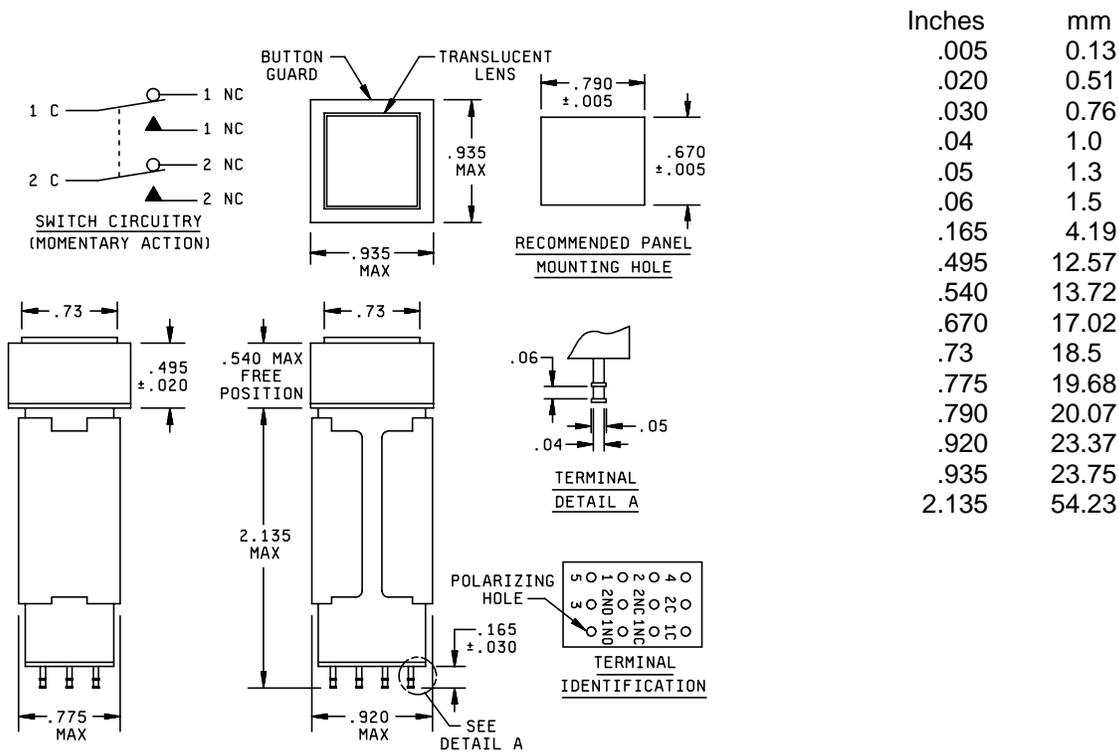


PERFORMANCE SPECIFICATION SHEET

SWITCHES, PUSH BUTTON, ILLUMINATED,
 7 AMPERES AND LOW LEVEL,
 4-LAMP, RFI SHIELDED, SOLID MOUNT

This specification sheet is approved for use by all Departments and Agencies of the Department of Defense.

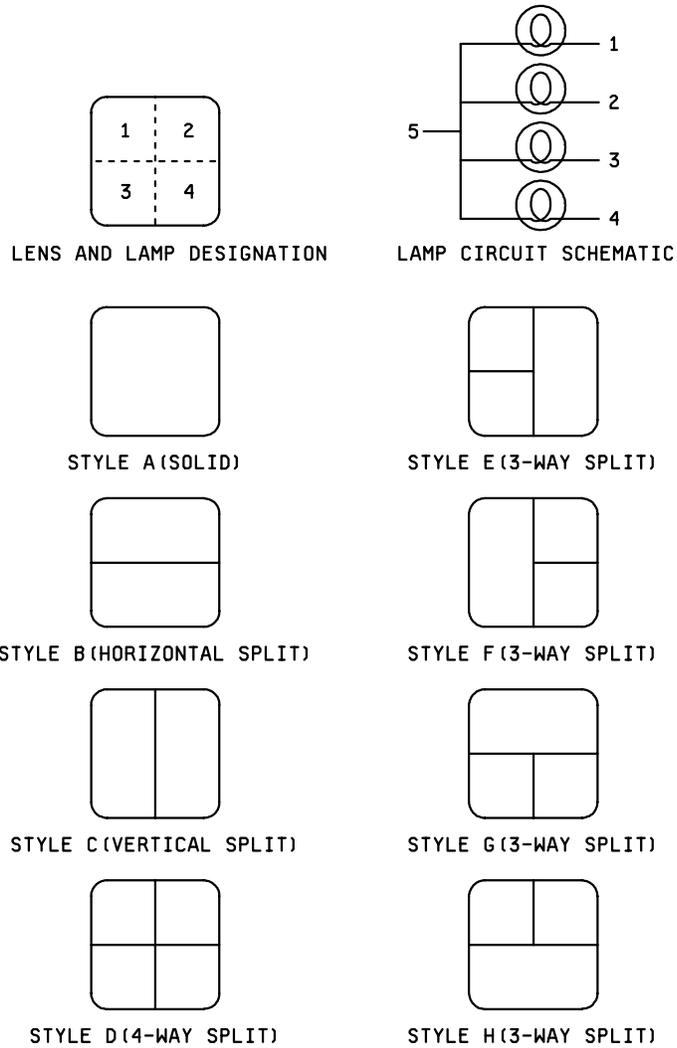
The requirements for acquiring the indicator lights described herein shall consist of this specification sheet and MIL-PRF-22885.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .030$ (0.76 mm).
4. Switches shall mount on .062 (1.57 mm) to .242 (6.15 mm) thick panels.
5. Design configuration is optional within the maximum dimensions specified.

