

Sola-Chan Marine Signal Lights



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T I D E L A N D • S I G N A L

Sola-Chan lights are unitized, low maintenance marine signal light systems powered by solar energy for reliable operation in remote areas. They are factory assembled for fast, easy installation.

A standard 6-volt or 12-volt Sola-Chan system comprises these components:

- A pedestal-mounted ML-300 or ML-155 MaxLumina® marine lantern. Both lanterns are available in the GMU (General Marine Use) classification or UL listed for use in Class 1, Division 2, Group D, hazardous locations. Lens options include clear, red, green, and yellow.
- A galvanized steel pedestal and base plate. Pedestals are available in standard lengths of 2, 3, or 4 feet (0.61, 0.91, and 1.22 meters).
- A TF-3B MicroPower™ flasher/lampchanger with internal sunswitch, providing over 240 field-selectable flash codes.
- Six pre-focused marine lamps. The luminous intensity tables overleaf indicate standard 6.2- and 12-volt lantern/lamp combinations. For greater range, lamps with higher wattages are available.
- One Tideland MG- or MMG-series SolaViva® solar module secured to a structural plastic panel that mounts under the



lantern by a galvanized steel mounting bracket. If large lamps are specified, a second solar module can be added. Each module is equipped with bird scarers.

- One Viva™ V12MF 12-volt lead-calcium secondary energy cell or one V6CR 6-volt pure lead grid energy cell.
- An FG-2M structural plastic battery box, secured to the pedestal base plate. The weatherproof FG-2M battery box can accommodate one or two batteries as needed. An optional cadlock is available for the box.
- Two-conductor wiring.
- One spare NavGrip® GMU cable connector for synchronization wiring. A series of Sola-Chan lights, individually powered, can be synchronized to flash in unison.

An optional plug-in lamp power control board regulates power delivered to the lamps over a wide range of input voltages to extend lamp life.

RANGE

The nominal range of a Sola-Chan light system is a function of the chosen operating intensity of the lantern (determined by the lens color, the lamp used, and the flash duration). See the tables overleaf.

Sola-Chan lights are configured to meet sea requirements. Shown above is a Sola-Chan 300 with an ML-300 lantern and an MMG-1800/6 solar module mounted on a 4-foot pedestal.

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INSTALLATION

All parts of the Sola-Chan system are factory assembled and pre-wired.¹ The system must simply be lifted into place and mounted. A standard Sola-Chan system weighs from 154 lb (69.9 kg) to 191 lb (86.7 kg), depending upon the model and configuration selected.

For compact packing, the Sola-Chan battery box and solar module are mounted on the same side of the pedestal. During installation the solar panel can easily be rotated in 90-degree increments so that it faces the equator while the battery box remains accessible for maintenance.

RANGE TABLE

NOMINAL RANGE (sea miles)	EFFECTIVE INTENSITY (candelas)
1	1
1.5	3
2	5
2.5	9
3	15
3.5	24
4	36
4.5	53
5	77
6	150
7	270
8	480
9	800
10	1400

The range indicated above corresponds to the international standard for transmissivity of 0.74 (equivalent to 10 sea miles meteorological visibility).

SOLA-CHAN 300 EFFECTIVE INTENSITY IN CANDELAS (Schmidt-Clausen Method)

ELECTRICAL RATING	QUICK FLASH (sec)			SLOW FLASH (sec)			COMPLEX FLASH (Morse letter "U")			
	on	off	on	on	off	on	on	off	on	off
6.2V, 0.25A	24	30	30	33	36	46				
6.2V, 0.46A	62	77	77	86	95	123				
6.2V, 0.70A	78	101	101	115	125	163				
6.2V, 0.92A	104	135	135	155	169	222				
12V, 0.25A	47	56	56	65	71	91				
12V, 0.55A	119	149	149	168	182	235				
12V, 0.77A	173	224	224	256	276	363				
12V, 1.15A	220	284	284	342	375	488				

SOLA-CHAN 155 EFFECTIVE INTENSITY IN CANDELAS (Schmidt-Clausen Method)

ELECTRICAL RATING	QUICK FLASH (sec)			SLOW FLASH (sec)			COMPLEX FLASH (Morse letter "U")			
	on	off	on	on	off	on	on	off	on	off
6.2V, 0.25A	15	19	19	21	23	29				
6.2V, 0.46A	41	51	51	58	62	81				
6.2V, 0.70A	51	65	65	74	81	105				
6.2V, 0.92A	65	72	72	83	90	119				
12V, 0.25A	24	29	29	33	35	45				
12V, 0.55A	59	74	74	84	91	110				
12V, 0.77A	79	102	102	116	125	165				
12V, 1.15A	126	168	168	196	215	285				

The tables above assume use of a clear (white) lens. Use a multiplier of 0.30 for a red or green lens, and 0.65 (ML-300) or 0.74 (ML-155) for a yellow lens. Flash times shown are contact closure times (CCT).

All lamps listed are C-8, S-8 marine pre-focused lamps with a single-contact base.

¹The battery for a Sola-Chan system may be packaged separately for shipping (shipping classification UN2794). During installation, simply place the battery in the FG-2M battery box and connect the wires provided to the battery terminals.



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