



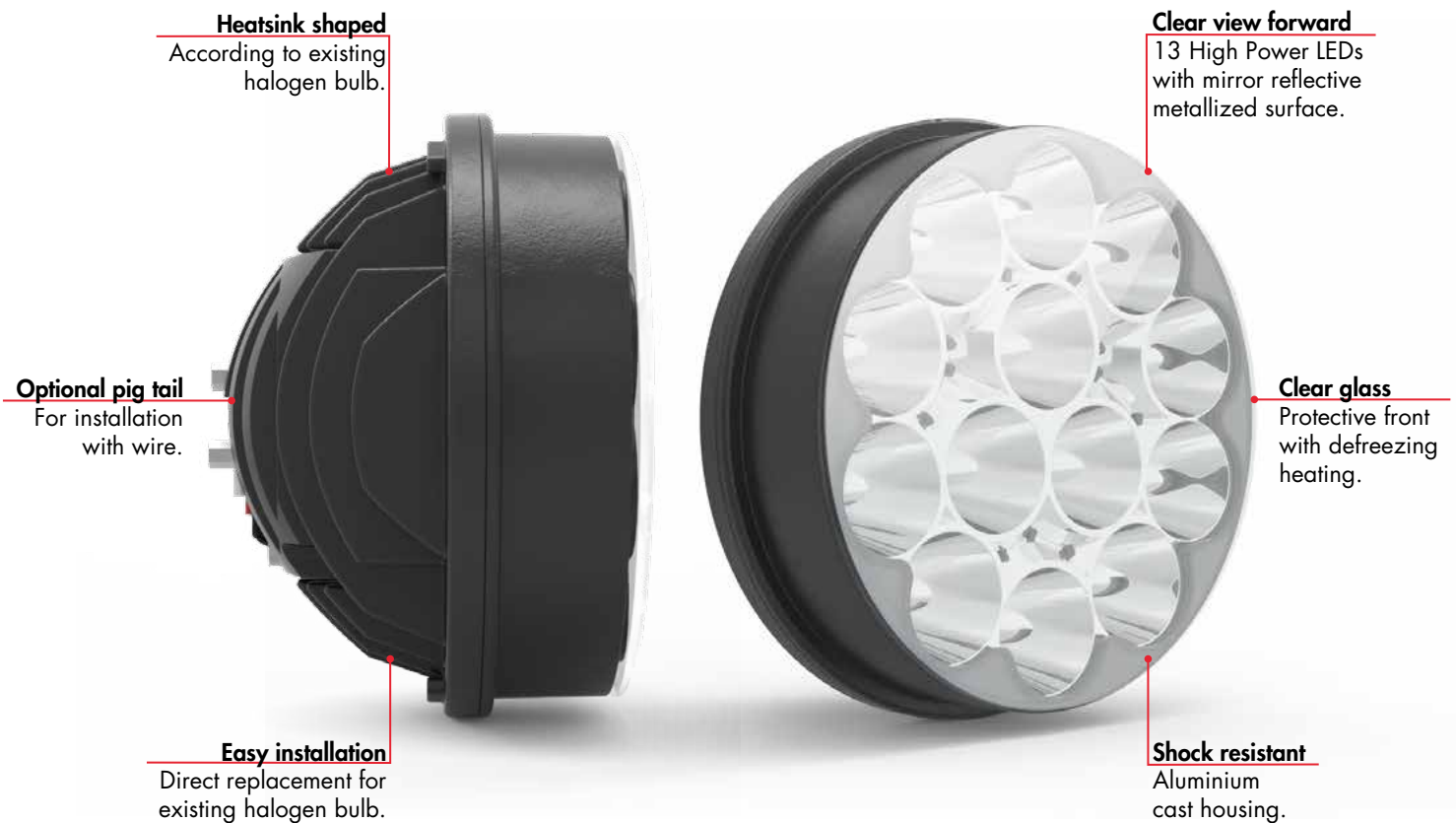
The Beam is a reliable and efficient **PAR56** type LED Headlight for railroad locomotives. Beam provides a clear view on the tracks regardless of the surrounding weather conditions.

Efficiency. Reliability. Clarity.

High-efficiency LEDs leading the way

The new Teknoware Beam, a PAR56 type headlight for trains is made of cast aluminium, its diffuser is clear glass. Cast aluminium ensures high IP-class with shockproof. The Beam has 13 Power LEDs to make sure that there is enough light for rail track to detect objects on the road from 800 ft (243,84 m) away. The headlight meets the Federal Railroad Administration requirements. All Beam models are customized to match customer's needs.

