environmental

Degree of Protection	IP67
Temperature	-35°C to 85°C
Thermal protection	LED intensity reduced above 50°C

Electrical performance

Voltage	12/24VDC
Minimum - Maximum voltage	10VDC - 30VDC
Battery protection	Programmable low-voltage shutdown, Reverse polarity protection
Input/Output	Alarm output, RS-232 (RS485 optional), on/off output, Synchronisation, on/off control input, day/night control input
Cable length	1.5m to 5m maximum

Order Overview PEL-4

Option matrix

VAIS-1S/3S	AIS Monitoring
Mini VegaWeb/VegaWeb	GSM/Satellite Monitoring
Remote-02	Infrared Remote
FA 400	Extra filter set fixed
OB 400	Extra filter set-oscillating

Product code

Code PEL-4-D-S	**Note**
D	Horizontal subtense (3.5°, 5°, 10°)
S	Sector OB = Oscillating boundary FX = Fixed boundary

Product code example: PEL-4-3.5-OB