FIGURE 1. Dimensions and configurations.



NOTES:

1. Numbers designate location of lamps (see schematic).
2. Lens styles are shown from front of panel with polarizing hole in upper left hand corner away from viewer.

FIGURE 2. Lens style and lamp circuit arrangement.

REQUIREMENTS:

Design and configuration: See figures 1 and 2.

Enclosure design: 1 (unsealed).

Temperature characteristics: -55°C to +55°C.

Vibration grade: 2 (10-500 Hz, 10 g peak).

Operation: See table I.

Illuminated color: W, see table II (translucent white).

Display type: C (white display in both illuminated and nonilluminated condition).

Military part number: See table I.

Luminance: 240 foot lamberts minimum with T-1 submidjet flange base, $0.15 \pm 25\%$ Mean spherical candlepower, 5 volt, and .115 ampere lamps. lamps energized at rated voltage.

Plastic: Internal plastic material shall be capable of meeting UL burning rate code 94HB in accordance with UL-94.

Weight: Switches: 1.9 ounces maximum.
Indicators: 1.7 ounces maximum.

Lamps: Switch shall accept four T-1 submidjet flange base, $0.15 \pm 25\%$ Mean spherical candlepower, 5 volt, and .115 ampere lamps.

Legending: Switches shall be provided with clear polyester legend plate $.610 \pm .010$ inch (15.49 ± 0.25 mm) square by .008 inch (0.20 mm) maximum thick and shall accept engraved or branded legends.

Mounting flange: Stainless steel.

Operating force: Momentary and alternate action switches: 12 to 48 ounces.

Return force: Momentary action switches: 4 ounces minimum.

Contact resistance: .050 ohm maximum initial.

Dielectric withstanding voltage:

Lamp terminals: 250 V rms at sea level.

Electrical ratings: See tables III and IV.

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TABLE I. Part number description.

Part Number	Switching action	Lens style	Contact material
M22885/71-01	Momentary	A	Silver
-02		B	
-03		C	
-04		D	
-05		E	
-06		F	
-07		G	
-08		H	
-09	Alternate action <u>1/</u>	A	
-10		B	
-11		C	
-12		D	
-13		E	
-14		F	
-15		G	
-16	H		
-17	Indicator	A	
-18		B	
-19		C	
-20		D	
-21		E	
-22		F	
-23		G	
-24	H		
-25	Momentary	A	Gold
-26		B	
-27		C	
-28		D	
-29		E	
-30		F	
-31		G	
-32	H		
-33	Alternate action <u>1/</u>	A	
-34		B	
-35		C	
-36		D	
-37		E	
-38		F	
-39		G	
-40	H		

1/ Maintained depressed action.

TABLE II. Illuminated chromaticity limits. 1/

X	Y
.500	.390
.500	.425
.550	.390
.550	.425

1/ Measured at 2200° Kelvin.

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TABLE III. 28 V dc electrical ratings (silver contacts). 1/

Load	Amperes
Resistive	7
Inductive	4

TABLE IV. Electrical ratings (gold contacts). 1/

Load	Power circuit 28 V dc	Electronic logic circuit 5 V dc	Low level 2/ 30 millivolts
	amperes	amperes	amperes
Resistive	1.0	0.01	0.01 maximum
Inductive	0.5	---	---

1/ Gold contacts: Contacts in which the mating surfaces are gold or gold alloy throughout the rated life of the switch.

