

INCH-POUND

MIL-S-24317/9B
28 February 2006
SUPERSEDING
MIL-S-24317/9A
21 December 1989

MILITARY SPECIFICATION SHEET

SWITCHES, MULTISTATION, PUSH BUTTON, ILLUMINATED MATRIX ARRANGEMENT PLUG-IN
MODULE, 2 AMPERES, UNSEALED, TYPE SM09L1

INACTIVE FOR NEW DESIGN AFTER 08 MARCH 1999.

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

The complete requirements for acquiring the switch described herein shall consist of this specification and
the latest issue of MIL-DTL-24317.

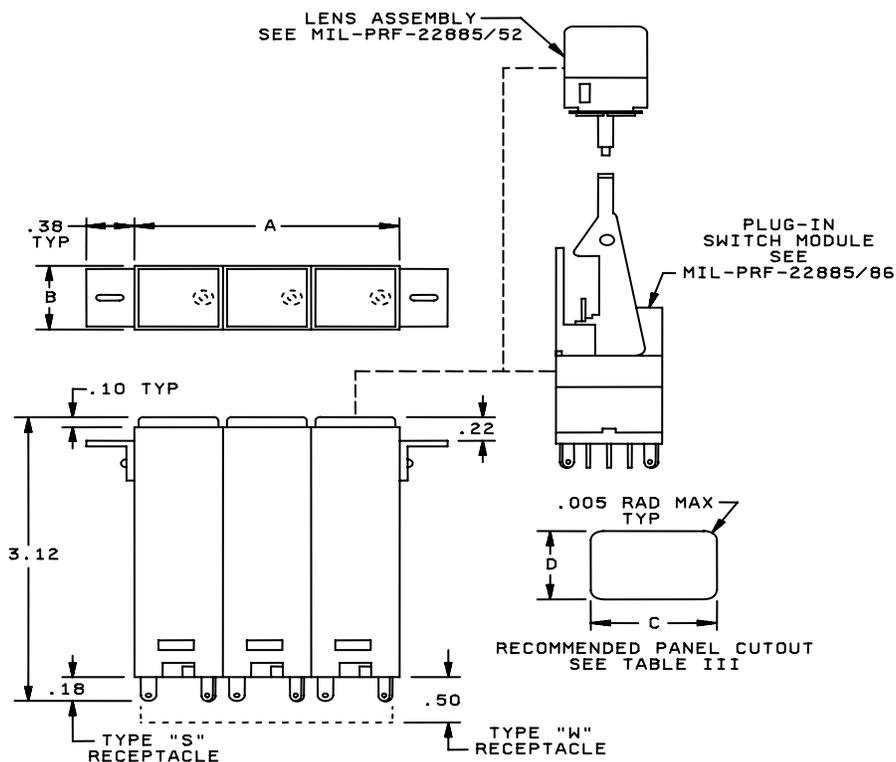
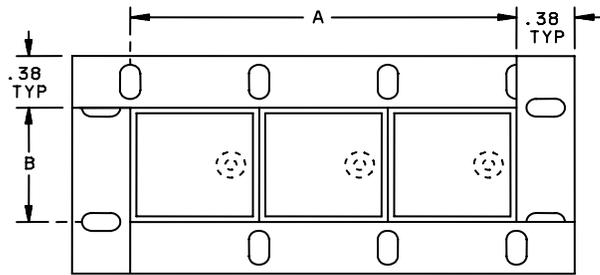


