

SV31 Underwater Camera - Weldin



Introduction:

Congratulations on the purchase of your new underwater camera. Underwater Lights® USA, LLC takes pride in providing well designed, high quality and thoroughly tested products that allow you to “enhance your boating experience”. This product can be installed in your vessel for remote viewing, security and safety.

General Operating Information:

The commercial grade camera used in this product will provide robust and reliable operation under normal operating conditions.

A single video output cable can be connected from the camera junction box to most any television or remote monitor.

The camera can be operated while the vessel is underway.

Depending upon water clarity and lighting conditions, the camera can see up to 12 meters (40 feet).

General Safety Information:

This product must be welded into a steel or aluminum hulled vessel in accordance with common ship building practices.

Never try to install or remove product “glass” from vessel hull while the vessel is in the water (camera proper can be removed).

The camera junction box proper should be kept out of potentially explosive gas environments.

Upon proper installation, this product will become part of the vessels grounding and cathodic protection system.

Always disconnect and lock-out power before working on this product.

The operating condition of all product components and electrical cabling should be visually inspected every six months.

Marine growth should be removed from the “viewport” glass using a soft brush for optimum camera performance.

Technical Specifications:

Camera = 520TVL resolution - Pyrex lense - 64° field of view - NTSC video output - Auto focus - Hermetically sealed body

Camera = Operating temperature -10°C (14°F) minimum to +40°C (104°F) maximum - Waterproof to 300 feet (91 meters)

Weldin fitting glass = Borosilicate glass - 12.7mm (0.5”) thick - 58mm (2.3”) diameter net aperture (viewport)

Weldin fitting net dimensions = 110mm (4.33”) diameter x 180mm (7.0”) long - 3.2 kilograms (7 pounds) with camera installed

Smallest weldin front flange dimensions = 100mm (3.94”) diameter x 25mm (0.98”) long

Largest weldin front flange dimensions = 140mm (5.51”) diameter x 213mm (8.39”) long

Weldin fitting construction = Stainless steel - Black anodized marine aluminum alloy

Camera junction box dimensions = 149mm (5.87”) long x 65mm (2.56”) wide x 55mm (2.17”) tall - 270 grams (0.6 pounds)

Camera junction box power = 12VDC nominal (7-14VDC range) - 300mA nominal (1 Amp maximum)

Troubleshooting:

Please contact our technical support staff in Florida at 1-954-760-4447, Monday to Friday from 8:00 am to 5:00 pm EST.

Warranty:

Underwater Lights® USA, LLC warrants this product to be free from defects in workmanship and materials for a period of one year from the date of original purchase. Further, misuse, abuse, improper installation, neglect, improper shipping, damage caused by disasters such as fire, flood and lightning, unauthorized repair or modifications will void said warranty. Should your product prove defective during the warranty period, promptly contact Underwater Lights® USA, LLC for an RMA number and then return the product freight prepaid with the RMA number clearly marked on the outside of the shipping container.

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Installation:

This product should be installed at least 250-300mm (10-12") below the water line by qualified/approved personnel using proper tools and materials. An access area of at least 100mm (3.9") should be left behind the product for camera servicing.

After selecting a location, cut an appropriate sized hole through the vessel hull. Note: Hole size will be defined by the specific weldin Front Flange (13) that came with the product. Caution! Check that no electrical wiring, fuel lines, oil lines, water lines etc., pass near or through the intended hole location.

Insert Front Flange (13) into said hole and following common ship building practices, permanently weld in place. Note: Leave the factory installed block-off disk and protective cap on the Front Flange (13) until final product assembly.

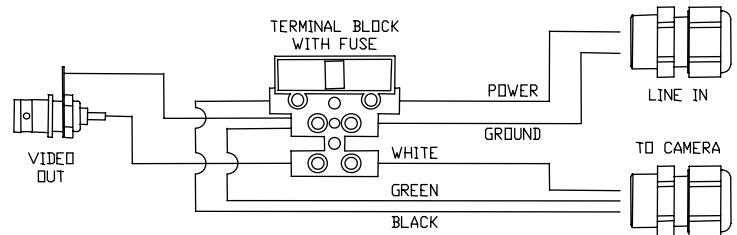
Final product assembly - Remove Front Flange (13) block-off disk, protective cap and clean all surfaces. Install parts (6), (5) (3) + (10), placing one gasket on either side of the glass. Tighten fasteners (10) in a criss-cross pattern to 9 Nm (7 ft/lbs) using a 5mm allen wrench. Install parts (7), (2) + (1) onto the Front Flange (13) and tighten to 40 Nm (30 ft/lbs). Note: Apply anti-seize compound to all internal threads. Install parts (15), (14), (4) + (12) and evenly tighten six hex nuts (12) to 2 Nm (1.5 ft/lbs). Note: Upon completing product installation, it is highly recommended that the Front Flange (13) be coated with antifouling paint.

