L3HARRIS™
FAST. FORWARD.

MODULAR OPEN LOOP SWEEP (MOLS) SYSTEM

Removes the Sailor from the Danger of the Minefield



The MOLS system sweeps magnetic, electric and acoustic influence mines and is specifically designed for unmanned surface vessels (USVs). The system emulates the signatures of surface ships in order to satisfy the internal logic of modern influence mines.

MOLS uses exposed electrodes on a sweep cable that emit current through the seawater to produce magnetic and electric signatures. An acoustic generator produces broadband noise, similar to a ship's machinery or equipment, such as a propeller.

MOLS is comprised of a lightweight power generation module, a two-electrode sweep array, an acoustic sweep system, an onboard winch and a launch and retrieval (L&R) system. The system is designed for reliable, cost effective operation using proven technologies and environmentally compliant components. MOLS is an expeditionary system with the ability to deploy quickly while en route to the minefield. As the system approaches the operational area, the acoustic generator is launched via the launch and recovery device. The sweep cable is then deployed from the winch and sweep operations can commence.

MOLS uses the power generation module to energize open loop coaxial sweep electrodes which generate magnetic and electric fields using sea water as the return circuit. Weighing approximately 4,000 pounds in an expeditionary configuration, the MOLS is a simple and reliable system requiring minimal deck handling equipment to facilitate stream and recover.



Photo credit: Mass Communication Specialist 2nd Class Josh Bennett

BENEFITS

- Operates in target simulation mode and mine setting mode to maximize flexibility
- Magnetic, electric and acoustic sweep capability allows planners to identify the right sweep and adjust in real time
- Low system weight gives greater endurance and maximum on-station time
- Design is unmanned craft-focused which simplifies integration with host platform
- Minimal deck handling equipment means smaller footprint on USV
- Mine sweeping equipment streams without aid from mother ship allowing greater stand-off from the minefield

L3Harris.com

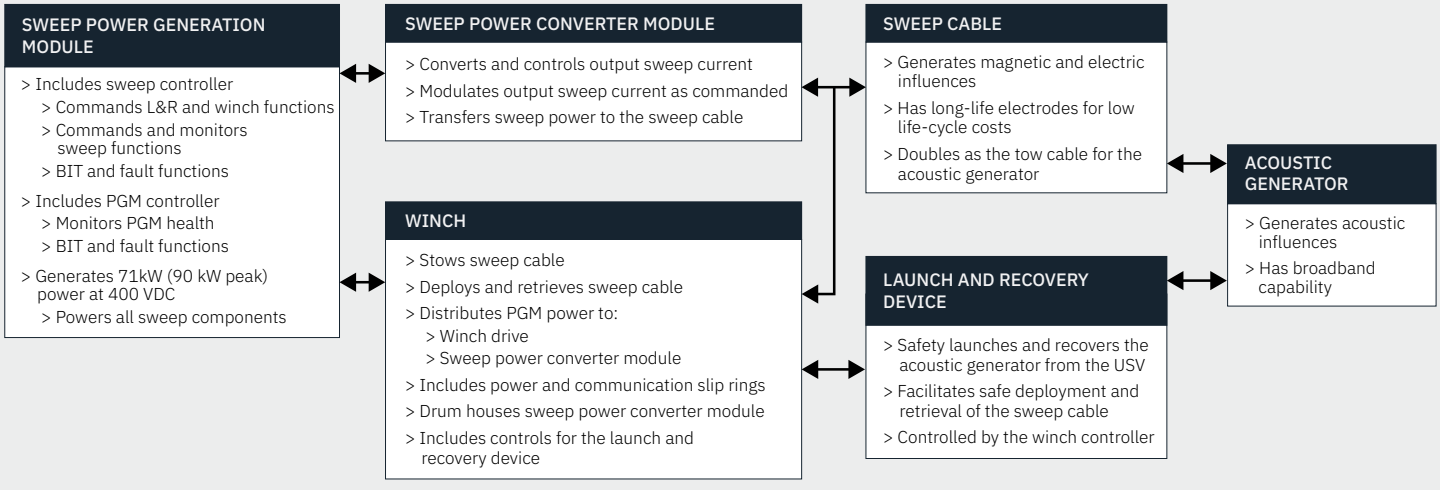
MOLS SYSTEM SPECIFICATIONS

HARDWARE ITEM	QTY	SIZE (IN)			WEIGHT (LB)		POWER			COOLING
		L	W	H	WET	DRY	WATTS	VOLTS	FREQ	
Power generation module (PGM)	1	34	67	51		N/A	2,000 71,000	12/24 400	DC-IN DC-OUT	SEAWATER
Power converter	1	38	18	8	230	N/A	50,000	400	DC	WATER
Winch	1	72	78	60		N/A	4,500	400	DC	AIR
Sweep cable	1	7.4K	2	2	780	428	60,000	30-72	DC	SEAWATER/ AIR
L&R	1	24	24	43	80	N/A	4,500	400	DC	AIR
Acoustic influence generator	1	70	23	32	90	-10	N/A	N/A	N/A	N/A
Power feed cables from PGM to winch	2	60	2	2	10	N/A	N/A	N/A	N/A	N/A
Ethernet cables from PGM to winch	2	60	0.5	0.5	1	N/A	N/A	N/A	N/A	N/A
Motor control cable from winch to L&R	1	60	1	1	5	N/A	N/A	N/A	N/A	N/A

FEATURES

- Adjustable magnetic and electric sweep output
- Small storage footprint on mother ship when system is not in use
- Can be operated from any craft of opportunity with sufficient deck space
- Logistics support available from totally indigenous to fully supported

FUNCTIONAL BLOCK DIAGRAM OF MOLS



MOLS 07/19 JP
© 2019 L3Harris Technologies, Inc. | 07/2019
Non-Export Controlled Information

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

L3HARRIS™
FAST. FORWARD.

1025 W. NASA Boulevard
Melbourne, FL 32919