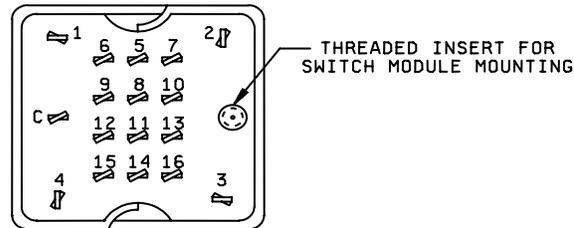
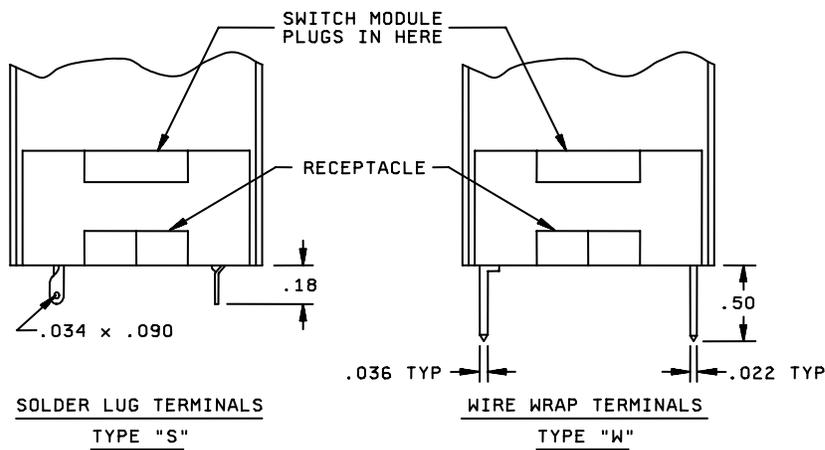
FIGURE 1. Matrix frame assembly, three station.

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Inches	mm
.005	0.13
.022	0.56
.034	0.86
.036	0.91
.090	2.29
.10	2.5
.18	4.6
.22	5.6
.38	9.7
.50	12.7
3.12	79.2



FLANGE ARRANGEMENT FOR RFI SHIELDING

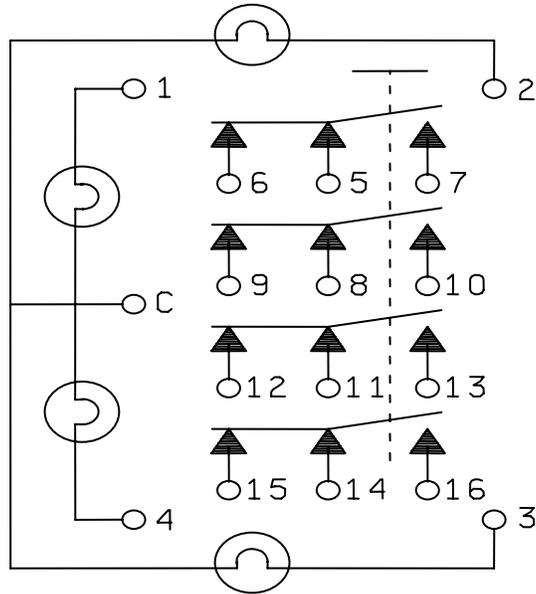


TERMINAL ARRANGEMENT

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .015$ (0.38 mm) for three place decimals and $\pm .03$ (0.76 mm) for two place decimals.
4. Terminals shall be permanently identified with numbers as shown in terminal arrangement.
5. Design configuration is optional within envelope dimensions.
6. For dimension, see table III.

FIGURE 1. Matrix frame assembly, three station – Continued.



NOTES:

1. Terminals 8 through 13 are omitted for 2PDT configurations.
2. Terminals 5 through 16 are omitted for indicator configurations.
3. Terminals 5, 8, 11, and 14 are pole terminals.

FIGURE 2. Lamp and 4PDT switch schematic.

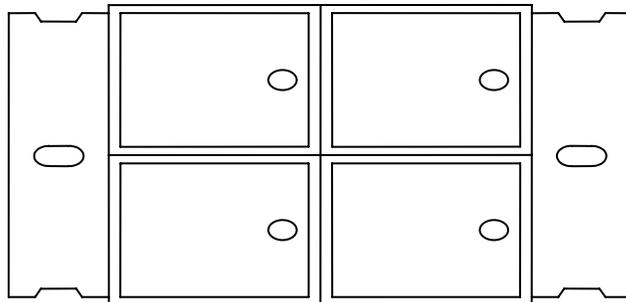


FIGURE 3. Flange arrangement for unshielded switch (vertical flanges shown).

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REQUIREMENTS:

Dimensions and configuration: See figures 1 through 3.

Complete multistation switch assembly shall consist of:

- a) Multistation matrix frame (includes receptacles and flanges).
- b) Switch module, plug-in type (see MIL-PRF-22885/86), when specified in contract or purchase order.
- c) Lamps (T 1-3/4 midget flange base incandescent), when specified in contract or purchase order.
- d) Pushbutton lens (see MIL-PRF-22885/52), when specified in contract or purchase order.

