

Piston Mirror Unit – Cabinets Electrical Interface

Interface Document: LN-MPIA-FDR-INT-032	Issue: 1.0	
Relevant Documents: LN-MPIA-FDR-ELEC-002		
Brief Description: This document describes the electrical connection of the piston mirror stage to the cabinets.		
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Interface Description

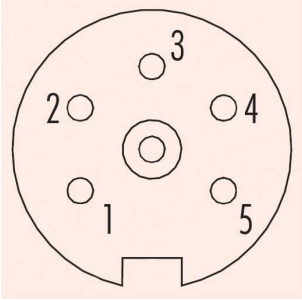
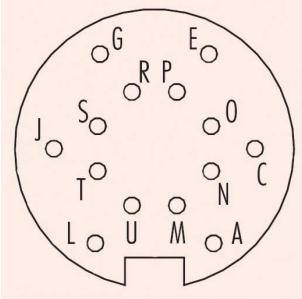
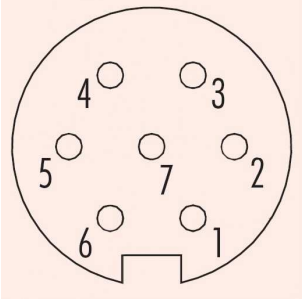
This document describes the electrical interface of the piston mirror stage to the cabinets. The patchbox represents the interface between the motor electronics (cabinet) and the motor unit (mounting stage). For the piezo stage, there is only a one to one cable from the piezo controller to the stage.

Interface Specification

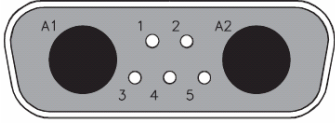
One motor unit (mounting stage) gets three connectors from the patchbox, one connector for motor signals, one connector for limits-/ref. switch and incremental encoder and one connector for absolute encoder. If the motor unit does not need an absolute encoder then the connector is unused. All cables 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 367 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 1077 979 1144">Binder series 423 with 14 contacts - socket</p>	<p data-bbox="1018 770 1299 1375">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 1711 979 1778">Binder series 423 with 7 contacts - socket</p>	<p data-bbox="1018 1404 1235 1700">1: GND encoder 2: Data+ 3: Data- 4: Clock+ 5: Clock- 6: n.c. 7: VCC encoder</p>

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

Connector type	Pin configuration
 <p data-bbox="400 499 512 533">FM7W2</p>	<p data-bbox="655 365 1222 398">A1: PZTOUT - PZT output (LV), Plug, 90°</p> <p data-bbox="655 409 932 443">1: DOW - DOW Bus</p> <p data-bbox="655 454 1091 488">2: AGND - Target and ID ground</p> <p data-bbox="655 499 1011 533">3: PZTGND - PZT Ground</p> <p data-bbox="655 544 1134 577">4: + 15V Supply for external devices</p> <p data-bbox="655 589 986 622">5: Target - Sensor Target</p> <p data-bbox="655 633 1342 667">A2: Probe Sensor Probe, 50 Ohm, Socket 90°, 3 pins</p>

Special Requirements

One z-stage and one piezo stage is used for the piston mirror unit. Therefore one channel from the patchbox is needed. The piezo stage has only a one-to-one cable.