



## 1. Help on troubleshooting CES evaluation units

Products	Possible fault causes	Troubleshooting instructions
<b>CES read heads/actuators</b>		
	Choice of products	Ensure that the correct combination of read head and actuator was chosen (see "Combination options" table in the operating instructions).
	Damp or oily environment	<ul style="list-style-type: none"> <li>▸ Check M8 plug connector, tighten knurled screw with the tightening torque specified in the technical data.</li> </ul> <p>If possible:</p> <ul style="list-style-type: none"> <li>▸ Mount read heads outside the working space.</li> <li>▸ Use read heads with permanently connected PUR cable.</li> </ul>
	Ambient temperature/change in temperature	<ul style="list-style-type: none"> <li>▸ Observe the permissible temperature range of the products used in accordance with the operating instructions.</li> <li>▸ The actuator must not undergo a rapid temperature change, because this could damage the transponder.</li> </ul>
	Minimum distance between two read heads	When mounting several read heads/actuators, observe the stipulated minimum distance to avoid mutual interference (see "Mounting" chapter in the operating instructions).
	High-frequency induction field nearby	Mount read heads or actuators with screening.
<b>Connecting cables for CES read heads</b>		
	Makes from other manufacturers	Use only the screened cables from EUCHNER to connect the read heads.
	High-current cables or high-frequency power cables are located in the cable duct.	<ul style="list-style-type: none"> <li>▸ High-frequency power cables must have a shield braid. If necessary, observe the converter regulations applicable to extensive grounding of the cable shield (check manufacturer's information).</li> <li>▸ Guide the connecting cable for the read head in a separate cable duct.</li> </ul>
	Connecting cable length	<ul style="list-style-type: none"> <li>▸ Maximum permissible cable length: 25 m</li> <li>▸ Extending the connecting cable to a length of more than 25 m is impermissible.</li> <li>▸ Please contact EUCHNER if you need longer cables.</li> <li>▸ Shorten any extra cable length; do not coil it in the control cabinet.</li> </ul>
	Laying of the connecting cable	<ul style="list-style-type: none"> <li>▸ Lay the connecting cables with protection to prevent the risk of short circuits.</li> <li>▸ Use PUR cables suitable for drag chains if the cable guide is moved dynamically.</li> </ul>
	Use of additional plug connectors	<ul style="list-style-type: none"> <li>▸ The connecting cable for the read heads may be extended only using EMC plug connectors, and adequate consideration must be given to EMC.</li> <li>▸ Recommendation: use EUCHNER EMC plug connectors. However, the metal plug connectors must not be in direct contact with the installation ground.</li> <li>▸ The connecting cable screen must not be interrupted or connected to the installation ground.</li> </ul>
	Intermediate terminals	Intermediate terminals must not be used (external EMC effects can disrupt data transmission).
	Cable end sleeves	<ul style="list-style-type: none"> <li>▸ It is essential to use suitable cable end sleeves for the individual flexible wires.</li> <li>▸ For connections to spring terminals, the cable end sleeve used should be at least 8 mm long.</li> </ul>

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	Connection of the read head cable to the evaluation unit	<ul style="list-style-type: none"> <li>▸ The portion of cable from which insulation is stripped should be kept as short as possible (max. 3 cm)</li> <li>▸ The cable shield must be connected exclusively to terminal SH. Direct connection to the control cabinet ground is impermissible.</li> </ul>
	Temperature in the control cabinet	<ul style="list-style-type: none"> <li>▸ The temperature inside the control cabinet must not exceed 55 °C.</li> <li>▸ If several evaluation units are mounted side by side in a control cabinet, air circulation must permit heat dissipation from the evaluation unit.</li> </ul> <p>Possible measures:</p> <ul style="list-style-type: none"> <li>- Installation distance at least 10 mm</li> <li>- Use of fans</li> <li>- Use of air-conditioned control cabinets</li> </ul>
	Connection terminals	<ul style="list-style-type: none"> <li>▸ The tightening torque for the screws on the connection terminals must be 0.6 ... 0.8 Nm.</li> <li>▸ Ensure proper contact in the connection terminals.</li> </ul>
	DIP switch	Do not move the DIP switch during operation, otherwise teach-in operation/parameter setting will have to be repeated (see "Setup" chapter in the operating instructions).
	DIA LED lights up	<p>Together with other LED indicators on the evaluation unit, it is possible to determine the fault cause by referring to the "System status table" chapter in the operating instructions.</p> <p>If only the red LED lights up, this indicates:</p> <ul style="list-style-type: none"> <li>▸ Disrupted data transmission to the evaluation unit due to <ul style="list-style-type: none"> <li>- Excessive external interference (EMC)</li> <li>- Insufficient contact at the connection points <ul style="list-style-type: none"> <li>✦ Check contact at the plug connector and the connection terminals.</li> </ul> </li> </ul> </li> <li>▸ Component failure in the device</li> </ul> <p>After checking the possible fault sources, press the Reset button on the CES evaluation unit or briefly interrupt the power supply.</p> <p>Please contact EUCHNER if the red DIA LED still lights up after the restart.</p>

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