Indication characteristic: L (Illuminated).

Enclosure design: 1 (Unsealed).

Frame finish:

Non-RFI shielded: Black anodize in accordance with MIL-A-8625.

RFI shielded: Chemical filmed in accordance with MIL-C-5541.

RFI attenuation: Requirement and test in accordance with MIL-PRF-22885/86.

Weight. 1.32 ounces (approximate) per station (37.4 grams).

Electrical rating: See table I.

TABLE I Electrical ratings.

Load	Sea level	
	28 V dc (amperes)	115 V ac (amperes)
Resistive	2.0	2.0
Inductive	1.0	1.0
Lamp	0.75	0.75

Operating force. 3. 5 ± 1.0 pounds.

Colors and photometric brightness. In accordance with MIL-PRF-22885/52

Solderability: Not applicable to wire wrap terminals.

Shock: Test condition A. method 213 of MIL-STD-202 (50 g, half-sine).

Matrix frame part number: M24317/9- (dash number from table III).

Qualification inspection:

At the request of the manufacturer, group C testing may be suspended with the qualifying activity's approval if it can be demonstrated that these test have been performed three consecutive times with zero failures. If the design, material, construction, or processing is changes or if there are any quality problems or failures, or at their discretion the qualifying activity may require resumption of the original testing requirement. Suspension of testing does not relieve the manufacturer from meeting the Group C test requirements.

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All applicants for qualification approval shall demonstrate that each of their items conforms to all the requirements specified in the applicable documents, singularly and in combination with all other previously qualified items, regardless of manufacturer. When the lens assembly and plug-in switch modules are qualified to MIL-PRF-22885/52 and /86, qualification and group C inspection of the multistation switch assembly shall be in accordance with table II.

Extent of qualification: The multistation switch and indicator assembly to be used for qualification inspection shall be the 3-stations unit (3 X 1 matrix). Qualification of the 3-station units shall qualify all multistation units up to and including the 20-station unit. The 3-station units shall contain the following items. Locations of each item in the matrix will be determined by the test activity.

Item	Part number	Description	Quantity
1	M24317/9-023	3 X 1 matrix frame (RFI shielded)	1
2	M22885/86-003	2PDT momentary switch module	1
3	M22885/86-001	4PDT momentary switch module	1
4	M22885/86-005	Indicator module	1
5	M22885/52-	Pushbutton lens	3

TABLE II. Qualification inspection (group Submission)

Assembly	Qualification inspection table of MIL-DTL-24317		Extent of approval
1 x 3 Matrix (RFI shielded)	I <u>1/</u> II <u>2/</u> III <u>3/</u>	8 4 from group I 2 from group II <u>4/</u>	All

1/ Simultaneity not applicable.

2/ Torque strength of plunger not applicable.

3/ Dielectric withstanding voltage after salt spray not applicable.

4/ Samples shall be subjected to RFI test of MIL-PRF-22885/86.

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TABLE III Dash number, design and panel cutout dimensions.

