



100mm Laser Scaler – Class IIIa

Product Description

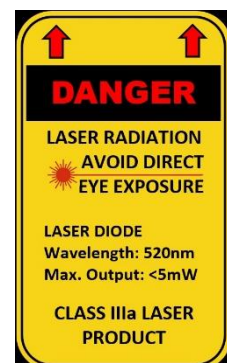
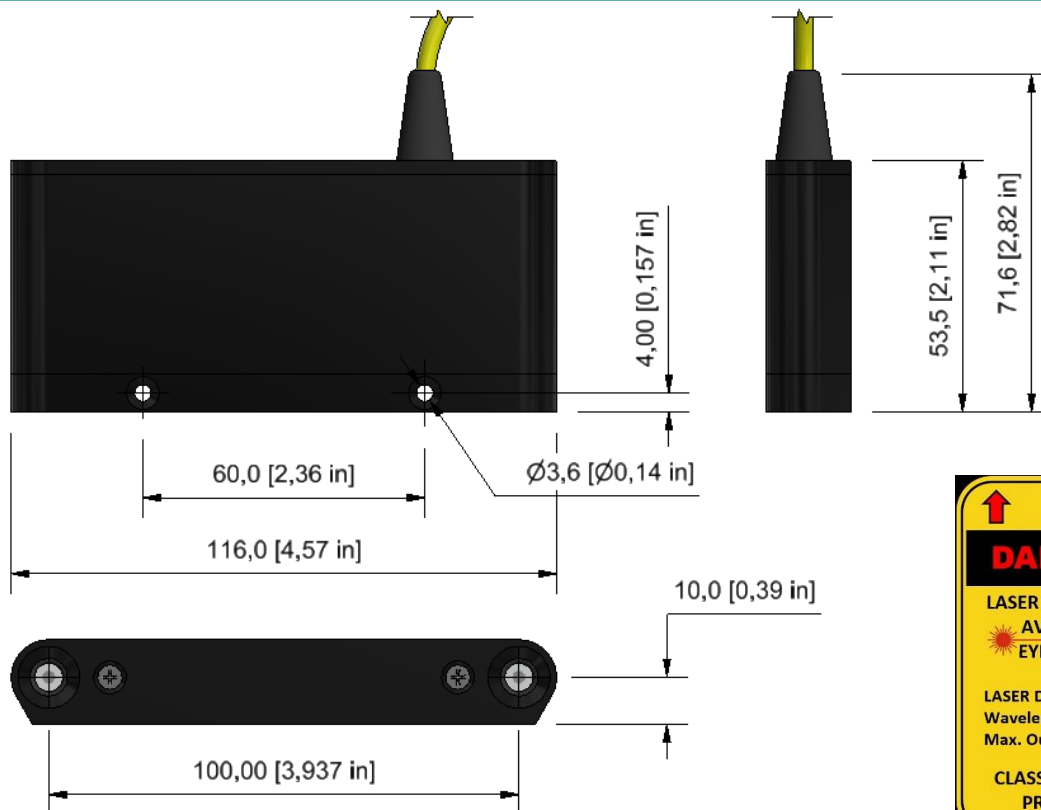
The MarineSee 100mm Laser Scaler is intended to be used by small ROVs (Remotely Operated Vehicles) to assist with the measurement of items via video feed or captured imagery.

It uses green lasers and is suitable in water where the visibility is >5m.



Specifications

Laser type	Twin 100mm Parallel Green
Beam Type	Dot
Wavelength	510-530 nm
Output laser power	LPT Class IIIa <4mW
Voltage	8 – 40VDC
Operating temperature	0°C to +30°C
Depth Rating	100m
Accuracy	+/- 0.05° (~1mm / 1000mm)
Weight in air	245g
Weight in water	148g



This document provides general information only and may be subject to change at any time without notice.

MarineSee Ltd. Farnham, Surrey, UK.

