CODEL

TunnelTech 602

Road Tunnel Atmosphere Monitoring Systems

Illuminance monitor

- Compliant with Commission Internationale de l´Eclairage, (C.I.E.), publication 88, 1990
- Measurement of tunnel illuminance - 0 - 20,000 lux
- Calibrated using standards traceable to UK National Physical Laboratory
- Metal/glass encased Silicon photodiode, V_λ filtered to human spectral response
- Glass reinforced polyester enclosure housing to IP65
- Internal heater to reduce drift
- Accuracy +/-3%
- EExe II T6 approval
- Other Illuminance ranges available on request

Tunnel Atmosphere Monitoring

www.codel.co.uk

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TunnelTech 602 - Monitoring Illuminance at tunnel portals

The TunnelTech 602 Illuminance photometer monitors the average illuminance within a tunnel in accordance with Commission Internationale de l´Eclairage, (C.I.E.), publication 88, 1990 recommendations, the photometer monitors the average illuminance over a range of 0 - 20,000 lux.

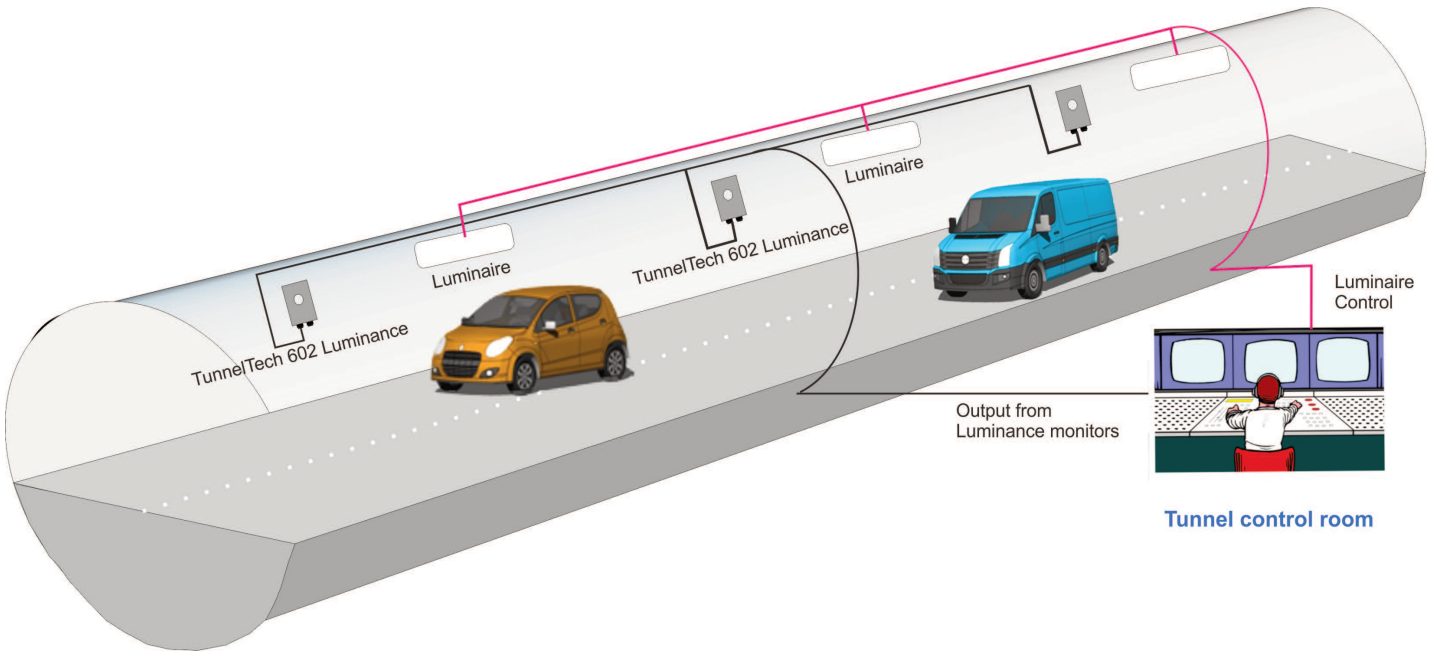
The detector is a metal/glass encased silicon diode photocell which is filtered to give a response that mimics the performance of the human eye. The detector is perfectly linear within its measuring range and has an instantaneous response to changing light levels.

The primary purpose of monitoring the illuminance in a road tunnel is to ensure the light intensity just inside the road tunnel portal is regulated to the correct level so that drivers do not have to adjust their eyes quickly or become affected by the “black hole” effect where they decelerate rapidly and become a hazard to other road users.This is accomplished in conjuction with The TunnelTech 601 Luminance monitor.

Secondly, once inside the tunnel, as the driver's vision becomes adapted to lower lighting levels, the artificial lighting levels can be reduced in intensity as the distance travelled within the tunnel increases, a relationship known as the “Luminance Reduction Curve”. In other words, lighting within the tunnel is dimmed the further the driver progresses into the tunnel. This means that most of the tunnel is unlighted or has low level lighting to reduce energy costs. The TunnelTech 602 Illuminance photometers monitor the lighting levels along the length of the tunnel and ensure the levels are regulated in line with “Luminance Reduction Curve”.

The TunnelTech 602 Illuminance photometer has a 4-20 mA output to export data to tunnel lighting control systems. The sensor is housed in a rugged glass reinforced polyester enclosure which has an IP65 rating and has an internal thermostatically controlled heater.

Calibration against National Physical Laboratory standards is undertaken at the factory and should not be required in the field.



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TunnelTech 602 Illuminance Photometer - Technical Specification

Sensor Unit

Measurements	Illuminance
Units	Lux
Photodetector	metal/glass encased silicon diode photcell
Measurement range (typical*)	0 - 20,000
Accuracy	+/- 3%
Ambient Temperature	-20°C to +50°C
Power supply	220VAC
Construction	Glass reinforced polyester IP65

Compliances

EMC	EN61326-1:2006 & EN50270:2006 directive compliant
Low Voltage	73/23/EEC directive compliant
Explosion proof	EExe II T6

Communications & Outputs

Analogue outputs	1 x 4-20mA current outputs as standard,

Calibration

Calibration	Traceable to NPL Standard Luminant A

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