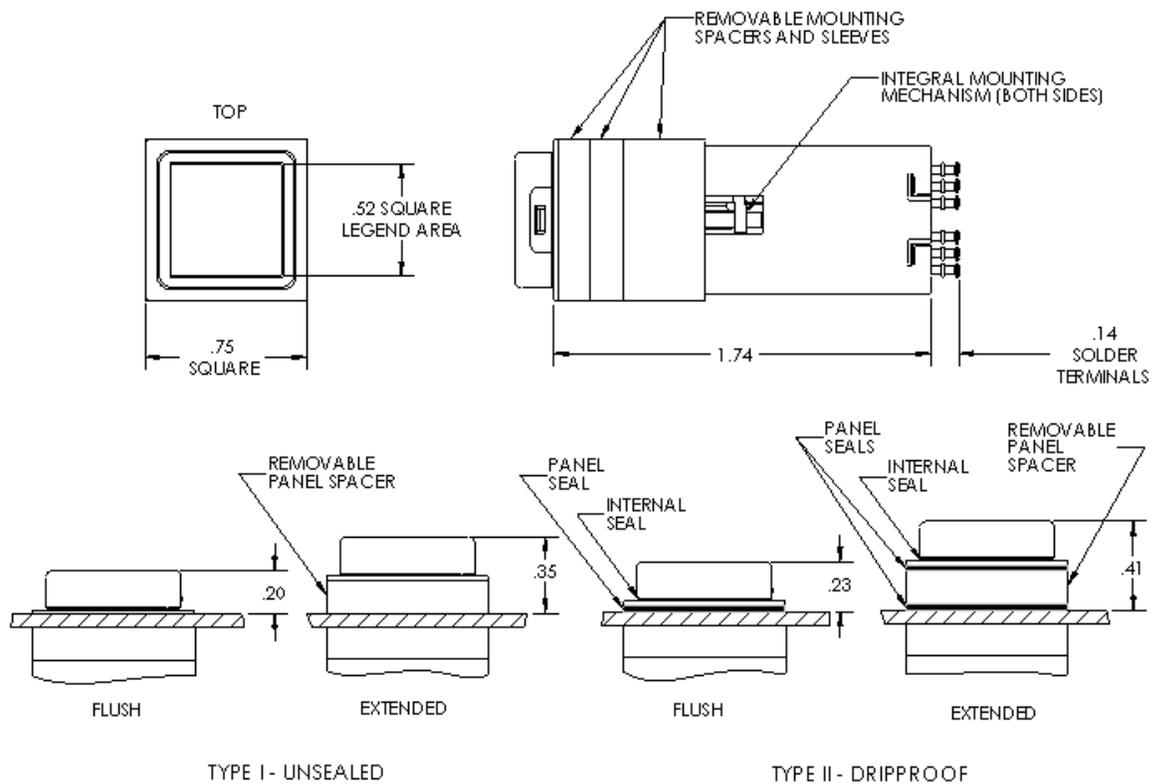


PERFORMANCE SPECIFICATION SHEET

SWITCHES, PUSHBUTTON, WHITE LIGHT EMITTING DIODE (LED) OR 4 LAMP REPLACEABLE
 INCANDESCENT ILLUMINATED, STANDARD, NIGHT VISION IMAGING SYSTEM (NVIS) AND
 SUNLIGHT READABLE DISPLAYS, DIMMABLE, SPDT, DPDT AND 4PDT, LOW LEVEL TO 7
 AMPERES, SEALED AND UNSEALED, SOLDER AND COMMON TERMINATION SYSTEM (CTS)
 TERMINATIONS

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

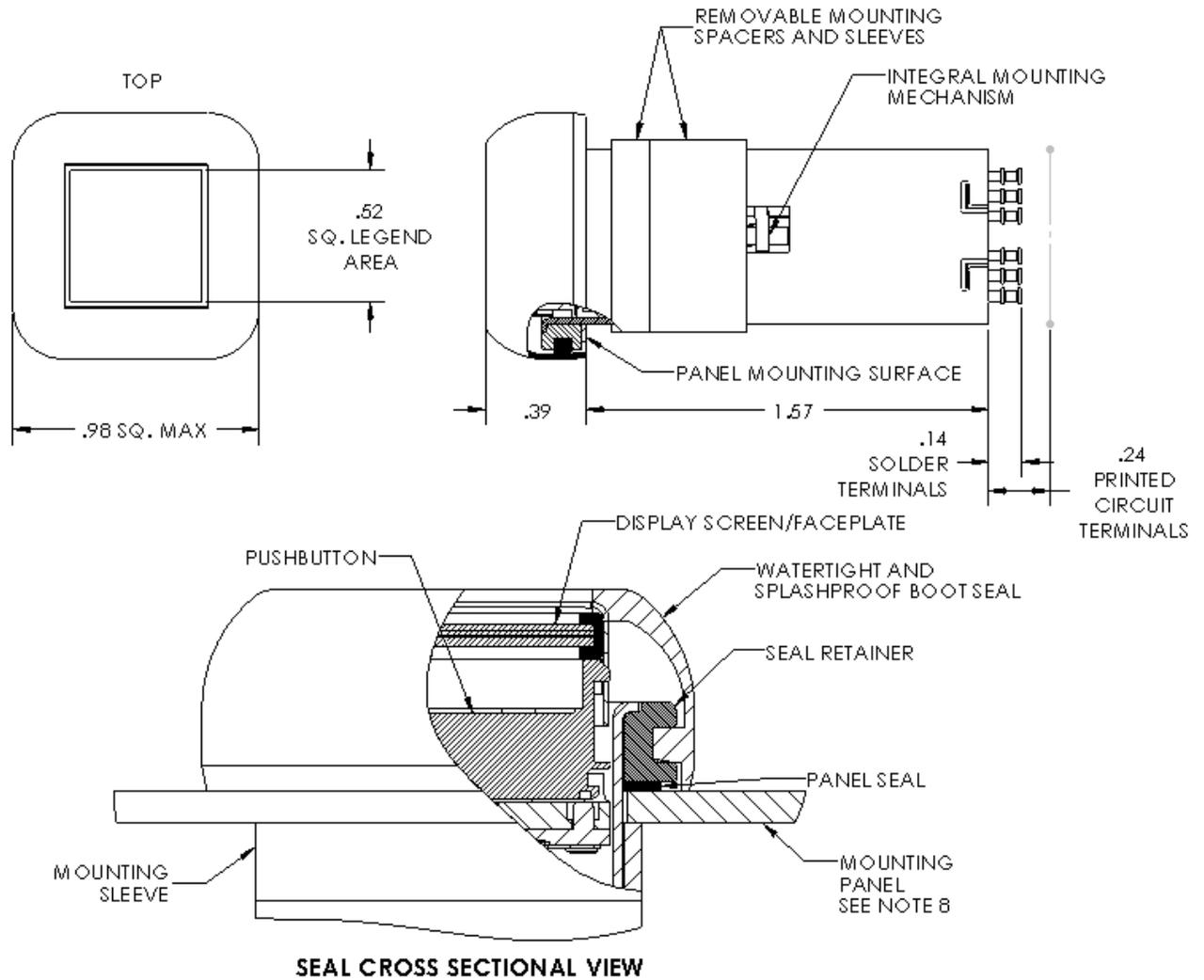
The complete requirements for acquiring the switches described herein shall consist of this specification and the latest issue of MIL-PRF-22885.



NOTES:

1. Dimensions are in inches
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.03 ".
4. Pushbutton design shall provide a means to prevent incorrect installation and a means of retention with switch body during service.
5. See figure 9 for recommended mounting panel cutouts and thickness ranges.