Web: <https://www.marinesee.co.uk/> Email: info@marinesee.co.uk



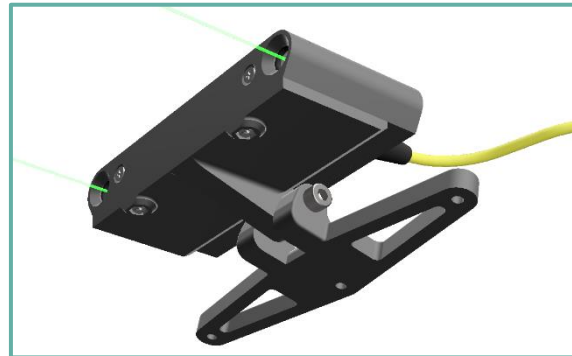
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BlueROV2 Mounting Assembly

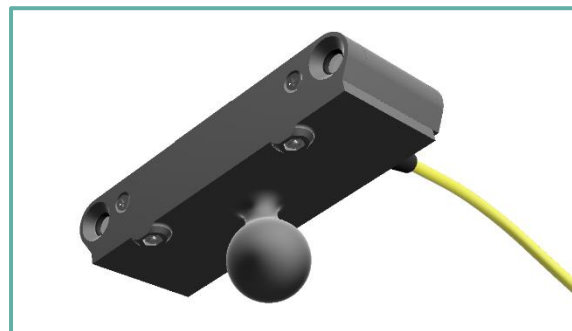
This mount has been specifically designed to mount to the Blue Robotics BlueROV2.

It is supplied with the M10 penetrator for powering from the ROV electronics enclosure.

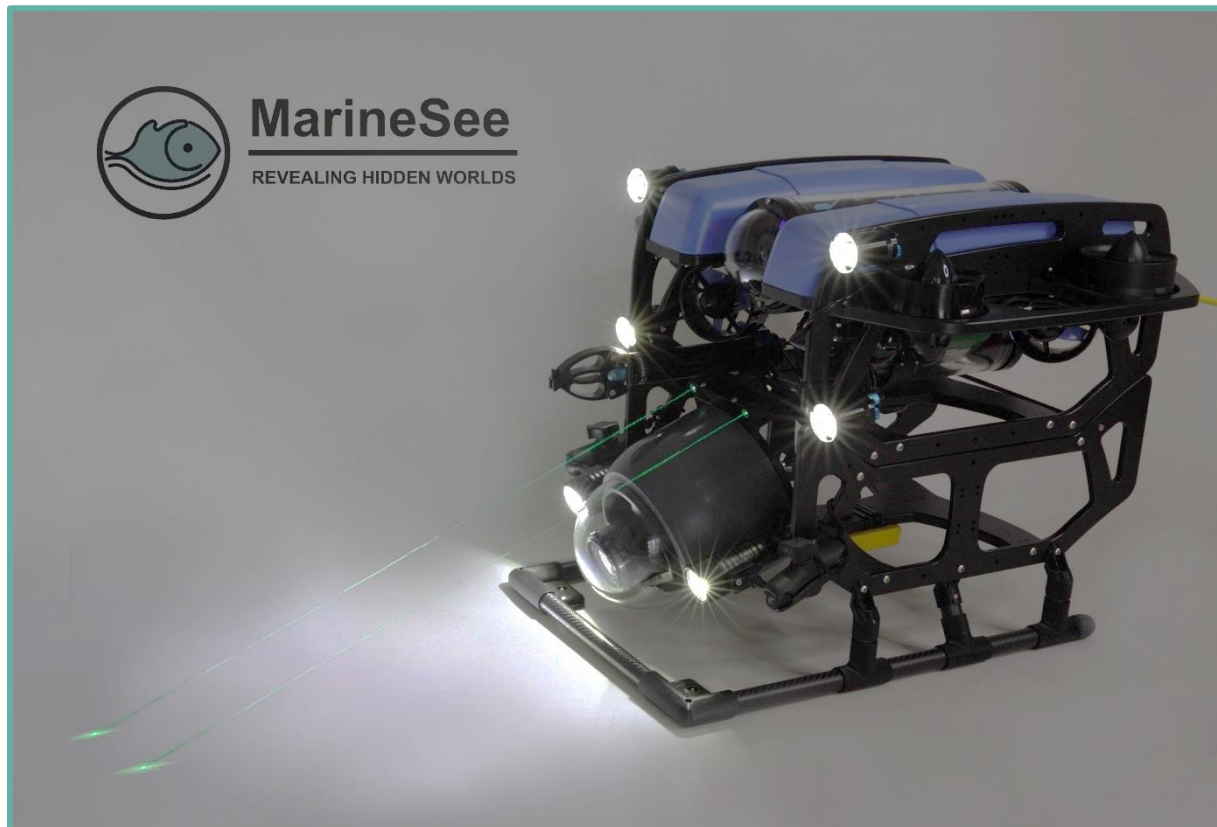


1" Ball Mounting Bracket

The 1" ball joint is a universal mount that is compatible with a wide range of equipment mounting components.

