

MILITARY SPECIFICATION SHEET
SWITCH, PUSHBUTTON, ILLUMINATED,
SINGLE LAMP, 7 AMPERES, MOMENTARY ACTION

INACTIVE FOR NEW DESIGN AS OF 15 JANUARY 1999
DO NOT USE EXCEPT FOR REPLACEMENT PURPOSES

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

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

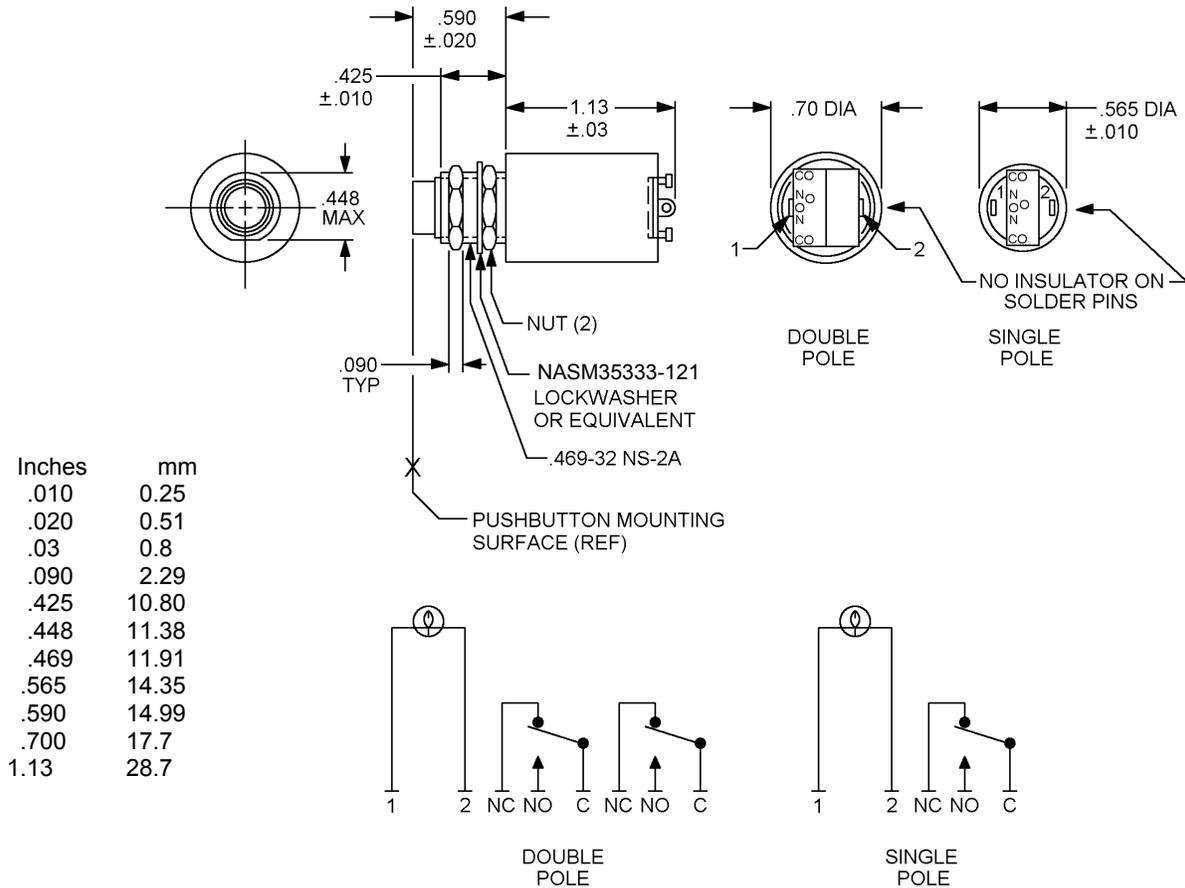
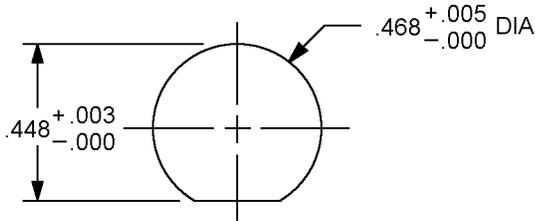


FIGURE 1. Basic switch body less lens.



"D" PATTERN HOLE SHOWN FOR BODY KEYING.
 .468 DIA ROUND HOLE MAY ALSO BE USED.

RECOMMENDED PANEL MOUNTING HOLE DIMENSIONS.