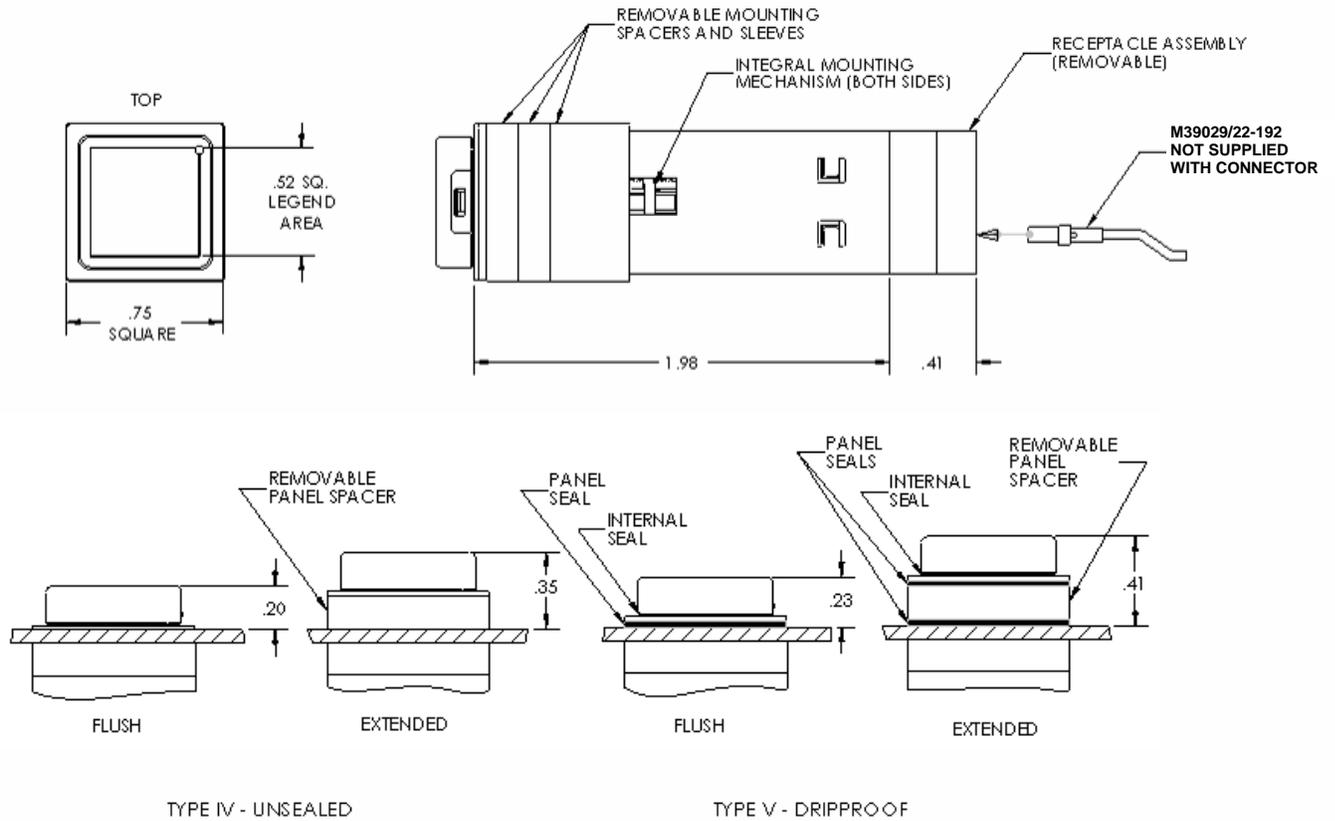
FIGURE 1. Switches - type I (unsealed, solder terminals) and type II (dripproof seal(s), solder terminals).



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.03 ".
4. Pushbutton design shall provide a means to prevent incorrect installation and a means of retention with switch body during service.
5. See figure 9 for recommended mounting panel cutouts and thickness ranges.

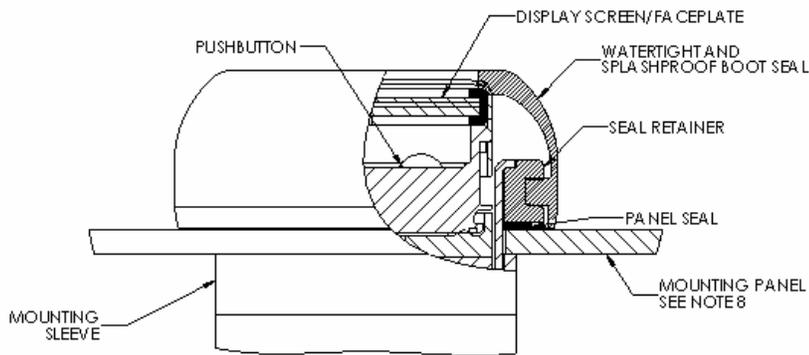
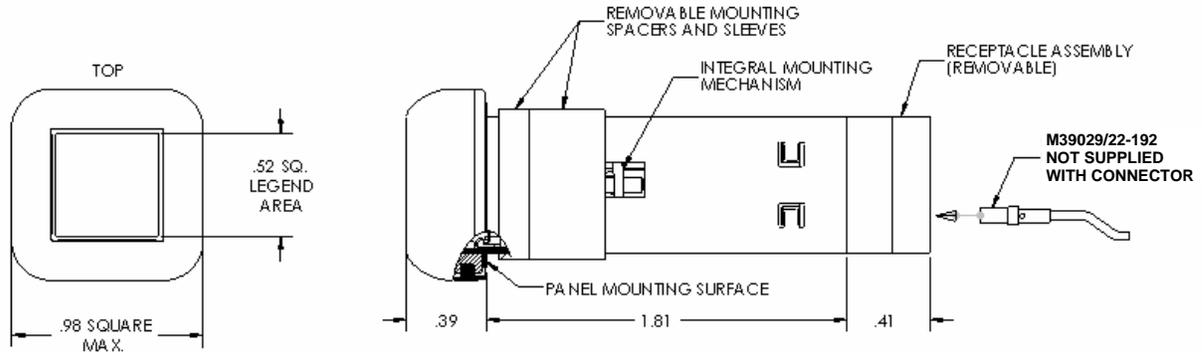
FIGURE 2. Switches - type III (watertight and splashproof seal, solder terminals).



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.03 ".
4. Pushbutton design shall provide a means to prevent incorrect installation and a means of retention with switch body during service.
5. The CTS receptacle assembly shall be removable from switch module and switch housing unit assembly.
6. The switch module is an integral part of the switch housings and CTS unit assembly.
7. The CTS pins shall be M39029/22-192 and shall be removable from the CTS module assembly. The CTS pins accept 20, 22, or 24 gauge wire.
8. See figure 9 for recommended mounting panel cutouts and thickness ranges.

FIGURE 3. Switches, common termination system - type IV (unsealed) and type V (drip-proof seal(s)).



SEAL CROSS SECTIONAL VIEW

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.03 ".
4. Pushbutton design shall provide a means to prevent incorrect installation and a means of retention with switch body during service.
5. The CTS receptacle assembly shall be removable from switch module and switch housing unit assembly.
6. The switch module is an integral part of the switch housings and CTS unit assembly.
7. The CTS pins shall be M39029/22-192 and shall be removable from the CTS module assembly. The CTS pins accept 20, 22, or 24 gauge wire.
8. See figure 9 for recommended mounting panel cutouts and thickness ranges.

FIGURE 4. Switch - type VI (watertight and splashproof seal, common termination system)