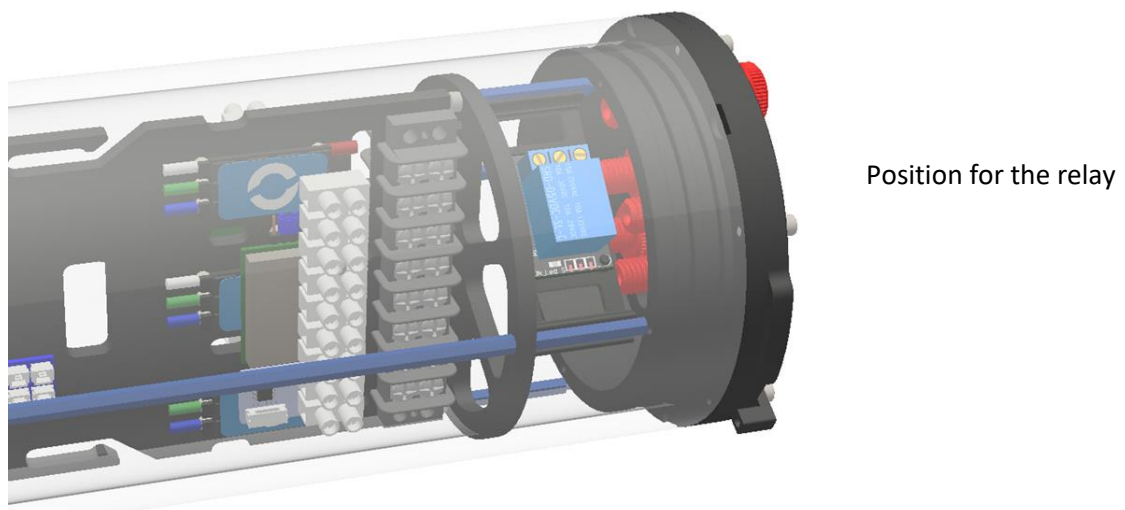
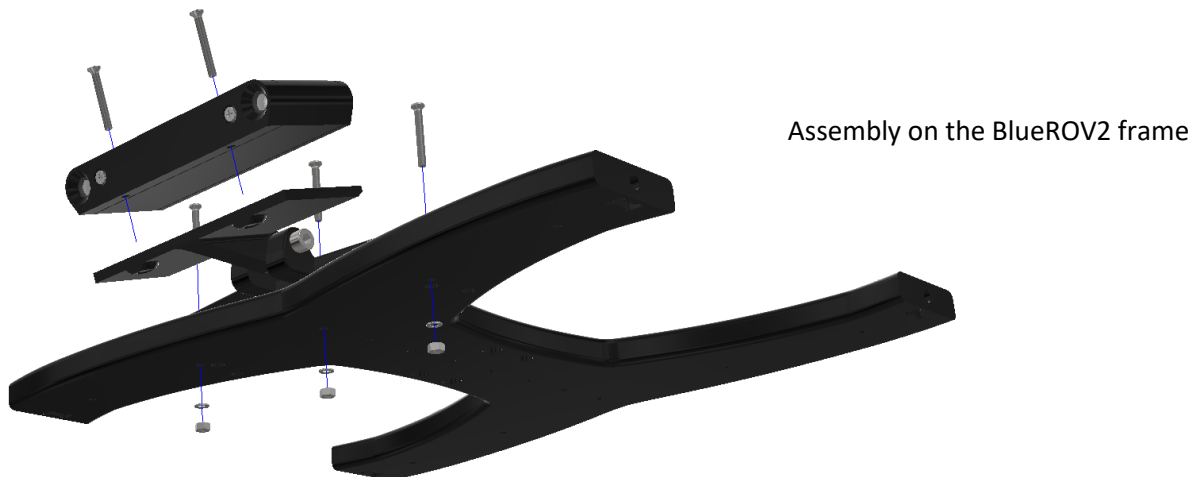
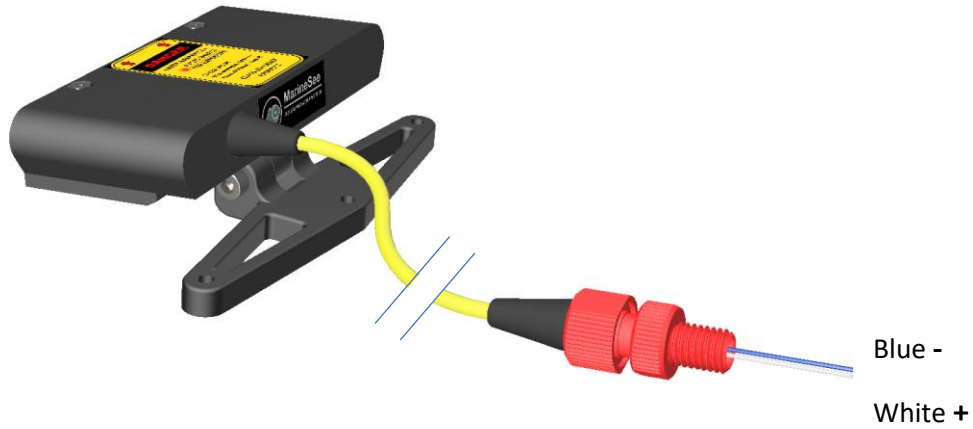


