

RLE-RLU-AUX auxiliary interface



Simplify RLE laser encoder system upgrades with the RLE-RLU-AUX connector module.

The **RLE-RLU-AUX** connector module enables an RLU100, RLU200 or RLU300 laser unit to replace an RLE10 or RLE20 laser unit while retaining the existing cabling of the host machine.

Renishaw RLE laser units provide position and status information to the host machine, together with auxiliary interfaces for system installation and integration. The RLE-RLU-AUX adapts the auxiliary connections of next-generation RLU laser units for compatibility with existing RLE10 and RLE20 installations.

This allows existing platforms to benefit from the performance and usability improvements of the RLU100, RLU200 and RLU300 without requiring changes to cabling or control logic.

The RLE-RLU-AUX auxiliary interface provides three backward-compatible interfaces:

- Aux I/O (signal strength indication output)
- Reset input
- Shutter input

The Aux I/O output provides two independent analogue voltage outputs to represent axis signal strength. The signal strength output ranges from 0 V to 2.0 V, with a 1% change in axis signal strength represented by a 10 mV change in the Aux I/O output voltage. Axis 1 is represented on Pin 1, while Axis 2 is represented on Pin 4.

The shutter and reset inputs are active high. They can be used with 5 V or 24 V signals, and include isolation to protect the input circuitry of the laser unit.

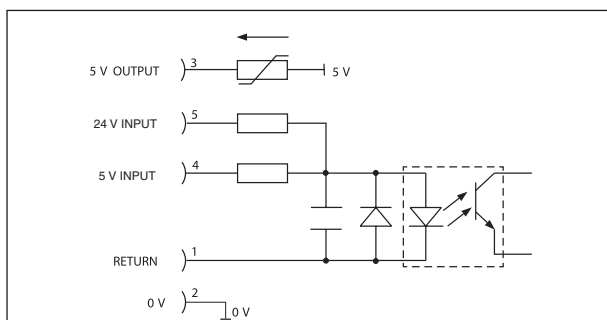


Figure 1 Pinout diagram for shutter and reset connections, showing 5 V and 24 V inputs

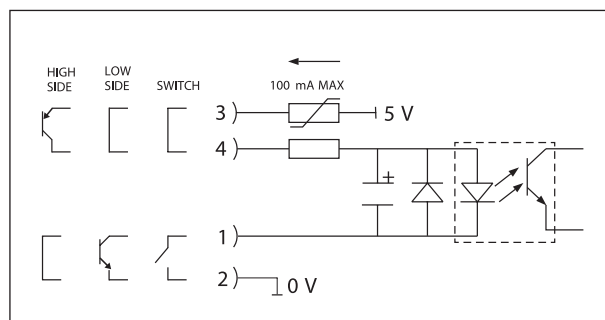


Figure 2 Connection information for different shutter and reset signal types.

Additionally, a +5 V supply is available for high-side, low-side, or mechanical switch inputs, as seen in Figure 2.

