

DM stages – Cabinets Electrical Interface

Interface Document: LN-MPIA-FDR-INT-022		Issue: 1.1
Relevant Documents: LN-MPIA-FDR-ELEC-002		
Brief Description: This document describes the electrical connection of the DM stages to the cabinets.		
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Interface Description

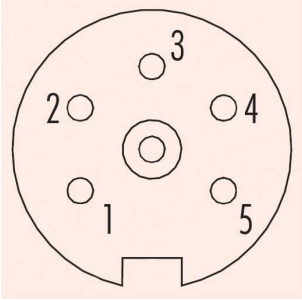
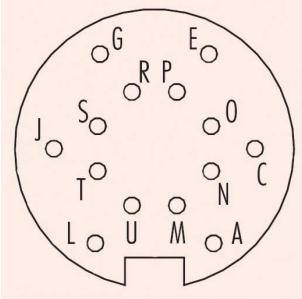
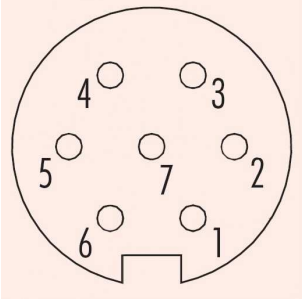
This document describes the electrical interface of the DM stages to the cabinets. The patchbox represents the interface between the motor electronics (cabinet) and the motor unit (mounting stage).

Interface Specification

One motor unit (mounting stage) gets three connectors from the patchbox, one connector for motor signals, one connector for limits-/ref. switch and incremental encoder and one connector for absolute encoder. If the motor unit does not need an absolute encoder then the connector is unused. All cables from the patchbox to a motor unit should be shielded. The maximum cable length is three meters.



The following table shows the pin configuration of each of the three connectors:

Description	Connector type	Pin configuration
Motor signals	 <p data-bbox="676 674 979 741">Binder series 423 with 5 contacts - socket</p>	<p data-bbox="1018 365 1155 528">1: Phase A 2: Phase B 3: Phase C 4: Phase D</p>
Limit switch, reference switch and incremental encoder	 <p data-bbox="676 1072 979 1140">Binder series 423 with 14 contacts - socket</p>	<p data-bbox="1018 763 1294 1368">A: Positive limit sw. C: Negative limit sw. E: Reference switch G: 5V switches J: GND switches L: n.c. M: Encoder A- N: Encoder B+ O: Encoder B- P: Encoder I+ R: Encoder I- S: 5V encoder T: GND encoder U: Encoder A+</p>
Absolute encoder	 <p data-bbox="676 1709 979 1776">Binder series 423 with 7 contacts - socket</p>	<p data-bbox="1018 1400 1230 1697">1: GND encoder 2: Data+ 3: Data- 4: Clock+ 5: Clock- 6: n.c. 7: VCC encoder</p>

Special Requirements

One DM stage is used on each side. Each DM stage includes two tip-tilt units each with two motor units, and one motor unit for the travel stage. Therefore, five channels from the patchbox are needed for each side.