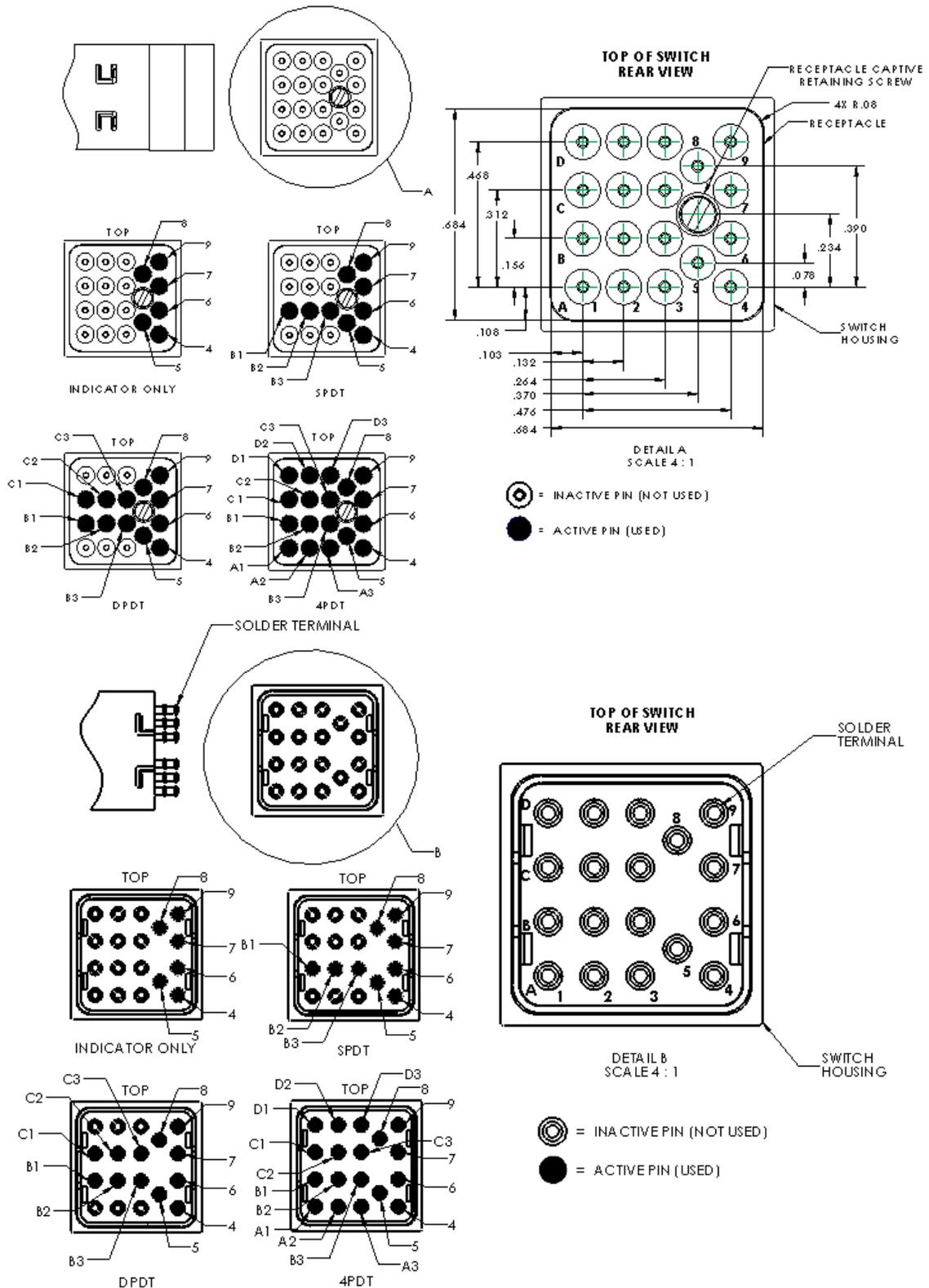
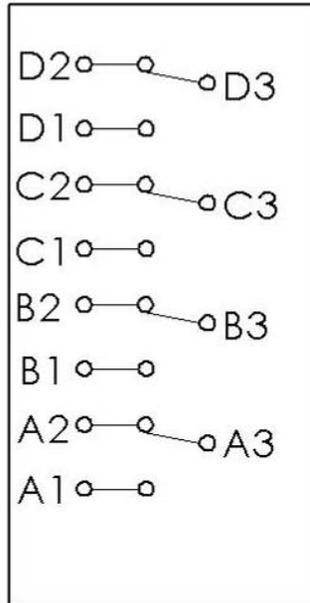


FIGURE 5. Terminal location and identification (crimp pin and solder terminations)

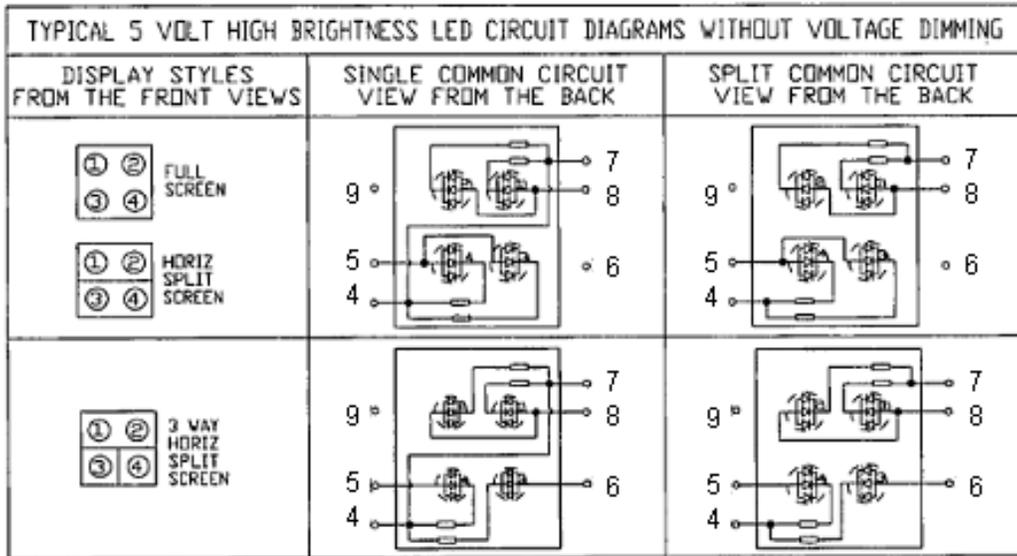


NOTES:

1. Reference figures 5a and 5b for terminal designations.
2. Terminals D2 and D3 are normally closed (NC).
3. Terminals D1 and D3 are normally open (NO).
4. Terminals C2 and C3 are normally closed (NC).
5. Terminals C1 and C3 are normally open (NO).
6. Terminals B2 and B3 are normally closed (NC).
7. Terminals B1 and B3 are normally open (NO).
8. Terminals A2 and A3 are normally closed (NC).
9. Terminals A1 and A3 are normally open (NO).
10. Terminals D3, C3, B3 and A3 are common (C).
11. For indicator only, terminals A1, A2, A3, B1, B2, B3, C1, C2, C3, D1, D2 and D3 are omitted.
12. For SPDT switch, terminals A1, A2, A3, C1, C2, C3, D1, D2 and D3 are omitted.
13. For DPDT switch, terminals A1, A2, A3, D1, D2, and D3 are omitted.

FIGURE 6. Switch circuits.

5 VOLT LED WITHOUT VOLTAGE DIMMING



28 VOLT LED WITHOUT VOLTAGE DIMMING

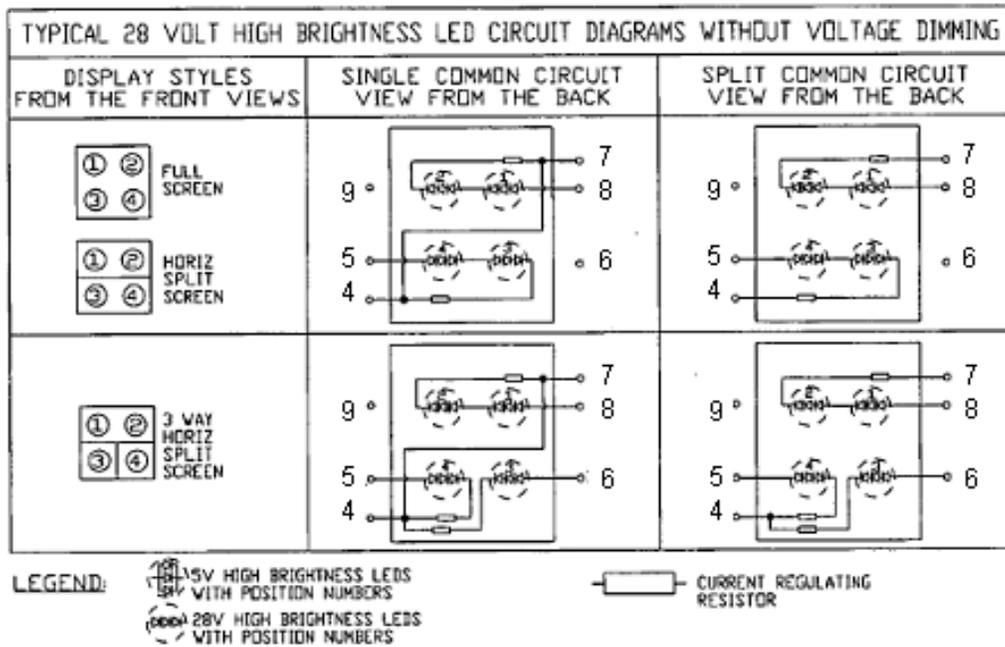


FIGURE 7. Light emitting diode circuit schematics.

