Fast Facts
RZ10 Lux Integrated Processor

Power Switch

Up to 3 integrated LUX LED or male M8 connector for standalone LED connections

Integrated LUX Photosensor, LUX Power Meter, or BNC for standalone sensor

Second row of LED drivers and sensor inputs (RZ10x only)

Digital I/O Bytes A/B, Bits C

Digital I/O Bits C0 – C3

Legacy Optics Port for additional amplifier input

PZ Amplifier Optics Port (RZ10x only)

Additional Analog Input
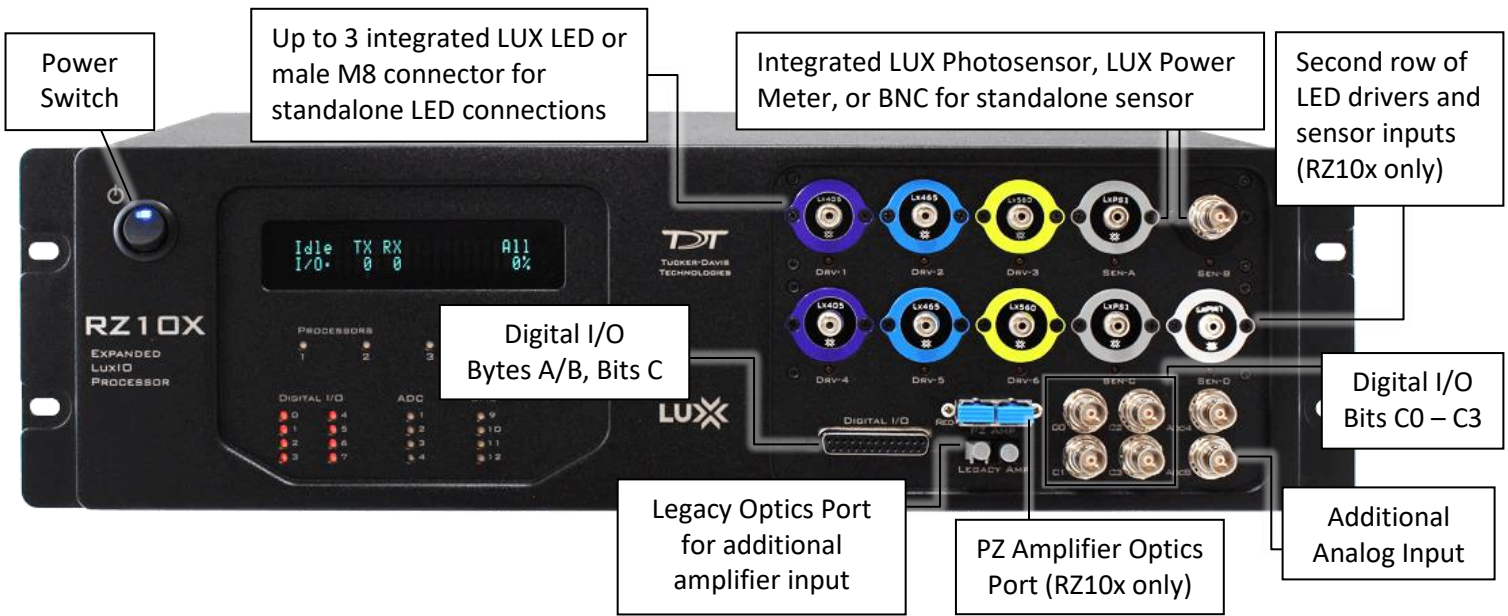
RZ10(x) Hardware Connections

Using integrated LUX LEDs and Photosensors: Connect light output from LEDs directly to the appropriate fluorescent optical ports. Connect fluorescent response return directly to LUX PS1 photosensor. The FC connector has a small key that must be aligned to the cable. On LUX components this key is at the 10 o'clock position.

