EMC compliance

The LM10 and LM15 encoder systems conform to the relevant harmonised European standards for electromagnetic compatibility as detailed below.

BS EN 61326

Patents

Features of RLS’s encoder systems and similar products are the subjects of the following patents and patent applications:

- GB 0720972.9
- EP 0514081
- EP 0388453
- US 5,241,173
- US 5,063,685
- JP 3,202,316
- JP 2837483

Further information

For further information relating to the installation of LM10 or LM15 encoder systems, see also the LM10 or LM15 Data sheet (part no. LM10D01 and LM15D01) and the LM10 or LM15 installation guide (part no. LM10D06 and LM15D02). These can be downloaded from www.rls.si.

Disclaimer

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Storage and handling

WARNING: The MS magnetic scale should not be exposed to magnetic field densities higher than 50 mT on its surface. Magnetic fields higher than 50 mT can damage the scale.

Motor oil
Brake fluid
Benzene
Toluene
Kerosene
Heptane
Ketone
H₂SO₄
HCl
Alcohol
Antifreeze

* Use of alcohol for cleaning is considered safe, however, it is not allowed to immerse the scale in alcohol.

Storage and operating -40 °C to +120 °C

Up to 100 % RH

System description

The LM10ASC00 applicator tool for magnetic scale is mounted in place of any RLS® LM10 or LM15 readhead and uses motion of the axis to apply the MS magnetic scale parallel to the guideway – a one man, one hit operation. The scale applicator tool consists of a guide plate, 2 spacers and 2 mounting screws.

The LM10ARM00 applicator tool is a self-aligning tool for stick-on reference mark.

Scale installation (including instructions for optional cover foil)

1. Prepare the mounting surface

Ensure the mounting surface for the magnetic scale has been cleaned and degreased before proceeding.

2. Install the applicator tool

Mount the applicator tool to the readhead bracket as shown in Figure 1. Use two screws as per readhead mounting configuration.

3. Load the scale into the applicator tool

Separate the backing paper from the first 40 mm of scale and feed the scale into the applicator tool as per Figure 2.
Scale installation (continued)

4. **Apply the scale**
   Push the scale carefully through to the end of scale mark, ensuring that it does not stick to the mounting surface until it is in position. Attach the end of the scale to the mounting surface with light finger pressure (Figure 3).

![Figure 3](image)

Traverse the axis through its full travel at a slow, steady speed as per Figure 4. While moving the axis:
- Apply a light finger pressure to the scale behind the applicator tool to attach it to the mounting surface.
- Gently pull the backing paper away from the applicator tool as it is separated.

5. **Ensure complete adhesion**
   Apply firm finger pressure along the full length of the scale from the centre outwards to each end.

6. **Apply cover foil (if used)**
   Degrease the scale surface with alcohol and install as per scale installation instructions in step 3 onwards.

7. **Remove the applicator tool**
   When the scale has been applied unbolt the applicator tool from the readhead mounting bracket.

8. **Apply the stick-on reference mark (if used)**
   Place the LM10ARM00 reference mark applicator tool on scale in the correct orientation/required position along the length (Figure 5).

![Figure 5](image)

The following steps apply for LM10 system only

9. **Stick the reference mark on the scale**
   Remove the backing paper from the reference mark sticker and carefully attach it to the surface of the scale by placing it next to the applicator tool (Figure 6).

![Figure 6](image)

**NOTE:** The correct orientation of reference mark is crucial. The mark on the sticker should be on the same side as the reference mark designators.

10. **Remove the stick-on reference mark applicator tool**
    Remove the applicator tool leaving the reference mark sticker in the desired position (Figure 7).

![Figure 7](image)

**NOTE:** To prevent the scale sticking to the mounting surface during this operation it may be necessary to re-apply approximately 20 mm of backing paper to the end of the scale before inserting through applicator tool.

**DO NOT** remove the scale for refitting or use elsewhere once it has been applied to the mounting surface. The scale can be applied once only.
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