

Tideland Signal Corp.

featuring Aids to Navigation Products

1.6 Unitised Systems

01	UPDATE	03.03.2008	CWQ
00	RELEASE	11.28.2007	CWQ
Rev	Description	Date	By

A. Solachans

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

The nominal range of a Sola-Chan light system is a function of the chosen operating intensity of the lantern (determined by the lens colour, the lamp used and the flash duration). Sola-Chan systems are capable of accepting most standard Tideland lanterns; ML-300/155/140, MLED-120E, MLED-300/155/140 and MaxLED-200.

All parts of the Sola-Chan system are factory assembled and pre-wired.

The single lift system is simple to place and secure. A standard Sola-Chan system weighs from 70 kg to 90kg, 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° increments so that it faces the equator while the battery box remains accessible for maintenance.



B. Unitised Fog Signal and Lantern Systems

Tideland's Class A and Class B Single Lift systems are self-contained solar-powered obstruction light/fog signal units used where limited space is available. They are ideal for marking remote marine obstructions, such as wellheads, reefs, or offshore rocks on which mains power is unavailable. Each single lift system is skid mounted and features lifting eyes placed for proper balance during single-lift installation.

CLASS A SINGLE LIFT

Tideland's Class A Single Lift system meets or exceeds the requirements for use in areas that require a 5-mile white light and a 2-mile fog signal. The Class A Single Lift system includes the following components:

- ML-300 MaxLumina marine lantern and TF-3B MicroPower multi-code flasher/lampchanger with clear lens and 12-volt, 0.55-ampere lamp, or MLED-300 marine lantern with MaxiHalo-60 or MLED Dual RETRO light sources. Over 240 field-selectable flash codes are available.
- AB-560 Audiobeam®, U.S. Coast Guard-approved 2-mile fog signal, with ECU-645-A electronics.
- 180 watt solar array.
- 1,000 ampere hour rechargeable battery array in a weatherproof battery box.
- Required mounting hardware.



The electric energy output from the solar generator battery is separate for the fog signal and the light. The energy cell bank is sized as a stand-alone system for continuous service 365 days per year.

CLASS B SINGLE LIFT

The Class B Single Lift system meets or exceeds the requirements for use in areas that require a 2-mile white light and a ½-mile fog signal. Tideland's standard Class B Single Lift system includes the following components:

- ML-155 MaxLumina marine lantern and TF-3B MicroPower multi-code flasher/lampchanger with clear lens and 12-volt, 0.55-ampere lamp or MLED-155 marine lantern with MaxiHalo-60 or MLED Dual RETRO light sources. Over 240 field-selectable flash codes are available.
- AB-26 Audiobeam®, U.S. Coast Guard-approved 1/2 – mile fog signal, with internal ECU-660 electronics.
- 60 watt solar array.
- 300 ampere hour battery array in a weatherproof battery box.



Class B Single Lift system is available in two arrangements for solar power, one with a frame-mounted solar generator, and the other with a pedestal-mounted solar generator. A third arrangement accommodates primary batteries instead of a solar generator.

C. Syncrolan Systems

The *Syncrolan* aids to navigation system is the latest development of Tideland Signal's very successful platform marking system that has been widely used around the world with a history of reliable service in some of the harshest environments on the planet stretching back over 30 years.

Tideland Signal's design philosophy is to make each of the lanterns and fog signals autonomous units and therefore each unit has its own U coder. In this way the service to the mariner is not affected by any central control panel failure. The central panel provides power distribution and monitoring and alarm indications. The system offered has a central battery. An alternative "de-centralised" system configuration is available where each light and fog signal station has its own power supply and battery and a central alarm panel with photocell override and fog signal silent switch.



The system comprises light stations, subsidiary lights, fog signals, a central control panel and central battery. A fog detector and racon (radar beacon) are available. All parts of the system are offered suitable for use in Zone 1 (ATEX Cat 2) hazardous areas.

COMPONENTS OF A MAIN/SECONDARY LIGHT STATION

The light station comprises the main AC powered main 15nm light and the secondary or standby DC powered 10nm light mounted on a pedestal with an Exe junction box to accept field cables.

Main Light

The ML-300 FLMC-4 features a high efficiency 400W dual filament lamp with TL1000 lampholder. The FLMC-4 generates the Morse U flash character and monitors the performance of the lantern.

Secondary Light

The ML-300 secondary light is fitted with a DuoFlash Ex twin filament flasher and 10.3V 40W twin filament lamps the Morse U flash character is generated by the DuoFlash Ex twin filament flasher which also monitors the performance of the lantern.



COMPONENTS OF A FOG SIGNAL/SUBSIDIARY LIGHT STATION



The AB-68 fog signal consists of a vertical array of six TDA-24450 driver units sounding in unison to provide a range of 2 nautical miles.

To ensure maximum reliability and to meet the requirement for a secondary fog signal, two ECU 800s are used to generate the Morse U character, one duty and one standby.

A current monitor will automatically change over from the duty to the standby ECU and report an alarm to the central panel. Any 2 driver units are sufficient to meet a ½ mile range.

The ML-155 red subsidiary light also features the DuoFlash Ex twin filament flasher as fitted to the secondary light thereby minimising spare parts holding. A 10.3V 7.3W twin filament lamp provides a 3-mile light.