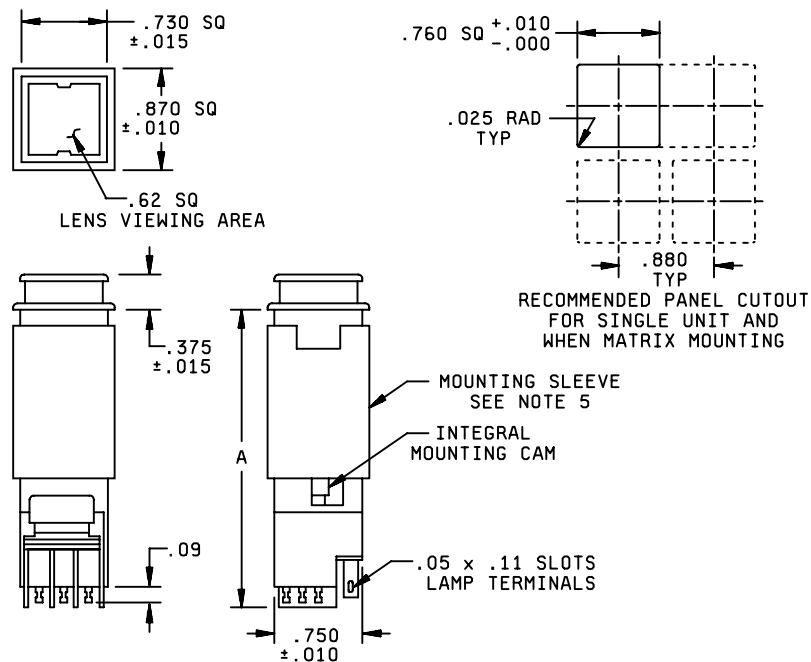


PERFORMANCE SPECIFICATION SHEET

SWITCHES, PUSH BUTTON, ILLUMINATED,
4-LAMP, 0.87 SQUARE, 7 AMPERES,
ELECTROMAGNETIC INTERFERENCE SHIELDED

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

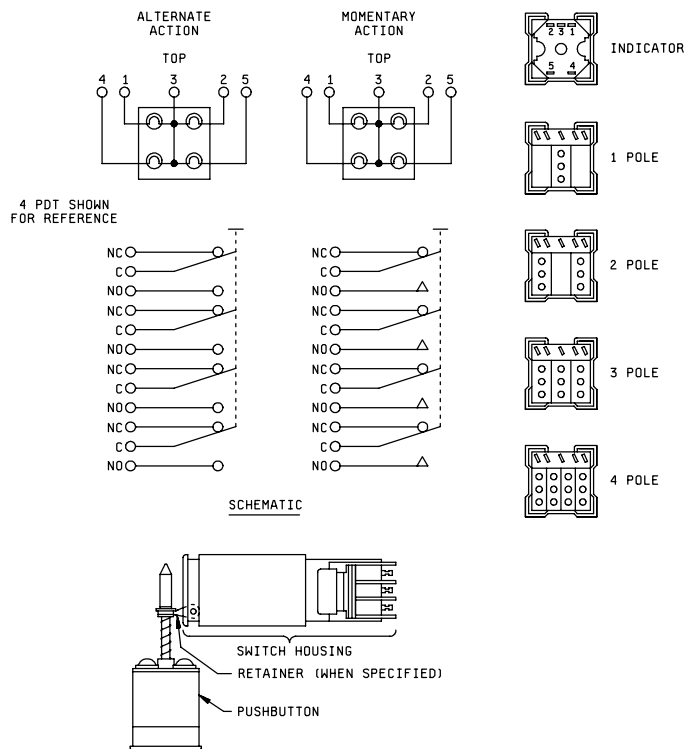
The requirements for acquiring the indicator lights described herein shall
consist of this specification sheet and MIL-PRF-22885.



Dimension A	
Momentary	2.750 max
Alternate	2.750 max
Indicator light	1.906 max

FIGURE 1. Design and construction.

MIL-PRF-22885/75E



NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerances are ± 0.005 (0.13 mm) for three place decimals and ± 0.03 (0.8 mm) for two place decimals.
3. Metric equivalents are given for general information only.
4. Unit mounts in panels from .125 (3.18 mm) to .250 (6.35 mm) thick.
5. Mounting sleeve shall not exceed .87 square and shall be reversible to accommodate increased panel thickness.
6. Pushbutton designed to prevent incorrect insertion into switch housing.
7. Exact shape of switch optional provided dimensions specified are not exceeded.

FIGURE 1. Design and construction - Continued.

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REQUIREMENTS:

Design and construction: See figure 1. Basic switches shall be MIL-PRF-8805/4 (MS24547-1) or MIL-PRF-8805/109 (M8805/109-01) listed in QPL-8805.

