

Lseq Camera Sensor

General Description

The Lseq Cam Sensor measures and monitors

- the luminance,
- the traffic density/speed
- the wet/dry surface condition of the tunnel entrance

More precise than L20 photometer, Lseq is the veiling luminance caused by a wider field of the surroundings such as sky, road, grass and mountain.

Typically installed at a Safe Sight Stopping Distance, the Lseq Camera Sensor communicates to the Lighting Control Cabinet (LCC), the crucial information that determines the more appropriate tunnel lighting level for optimal safety and energy saving.

It also measures and monitors the traffic density/speed and the surface condition (wet/dry) of the tunnel entrance that could impact the rated driving speed which in turn could also influence the tunnel lighting level.

Lseq Camera Sensor has a live video feature for increased security.

Features

- Veiling luminance (glare) estimation according to CIE 88:2004
- Real-time traffic flow estimation, daytime and nighttime
- Monitoring of road surface condition (DRY/WET)
- Camera alignment monitoring
- Specifically designed for tunnels control system
- Simple installation/operation
- Rugged acid-proof stainless-steel enclosure for aggressive environments
- Optional wiper/washer system



Specifications

Environmental

Ingress Protection	IP66
Climate Control	Heater, sun shield
Operating Temperature	-33°C to +50°C, IEC 60721-3-4, class 4K2
Storage Temperature	-33°C to +50°C, IEC 60721-3-4, class 4K2
Operating Humidity	5 – 100%, IEC 60721-3-4, class 4K2

Electrical and Interface

Power Supply	Default 230 VAC, Option: 277VAC-480VAC
Power Consumption	Typical 5 W at +20°C
Physical Data Interface	Ethernet
Data Protocol	Modbus TCP

Compliance

Luminance	CIE 88:2004
Electrical	CE, EN 60065, EN 61000-6-3, EN 50130-4
Environmental	EN 60529, IEC 60721-3-4

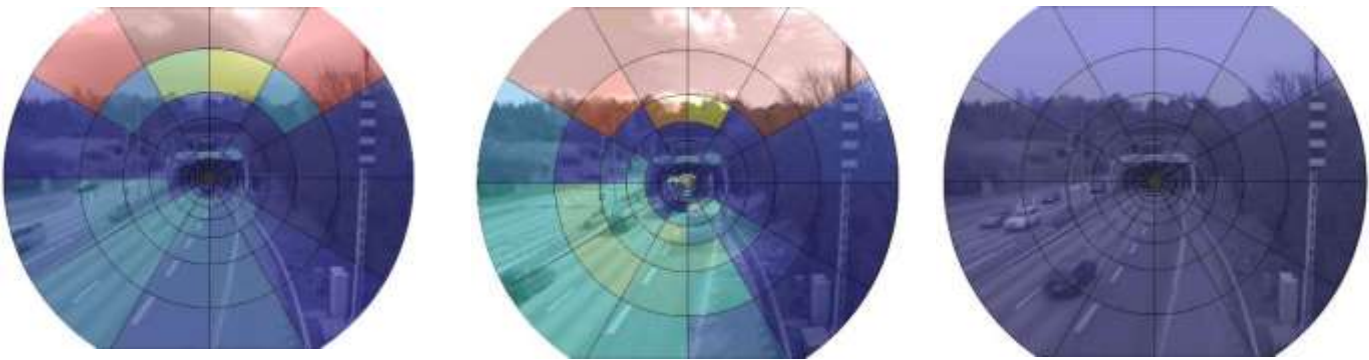
Physical

Dimensions (HxWxL)	164 x 184 x 460 mm including sunshield without accessory
Weight	5 kg including sunshield without accessory
Material	Acid-proof stainless steel AISI 316L
Calibration (Return to Factory)	Every 5 years

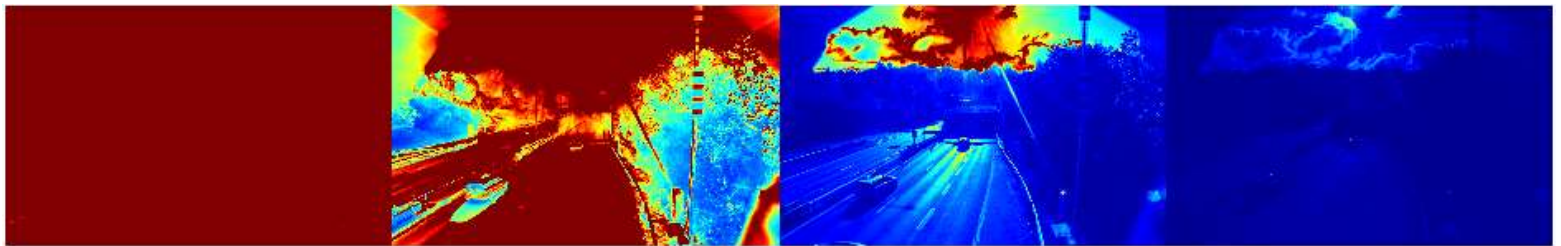


Photometric

Luminance Range Lseq	10 cd/m ² – 1 000 cd/m ²
Luminance Range L20	200 cd/m ² – 20 000 cd/m ²
Luminance Accuracy	< 3 %
Spectral Matching	f1 < 17 %
Field of Measurement	40° x 57° (CIE88:2004 Annex A.3)