28 VOLT LED WITH VOLTAGE DIMMING

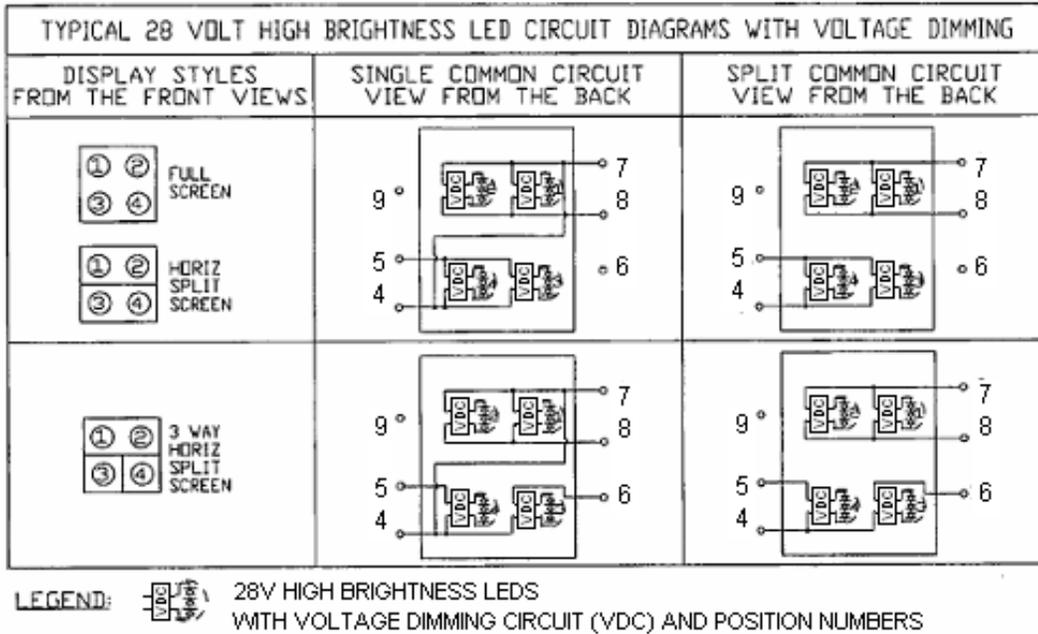


FIGURE 7. Light emitting diode circuit schematics. – Continued

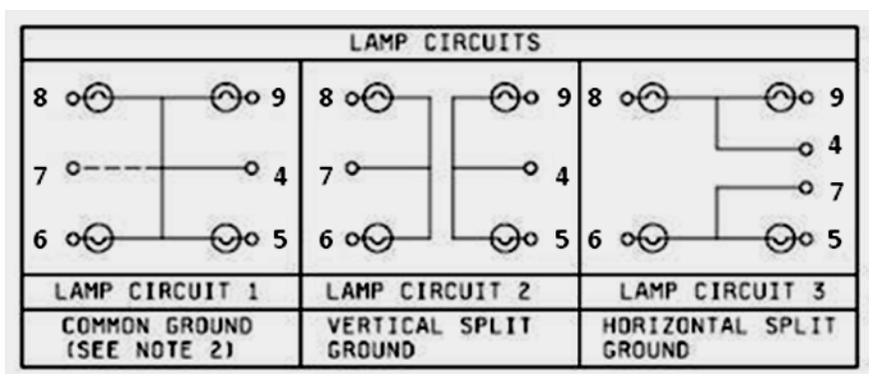
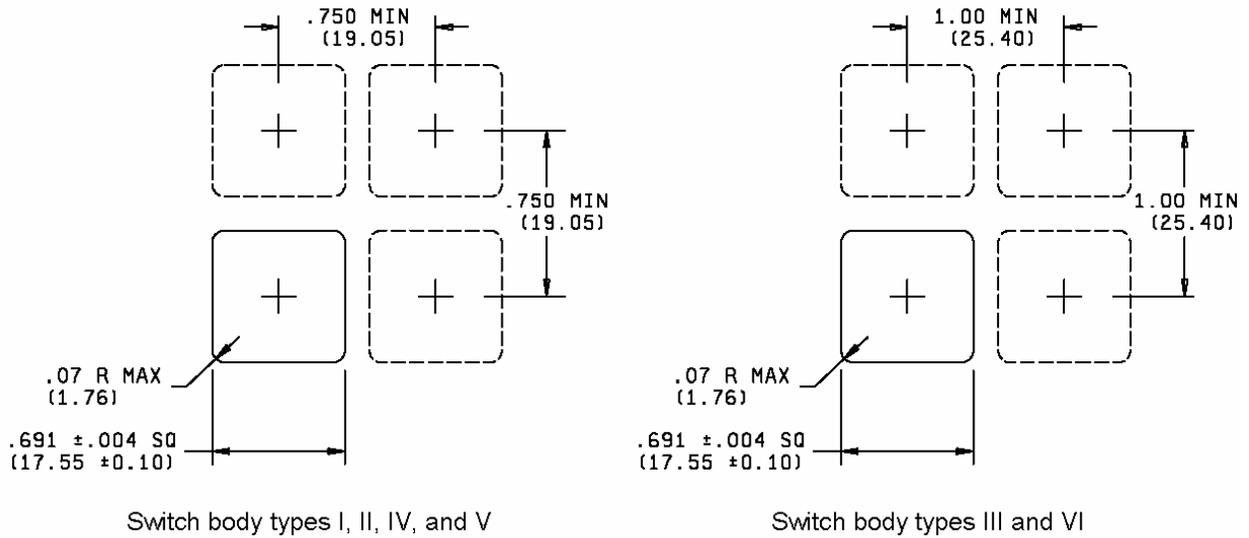


FIGURE 8. Incandescent lamp circuit identification.



Mounting panel thickness	
Switch body types	Panel thickness ranges
I and IV flush	.00 to .92 (0.0 to 23.4)
I and IV extended	.00 to .77 (0.0 to 19.6)
II and V flush	.00 to .88 (0.0 to 22.4)
II and V extended	.00 to .73 (0.0 to 18.5)
III and VI	.00 to .77 (0.0 to 19.6)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 9. Recommended mounting panel cutouts and thickness ranges.