Dash number ^{1/}		Number of stations (H x V)	Dimensions ^{2/}				Number of flanges ^{3/}	RFI shielded
Type S	Type W		Matrix ± .015 (.38)		Panel cutout + .030 (.76) -.000			
			A	B	C	D		
-001	-011	1 (1 X 1)	.755 (19.18)	.755 (19.18)	.775 (19.69)	.775 (19.69)	2V	No
-002	-012	2 (2 X 1)	1.510 (38.35)	"	1.530 (38.86)	"	2V	No
-003	-013	3 (3 X 1)	2.265 (57.53)	"	2.285 (58.04)	"	2V	No
-004	-014	4 (4 X 1)	3.020 (76.71)	"	3.040 (77.22)	"	2V	No
-005	-015	5 (5 X 1)	3.775 (95.89)	"	3.795 (96.39)	"	2V	No
-006	-016	6 (6 X 1)	4.530 (115.06)	"	4.550 (115.57)	"	2V	No
-007	-017	7 (7 X 1)	5.285 (134.24)	"	5.305 (134.75)	"	2H	No
-008	-018	8 (8 X 1)	6.040 (153.42)	"	6.060 (153.92)	"	2H	No
-009	-019	9 (9 x 1)	6.795 (172.59)	"	6.815 (173.10)	"	2H	No
-010	-020	10 (10 x 1)	7.550 (191.77)	"	7.570(192.28)	"	2H	No
-021	-031	1 (1 X 1)	.755(19.18)	"	.775(19.69)	"	2V2H	Yes
-022	-032	2 (2 X 1)	1.510 (38.35)	"	1.530(38.86)	"	2V2H	Yes
-023	-033	3 (3 X 1)	2.265 (57.53)	"	2.285(58.04)	"	2V2H	Yes
-024	-034	4 (4 X 1)	3.020 (76.71)	"	3.040(77.22)	"	2V2H	Yes
-025	-035	5 (5 X 1)	3.775(95.89)	"	3.795(96.39)	"	2V2H	Yes
-026	-036	6 (6 X 1)	4.530(115.06)	"	4.550 (115.57)	"	2V2H	Yes
-027	-037	7 (7 X 1)	5.285 (134.24)	"	5.305(134.75)	"	2V2H	Yes
-028	-038	8 (8 X 1)	6.040 (153.42)	"	6.060 (153.92)	"	2V2H	Yes
-029	-039	9 (9 x 1)	6.795 (172.59)	"	6.815(173.10)	"	2V2H	Yes
-030	-040	10 (10 x 1)	7.550 (191.77)	"	7.570(192.28)	"	2V2H	Yes
-041	-051	2 (1 X 2)	.755(9.18)	1.510(38.35)	.775(19.69)	1.530(38.86)	2V	No
-042	-052	4 (2 X 2)	1.510 (38.35)	"	1.530(38.86)	"	2V	No
-043	-053	6 (3 X 2)	2.265 (57.53)	"	2.285 (58.04)	"	2V	No
-044	-054	8 (4 X 2)	3.020 (76.71)	"	3.040 (77.22)	"	2V	No
-045	-055	10 (5 X 2)	3.775 (95.89)	"	3.795 (96.39)	"	2V	No
-046	-056	12 (6 X 2)	4.530 (115.06)	"	4.550 (115.57)	"	2V	No
-047	-057	14 (7 X 2)	5.285 (134.24)	"	5.305 (134.75)	"	2H	No
-048	-058	16 (8 X 2)	6.040 (153.42)	"	6.060 (153.92)	"	2H	No
-049	-059	18 (9 x 2)	6.795 (172.59)	"	6.815 (173.10)	"	2H	No
-050	-060	20 (10 x 2)	7.550 (191.77)	"	7.570(192.28)	"	2H	No
-061	-071	2 (1 X 2)	.755(9.18)	"	.775 (19.69)	"	2V2H	Yes
-062	-072	4 (2 X2)	1.510 (38.35)	"	1.530 (38.86)	"	2V2H	Yes
-063	-073	6 (3 X 2)	2.265 (57.53)	"	2.285 (58.04)	"	2V2H	Yes
-064	-074	8 (4 X 2)	3.020 (76.71)	"	3.040 (77.22)	"	2V2H	Yes
-065	-075	10 (5 X 2)	3.775 (95.89)	"	3.795 (96.39)	"	2V2H	Yes
-066	-076	12 (6 X 2)	4.530 (115.06)	"	4.550 (115.57)	"	2V2H	Yes
-067	-077	14 (7 X 2)	5.285 (134.24)	"	5.305 (134.75)	"	2V2H	Yes
-068	-078	16 (8 X 2)	6.040 (153.42)	"	6.060 (153.92)	"	2V2H	Yes
-069	-079	18 (9 X 2)	6.795 (172.59)	"	6.815 (173.10)	"	2V2H	Yes
-070	-080	20 (10 X 2)	7.550 (191.77)	"	7.570(192.28)	"	2V2H	Yes

^{1/} Dash number shown are for matrix frame with flanges and receptacles and do not include switch, indicator, or lens assemblies. See MIL-PRF-22885/86.

^{2/} Metric equivalents are given for general information only.

^{3/} See figure 3 (2V = two vertical flanges; 2H = two horizontal flanges).

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Referenced documents. In addition to MIL-DTL-24317, this document references the following:

MIL-PRF-22885/52
MIL-PRF-22885/86
MIL-STD-202
MIL-C-5541
MIL-A-8625

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 (5930-2006-012)

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