Enclosure design: 1 (unsealed).

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

Vibration grade: 2 (10-500 Hz).

Operation: A (momentary action), B (alternate action), H (indicator light).

Illuminated color: See table I.

Display type:

W (white until illuminated, then background appears in color).

Material:

Housing: Corrosion resistant steel or aluminum alloy.

Weight: 2.2 ounces maximum.

Military part number: See table I.

Lamps: Pushbutton shall accommodate four lamps, T-1 ¾ midget flange base.
Lamps shall be acquired separately.

Operating characteristics:

Actuation force: 2 to 5 pounds.

Pushbutton travel: .218 ±.031.

Lens extraction force: 2 to 8 pounds.

Shock: MIL-STD-202, method 214, test condition H, (75 g's for 6 milliseconds).

Moisture resistance: Following step 6 of the final cycle of the moisture resistance test, while switches are still wet, the insulation resistance measurement shall be not less than 5 megohms.

Electrical endurance: See table II for electrical load conditions.

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Chromaticity coordinates <u>1/</u> 2200° kelvin		
Colors	X	Y
Green	.350	SL <u>2/</u>
	.350	.610
	.185	.610
	.270	SL <u>2/</u>
Amber	.600	SL <u>2/</u>
	.588	.385
	.627	.346
	.640	SL <u>2/</u>
Yellow	.530	.442
	.544	SL <u>2/</u>
	.571	.402
	.584	SL <u>2/</u>
Red	.680	.300
	.690	.310
	.723	.257
	.736	.264
Blue	.180	.300
	.180	.370
	.120	.370
	.120	.300
White	.484 ref	.415 ref
X is not less than .350. Y is not greater than .520. Y - Y ₀ or Y ₀ - Y is not numerically greater than 0.05X. (Y ₀ is the Y coordinate of the Planckian radiator for a given X).		

- 1/ The chromaticities of the diffusing lenses or colored filters expressed as X and Y coordinates on the CIE chromaticity diagram shall lie within areas bounded by the coordinates listed for each color, using MIL-L-6363/8-7 lamps .30 ±.02 V dc reference 2075°/2100° kelvin.
- 2/ SL = spectrum locus (where intersected by other of coordinate pair).

TABLE II. Electrical ratings.

Load	Sea level		50,000 feet 28 V dc
	28 V dc	115 V ac, 60 Hz	
	<u>amperes</u>	<u>amperes</u>	<u>amperes</u>
Resistive	7	7	4
Inductive	4	7	2.5
Lamp	2.5	2	2.5

MIL-PRF-22885/75E

EMI/RFI shielding: Shielding efficiency test applicable, except the shielding attenuation shall be not less than 47 dB at 100 MHz, 39 dB at 400 MHz and 33 dB at 1,000 MHz.

Luminance: See table III.

TABLE III. Luminance.

Color	Color code	Brightness <u>1/</u> <u>2/</u> (foot-lamberts, minimum average)
Blue	B	12.0
Green	G	80.0
Red	R	56.0
White	W	146.0
Amber	A	406.0
Yellow	Y	470.0

1/ When illuminated by two M6363/8-7 lamps of 0.34 ± 0.02 mean spherical candlepower at 28 volts dc, readings are for lens configuration 0.

2/ Brightness is reduced by approximately 50 percent when EMI screen is specified.

Marking: Lamp circuit schematic shall be marked on the switch housing.

Qualification inspection:

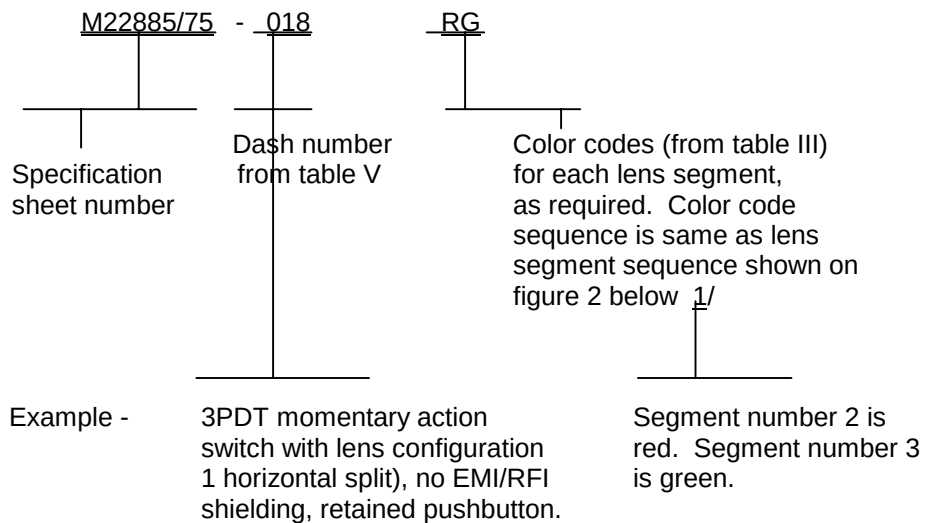
Group submission: All part numbers will be approved for inclusion in the qualified products list upon successful completion of testing specified in table IV. Table IV is based on use of qualified MIL-PRF-8805/4 or MIL-PRF-8805/109 basic switches.