"D" PATTERN HOLE SHOWN FOR BODY KEYING
 .468 DIA., ROUND HOLE MAY ALSO BE USED

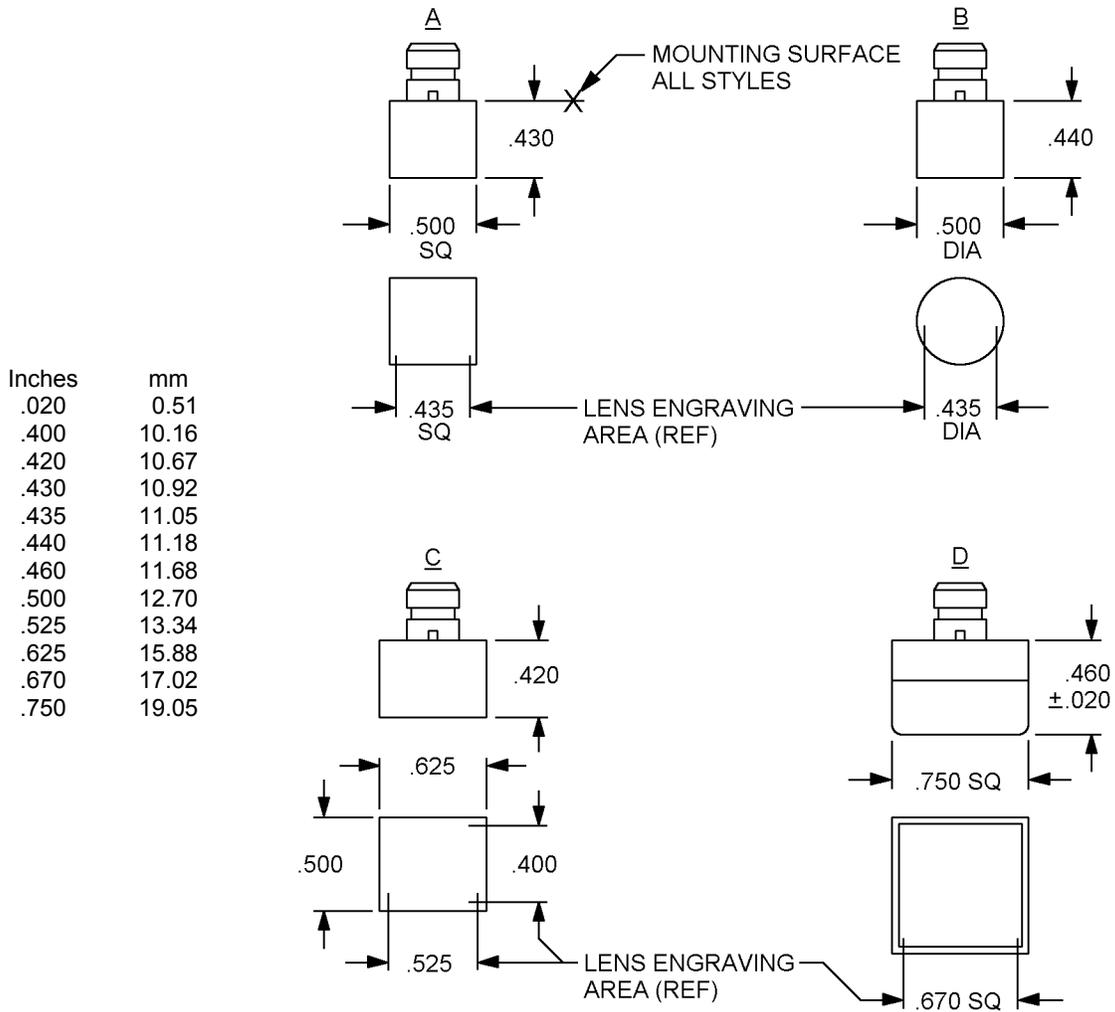
Recommended panel mounting hole dimensions

Inches	mm
.003	0.08
.005	0.13
.448	11.38
.468	11.89

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are $\pm .019$ (0.25 mm) for two place decimals and $\pm .005$ (0.13 mm) for three place decimals.
4. Unit mounts in panels from .010 (0.25 mm) to .20 (5.1 mm) thick.
5. Basic switches shall be MIL-PRF-8805/4 (PIN:MS24547-1 or MS24547-2) as listed on QPL-8805.
6. Terminals shall be permanently identified as shown in schematic.

FIGURE 1. Basic switch body less lens - Continued.



NOTES:

1. Lens shows color in both illuminated and nonilluminated conditions.
2. Lens style D illuminates in forward direction only.

FIGURE 2. Lens styles.

REQUIREMENTS:

Dimensions and configurations: See figures 1 and 2.

Complete switch shall consist of:

1: Lens, switch actuating, in accordance with figure 2.

1: Lamp, T-1-3/4 midget flange based incandescent - not included, order separately.

1: Switch body in accordance with figure 1.

Enclosure design: 1 (unsealed)

Temperature characteristic: 1 (-55°C to +85°C).

Vibration grade: 3 (10-2,000 Hz).

Shock:

Lens style D: 40 G, 6 milliseconds, half-sine pulse.

Dielectric withstanding voltage at reduced barometric pressure:

Altitude: 50,000 feet (MIL-STD-202, method 105, test condition B).

Luminance and color values: See table III.

Lens transmittance: T (translucent).