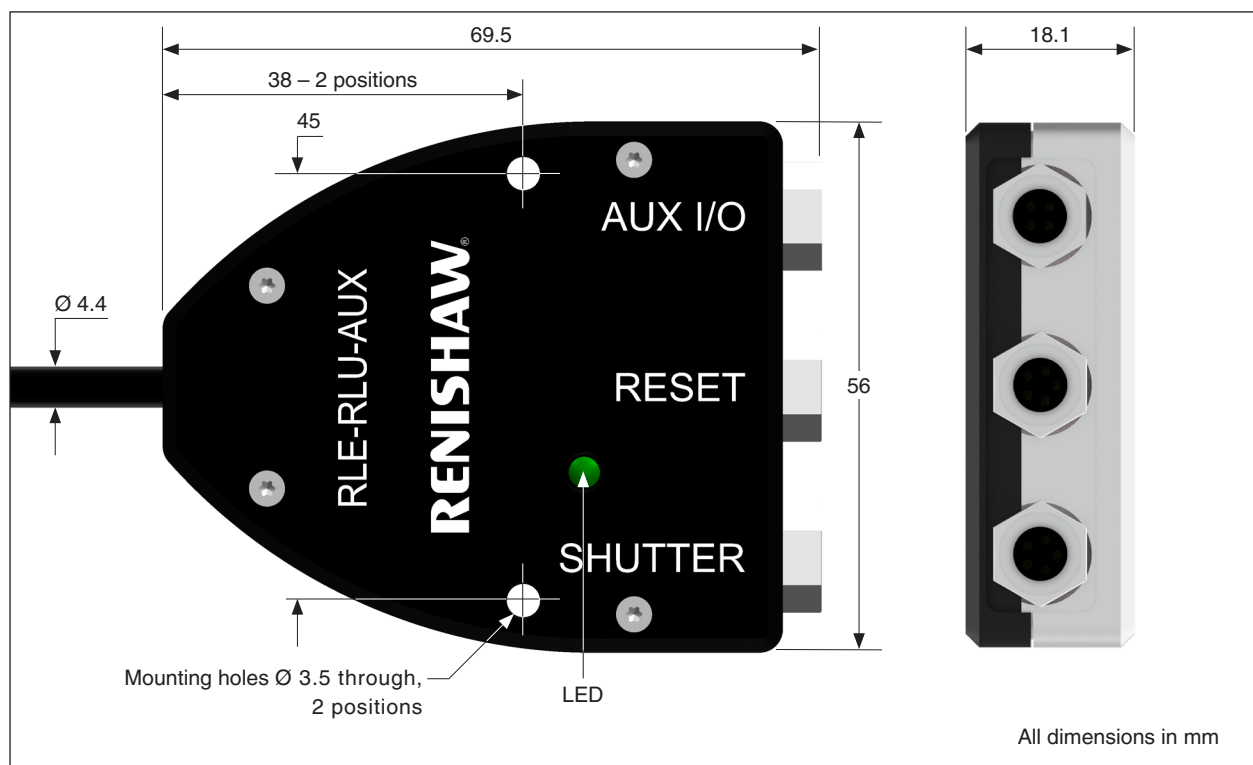


Figure 3 RLE-RLU-AUX auxiliary interface installation diagram

RLE-RLU-AUX physical characteristics

Cable length	448 mm
RLU connector	LEMO 1B, male, 8-way
Aux I/O output connector	Binder 712, male, 4-way
Shutter input connector	Binder 712, male, 5-way
Reset input connector	Binder 712, male, 5-way

RLE-RLU-AUX electrical characteristics

+5 V supply maximum current	100 mA	Across all connections, current limited
Aux I/O maximum output voltage	2.00 V	

Aux I/O output

Pin number	Function
1	AX1 signal strength (0 – 2 V)
2	0 V
3	0 V
4	AX2 signal strength (0 – 2 V)
Shell	Chassis ground

Shutter / reset input characteristics

	Input	Minimum (V)	Typical (V)	Maximum (V)
V _{High}	5 V input	2.1 V	5.0 V	-
	24 V input	10.0 V	24.0 V	-
V _{Low}	-	-	0.0 V	1.0 V

Shutter / reset input

Pin number	Function
1	Return
2	0 V supply ground
3	5 V supply
4	5 V (TTL) input
5	24 V input
Shell	Chassis ground

RLE-RLU-AUX interface connectors

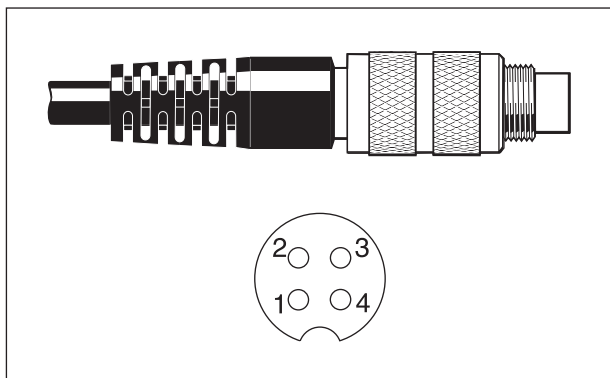


Figure 4 4-way Binder 712 male connector

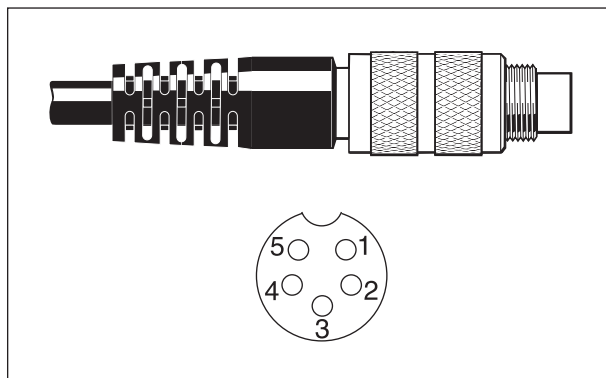


Figure 5 5-way Binder 712 male connector

NOTE: The connectors are viewed from the **wiring side**.

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