

# Model GEO-ILLIOS

## Tunnel Illuminance Photometer

### FEATURES

- Accurate measurement of illuminance within the tunnel bore
- CIE Approved measurement technology
- Silicon photo diode,  $V_{\lambda}$  filtered to provide a spectral response close to that of the average human eye
- IP65 / NEMA 4X rated external enclosure
- Operating temperature of  $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  to ensure stable readings across all prevailing ambient temperature conditions
- Supplied complete with PC based utility software for set-up and control of the instrument



### BENEFITS

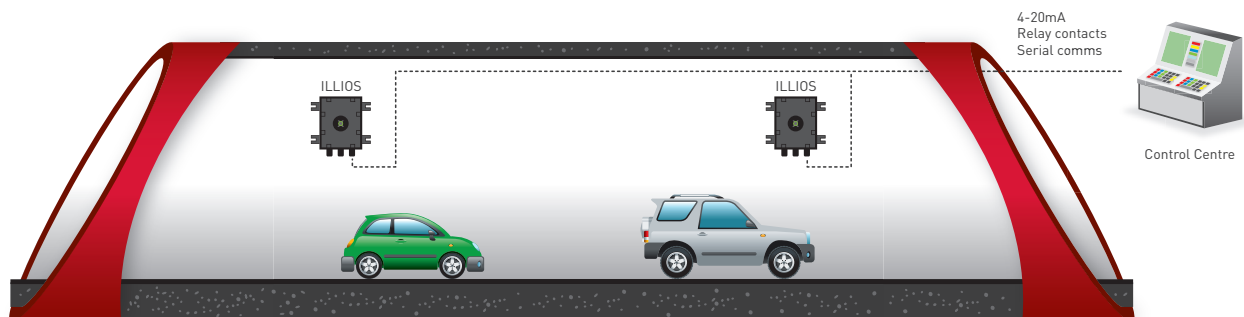
- Designed specifically for monitoring in tunnels
- Rugged design to withstand corrosive atmosphere and regular tunnel washing
- Simple installation and mounting
- No moving parts and low maintenance requirements
- Flexible integration options

### APPLICATIONS

The GEO-ILLIOS measures the level of illuminance within the tunnel bore to ensure interior illumination levels are being continuously maintained, in order to affect safe lighting conditions for drivers. Illuminance, or incident lighting, determines the amount of light that covers a specific surface or area within the tunnel.

### OPERATION

The GEO-ILLIOS uses a specially designed, highly light-sensitive photocell to continuously measure cosine corrected planar illuminance within the tunnel thus allowing elimination of directional error. The measurements are converted into an output signal of 4-20mA (directly proportional to the illuminance measurement) for hard wire connection and signal transmission to a host controller.



### SYSTEM COMPONENTS

- GEO-ILLIOS sensor
- PC based utility software package for set-up and control of the instrument
- Optional variable input AC power supply

## TECHNICAL SPECIFICATION

### MEASUREMENT PERFORMANCE

| Parameter           | Comment                                     |
|---------------------|---|
| Measuring Principle | Illuminance                                 |
| Measurement Reading | Silicon photo diode, $V_{\lambda}$ filtered |
| Measuring Range     | 0 – 20,000 lux (user selectable)            |
| Accuracy            | + / - 1 %                                   |

### POWER REQUIREMENTS

|                             |         |
|-----------------------------|---------|
| Voltage                     | +24 VDC |
| Nominal Current Consumption | 150 mA  |

### INTERFACE OPTIONS

|                        |   |
|------------------------|---|
| Serial Comms           | ModBus RTU (RS485)                              |
| Analogue Outputs       | 4.0 – 20.0 mA (isolated)<br>0 – 10 V (isolated) |
| Digital Relay Contacts | 2 A @ 240 VAC or 3 A @ 60 VDC                   |

### PHYSICAL

|                               |                               |
|-------------------------------|-------------------------------|
| Ambient Operating Temperature | -30 - +70 °C                  |
| Operating Humidity            | 0 – 100 %                     |
| Ingress Protection            | IP65 for external use         |
| Materials                     | Powder coated stainless steel |
| Dimensions                    | 150 x 190 x 80 mm             |
| Weight                        | 1.8 kg                        |