Veiling luminance measurements, Lseq



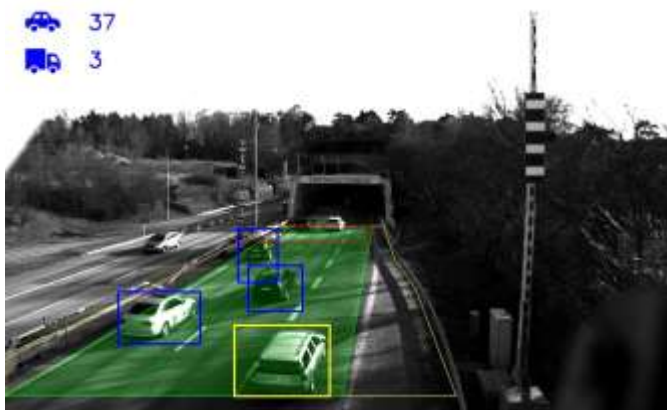
High dynamic luminance range



Traffic

Vehicle Flow Information	Traffic/no traffic, density, speed
Flow Accuracy	< 2 %
Operating Conditions	Day/night operation, 24 hours, on illuminated roads

Real Time Traffic Detection



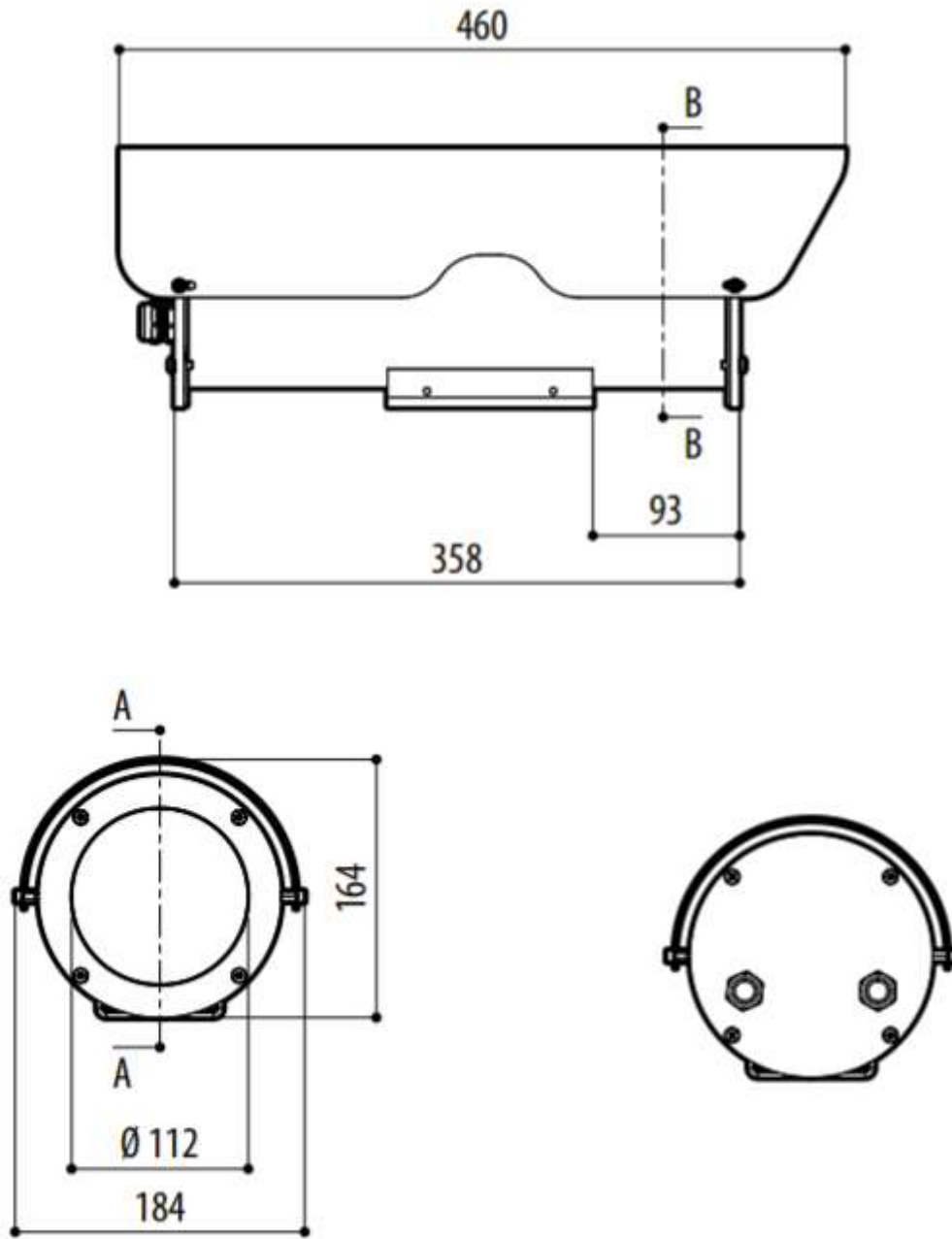
Day



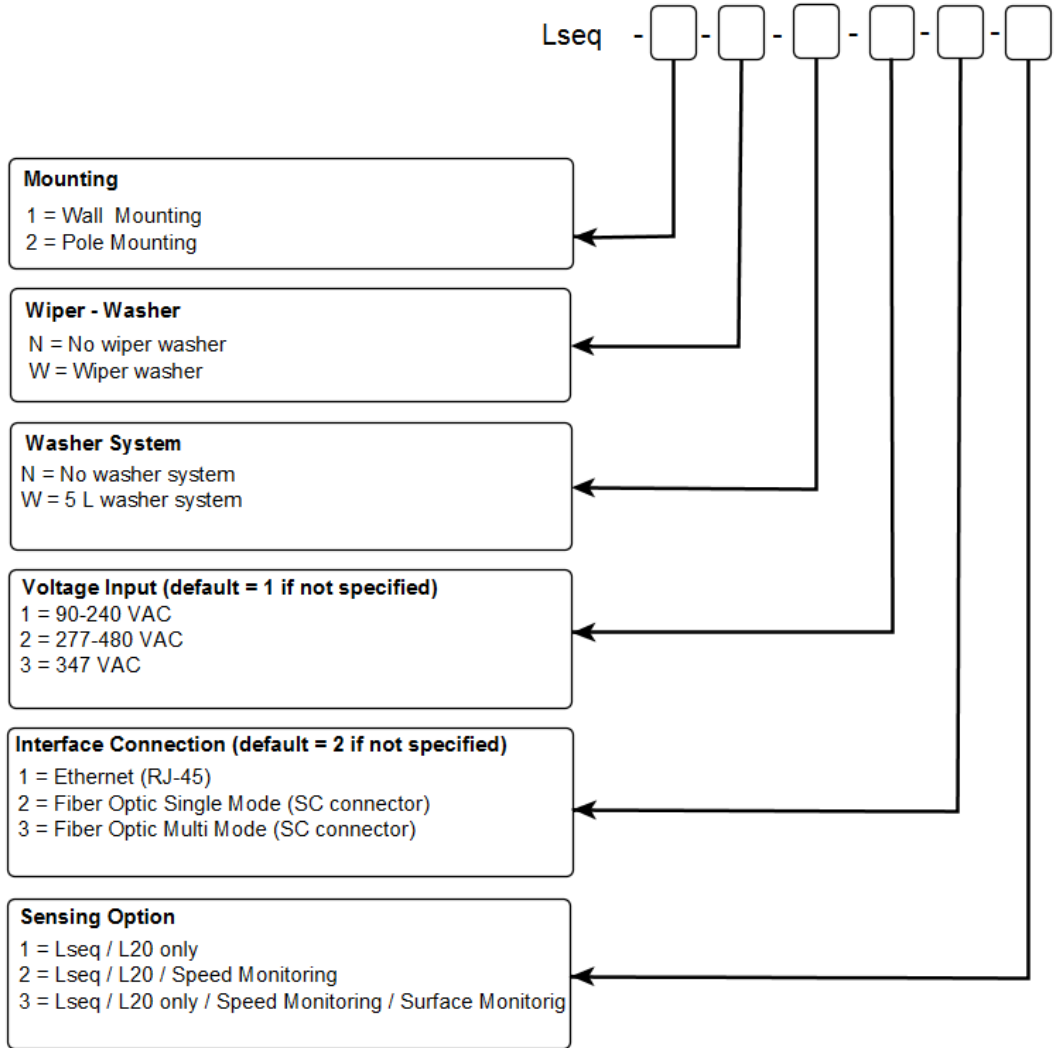
Night



Lseq Camera Sensor Dimension (all dimensions in millimeters)



Product Ordering Information



For any further information, please contact info@nyx-hemera.com