The Laser Scaler mounted on the MarineSee BlueROV2 Camera Pod





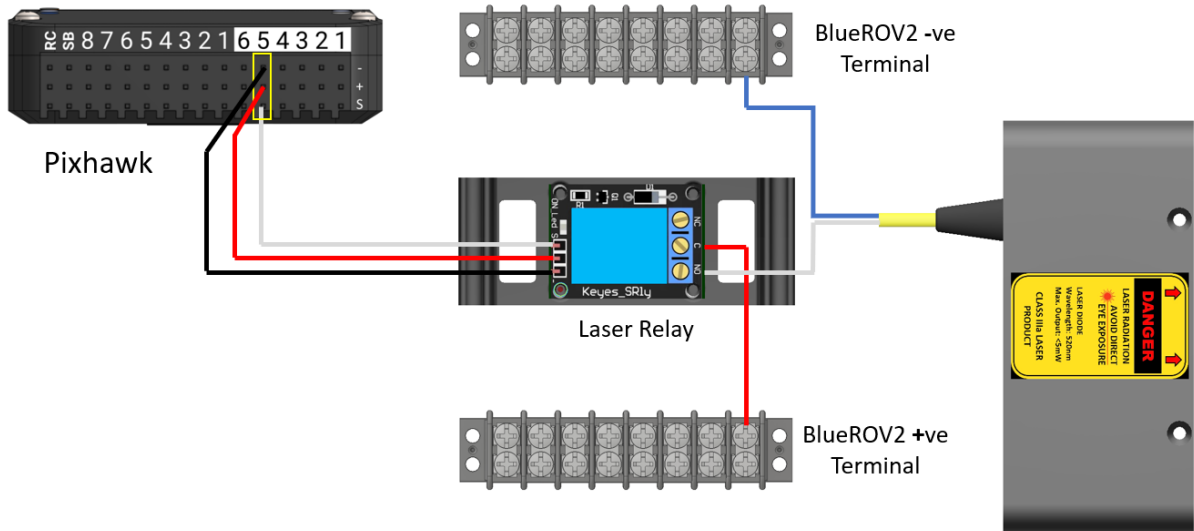
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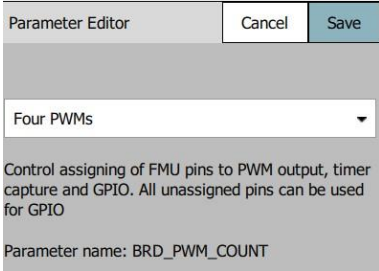
Wiring diagram



Setting up ArduSub

The Pixhawk has 6 auxiliary outputs that can be configured as either general purpose input/output (GPIO) or PWM. To operate the relay, the output must be GPIO.

By default, AUXOUT 1 – 4 are PWM and AUXOUT 5 & 6 are GPIO which is set by the parameter **BRD_PWM_COUNT = Four PWMs**.



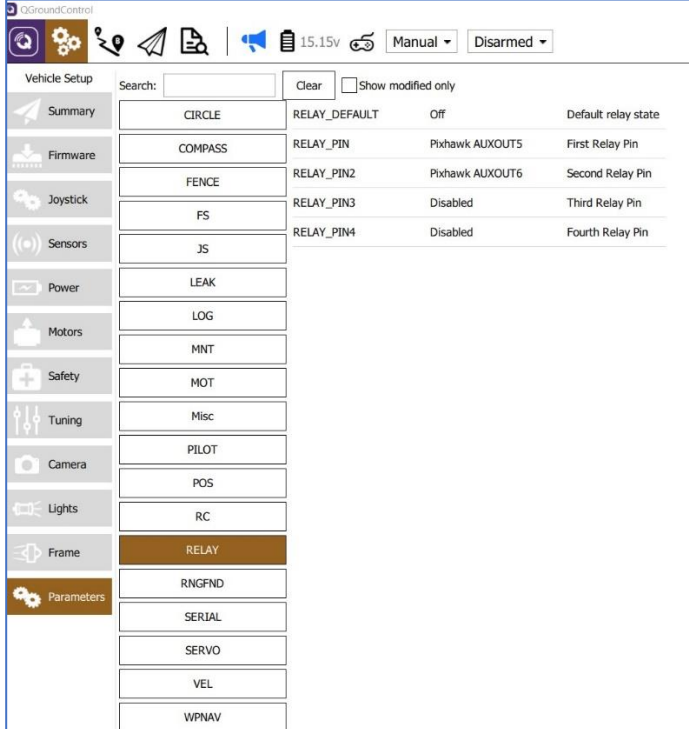
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The output pin must also be selected for the corresponding **RELAY_PIN** parameter

