For stationary operations we further developed the innovation award-winning mobile road weather Sensor MARWIS - this is StaRWIS!

- **Parameters measured**
  Road condition (dry, moist, wet, ice, snow, slush, chemically wet), road surface temperature, water film height, dew point temperature, relative humidity, ice percentage, friction (calculated)

- **Measurement technology**
  Optical LED transmitters, photo receivers, pyrometer, infrared

- **Product highlights**
  non-invasive, plug and play, 100 measurement per second, multifunctional, wireless data transfer, no moving parts

- **Interfaces**
  Bluetooth, RS485, CAN-Bus, UMB - protocol

- **Article number**
  8711.U55

StaRWIS is the first non-invasive road weather sensor detecting road and runway surface conditions, surface temperatures, relative humidity, dew point temperatures, ice percentages as well as friction non-invasively and based on innovative LED Technology with 4 lenses.
### Technical Data
StaRWIS-UMB - Stationary Road Weather Information Sensor

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Height approx. 110 mm, width approx. 200mm, depth approx. 100mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>1.7kg</td>
</tr>
<tr>
<td>Admissible storage temperature</td>
<td>-40...70°C</td>
</tr>
<tr>
<td>Operating rel. humidity</td>
<td>&lt;95% relative humidity non-condensing</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>10VDC...28VDC on the sensor</td>
</tr>
<tr>
<td>Power consumption</td>
<td>Approx. 3VA without heating, 50VA with heating</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40...60°C</td>
</tr>
<tr>
<td>Operating rel. humidity</td>
<td>0...100% RH</td>
</tr>
<tr>
<td>Protection type</td>
<td>IP68</td>
</tr>
<tr>
<td>Surface conditions</td>
<td>Dry, damp, wet, snow-/ice-covered, chemically wet, critically wet</td>
</tr>
<tr>
<td>Admissible height above absolute altitude</td>
<td>3000m</td>
</tr>
<tr>
<td>Interface</td>
<td>RS485, 2 wire, half duplex, bluetooth, CAN</td>
</tr>
</tbody>
</table>

#### Road surface temperature
- **Principle**: Optical
- **Measuring range**: -40 ... 70 °C
- **Unit**: °C
- **Accuracy**: ± 0.8°C@0°C
- **Resolution**: 0.1 °C

#### Relative humidity above road surface
- **Measuring range**: 0 ... 100 %
- **Unit**: %
- **Resolution**: 0.1 %
- **Principle**: passive, calculated out of air temperature and humidity above road surface

#### Dew point temperature
- **Measuring range**: -50 ... 60 °C
- **Unit**: °C
- **Resolution**: 0.1 °C
- **Principle**: passive, calculated out of air temperature and humidity

#### Waterfilm height
- **Principle**: Optical
- **Measuring range**: 0 ... 6000 µm
- **Unit**: µm
- **Resolution**: 1 µm

#### Ice Percentage
- **Measuring range**: 0 ... 100 %
- **Unit**: %
- **Resolution**: 1%
## Friction

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>0 ... 1</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01</td>
</tr>
</tbody>
</table>