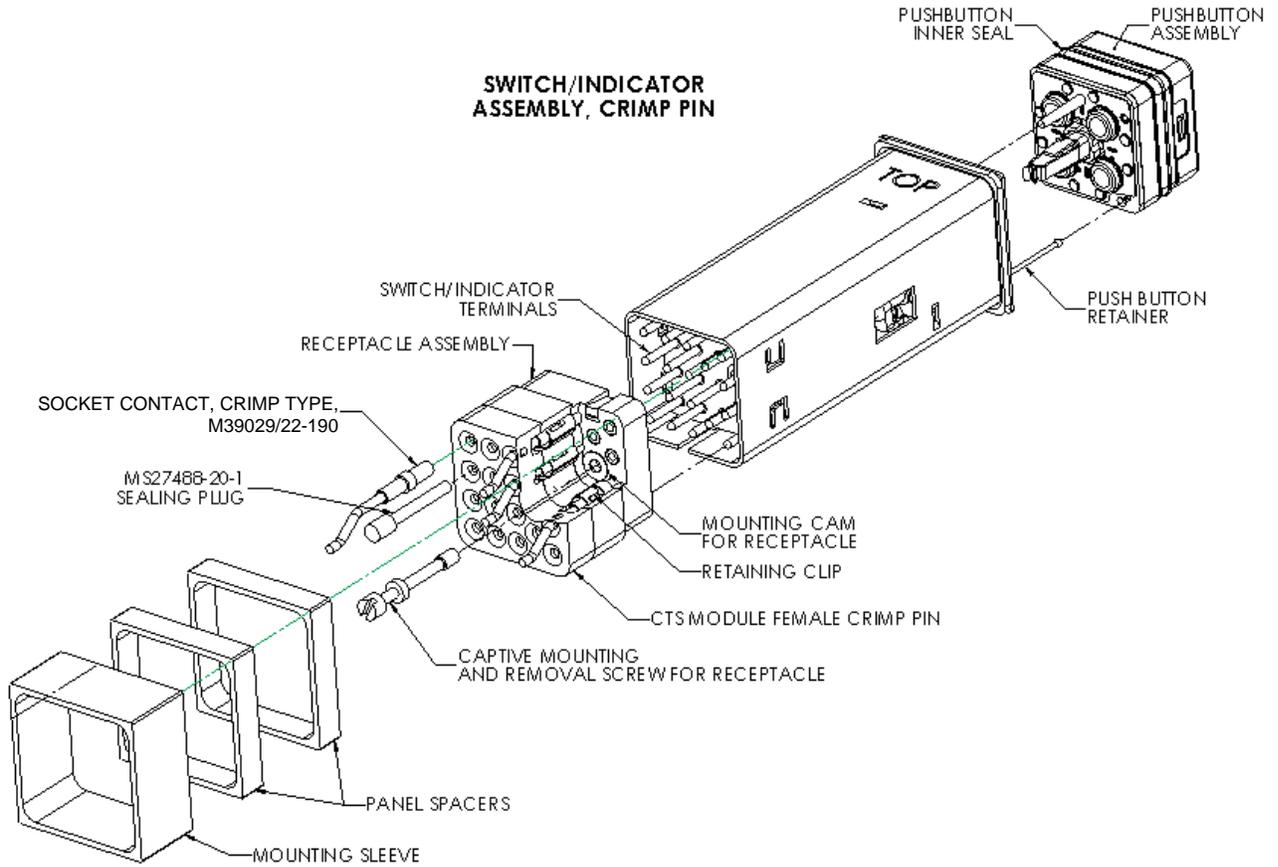


FIGURE 10. Common termination system mechanical details.

REQUIREMENTS:

Design and construction: See figures 1 through 10.

Complete switch and pushbutton assembly includes the following:

Switch body:

Type I switch bodies include a mounting sleeve and two panel mounting spacers. See figure 1.

Type II switch bodies include a mounting sleeve, two panel mounting spacers, and dripproof panel seals. See figure 1.

Type III switch bodies include a mounting sleeve, panel mounting spacer, splashproof/watertight seal, seal retainer, and gasket. See figure 2.

Type IV switch bodies include a mounting sleeve, two panel mounting spacers, and CTS module/receptacle. See figure 3.

Type V switch bodies include a mounting sleeve, two panel mounting spacers, dripproof panel seal, and CTS module/receptacle. See figure 3.

Type VI switch bodies include a mounting sleeve, panel mounting spacer, splashproof/watertight seal, seal retainer, gasket, and CTS module/receptacle. See figure 4.

Pushbutton: All pushbutton assemblies include a display faceplate and legend assembly, display segment divider, replaceable LED light source assembly, pushbutton faceplate seal, retainer/ bezel, and optional captive pushbutton retainer.

Other parts, when applicable, are NVIS compatible filters, EMI/RFI shielding, and dripproof or splashproof/watertight seals.

Enclosure designs:

<u>Symbol</u>	<u>Switch type</u>
1 (unsealed)	I and IV
2 (dripproof)	II and V
3 (watertight) and 4 (splashproof)	III and VI

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

Vibration grade: Symbol 3 (10 to 2,000 Hz, 15 g peak).

Operation:

Symbol A (momentary action switch).

Symbol B (alternate action switch).

Symbol H (indicator light).

Display types:

N - Legend is white on nonreflective matte black background when LED is not lighted. Legend is colored on black background when LED is lighted.

W - Legend is opaque black on white background when LED is not lighted. Legend is opaque black on colored background when LED is lighted.

S - Sunlight readable contrast requirements apply. Background is nonreflective matte black. Legend is not visible when LED is not lighted. Legend appears in color on black background when LED is lighted.

Material:

Finish: When used, shall be selected to enable the switch to meet performance requirements of this specification. It may be Aluminum alloy black anodized per MIL-A-8625, Type II, Class 2, or chemical filmed per MIL-DTL-5541, Class 3.

Operating characteristics:

Actuating force: 5 pounds (22.2 N) max.

Plunger travel: $.130 \pm .030$.

Pushbutton removal force: 2 to 5 pounds (8.9 N to 22.2 N). Not applicable to type III or type VI (sealed) switches.

Shock:

All switch types: Method I (75 g).

Switch types III and VI (sealed switches): High impact shock in accordance with MIL-S-901, grade A, class II (for deck-mounted equipment) when attached to the anvil plate of the shock machine by means of standard mounting (figure 11-C) with simulated console, which provides resilient mounting typical of in-service use within "deck-mounted" electronic cabinets or panels. These units are not recommended for direct "hull mounted" applications.

Salt spray: Test condition A (96 hours).

Sand and dust: Applicable.

Terminal strength:

Solder terminals, applied force and direction of force: 3 pounds perpendicular to the long axis, and 5 pounds parallel to the long axis.

MIL-PRF-22885/114

Electrical endurance: 25,000 cycles at the following electrical ratings:

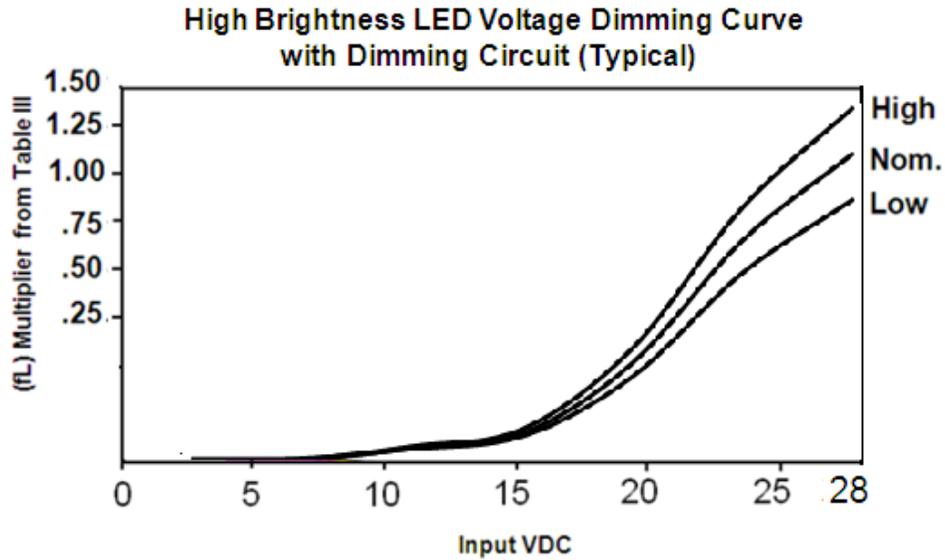
Silver contacts:	Sea level 50,000 feet	
28 V dc:		
Resistive	7.0 A	4.0 A
Inductive	4.0 A	2.5 A
Lamp	2.5 A	2.5 A
115 V ac, 60 Hz:		
Resistive	7.0 A	
Inductive	7.0 A	
Lamp	2.0 A	
Gold plated contacts:		
28 V dc:		
Resistive	1.0 A	
Inductive.	0.5 A	

Low-level life: Applicable to switches with gold plated contacts.

Intermediate current: Applicable to switches with silver contacts.

Mechanical endurance: 100,000 cycles consisting of 5,000 cycles of operation at $-55^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 10,000 cycles of operation at $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, and 85,000 cycles of operation at room temperature.

Voltage Dimming Control: Applicable to 28 VDC lighting circuits with dimming devices only. These control circuits allow to adjust LED pushbutton display brightness with variable voltage, similar to displays with incandescent lamps. The Nominal Dimming Curve with high and low limits is shown in figure 10. It starts at about 7.6 V where LED current is approximately 0.028 mA and continues to 28 V where current reaches $20 \text{ mA} \pm 2 \text{ mA}$. Note, that display brightness (luminance) is directly proportional to LED current.



*** Example NVIS Yellow A**
Minimum = 250fL from Table III
High 250fL X 1.50 = Approx.
Low 250fL X 0.75 = Approx.

Input Voltage (Volts)

FIGURE 11. Voltage dimming curve.

Illuminated color and luminance: See table I for color limits. See table III for luminance requirements.

