Mounting and installation instructions

Positioning of the ID tags to the read/write head

Installation of the ID tags in/on metal

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DTA10x and E803xx
1 Preliminary note

1.1 Scope

This document describes the ideal positioning of the ID tags (RFID transponders) E803xx to the read/write heads DTA10x as well as the read/write distances that can be obtained when the ID tags are installed in/on metal.

DTA100: DTS LF AARWASUS01 (= read/write head)
DTA101: DTS LF AAROASUS01 (= read head)

1.2 Symbols used

► Instruction
→ Cross-reference
⚠ Important note

Non-compliance can result in malfunctions or interference.

ℹ Information

Supplementary note
1.3 Additional information

Technical data sheets:
www.ifm.com → Data sheet direct → e.g. E80312

Installation instructions DTS125:
www.ifm.com → Data sheet direct → e.g. DTA100 → Additional data

2 General installation instructions

⚠️ If the ID tags are mounted in/on metal, the read/write distance is reduced.

► Install the ID tags centered to the antenna symbol on the front or upper side of the read/write head (attribution of the ID tags see below).

► Ensure in dynamic applications that the ID tags pass the middle of the antenna symbol.

Marking middle of the antenna = middle of the ID tag
3 ID tag flush mounted in metal

- Install the ID tag flush and centered in a circular recess. Take into account the diameter and the minimum depth of the recess.
- Fill the space between ID tag and metal carrier with a non-metallic filling compound (e.g. glue or cast resin).

3.1 Dimensions of the recess

![Diagram of recess dimensions]

1: Type label of the ID points towards the read/write head
2: Metal
3: non-metallic filling compound

<table>
<thead>
<tr>
<th>ID tag</th>
<th>Diameter of the recess D [mm]</th>
<th>Depth T [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>E80311*</td>
<td>M18</td>
<td>≤ 18 (18 = flush)</td>
</tr>
<tr>
<td>E80312</td>
<td>≥ 15</td>
<td>≥ 6</td>
</tr>
<tr>
<td>E80317</td>
<td>≥ 25</td>
<td>≥ 6</td>
</tr>
<tr>
<td>E80318</td>
<td>≥ 35</td>
<td>≥ 6</td>
</tr>
<tr>
<td>E80319</td>
<td>≥ 55</td>
<td>≥ 8</td>
</tr>
<tr>
<td>E80322</td>
<td>≥ 32</td>
<td>≥ 6</td>
</tr>
</tbody>
</table>

*) ID tag in threaded housing for screw mounting
3.2 Read/write distances for flush installation in metal

3.2.1 E80311

Installation depth $T = 18 \text{ mm} = \text{flush installation}$

3.2.2 E80312
3.2.3 E80317

![Graph showing read/write distance vs. diameter of the recess D mm]

3.2.4 E80318

![Graph showing read/write distance vs. diameter of the recess D mm]
3.2.5 E80319

![Graph showing read/write distance vs. diameter of the recess D (mm).]

3.2.6 E80322

![Graph showing read/write distance vs. diameter of the recess D (mm).]

1: Upper limit
2: Lower limit
3: Read/write area
4 ID tag at a distance from the metal

- Mount a non-metallic spacer between ID tag and metal carrier.

4.1 Installation dimensions

1: Type label of the ID points towards the read/write head
2: Metal
3: non-metallic spacer
4.2 Read/write distances at a distance from the metal

4.2.1 E80311

![Graph representing read/write distances for E80311](image)

Distance A = 0 mm = flush installation

4.2.2 E80301, E80312...E80322

<table>
<thead>
<tr>
<th>ID tag</th>
<th>Distance from metal A [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
</tr>
<tr>
<td>E80301</td>
<td>20</td>
</tr>
<tr>
<td>E80312</td>
<td>17</td>
</tr>
<tr>
<td>E80317</td>
<td>20</td>
</tr>
<tr>
<td>E80318</td>
<td>30</td>
</tr>
<tr>
<td>E80319</td>
<td>35</td>
</tr>
<tr>
<td>E80322</td>
<td>32</td>
</tr>
</tbody>
</table>

Read/write distances in mm