**Safety**
System operation assumes knowledge of the assembly instructions. The following symbols are used in these assembly instructions:

- **CAUTION**: Indicates a hazardous situation which, if not avoided, may result in minor or moderate injuries.
- **WARNING**: Indicates a situation that may result in property damage if not avoided.
- **NOTICE**: Indicates a user action.
- **i**: Indicates a tip for users.

**System Operation**

- The eddyNCDT 3001 is designed for use in industrial areas. It is used for displacement, distance, thickness and movement measurement and for position measurement of parts or machine components.
- The system must be used in such a way that no persons are endangered or machines and other material goods are damaged in the event of malfunction or total failure of the system. Take additional precautions for safety and damage prevention in case of safety-related applications.

**Technical Data**

<table>
<thead>
<tr>
<th>Model</th>
<th>DT3001-SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>6 mm</td>
</tr>
<tr>
<td>Start of measuring range</td>
<td>0.6 mm</td>
</tr>
<tr>
<td>Target material</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Output</td>
<td>0.5 ... 9.5 V</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>12 ... 32 V DC / 0.6 W</td>
</tr>
<tr>
<td>Power supply</td>
<td>5-pole, M12 connector</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP 67 (connected)</td>
</tr>
<tr>
<td>Temperature compensation</td>
<td>0 ... +70 °C (+32 ... +158 °F)</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-20 ... +80 °C (-4 ... +176 °F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>5 - 95 % (non-condensing)</td>
</tr>
</tbody>
</table>

**Installation and Assembly**

- No sharp or heavy objects should be allowed to affect the cable sheath or the sensor cable, the supply cable and the output cable.
- Check all plug-in connections for firm seating before starting operation.

**Construction**

- The front part of the sensor with encapsulated coil consists of electrically non-conducting materials.
- In the radial direction metal parts in the vicinity may behave similar to the measuring object, rendering the measurement result inaccurate. Please note this by selection of material for sensor mounting and their setup.

**Pin Assignment**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+ 24 V DC supply</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Analog out</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>Ground</td>
<td>blue</td>
</tr>
<tr>
<td>4</td>
<td>RS485 (A+)</td>
<td>black</td>
</tr>
<tr>
<td>5</td>
<td>RS485 (B-)</td>
<td>gray</td>
</tr>
</tbody>
</table>

**Assembly Instructions**

- DT3001-SA
- DT3001-U6
- DT3001-U8

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**Fig. 1 DT3001-SA, dimensions in mm (not to scale)**

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**Fig. 2 Male connector sensor side**

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**Fig. 3 Male connector sensor side**
Installation Conditions

The distance between the measuring object to the sensor has effects on the linearity deviation for eddy current sensors. Ideally, the measuring object size is at least 4 times the sensor diameter.

Measurement Range and Output Characteristics

For each sensor a minimum distance to the measuring object must be maintained. This avoids a measurement uncertainty in relation to the sensor pressing on the measuring object and mechanical damage to the sensor and/or measurement object.

Distance A to the target material, DT3001-U6

For each sensor a minimum distance to the measurement object must be maintained. This avoids a measurement uncertainty in relation to the sensor pressing on the measuring object and mechanical damage to the sensor and/or measurement object.

Fig. 3 Start of measuring range (SMR), the smallest distance between sensor face and measuring object.

Fig. 4 Assembly, dimensions in mm (not to scale).

Fig. 5 Measurement uncertainty depending on distance A and target material, DT3001-U8.

Fig. 6 Measurement uncertainty depending on distance A and target material, DT3001-U8.

Disclaimers

We would like to point out that you are responsible for disposing of the sensor and/or the controller, its components and accessories, as well as the packaging materials in compliance with the applicable country-specific waste treatment and disposal regulations of the region of use. You are obliged to comply with all relevant national laws and regulations. For Germany / the EU, the following (disposal) instructions apply in particular:

1. Removal of all cables from the sensor and/or controller.
2. Dispose of the sensor and/or controller, its components and accessories, as well as the packaging materials in compliance with the applicable country-specific waste treatment and disposal regulations of the region of use.
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