

Master Vehicle Light Switch (MVLS)

One Button. Faster Response.

Lives Saved.

Readiness
Safer Operation
Higher Reliability
Quieter Operation



VS



Operational Risk
Multiple motion steps to activate
Moving parts wear and fail
Poor night usability
Slower operator response
Higher maintenance

Mechanical switch

*Rugged
Solid-State
Lighting Control
for Military Vehicles*

Mechanical = Risk

MVLS = Readiness

Dedicated blackout control enables faster response in threat situations – improving crew survival.

Safer Operation

One-touch blackout reduces operator error
Clear illumination improves night recognition
Easier use with gloves and under stress

Higher Reliability

No moving parts to wear or fail
Designed for vibration, temperature, and harsh environments
Consistent performance over vehicle life

Protected 10A outputs

- Automatically recover from faults
- Reduced Spare Parts Logistics
- Eliminate relays
- Reduced wiring
- No fuse replacements required in many cases.
- Lower Lifecycle Cost
- Load monitoring

Quieter Operation

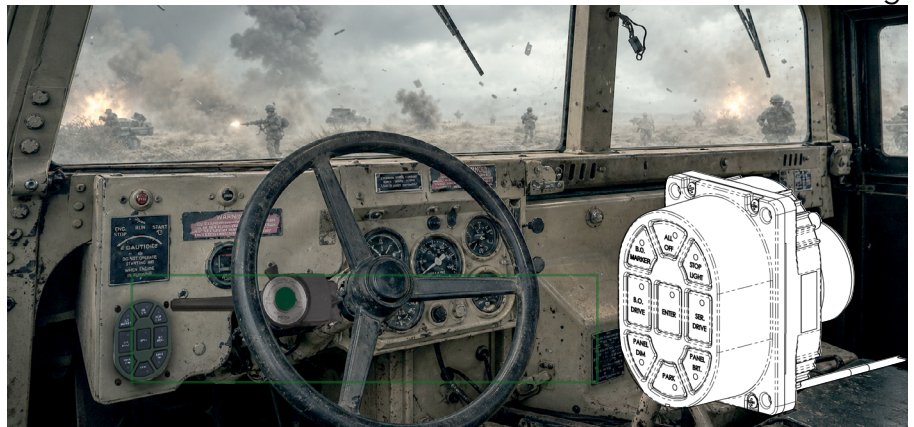
Eliminates mechanical detents and locking mechanisms
Reduced cabin noise and audible signature

Lower Lifecycle Cost

Reduced maintenance and replacements
Increased mission readiness
Form-Fit-Function compatibility minimizes retrofit risk

Quiet. Reliable. Life-Saving

*Improving reliability, reducing maintenance, and
increasing mission readiness*



REV	DATE	BY	DESCRIPTION
A	03-24-09	4263	REDESIGNED PER ECO # 13318

NOTES:

1. APPLICABLE STANDARDS / SPECIFICATIONS

A. M.L.S.D. 50100D (A9)

B. ASME 17.4.2M (1994)

2. SOLID STATE, MULTI-FUNCTION BACK-MOUNTED SWITCH ASSEMBLY WITH WATER RESISTANT ELASTOMERIC KEY PAD

3. INTERFACE REQUIREMENTS

A. TO FIT 3.5 IN. X 2.5 IN. OVAL CUT OUT

B. ATTACH WITH 10-32 SCREWS (QTY. 4)

C. 12-PIN MALE CONNECTOR, THREADED 1/75-18 TPI, COMPATIBLE WITH SHELL SIZE 28, 12-SOCKET CRIMP CONNECTOR WITH 12 AWG WIRES PER 1920-12419947, PIN ASSIGNMENTS PER PIN-OUT LOCATION LOCATED HEREIN.

