# Commissioning Checklist

## Conductor Rail System

Program 0812

**This checklist serves as a guide to ensure the safe commissioning of the Conductor Rail System 0812!**

The checklist is intended for qualified specialists who set up and commission conductor rail systems and are familiar with the regulations on occupational safety and accident prevention.

Read and observe all safety and warning notices in the associated operating instruction (see BAL0812-0001).

| | |
|---|---|
| **Project:** | |
| **Customer:** | |
| **Conductix-Wampfler Order No.:** | |

| | |
|---|---|
| **End customer:** | |
| **Address:** | |
| **Country:** | |

| | |
|---|---|
| **Facility/Building/Block/Stack:** | |
| **Serial Number (if applicable):** | |
| **Commissioning Period:** | |
| **Additional Comments:** | |
| | |
| | |
| | |
| | |
| | |

| | **Commissioning Person/Service Technician** |
|---|---|
| **Name:** | |
| **Date:** | |
| **Signature:** | |

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Program 0812

| No. | **Description** (strike through as appropriate) | Specification/Comments | OK | Not OK |
|---|---|---|---|---|
| **1** | **General** | | | |
| **1.1** | Environmental conditions correspond to the planned design:<br>• Indoor or outdoor?<br>• Was the degree of pollution in the environment taken into account?<br>• Min. and max. ambient temperature was observed?<br>• Humidity?<br>• Aggressive or corrosive environmental conditions, if so which ones?<br>• Other observations? | | | |
| **1.2** | Transitions between conductor rail and other components randomly checked for a secure connection:<br>• Power feeds<br>• End Caps<br>• Air gap insulation section<br>• Pickup Guides<br>• Hanger Clamps<br>• etc. | | | |
| **1.3** | After installation is complete, the system must be tested from a mechanical and electrical point of view before the power supply is switched on.<br>**For example:** Push a current collector through the conductor rail by hand. The current collector must slide through the conductor rail without sticking. | | | |

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|---|---|---|---|---|
| **2** | **Conductor Rail** | | | |
| **2.1** | Correct insulation profile taking into account the max. operating temperature used.<br>**ATTENTION:** Pay attention to radiant heaters and other heat sources in the immediate vicinity! | • Standard PVC 75° C<br>• Heat resistant PPE 115° C | | |
| **2.2** | If it was necessary to cut the conductor rails during installation, were they shortened in accordance with the operating instructions (BAL0812-0001) and the ends deburred accordingly?<br>• Chamfer of 1-2 mm 45° on the stainless steel tread at the end of the aluminum conductor rail.<br>• Insulation profile is 2x40 mm shorter than the conductor rails. | | | |
| **2.3** | The conductor rail is laid according to an installation plan (if available). | | | |
| **2.4** | There is no visible change in height on straight sections. | | | |
| **2.5** | There is no visible lateral offset on straight sections. | | | |
| **2.6** | There is no visible “wave pattern”. | | | |
| **3** | **Connectors** | | | |
| **3.1** | Connector points installed without visible offset. | | | |
| **3.2** | The connector's two clamping screws were properly tightened with a torque wrench. | 12 Nm (galvanized)<br>10 Nm (stainless steel) | | |
| **3.3** | The connector cap halves are engaged in the insulation profile and screwed in place. | | | |
| **3.4** | The gap between the rail ends is maintained in accordance with the operating instruction (see BAL0812-0001).<br>The rail ends may only be inserted up to the notch of the connector plate in the connector (see BAL0812-0001). | 2-3 mm | | |

| No. | **Description** (strike through as appropriate) | Specification/Comments | OK | Not OK |
|---|---|---|---|---|
| | | | | |
| **3.5** | In aggressive or corrosive environments as well as when specified accordingly:<br>Has the conductive paste for the connectors and power feeds been applied in accordance with the operating instructions (see BAL0812-0001)? | | | |
| **4** | **Expansion Unit** | | | |
| **4.1** | The air gap insulation section is set correctly depending on the installation temperature (see Diagram in KAT0812-0002 or BAL0812-0001). | | | |
| **4.2** | Is an additional hanger clamp installed between the individual expansion connectors within the expansion unit? | | | |
| **4.3** | Expansion joints and anchor points are installed in the system according to the installation plan. | a)<br>  <br>b)<br>  | | |
| **Space for customer-specific drawing for No. 4.3 (Example: see a) and b) in 4.3):** | | | | |
| **5** | **Anchor clamps** | | | |
| **5.1** | Anchor clamp installed considering the maximum tightening torque. | approx. 6 Nm | | |

