**Applications**

A small form, high RF performance device with accurate temperature monitoring, ideal for applications requiring:

- Efficient operation
- Equipment monitoring in-house or in transit
- Data Centers and metal IT assets – both in terms of tracking and temperature monitoring
- Embedding the tag into metal components
- Monitoring mechanical plants

**Physical Specifications**

<table>
<thead>
<tr>
<th></th>
<th>Painted black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish</td>
<td></td>
</tr>
<tr>
<td>Size (mm) (tolerance)</td>
<td>13.1 × 8.05 × 3.1 including IC bump ± 0.5</td>
</tr>
<tr>
<td>Size (in) (tolerance)</td>
<td>0.52 × 0.32 × 0.12 including IC bump ± 0.02</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>1.4</td>
</tr>
</tbody>
</table>

**Operational Specifications**

- **Radio Protocol**: EPC Class 1 Gen2v2
- **Frequency Range (MHz)**:
  - EU: 866-868 MHz
  - US: 902-928 MHz
- **Read Range (Fixed reader)**:
  - M3E/M3D: Up to 3.5 m (11.5 ft)
- **Read Range (Handheld reader)**: Up to 2 m (6.6 ft)
- **Material Compatibility**: Optimized for metal
- **IC Type (chip)**: Magnus S3: M3D / M3E
- **Memory**:
  - EPC — 128 bits
  - User — 128 bits
  - Unique TID — 64 bits

1. Quoted performance achieved using standard testing methodology. Read range will vary with reader hardware and output power.  
2. EPC and User memory are reprogrammable, UTID is locked at point of manufacture. 
3. Data retention 10 years at our operation temperature.

**Sense\textsuperscript{IoT} Condition – Temperature**

The Sense Condition – Temperature is a small form factor, battery free RFID tag with built in temperature sensor. Its small size makes it ideal for a number of applications where space is tight or limited intrusion is desirable but this does not affect performance as the read range is up to 4 meters. An ideal solution when space is limited but both RF performance and operational environment information are required.
Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP13965-M3D (US Version)</td>
<td>1 year</td>
</tr>
<tr>
<td>CP13964-M3E (US Version)</td>
<td></td>
</tr>
<tr>
<td>CP13963-M3D (EU Version)</td>
<td></td>
</tr>
<tr>
<td>CP13962-M3E (EU Version)</td>
<td></td>
</tr>
</tbody>
</table>

Warranty 1 year

Environmental Specifications

- **Operating Temperature**: −40°C to +85°C
- **High-temperature alarm**: Up to +125°C
- **Max Temperature Exposure**: +200°C (Long term)
- **150°C long term 700hrs**: Up to 4 m (13.1 ft)
- **IP Rating**: IP68
- **Shock and Vibration**: MIL STD 810-G
- **Attachment**: Film adhesive (included) for placement only in applications exceeding +85°C
- **Warranty**: 1 year

1. Excludes adhesive options, consult adhesive datasheets for recommended temperature ratings.
2. The product has been designed for optimal RF performance when used with 130 micron ±20% adhesive under the tag.

Radiation Patterns

**Large Metal Sheet**

**Small Metal Asset**

Environmental Specifications

- **Operating Temperature**: −40°C to +85°C
- **High-temperature alarm**: Up to +125°C
- **Max Temperature Exposure**: +200°C (Long term)
- **150°C long term 700hrs**: Up to 4 m (13.1 ft)
- **IP Rating**: IP68
- **Shock and Vibration**: MIL STD 810-G
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- **Warranty**: 1 year

1. Excludes adhesive options, consult adhesive datasheets for recommended temperature ratings.
2. The product has been designed for optimal RF performance when used with 130 micron ±20% adhesive under the tag.

Certifications:

- RoHS approved
- CE approved
- ATEX/IECEx certified (option)
- US & Canada (C1D1/D2) certified (option)

Meeting Your Requirements

Our Sense range of IoT devices has been designed with a wide range of use cases in mind. However, we realise that your exact requirements may not be met by an ‘off the shelf’ product and a combination of the many features in the Sense range could be required. Our engineers and technical teams like nothing more than to solve specific tracking and communication challenges (it’s what gets them out of bed in the morning) and we would be happy to consider a bespoke version of ‘Sense’ tailored to your particular scenario. **Contact us at sales@omni-id.com to find out more.**