TABLE I. Illuminated color limits (except NVIS). 1/

WHITE Code WH		RED Code RD		GREEN Code GR		AVIATION YELLOW Code AY		LEMON YELLOW Code LY		BLUE Code BL	
x	y	x	y	x	y	x	y	x	y	x	y
0.300	0.270	0.695	0.285	0.300	0.560	0.545	0.425	0.450	0.500	0.140	0.100
0.300	0.305	0.705	SL 2/	0.300	SL 2/	0.560	SL 2/	0.475	SL 2/	0.140	0.190
0.365	0.395	0.650	0.330	0.375	0.560	0.590	0.382	0.505	0.445	0.220	0.100
0.365	0.360	0.660	SL 2/	0.375	SL 2/	0.604	SL 2/	0.530	SL 2/	0.220	0.190

- 1/ The colors are expressed as "x" and "y" coordinates on the standard 1931 CIE chromaticity diagram. Illuminated colors, measured as specified herein, shall be within the limits bounded by the coordinates listed for each color (see figure 11).
- 2/ The term "SL" indicates where intersections occur with the spectrum locus on the CIE chromaticity diagram.

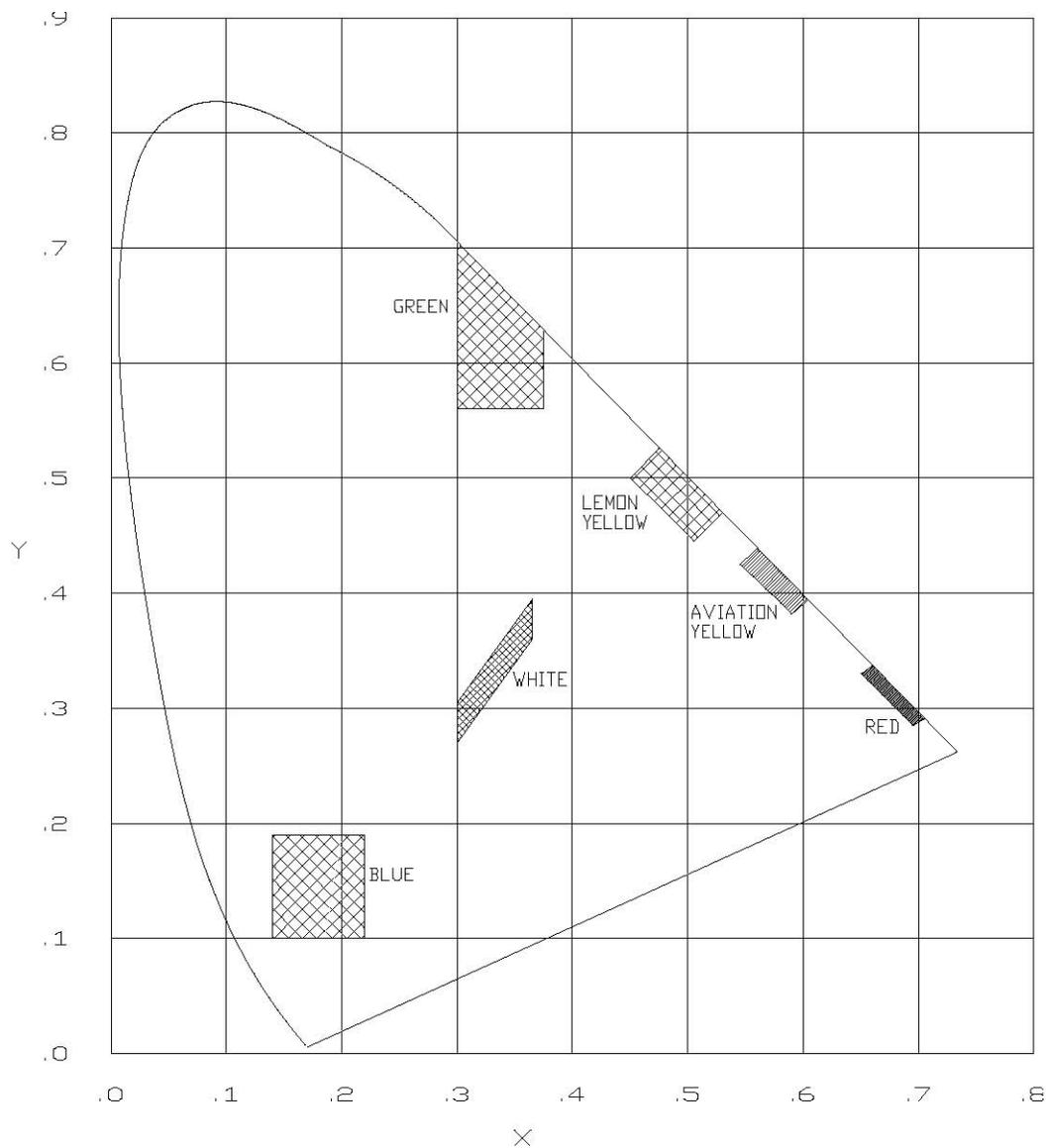


FIGURE 12. LED display colors - CIE 1931 chromaticity diagram.

TABLE II. NVIS chromaticity requirements. 1/

NVIS WHITE			NVIS RED			NVIS GREEN A			NVIS GREEN B			NVIS YELLOW			NVIS BLUE		
Code NW			Code NR			Code GA			Code GB			Code NY			Code NB		
u' ₁	v' ₁	r															
0.190	0.490	0.040	0.450	0.550	0.060	0.088	0.543	0.037	0.131	0.623	0.057	0.274	0.622	0.083	0.175	0.167	0.040

1/ The colors are expressed as ' u'₁ ', " v'₁ " and ' r ' on the CIE 1976 UCS chromaticity diagram. Illuminated colors, measured as specified herein, shall be within the limits bounded by the coordinates listed for each color.

TABLE III. Luminance performance.

Display type Symbol	Color Description	Minimum average luminance (foot-lamberts)
N	White	530
N	Red	75
N	Green	170
N	Aviation Yellow	410
N	Lemon Yellow	850
N	Blue	85
W	White	530
W	Red	75
W	Green	170
W	Aviation Yellow	410
W	Lemon Yellow	850
W	Blue	85
S	White	740
S	Red	180
S	Green	490
S	Aviation Yellow	630
S	Lemon Yellow	990
S	Blue	220
S	NVIS Blue	180
S	NVIS Red	180
S	NVIS Green B	180
S	NVIS Yellow, Class B	350
S	NVIS White	600
S	NVIS Yellow, Class A	250
S	NVIS Green A	350

Sunlight readability: Applicable to display type S switches. Units shall be tested for $\varnothing_1 = 45^\circ$ and $\varnothing_2 = 0^\circ$ only. This procedure does not test readability in direct reflected specular sunlight (glare). The average contrast ratio of each lighted legend character to the background shall be 0.6 minimum. In the unlighted legend condition, the average contrast ratio of each legend character to the background shall have an absolute value of less than 0.1. The legend used for testing shall have a character height of approximately 0.1 inch. The stroke width shall be characteristic of each manufacturer's standard military product.

TABLE IV. Illuminated colors - standard displays. 1/

Color	x 2/	y 2/
Red (R)	.665 .659 .707 .713	SL 3/ .335 .287 SL 3/
Green (G)	.300 .300 .365 .365	.560 SL 3/ .560 SL 3/
Aviation green (Z)	.140 .290 .030 .185	.470 .470 SL 3/ SL 3/
Aviation yellow (Y)	.568 .575 .630 .623	.425 SL 3/ SL 3/ .370
Blue (B)	.250 .250 .330 .330	.330 .420 .330 .420
White (W)	.480 .480 .540 .540	.395 .435 .431 .391
Lunar white (D)	.400 .400 .480 .480	.375 .420 .375 .420

1/ See MIL-STD-3009 for chromaticity limits of NVIS compatible displays.

2/ The chromaticity of the colors are expressed as "x" and "y" coordinates on the 1931 CIE chromaticity diagram and are within the limits bound by the coordinates listed for each color. Chromaticity values are obtained when switch is illuminated by 4 (T-1 midget-flange base) subminiature lamps of $.15 \pm .01$ mean spherical candlepower (MSCP) at 5 V dc, 2,350 K.

3/ Where intersection occurs with the spectrum locus on the CIE chromaticity diagram.

TABLE V. Luminance.