Mount camera junction box (17) in a dry location and route cable (16) accordingly. Caution! Avoid making tight bends and/or passing electrical cables over sharp edges/surfaces. Make remaining electrical connections per wiring diagram below.

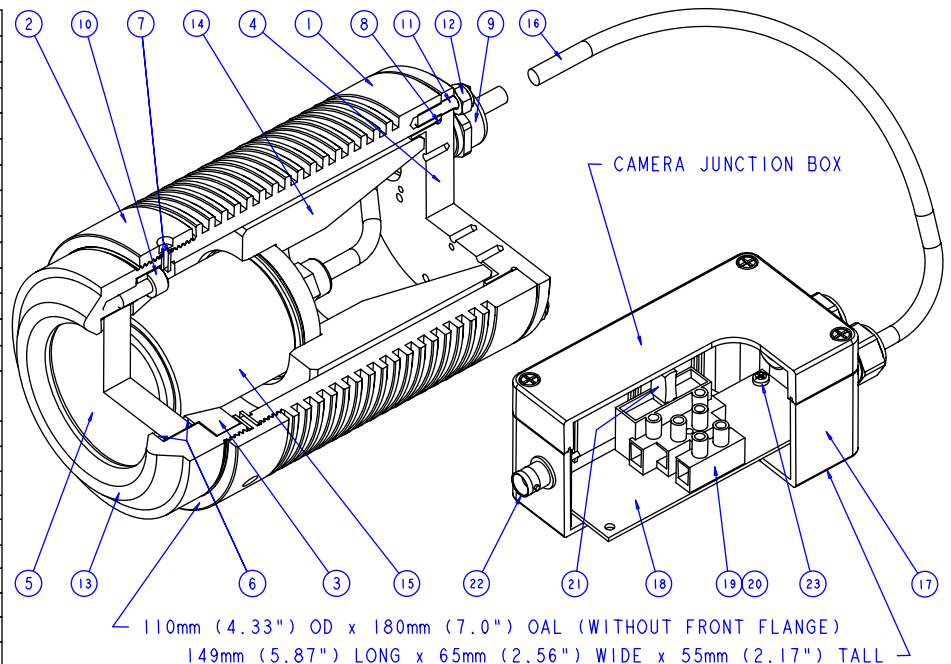
Serviceable Parts:

Camera (15) servicing is done by removing parts (12), (4) + (14) from part (1). Note! Ensure camera is properly oriented "up" and that lense is clean when reversing said procedure.

Glass (5) replacement is done by removing parts (12), (4), (14), (15), (10), (3) + (6) when the vessel is out of the water. Upon thoroughly cleaning all surfaces, reverse said procedure to assemble and tighten six screws (10) in a criss-cross pattern to 9 Nm (7 ft/lbs) using a 5mm allen wrench.



MODEL D14 __ A99 12VDC		
BALLOON	PART	DESCRIPTION
1	14001	MAIN BODY
2	14002	CONNECTING RING
3	14004	GLASS RETAINING RING
4	14006	PROJECTOR LID
5	14007	GLASS
6	14008	GLASS GASKET
7	14009	CONNECTING RING GASKET
8	14010	PROJECTOR LID O-RING
9	14014	CABLE STRAIN RELIEF
10	14015	M6 x 1.0 x 14LG SST SHCS
11	14018	M6 x 1.0 x 25LG SST SET SCREW
12	14019	M6 x 1.0 SST HEX LOCKNUT
13	N/A	CALL TECHNICAL SUPPORT FOR APPROPRIATE FRONT FLANGE
14	31008	CAMERA HOLDER
15	31006	CAMERA WITH CABLE
16	31009	CAMERA CABLE ONLY
17	27027	CAMERA JUNCTION BOX
18	27028	MOUNTING PLATE
19	27029	FUSED TERMINAL BLOCK
20	27032	M3.5 x 0.6 x 12LG PPHS
21	27030	FAST BLOW FUSE
22	27031	VIDEO OUT CONNECTOR
23	27033	M3 x 0.5 x 5LG SST PPHS



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