TABLE IV. Qualification inspection - group submission.1/ Maintained depressed action.TABLE II. Illuminated chromaticity limits. 1/

Inspection <u>1/</u>	Sample
Group I	All samples
Group II	M22885/75-201R (4 samples)
Group III	M22885/75-025W (2 samples)
Group VI <u>2/</u>	M22885/75-025W (2 samples)
Group VII	M22885/75-201R (2 samples)
Group VIII	2 pushbuttons of each color (10 samples), of lens configuration 0, and without EMI/RFI shielding. <u>3/</u>

1/ Inspection groups in accordance with qualification inspection table of MIL-PRF-22885.2/ Electrical endurance: Test resistance load, ac, only. Lamps used during electrical endurance test shall be M6363/8-7.3/ Pushbuttons shall be assembled to any representative switch body.

Part numbers: Part numbers are assigned as illustrated below. Part numbers do not include legend description. Acquire switches with legends as category II items in accordance with MIL-PRF-22885.



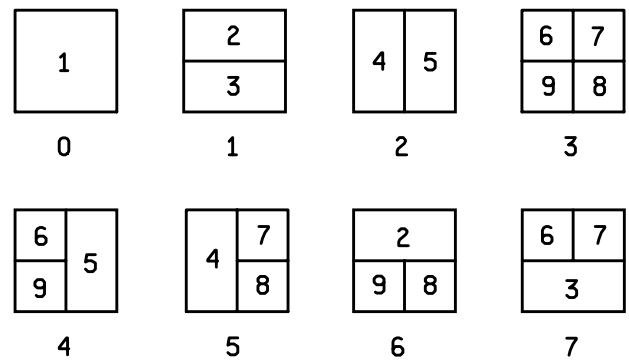


FIGURE 2. Lens configuration and segment numbers.

1/ Part number constructed as shown replace and are interchangeable with previous part numbers which included segment numbers in addition to color codes (example: M22885/75-018-2R3G).

TABLE V. Dash numbers.

Dash numbers		Operation	Circuit	Lens configuration (see figure 2)	Retained pushbutton <u>1</u> /
Non-EMI shielded	EMI shielded				
2/ {	001	Momentary	1PDT	0	Yes
	002	Momentary	1PDT	1	Yes
	003	Momentary	1PDT	2	Yes
	004	Momentary	1PDT	3	Yes
	005	Momentary	1PDT	4	Yes
	006	Momentary	1PDT	5	Yes
	007	Momentary	1PDT	6	Yes
	008	Momentary	1PDT	7	Yes
	009	Momentary	2PDT	0	Yes
	010	Momentary	2PDT	1	Yes
	011	Momentary	2PDT	2	Yes
	012	Momentary	2PDT	3	Yes
	013	Momentary	2PDT	4	Yes
	014	Momentary	2PDT	5	Yes
	015	Momentary	2PDT	6	Yes
	016	Momentary	2PDT	7	Yes
	017	Momentary	3PDT	0	Yes
	018	Momentary	3PDT	1	Yes
	019	Momentary	3PDT	2	Yes
	020	Momentary	3PDT	3	Yes
	021	Momentary	3PDT	4	Yes
	022	Momentary	3PDT	5	Yes
	023	Momentary	3PDT	6	Yes
	024	Momentary	3PDT	7	Yes
	025	Momentary	4PDT	0	Yes
	026	Momentary	4PDT	1	Yes
	027	Momentary	4PDT	2	Yes
	028	Momentary	4PDT	3	Yes
	029	Momentary	4PDT	4	Yes
	030	Momentary	4PDT	5	Yes
	031	Momentary	4PDT	6	Yes
	032	Momentary	4PDT	7	Yes
2/ {	033	Alternate	1PDT	0	Yes
	034	Alternate	1PDT	1	Yes
	035	Alternate	1PDT	2	Yes
	036	Alternate	1PDT	3	Yes
	037	Alternate	1PDT	4	Yes
	038	Alternate	1PDT	5	Yes
	039	Alternate	1PDT	6	Yes
	040	Alternate	1PDT	7	Yes
	041	Alternate	2PDT	0	Yes
	042	Alternate	2PDT	1	Yes
	043	Alternate	2PDT	2	Yes
	044	Alternate	2PDT	3	Yes
	045	Alternate	2PDT	4	Yes
	046	Alternate	2PDT	5	Yes
	047	Alternate	2PDT	6	Yes
	048	Alternate	2PDT	7	Yes

See footnotes at end of table.