Weight (less lamp):

1 pole: .04 pound maximum.

2 pole: .05 pound maximum.

Operating characteristics:

Actuation force: 30 ±10 ounces.

Actuation travel: .120 inches, maximum.

Lens extraction force: 4 +4, -2 pounds.

Lens orientation: The lens shall withstand rotational torque up to 2 inch-pounds in either direction without rotating more than 8°.

Mounting torque: 5 ± .5 inch-pounds.

Electrical ratings: See tables I and II.

MIL-PRF-22885/89B

TABLE I. Electrical ratings - MS24547-1 basic switch (silver contacts).

Load	Sea level		50,000 feet 28 V dc (amperes)
	28 V dc (amperes)	115 V ac, 60 Hz (amperes)	
Resistive	8	7	4
Inductive	4	7	2.5
Lamp	2.5	2	2.5

TABLE II. Electrical ratings - MS24547-2 basic switch (gold contacts).

Load	Sea level	50,000 feet 28 V dc (amperes)
	28 V dc (amperes)	
Resistive	1	1
Inductive	.5	.5

TABLE III. Luminance and color.

Color code	Luminance ^{1/} (footlamberts minimum average)	Chromaticity limits at 2,360° Kelvin	
		X	Y
Green	35	.250 ± .030	.650 ± .030
Red	50	.685 ± .030	.310 ± .030
White	250	.525 ± .030	.413 ± .030
Yellow	250	.570 ± .030	.425 ± .030
Blue	20	.130 ± .030	.345 ± .030

^{1/} When illuminated by one MIL-DTL-6363/8 lamp of 0.34 ± .02 mean spherical candle power.

Readings are for all lens styles.

Part or Identifying Number (PIN): PINs shall be assigned as illustrated below:

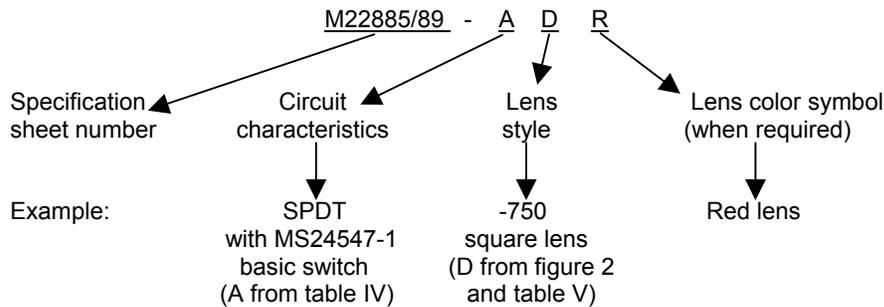


TABLE IV. Circuit characteristics.

Code	Basic switch	Circuit
A	MS24547-1	SPDT
B	MS24547-1	DPDT
C	MS24547-2	SPDT
D	MS24547-2	DPDT
E <u>1/</u>	None	---

1/ Use code E to specify lens portion of switch only.

TABLE V. Lens style.

Code	Lens style (see figure 2)
A	A
B	B
C	C
D	D
Z <u>1/</u>	None

1/ Use code Z to specify switch body only (less lens).

Qualification inspection: All applicants for qualification approval shall demonstrate that each of their items conforms to all of the requirements specified in the applicable documents singularly and in combination with all other previously qualified items, regardless of manufacturer.

Group submission:

- a. When the basic sensitive switches are qualified to MIL-PRF-8805/4, switches shall be tested in accordance with table VI.
- b. When the basic sensitive switches are not qualified to MIL-PRF-8805/4, the switch type for which qualification is sought, shall be subjected to the complete tests in accordance with table X of MIL-PRF-22885.

TABLE VI. Qualification inspection (group submission).

Part number	Inspection table of MIL-PRF-22885		Extent of approval	
	Group	Number of samples		
M22885/89 -BDW	I	(All sample units)	} All	
	II	4 (from group I) <u>1/</u>		
	III	2 (from group I)		
	VII	2 (from group I) <u>2/</u>		
VIII	1 each color <u>3/</u>			
M22885/89 -CCW	I	(All sample units)		
	II	4 (from group I) <u>1/</u>		
	VI	2 (from group I) <u>2/</u>		
	VIII	1 each color <u>4/</u>		

- 1/ Insulation resistance: Following step 6 of the final cycle of the moisture resistance test, the insulation resistance measurement shall not be less than 5 megohms.
- 2/ Sea level, resistive dc load only.
- 3/ One style D lens of each color shall be tested in any switch from group I.
- 4/ One style C lens of each color shall be tested in any switch from group I.

Referenced documents. In addition to MIL-PRF-22885, this document references the following:

- MIL-PRF-8805/4
- MIL-STD-202
- MIL-DTL-6363/8
- NASM35333

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Navy - EC
Air Force - 11
DLA-CC

Preparing activity:
DLA - CC

(Project 5930-1791)

Review activity:
Air Force - 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at www.dodssp.daps.mil.