

INCH-POUND
MIL-PRF-22885/89C
19 April 2010
SUPERSEDING
MIL-PRF-22885/89B
17 March 2004

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

INACTIVE FOR NEW DESIGN AS OF 15 JANUARY 1999

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.

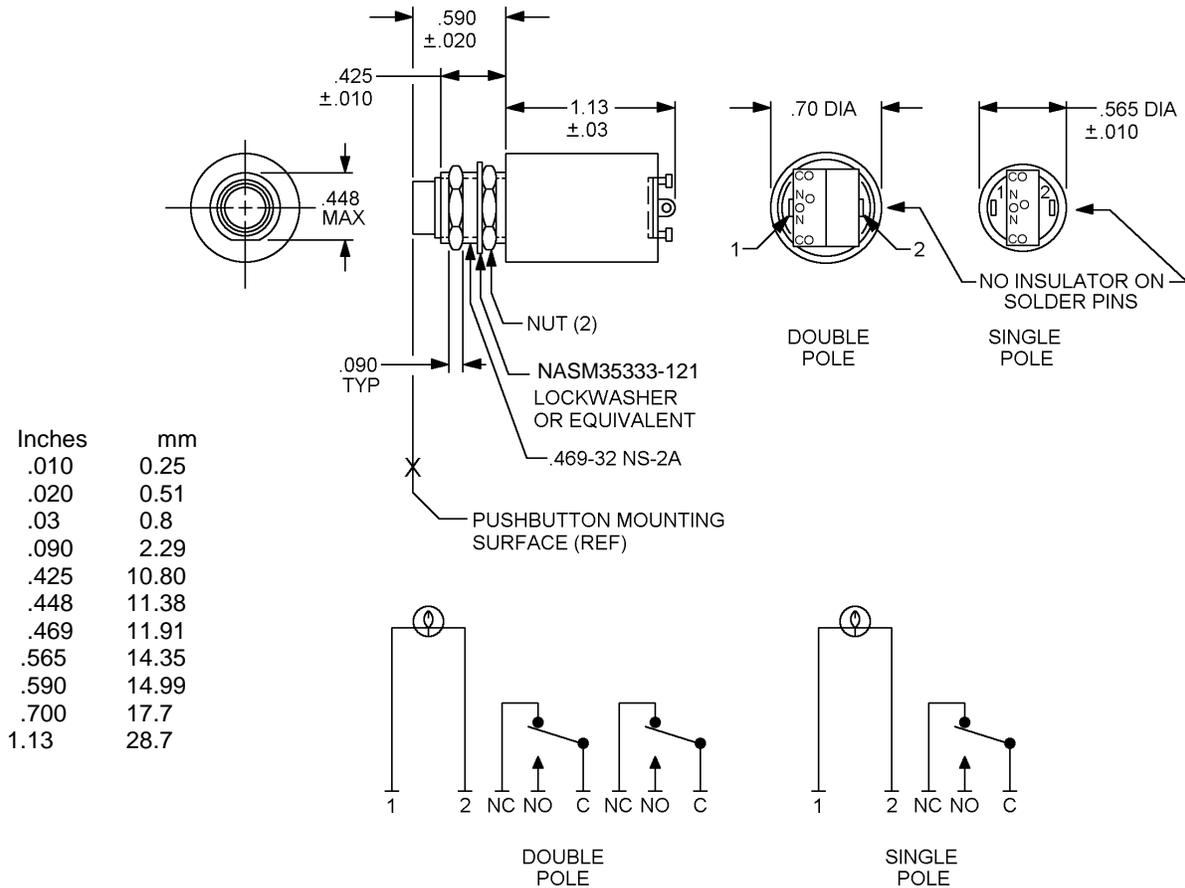
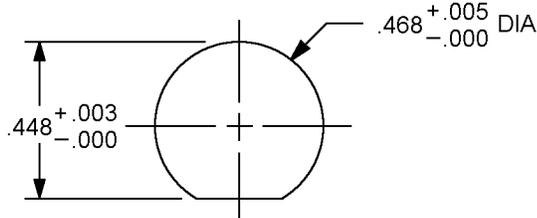


FIGURE 1. Basic switch body less lens.