D. 25-20 HOLE IN CASING FOR GROUND CABLE SCREEN, OPTIONAL, 25-20 STD ON CASING WITH 25-20 NUT.

4. ELECTRONIC REQUIREMENTS

A. THE SWITCH SHALL EMPLOY SOLID STATE SWITCHING AND FIRMWARE LOGIC FOR SAFETY.

B. THE LOGIC SHALL BE STORED IN NON-VOLATILE MEMORY.

C. SWITCH OPERATIONAL LOGIC SHALL BE AS DESCRIBED BY THE "FUNCTIONAL LOGIC DIAGRAM" HEREIN.

D. OUTPUT SIGNALS SHALL BE AS DESCRIBED BY THE "PIN-OUT TRUTH TABLE" HEREIN.

5. ELECTRICAL REQUIREMENTS

A. THE SWITCH SHALL OPERATE FROM 9.5V/0.5 TO 32.5 V +/- 0.5 VOLTS DIRECT CURRENT.

B. KEYPAD SHALL BE BLACK IF WHEN MASTER POWER IS SUPPLIED, EXCEPT WHEN IN STANDARD MODE, INDIVIDUAL INDICATORS (BLUE) SHALL ILLUMINATE AS DESCRIBED BY "KEYPAD BACKLIGHT FUNCTIONALITY TABLE" HEREIN.

C. THE SWITCH SHALL MAINTAIN MEMORY OF PRESENT LIGHTING MODE WHEN EXPERIENCING MOMENTARY POWER INTERRUPTIONS NOT GREATER THAN TWO (2) SECONDS.

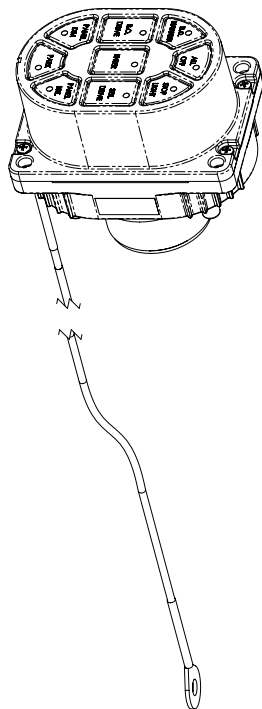
D. CURRENT CARRYING CAPACITY OF OUTPUT PINS AND RELATED CIRCUITS SHALL BE AS DESCRIBE BY THE "CURRENT CAPACITY" TABLE HEREIN.

E. SERVICE HEADLAMP CIRCUIT (PIN M) SHALL AUTO-RESET.

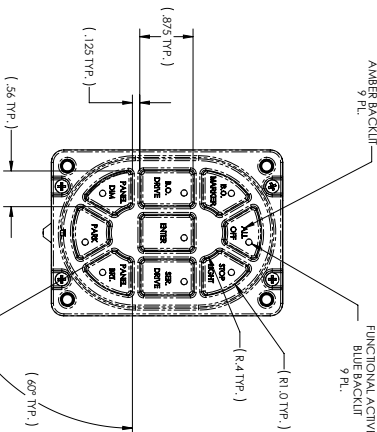
F. THE SWITCH SHALL BE SET PROTECTED AGAINST REVERSE POLARITY, CURRENTS OVER 20 AMPERES, AND WHEN A CURRENT LOAD OF 10 AMPERES IS APPLIED TO EACH CIRCUIT, EXCEPT THE PANEL LAMP DIM CIRCUIT, THE VOLTAGE DROP SHALL NOT EXCEED 500 MILLIVOLTS.

G. THE GROUND CABLE AND CIRCUITS TO OUTPUT PIN F SHALL WITHSTAND 20 AMPERES CONTINUOUS LOAD, APPLIED INDIVIDUALLY. PIN M SHALL WITHSTAND 10 AMPERES PER CURRENT CAPACITY TABLE HEREIN.

H. ALL OUTPUT PINS TO INCLUDE 11 NO PULL DOWN RESISTOR TO GROUND



VIEW FOR REF. ONLY
SCALE-1:1



WHITE TEXT
AMBER BACKLIT
9 FL.

FUNCTIONAL ACTIVE
BLUE BACKLIT
9 FL.

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