The traditional headlamp using halogen bulbs can be replaced with the PAR56 headlight, it can be fitted to same space as the existing halogen bulb thanks to the same installation method. The Beam comes also with an option for pig tail wiring. The LED technology gives the Beam over 50 000 working hours lifetime with high IP-rating.



FACTS IN BRIEF



FOR EXTREME
CONDITIONS



EASY
INSTALLATION



SHOCKPROOF



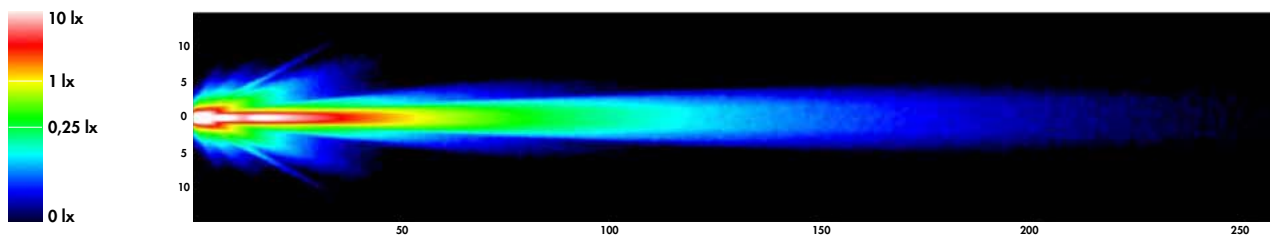
EXTENDED
LIFE CYCLE



WATER- AND
DUSTPROOF

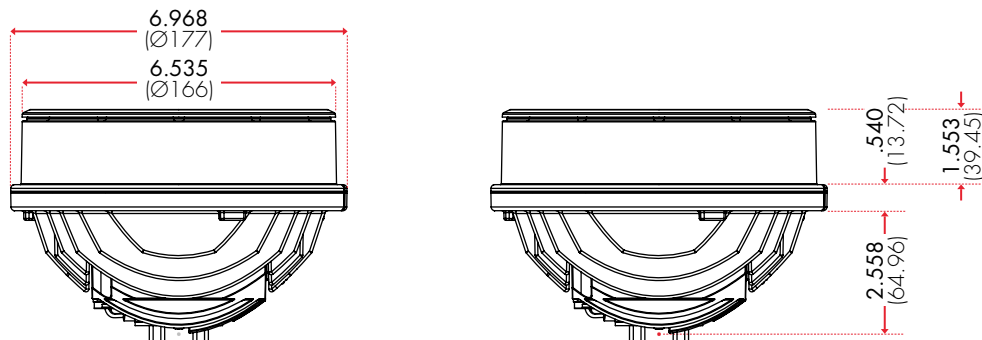
Specifications

Light source	13 x Power LEDs
Photometric specifications	Measurements in meters (m)



Mechanical characteristics		Material	
Product ID	TL-TVN95003	Material of the PCB	Aluminium & FR-4
Product ID	TL-TVN95004	Material of the casing	Cast aluminium
Weight [kg]	2,1	Color of the casing	Powder coated black
Power [W]	36	Material of diffuser	Clear glass
Electrical characteristics		Environmental conditions for electronics	
Input voltage: nominal	75 VDC (TL-TVN95003) 37,5 VDC (TL-TVN95004)	Ambient temperature range	-40°C ... +70°C
Voltage: min-max	50-90 VDC (TL-TVN95003) 16,8-50 VDC (TL-TVN95004)	Degrees of protection	Front: IP66 Back: IP65 (to be validated)
Colour rendering index	CRI >70	Compliance with the Federal Railroad Administration 49 FRA 229.125 and 49 FRA 229.443	
Lumen maintenance	50 000 h / L70	200 000 cd	Center
		3 000 cd	7,5° from center
		400 cd	20° from center

Dimensions inch (mm)



Special features

- Protection against output short circuit.
- Inrush current is limited less than five times the input current and maximum load.
- Dimming +75 VDC / +37,5 VDC. Dimming mode: > 60 000 candela @ center.
- Under voltage (45VDC) and over voltage (103VDC) shutdown / 37,5 VDC.



Lamp off



60 000 candela



200 000 candela

LET THERE BE CONFIDENCE.

People tend to take the presence of light for granted. We take it seriously. By creating the perfect solutions for our customers' needs, we offer solutions that increase the comfort, functionality and safety of their applications. Our passion is to design and manufacture lighting systems for public transportation vehicles and emergency lighting systems for buildings and cruise ships.

Our turnover is over EUR 60 million, we employ about 400 lighting experts in six different countries, and our global network offers our expertise in more than 30 countries. Our head office and our largest production facilities are located in Lahti, Finland. Teknoware is part of the Teknower Group.

Teknoware - Design in Finland.



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