Display type	Color	Color code	Foot-lamberts 1/ 2/	
			Without EMI/RFI requirement	With EMI/RFI requirement
N	Aviation yellow	Y	200	100
N	Red	R	50	25
N	Green	G	40	20
N	Aviation green	Z	40	20
N	White	W	300	150
N	Lunar white	D	250	150
N	Blue	B	25	12
N	NVIS green A	H	0.5 to 3.0	0.5 to 3.0
N	NVIS green B	J	0.5 to 3.0	0.5 to 3.0
W	Aviation yellow	Y	350	175
W	Red	R	70	35
W	Green	G	50	25
W	Aviation green	Z	50	25
W	White	W	350	175
W	Lunar white	D	300	175
W	Blue	B	30	12
S	Aviation yellow	Y	275	225
S	Red	R	185	150
S	Green	G	185	150
S	Aviation green	Z	250	200
S	White	W	275	225
S	Lunar white	D	250	200
S	Blue	B	185	---
S	NVIS green A	H	100	100 ^{3/}
S	NVIS green B	J	150	150
S	NVIS yellow	K	150	150
S	NVIS red	L	80	80
C	Yellow	Y	350	175
C	Red	R	80	40
C	Green	G	60	30
C	Aviation green	Z	60	30
C	White	W	350	175
C	Lunar white	D	300	175
C	Blue	B	40	20

1/ Minimum average.

2/ When illuminated by 4 (T-1 midget-flange base) subminiature lamps of $.15 \pm .01$ mean spherical candlepower (MSCP) at 5 V dc, 2350°K. 3/ Not recommended in blue.

NVIS compatibility: When switches are tested as specified below, the chromaticity, luminance and spectral radiance output of the illuminated display shall be NVIS compatible as specified in MIL-L-85762 or MIL-STD-3009 as applicable. The following equipment requirements apply:

NVIS green A and B: Shall meet all class A and class B equipment requirements for illuminated controls.

NVIS yellow: Shall meet all class A and class B equipment requirements for caution and warning signals.

NVIS red: Shall meet type I and type II class B equipment requirements for warning signals.

NVIS white: Shall meet all class A and class B equipment requirements for electronic and electrooptical displays (multi-color).

NVIS blue: NVIS radiance shall meet all class A and class B equipment requirements for illuminated controls. Color coordinates shall be within the following limits of the CIE 1976 UCS chromaticity diagram: $u'1=.175$, $v'1=.167$, $r=.040$ (Blue color is not specified by existing military standards for NVIS compatible lighting at the time of preparation of this slash sheet).

The test procedures for measuring NVIS luminance, chromaticity, and spectral radiance shall be in accordance with MIL-L-85762 or MIL-STD-3009.

Touch temperature: Applicable to all body types of LED illuminated switches.

Requirements: When switches are tested as specified below, the maximum difference between the stabilized lens face temperature and the ambient temperature shall not exceed +25 °C.

Test method: The test method shall be in accordance with EIA-448-20 using the recommended panel cutout (see figure 8). The test shall be performed with each of the standard LED voltages at full rated current and at 100 percent duty cycle.

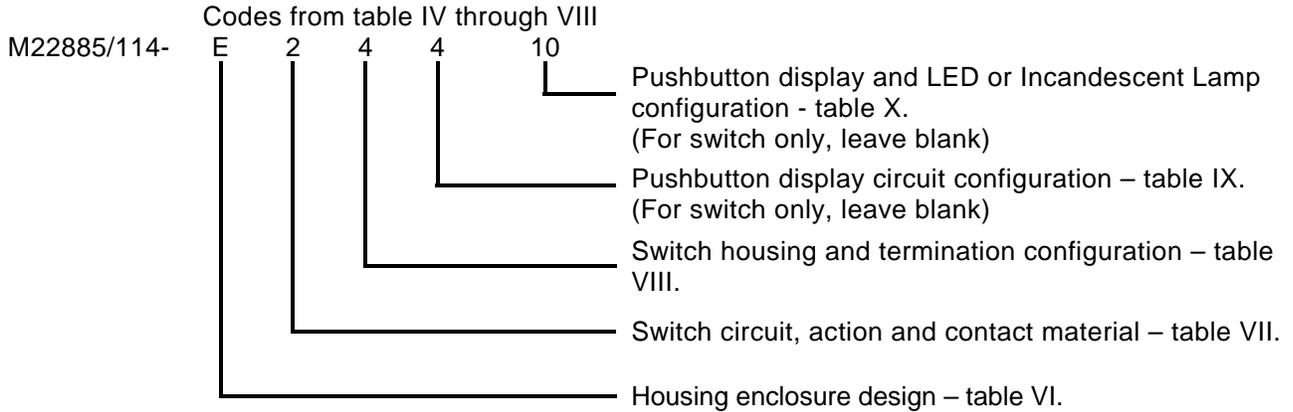
EMI/RFI shielding: When applicable, the shielding efficiency test of MIL-PRF-22885 shall be conducted at the frequencies and with the minimum attenuation requirements as specified below:

Electric field	Minimum attenuation	Plane wave	Minimum attenuation
150 kHz	60 dB	400 MHz	39 dB
500 kHz	60 dB	1 GHz	33 dB
1 MHz	60 dB	2.5 GHz	28 dB
10 MHz	60 dB	10 GHz	20 dB

Marking: All required marking shall be permanent. Pushbuttons shall indicate their common (ground) polarity, the applicable nominal voltage (5 V and 28 V) and dimming capability (28 V DIM). NVIS type and class marking are not required. The word "TOP" shall be marked on switching housings and pushbuttons, excluding splashproof/watertight sealed units, to indicate proper orientation.

Part or Identifying Number (PIN): The PIN shall be constructed as illustrated in the following examples:

M22885/114E24410 = SWITCH AND PUSHBUTTON
 M22885/114E24 = SWITCH ONLY



Legend details and display screen colors are not defined by the PIN. These details are specified by user's acquisition documents in accordance with the acquisition requirements for category II switches, see section 6 of MIL-PRF-22885. For the convenience of users, an extension to the PIN may be utilized on the acquisition document to define the legend details and colors. The method of constructing this extension is illustrated below. The extension is for convenience only, and is not a part of the PIN.

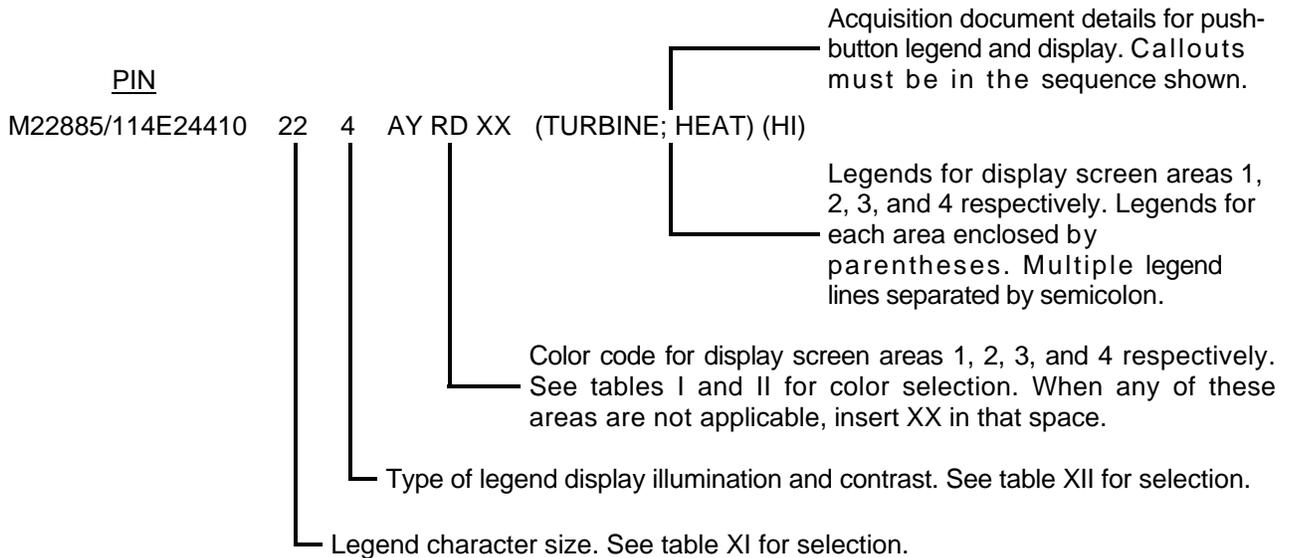


TABLE VI. Codes for housing enclosure design.

Enclosure design	Without EMI/RFI shielding		With EMI/RFI shielding	
	75 G shock	High-impact shock	75 G shock	High-impact shock
With solder terminations:				
Unsealed	A	---	J	---
Dripproof	B	---	K	---
Watertight/splashproof	C	S	L	W
With CTS terminations:				
Unsealed	E	---	N	---
Dripproof	F	---	O	---
Watertight/splashproof	G	U	P	Y

TABLE VII. Codes for switch circuit, action, and contact material.