Using external devices:
Current output (M8 connector) – Connect directly to standalone LEDs

Voltage input/output (BNC) – Connect external photosensor to BNC input or LED driver to BNC output

Example Configuration: Fiber photometry 3 color, 1 subject/site

Other configurations may require a different setup

All LUX components for RZ10(x) driver and sensor slots. If needed, these can be changed out by unscrewing the module and removing the component with the RZ10 powered off.
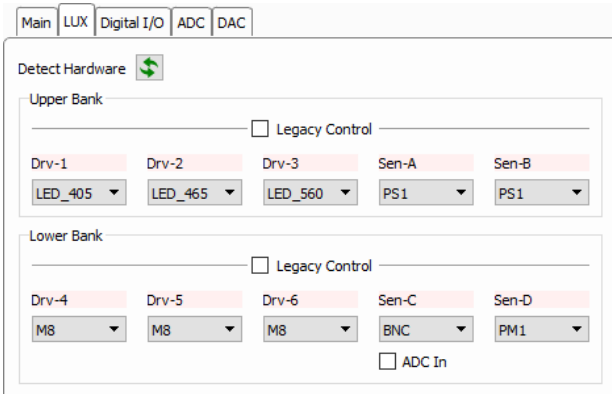
| Integrated LEDs | Integrated photosensor | Integrated Power Meter | 4-pin M8 connector for standalone LED connection | BNC connector for external photosensor or LED driver connection |

The RZ10(x) gizmo includes a LUX tab for automatically detecting and configuring all connected Lux components

Click 'Detect Hardware' and the RZ10(x) will autofill Row A and Row B with the appropriate component information
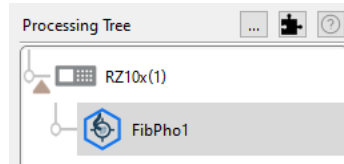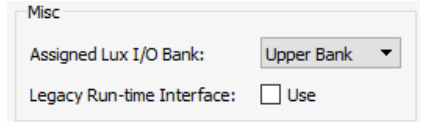
The RZ10(x) is typically used for Fiber Photometry applications.

Add the *Specialized → Fiber Photometry* gizmo to the RZ10(x) in the Processing Tree. Detected LEDs and sensors are enabled automatically

The RZ10(x) LUX configuration will automatically inform any gizmo targeting the LUX I/O
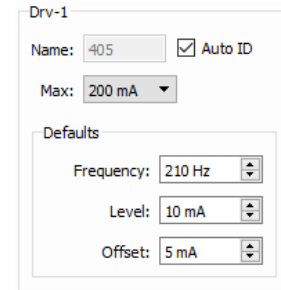
Driver signals are named by the LUX wavelength.

IMPORTANT! Assign the correct Lux I/O bank for each connected Fiber Photometry gizmo. The first connected gizmo assumes 'Upper Bank'; the second assumes 'Lower Bank'

Analog Input, ADC 4 and ADC 8

Additional analog inputs are available via BNC ports ADC 4 (RZ10 and RZ10x) and ADC 8 (RZ10x only). These can be enabled in the RZ10(x) → ADC tab in Synapse
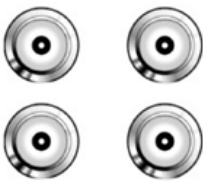
LUX Integrated PS1 Photosensor

Bandwidth (Hz)	DC - 700
Wavelength Range (nm)	320 - 1100
Gain	1×10^{10}

LUX Integrated PM1 Power Meter

Bandwidth (Hz)	DC - 3000
Wavelength Range (nm)	320 - 1100
Gain	6.5×10^{4}

Digital I/O – Byte C, Bits 0 - 3

DB25 Digital I/O Connector Pinouts

Four bits of digital input/ output (I/O) can be accessed via BNC ports 0 – 3. All 24 bits of word-addressable or bit-addressable memory can be accessed via the 'Digital I/O' DB25 connector.

Spectral Response

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