Go to the **Parameters** section and select **RELAY**.

RELAY_PIN should be set to **Pixhawk AUXOUT5** and **RELAY_PIN2** to **Pixhawk AUXOUT6**.



The screenshot shows the QGroundControl interface with the 'RELAY' parameter selected in the 'Parameters' section. The interface includes a search bar, a 'Clear' button, and a 'Show modified only' checkbox. The main table lists various parameters and their values.

Parameter	Value	Default relay state
RELAY_DEFAULT	Off	Default relay state
RELAY_PIN	Pixhawk AUXOUT5	First Relay Pin
RELAY_PIN2	Pixhawk AUXOUT6	Second Relay Pin
RELAY_PIN3	Disabled	Third Relay Pin
RELAY_PIN4	Disabled	Fourth Relay Pin

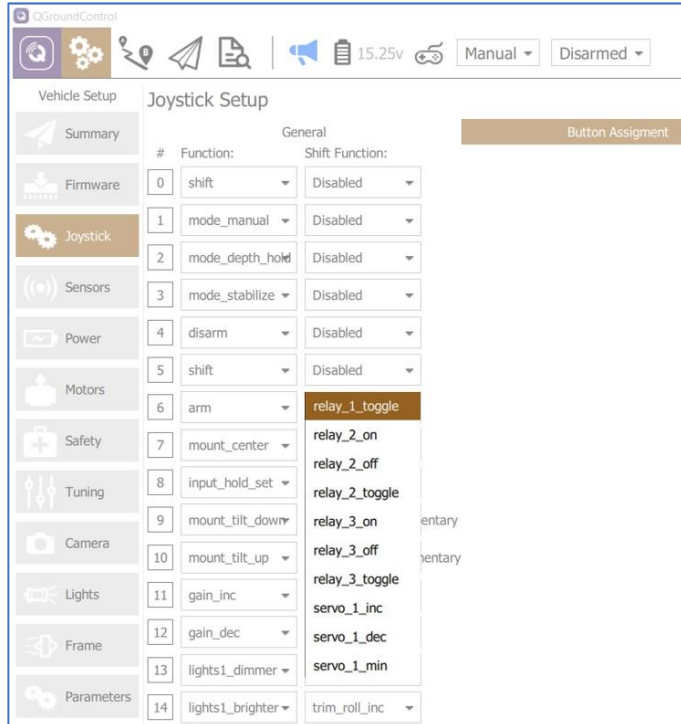
The left sidebar shows the following sections: Vehicle Setup, Summary, Firmware, Joystick, Sensors, Power, Motors, Safety, Tuning, Camera, Lights, Frame, and Parameters. The 'RELAY' parameter is highlighted in the 'Parameters' section.

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To operate the relay, go to the **Joystick** option in ArduSub and select **Button Assignment**.

Choose a **Shift Function** (e.g., arm), and select **relay_1_toggle** from the pull-down menu.



Vehicle Setup		Joystick Setup		Button Assignment	
#	Function:	Shift Function:			
0	shift	Disabled			
1	mode_manual	Disabled			
2	mode_depth_hold	Disabled			
3	mode_stabilize	Disabled			
4	disarm	Disabled			
5	shift	Disabled			
6	arm	relay_1_toggle			
7	mount_center	relay_2_on			
		relay_2_off			
		relay_2_toggle			
8	input_hold_set	relay_3_on	entary		
		relay_3_off	entary		
		relay_3_toggle			
9	mount_tilt_down	servo_1_inc			
10	mount_tilt_up	servo_1_dec			
11	gain_inc	servo_1_min			
12	gain_dec	trim_roll_inc			
13	lights1_dimmer				
14	lights1_brighter				