"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

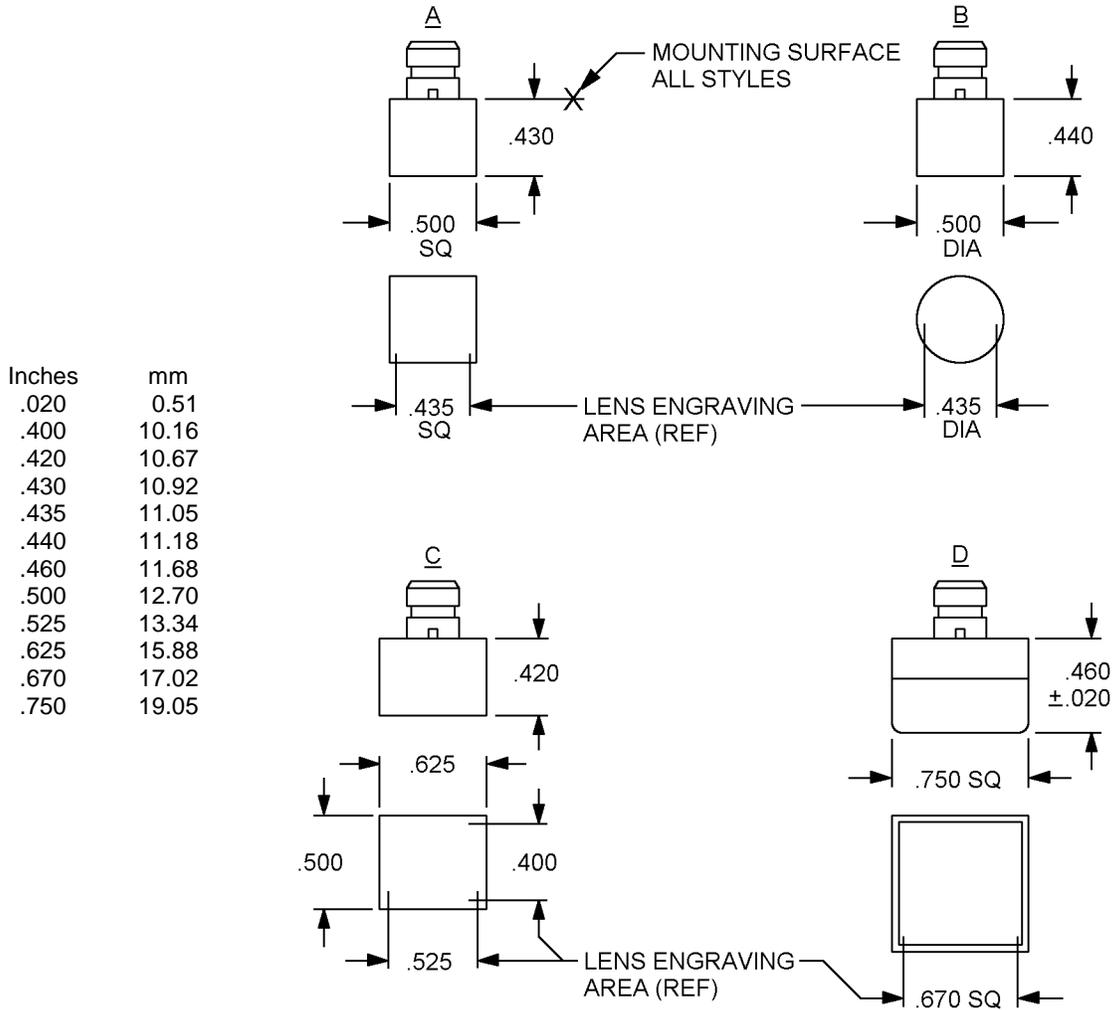
Recommended panel mounting hole dimensions

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.

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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:

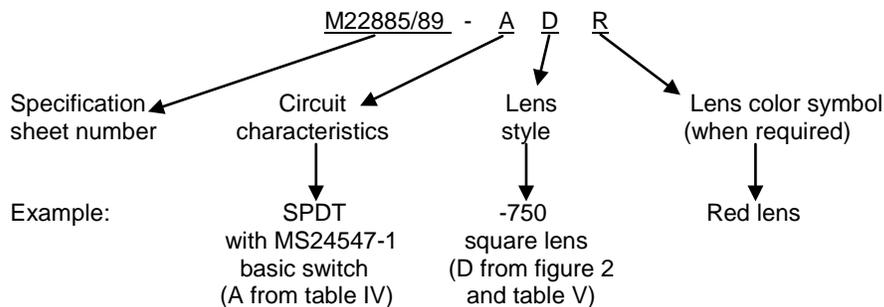


TABLE IV. Circuit characteristics.

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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.

Group B inspection: Not applicable.

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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

The margins of this specification are marked with vertical lines to indicate where modifications from this revision were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Custodians:
Navy - EC
Air Force - 85
DLA-CC

Preparing activity:
DLA - CC

(Project 5930-2010-025)

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 <https://assist.daps.dla.mil/>.