TE Connectivity (TE)’s AmbiMate sensor module MS4 series provides an application specific set of sensors on a ready to attach PCB assembly for easy integration into a host product. Design resources are freed and time to market accelerated by integrating the MS4 series pre-engineered, four core sensor solution for Motion / Light / Temperature / Humidity into your next product.

Other MS4 series sensor modules include VOC (Volatile Organic Compound), CO₂ and sound detection. Add the capability to monitor air quality through the capture of VOC concentrations. Select an MS4 series with a microphone to augment motion detection or to listen for sound events.

All MS4 series sensor modules offer the flexibility of sharing a common seven position connection. This allows the designer to layout a single PCB footprint accommodating all the available sensor configurations at production.

Applications
- Indoor Lighting
- Building Automation
- Connected Home
- Air Quality
- Energy Management
- Work Space Comfort
- Zonal Environmental Controls

Four Core Sense Capability
- Motion (PIR)
- Light
- Temperature
- Humidity

Optional Sense Capability
- VOC
- CO₂
- Sound (microphone)

Specifications
- Application Specification: 114-133092
- Design Objectives / Specification: 108-133092

Benefits
- Design resources are freed and time to market is accelerated
- Simplicity of popular I²C communication protocol
- Space saving compact design
- Multiple attach methods to accommodate your application need
- One footprint allows multiple sensor configurations & flexibility in design
Electrical
- 3.3VDC input
- I2C Output (100 kBaud)
- Interrupt driven event pin for motion and sound level detection
- Design optimized for maximum battery life

Design Considerations
- Mounting location: ceiling, wall, corner
- PIR requires use of Fresnel lens (not TE supplied)
- Enclosure must allow free air movement over sensors
- Use of light pipe recommended to avoid shadowing

Note: Refer to Application Spec 114-133092 or contact TE for additional design considerations when integrating with a host product.
## Product Selection Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AmbiMate Series</th>
<th>Four Core</th>
<th>VOC</th>
<th>CO₂</th>
<th>Sound</th>
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</tbody>
</table>

*100° unshrouded high temp header for direct solder attach to .062" host PCB.

**Other host product attach methods available (i.e. two piece separable or wire attach). Contact TE Sales or Product Management for options.

## Dimensions

### MS4 Series

- **Castellation**
  - Length: 29.46mm
  - Width: 2.54mm (5X)
  - Height: 1.27mm (2X)

- **Header and Plated Thru Hole**
  - Length: 32mm
  - Width: 2.54mm (5X)
  - Height: 1.27mm (2X)

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