Switch circuit	Contact material	
	Silver	Gold
Momentary action:		
Single pole, double throw (SPDT)	1	5
Double pole, double throw (DPDT)	2	6
Four pole, double throw (4PDT)	A	C
Alternate action:		
Single pole, double throw (SPDT)	3	7
Double pole, double throw (DPDT)	4	8
Four pole, double throw (4PDT)	B	D
Indicator:	---	0

TABLE VIII. Codes for termination type.

Termination type	Code
Turret, solder	1
Common termination system (CTS):	
Without termination module 1/	2
With termination module per MIL-C-39029/22-192 2/	3

- 1/ Designates CTS switch housing without connector module. Connector modules may be supplied pre-wired to wire harness assembly.
- 2/ Designates CTS switch housing with connector module installed. Sealing plugs per MS27488-20-1 and termination pins not included.

TABLE IX. Pushbutton display module LED circuit and incandescent light source configurations.

Common circuit configuration	Code	
	Single common	Split common
Negative Common (ground)	1	3
Positive Common (ground)	2	4
Common Lamp Ground	5	-
Vertical Split Lamp Ground	-	6
Horizontal Split Lamp Ground	-	7

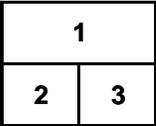
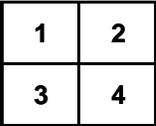
TABLE X. Pushbutton display screen and LED/Incandescent Lamp design.*

LED voltage	LED light type	Display screen design code			
		1	1 2	1 2 3	1 2 3 4
5V dc	Standard	A	G	N	V
	Sunlight readable	B	H	P	W
	NVIS compatible	C	J	R	X
28V dc	Standard	D	K	S	Y
	Sunlight readable	E	L	T	Z
	NVIS compatible	F	M	U	1
28V dc Dimmable	Standard	2	5	8	11
	Sunlight readable	3	6	9	12
	NVIS compatible	4	7	10	13

Incandescent Lamp Voltage	Incandescent Lamp Light Type	Display screen design code			
		1	1 2	1 2 3	1 2 3 4
5V dc	Standard	14	17	20	23
	Sunlight readable	15	18	21	24
	NVIS compatible	16	19	22	25
28V dc	Standard	26	29	32	35
	Sunlight readable	27	30	33	36
	NVIS compatible	28	31	34	37

* For a complete listing of display screen options and configurations, please refer to QPL manufacturer.

TABLE XI. Legend character size. 1/ 2/ 3/ 4/ *

Size code	Character size (inches)	Display screen area	Number of characters per legend area		
			1	2	3
10	None		None	x	x
11	0.072		5 x 12	x	x
12	0.087		4 x 10	x	x
13	0.100		3 x 9	x	x
14	0.125		3 x 7	x	x
15	0.145		2 x 6	x	x
20	None		None	None	x
21	0.072		2 x 12	2 x 12	x
22	0.087		2 x 10	2 x 10	x
23	0.100		1 x 9	1 x 9	x
24	0.125		1 x 7	1 x 7	x
25	0.145		1 x 6	1 x 6	x
30	None		None	None	None
31	0.072		5 x 12	2 x 6	2 x 6
32	0.087		4 x 10	2 x 4	2 x 4
33	0.100		3 x 9	1 x 4	1 x 4
34	0.125		3 x 7	1 x 3	1 x 3
35	0.145		2 x 6	1 x 2	1 x 2
40	None		None	None	None
41	0.072		2 x 6	2 x 6	2 x 6
42	0.087		2 x 4	2 x 4	2 x 4
43	0.100		1 x 4	1 x 4	1 x 4
44	0.125		1 x 3	1 x 3	1 x 3
45	0.145		1 x 2	1 x 2	1 x 2

1/ Alpha-numeric character format is alternate gothic number 2, Sans-serif.

2/ Number of characters shown above is number of lines times number of characters per line. For example, 5 x 12 is 5 lines of 12 characters each.

3/ Maximum number of characters per line shown above is an approximate value. The actual number of characters may be more or less, depending on characters used.

4/ Size codes 10, 20, and 30 are not applicable to legend codes 6 and 7 of table X.

* For a complete listing of display screen options and configurations, please refer to QPL manufacturer.

TABLE XII. Legend display and illumination details.

Code	Non-illuminated		illuminated		MIL-PRF-22885 display type
	Legend	Background	Legend	Background	
4 1/	White	Black	Filter color	Black	N
5 1/	Black	White	Black	Filter color	W
6 2/	Hidden	Black	Filter color	Black	S
7 2/	Hidden	Black	NVIS filter color	Black	S

1/ Not available in NVIS compatible colors.

2/ Sunlight readable.

Inspections:

LED failure: LED failure during any inspection shall constitute a test failure.

Qualification:

Group submission: Table XIII applies, provided that the switching elements used are qualified MIL-PRF-8805 category I or II basic sensitive switches and the endurance and electrical ratings are compatible. Captive pushbutton retainers are not required on assemblies used for qualification and retention testing.

TABLE XIII. Qualification inspection - group submission.

Test samples	Qualification inspection table of MIL-PRF-22885		Extent of approval	
	Group	Number of samples		
M22885/114B213D	I		10	All PINs
	II	1/	2 from group I	
	III		2 from group I	
	VI	2/	2 from group I	
	VII		4 from group I	
M22885/114A812A	I	3/	4	
	II	1/	2 from group I	
	VII	4/	2 from group I	
M22885/114Y241K	I		12	
	II	5/ 6/	4 from group I	
	III		2 from group I	
	V	6/	2 from group I	
	VI	7/	2 from group I	
	VII	6/ 8/	2 from group I	
M22885/114B213D	VIII	9/	48 10/	

- 1/ Shock: Method I.
- 2/ Electrical endurance: Sea level, inductive dc load only.
- 3/ Test current and voltage for contact resistance and operating characteristics tests shall not exceed 10 mA and 30 mV dc on all gold plated contact switches subject to low level life test. Low level life contact resistance requirements apply.
- 4/ Mechanical endurance test not required.
- 5/ Shock: High impact shock in accordance with MIL-S-901, grade A, class II.
- 6/ Sealing shall be verified by the watertight and splashproof tests only.
- 7/ Electrical endurance: Sea level, resistive dc load only.
- 8/ Intermediate current test not required.
- 9/ NVIS color and radiance measurements shall be made, as applicable, during group IX inspections.
- 10/ In combination with the test sample specified in the first column, 48 pushbutton display screen assemblies shall be tested: Two each of six colors for each standard display type, N and W; two each of six colors for display type S; and two each of six NVIS colors for display type S. One of the pushbutton samples for each color/display type combination shall have 5 volt LED's, and the other shall have 28 volt dimmable LED's. Test legend characters and display screen design shall be as follows:

LEG	END
ALT	LOW

TABLE XIV. Group A inspection.

Seal (when applicable) 1/ Visual and mechanical examination Operating characteristics Dielectric withstanding voltage Contact resistance 2/ Sunlight readability (when applicable) NVIS compatibility (when applicable)

- 1/ Visual in-process inspection of seal with high intensity light source may be used.
- 2/ Low level test current and voltage may be used for contact resistance tests on gold contact switches: The test current and voltage shall not exceed 10 mA and 30 mV dc. The maximum contact resistance under this condition is 3 ohms.

APPLICATION INFORMATION:

Storage temperature: -65 °C to +100 °C.

U.L. listing: 250 V ac, 60 Hz, 7 amperes, listing L7 (21 SK83-H j40).

Category II product offerings:

Printed circuit terminals (switches with terminals designed for direct insertion into printed circuit boards).

Display screens with four-way splits are available.

Oil, fuel, and solvent resistant seals are available. (A listing of specific types of chemicals recommended and not recommended may be obtained from the switch manufacturer.)

MIL-PRF-22885/114

Reference Documents:

MIL-PRF-8805
MIL-L-85762

MIL-PRF-22885
MIL-S-901

MIL-A-8625
MIL-STD-3009

MIL-DTL-5541
EIA-448-20

Custodian:

DLA – CC
Navy – EC

Preparing Activity
DLA – CC

(Project 5930-2009-001)

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/>.