| No. | **Description** (strike through as appropriate) | Specification/Comments | OK | Not OK |
|---|---|---|---|---|
| | **ATTENTION:** Do not overtighten the clamping cone of the anchor clamp! | | | |
| **5.2** | The anchor clamps are mounted on both sides of the hanger clamp. | | | |
| **5.3** | An expansion unit is always installed between anchor points. | | | |
| **6** | **Hanger Clamps** | | | |
| **6.1** | Distance from hanger clamp to hanger clamp on straight sections is not greater than 1.5 m.<br>**ATTENTION:** Depending on the installation plan, the distance from hanger clamp to hanger clamp can also be less than 1.5 m. | 1.5 m | | |
| **6.2** | The minimum distance from the hanger clamp to the connector or power feed is 250 mm. | 250 mm | | |
| **6.3** | The distance between hanger clamp and hanger clamp in curves is maintained according to the installation plan. | | | |
| **6.4** | The tightening torque of the hanger clamp was observed. | 7 Nm | | |
| **6.5** | Alignment of the hanger clamp is perpendicular to the substructure. | | | |

| No. | **Description** (strike through as appropriate) | Specification/Comments | OK | Not OK |
|---|---|---|---|---|
| **6.6** | Conductor rails can slide freely in mounted hanger clamps in order to allow expansion. | | | |
| **6.7** | Hanger clamps with insulators were installed if one or more of the following points apply:<br>a) Voltage > 690 V up to a maximum of 1000 V.<br>b) High dust applications combined with high humidity.<br>c) Conductive dusts or other depositable particles. | | | |
| **7** | **Power Feed** | | | |
| **7.1** | Power feed points available and connected according to the installation plan. | | | |
| **Space for customer-specific drawing for No. 7.1:** | | | | |
| **7.2** | The maximum possible connection cross-section of the cables was observed. | 95 mm² | | |

| No. | **Description** (strike through as appropriate) | Specification/Comments | OK | Not OK |
|---|---|---|---|---|
| | | | | |
| **7.3** | Maximum outer cable diameter was observed. | 17.5 mm | | |
| **7.4** | The connecting cable is double isolated. | | | |
| **7.5** | The power feed terminal screw was tightened with the prescribed tightening torque. | 12 Nm (galvanized)<br>10 Nm (stainless steel) | | |
| **7.6** | The connecting cable is not rigidly mounted and was laid in such a way that the thermal expansion of the conductor rail is allowed. | | | |
| **7.7** | The two power feed cap halves are engaged in the insulation profile and screwed in place. | | | |
| **7.8** | In aggressive or corrosive environments as well as when specified accordingly:<br>Has the conductive paste for the connectors and power feed been applied in accordance with the operating instruction (see BAL0812-0001)? | | | |
| **7.9** | An insulation measurement in accordance with the local technical standards, regulations and laws (see MV0800-0019) was carried out or the customer was advised of their necessity. | | | |
| **8** | **End caps** | | | |
| **8.1** | End caps are in place, correctly installed and screwed in place. | | | |
| **8.2** | The end of used route to the last hanger clamp (middle) maximum: | 250 mm | | |

| No. | **Description** (strike through as appropriate) | **Specification/Comments** | OK | Not OK |
|---|---|---|---|---|
| **9** | **Current collector** | | | |
| **9.1** | The current collector is correctly aligned within the tolerance range with respect to the conductor rail (see KAT0812-0002).<br><br>The following tolerance ranges apply to standard current collectors 081209 and 081205/081206/081207/081208:<br><br>• Distance between towing arm and sliding surface: 115 mm<br><br>• Lateral displacement: max. ± 50 mm<br><br>• Working stroke in the direction of insertion: max. ± 50 mm | 115 mm<br><br>± 50 mm<br><br>± 50 mm | | |
| **9.2** | The connection cable of the current collector is carried out as a highly flexible cable.<br><br>**ATTENTION:** Incorrect connection cables can lead to restrictions in mobility, cable breaks and loss of function. | | | |
| **9.3** | Laying the connection cable so<br>• that no swirl, buckling or straightening forces are exerted on the current collector heads<br>• that it can move freely<br>• that it is not bundled or restricted by cable ties, protective tubes<br>**ATTENTION:** Failure to observe may restrict mobility, slanting of the sliding contacts, increased wear, loss of contact and loss of function**!** | | | |