2/ 30 millivolts maximum dc or peak ac.

Low level life: Applicable to gold contact switches, 50,000 cycles.

Electronic logic circuit: Applicable to gold contact switches. 50,000 cycles at an actuation rate of 120 cycles per minute maximum with no "stick" or "misses" allowed when tested in accordance with ANSI/EIA RS448, method 17 as follows:

Each pair of switch contacts shall be tested using a 5.0 ± 0.5 V dc, 10 ± 1 mA resistive load. During each closure of the contacts, the voltage drop across the switch terminals shall be monitored until 10 milliseconds after the initial contact closure to exclude any contact bounce. During each opening of the contacts, the voltage drop across the switch terminals shall be monitored for a duration of no less than 50 percent of each contact opening.

A voltage of 2.1 volts or greater across the switch terminals shall constitute a contact "miss" (failure to properly close the circuit). A voltage drop of less than 90 percent of the open-circuit voltage shall constitute a contact "stick" (failure to properly open the circuit).

The monitoring device shall either record the number of contact closures at which "sticks" or "misses" occur, or discontinue the test when "sticks" or "misses" occur.

25 percent of the test cycle at -55°C.

25 percent of the test at room ambient conditions.

50 percent of the test cycles at +55°C.

Shock: MIL-STD-202, method 213, test condition A (50 g's, half sine).

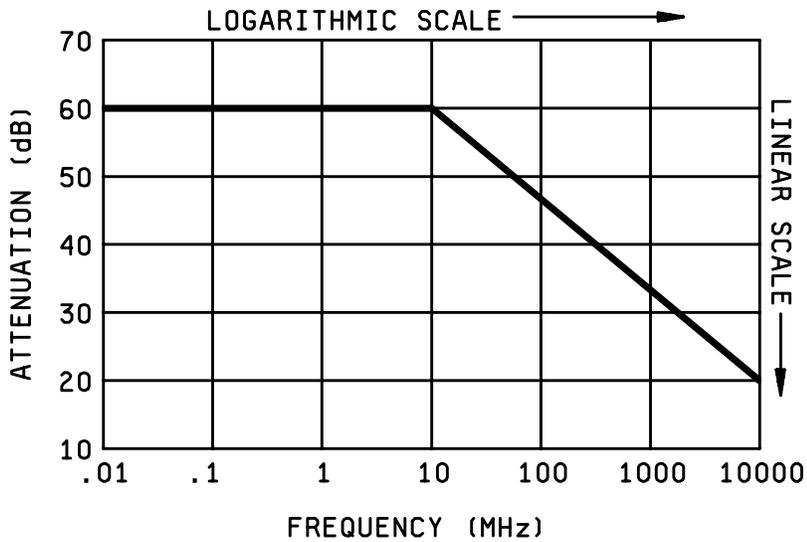
EMI/RFI shielding:

Positive grounding: Applicable.

Shielding efficiency: When switches are tested in accordance with the following test method, the attenuation shall not be less than specified below.

Test method: Switches shall be tested to determine shielding effectiveness in accordance with the general procedures specified in IEEE-STD-299. The test shall consist of electric field and plane wave measurements performed at the following frequencies:

<u>Electric field</u>	<u>Minimum attenuation</u>	<u>Plane wave</u>	<u>Minimum attenuation</u>
15 kHz	60 dB	100 MHz	47 dB
150 kHz	60 dB	400 MHz	39 dB
500 kHz	60 dB	1 GHz	33 dB
1MHz	60 dB	2.5 GHz	28 dB
10 MHz	60 dB	10 GHz	20 dB



Qualification inspection: See table V.

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TABLE V. Qualification inspection.

Qualification inspection (MIL-PRF-22885)	Test switch	Other inspections	Extent of approval
Groups I <u>1</u> / through VI, as applicable	Any alternate action, silver contact switch (M22885/71-9 through M22885/71-16)	M22885/71-25 (2 samples) Electronic logic circuit	All part numbers
Groups VI, VII, and VIII, as applicable	Any momentary action, gold contact switch (M22885/71-25 through M22885/71-32)	Operating characteristics	

1/ Physical dimensions shall only be measured on 2 samples.

Group B inspection: EMI/RFI shielding: Test of positive grounding only.

Custodians:

Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:

DLA - CC

Review activities:

Army - MI
Navy - SA, SH
Air Force - 70, 84, 99

(Project 5930-1716-09)