TABLE V. Dash numbers - Continued.

Dash numbers		Operation	Circuit	Lens configuration (see figure 2)	Retained pushbutton <u>1</u> /
Non-EMI shielded	EMI shielded				
049	193	Alternate	3PDT	0	Yes
050	194	Alternate	3PDT	1	Yes
051	195	Alternate	3PDT	2	Yes
052	196	Alternate	3PDT	3	Yes
053	197	Alternate	3PDT	4	Yes
054	198	Alternate	3PDT	5	Yes
055	199	Alternate	3PDT	6	Yes
056	200	Alternate	3PDT	7	Yes
057	201	Alternate	4PDT	0	Yes
058	202	Alternate	4PDT	1	Yes
059	203	Alternate	4PDT	2	Yes
060	204	Alternate	4PDT	3	Yes
061	205	Alternate	4PDT	4	Yes
062	206	Alternate	4PDT	5	Yes
063	207	Alternate	4PDT	6	Yes
064	208	Alternate	4PDT	7	Yes
209	217	Indicator	Indicator	0	Yes
210	218	Indicator	Indicator	1	Yes
211	219	Indicator	Indicator	2	Yes
212	220	Indicator	Indicator	3	Yes
213	221	Indicator	Indicator	4	Yes
214	222	Indicator	Indicator	5	Yes
215	223	Indicator	Indicator	6	Yes
216	224	Indicator	Indicator	7	Yes
<u>2</u> /	065	Momentary	2PDT	0	No
	066	Momentary	2PDT	1	No
	067	Momentary	2PDT	2	No
	068	Momentary	2PDT	3	No
	069	Momentary	2PDT	4	No
	070	Momentary	2PDT	5	No
	071	Momentary	2PDT	6	No
	072	Momentary	2PDT	7	No
<u>2</u> /	073	Momentary	3PDT	0	No
	074	Momentary	3PDT	1	No
	075	Momentary	3PDT	2	No
	076	Momentary	3PDT	3	No
	077	Momentary	3PDT	4	No
	078	Momentary	3PDT	5	No
	079	Momentary	3PDT	6	No
	080	Momentary	3PDT	7	No
<u>2</u> /	081	Momentary	4PDT	0	No
	082	Momentary	4PDT	1	No
	083	Momentary	4PDT	2	No
	084	Momentary	4PDT	3	No
	085	Momentary	4PDT	4	No
	086	Momentary	4PDT	5	No
	087	Momentary	4PDT	6	No
	088	Momentary	4PDT	7	No

See footnotes at end of table.

TABLE V. Dash numbers - Continued.

Dash numbers		Operation	Circuit	Lens configuration (see figure 2)	Retained pushbutton <u>1/</u>
Non-EMI shielded	EMI shielded				
<u>2/</u> { 089 090 091 092 093 094 095 096	<u>2/</u> { 137 138 139 140 141 142 143 144	Alternate Alternate Alternate Alternate Alternate Alternate Alternate Alternate	2PDT 2PDT 2PDT 2PDT 2PDT 2PDT 2PDT 2PDT	0 1 2 3 4 5 6 7	No No No No No No No No
<u>2/</u> { 097 098 099 100 101 102 103 104	<u>2/</u> { 145 146 147 148 149 150 151 152	Alternate Alternate Alternate Alternate Alternate Alternate Alternate Alternate	3PDT 3PDT 3PDT 3PDT 3PDT 3PDT 3PDT 3PDT	0 1 2 3 4 5 6 7	No No No No No No No No
<u>2/</u> { 097 098 099 100 101 102 103 104	<u>2/</u> { 153 098 099 100 101 102 103 104	Alternate Alternate Alternate Alternate Alternate Alternate Alternate Alternate	4PDT 4PDT 4PDT 4PDT 4PDT 4PDT 4PDT 4PDT	0 1 2 3 4 5 6 7	No No No No No No No No

1/ Retained pushbutton shall be capable of having lamps replaced but is restricted in complete removal from switch housing.

2/ Not for new design.

NOTE: 800 and 900 series dash numbers, for switch housing only and pushbutton only, have been canceled without replacement.

Custodians:

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

Preparing activity:

DLA - CC

Review activities:

Army - AR, AV, CR4
Navy - AS, MC, OS, SH
Air Force - 99

(Project 5930-1716-10)