| No. | **Description** (strike through as appropriate) | **Specification/Comments** | **OK** | **Not OK** |
|---|---|---|---|---|
| **9.4** | It was checked whether the current collectors used are suitable for:<br>• Insertion from side or insertion from below (installation position),<br>• Entrances and exits (use of pickup guides),<br>• Transfer guides (if needed). | | | |
| **9.5** | A sufficient number of current collectors were installed according to the current carrying capacity of the sliding contacts.<br><br>**ATTENTION:** With aluminum conductor rails with stainless steel running surfaces, a maximum current at standstill of 50 % of the nominal current of the current collector is permitted. | | | |
| **9.6** | **RECOMMENDATION:** In outdoor applications, the current collectors are under a roof in resting position. | | | |
| **9.7** | No projecting contours with the current collector unit throughout the entire route area.<br>For example: The towing arm is shortened accordingly. | | | |
| **9.8** | The towing arm is stable and mounted on the substructure at right angles. | | | |
| **9.9** | Current collectors not in manual reach or installation situation are evaluated with a risk assessment. | | | |
| **10** | **Pickup Guides (if available)** | | | |
| **10.1** | The distance of 750 mm between the pickup guide and the next hanger clamp was maintained. | 750 mm | | |
| **10.2** | The next hanger clamp in front of the pickup guide was installed at a pole spacing of 46 mm (see KAT0812-0002). | 46 mm | | |

| No. | **Description** (strike through as appropriate) | **Specification/Comments** | **OK** | **Not OK** |
|---|---|---|---|---|
| **10.3** | Anchor points installed in front of the pickup guide. | | | |
| **10.4** | Pickup guides are installed to the current collectors within the permitted vertical and horizontal tolerances:<br>• Max. lateral and vertical alignment tolerance: ± 25 mm<br>• less than ± 10mm recommended<br><br>**ATTENTION:** The above tolerances must also be adhered to:<br>• when operating at full weight<br>• and at full speed | ± 25 mm<br>± 10mm | | |
| **11** | **Air gap Insulation Section (if available)** | | | |
| **11.1** | The air gap insulation section is installed in the position according to the installation plan. | | | |
| **11.2** | Additional hanger clamps are installed in the area of the air gap insulation section:<br>• Distance hanger clamp to hanger clamp max. 500 mm,<br>• Air gap insulation section in the middle between the hanger clamps. | 500 mm | | |
| **12** | **Heating (if available)** | | | |
| **12.1** | If required, is there a heater available (heating conductor)?<br>• For systems with aluminum conductor rails outdoors (operating temperature <+5° C, ice and frost formation) | | | |
| **12.2** | The inner and outer edges of the conductor rail were checked for burrs after the conductor rail was shortened. Particularly where the heating conductor is located, care must be taken to ensure that there are no burrs so that the insulation of the heating conductor is not damaged. | | | |

| No. | **Description** (strike through as appropriate) | Specification/Comments | OK | Not OK |
|---|---|---|---|---|
| **12.3** | Heating conductor connected according to installation plan and operating instruction.<br>**ATTENTION:**<br>In all cases, heating systems require extensive planning, as otherwise neither function nor system safety can be guaranteed.<br><br>**ATTENTION:**<br>The heating can be carried out as a separate circuit and in some circumstances, may have to be disconnected from the conductor rail separately. | | | |
| **12.4** | The crimp point is properly laid under the insulation profile (see operating instruction). | | | |
| **12.5** | An insulation measurement of the heating conductor to the conductor rail was carried out (see MV0800-0018). | | | |