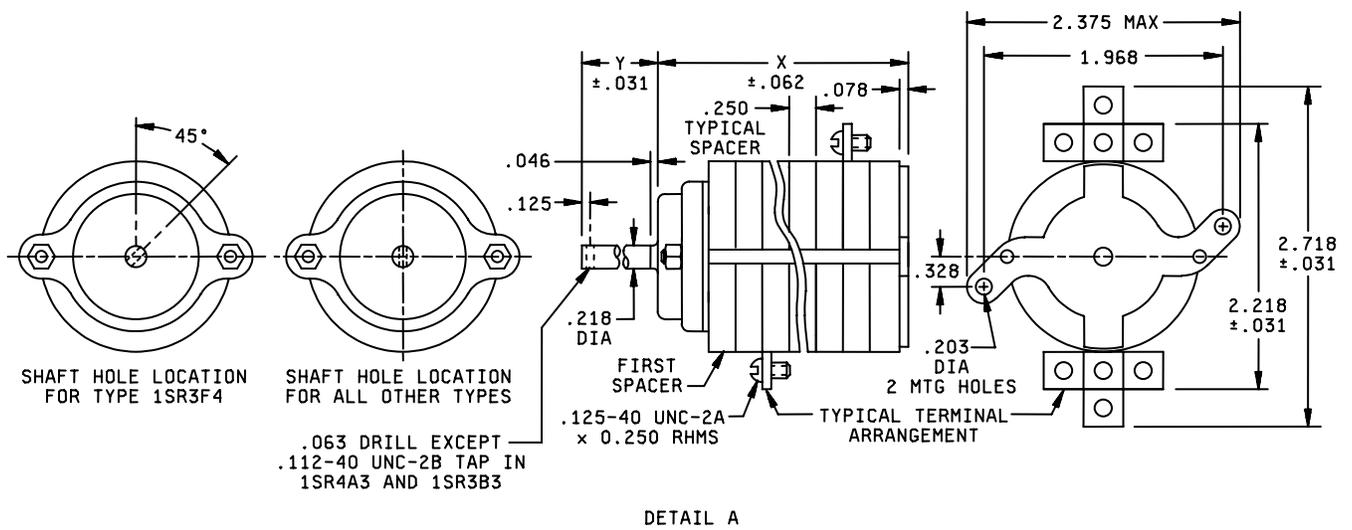


DETAIL SPECIFICATION SHEET

SWITCHES, ROTARY, SNAP ACTION CLASS 1SR BASE MOUNTED,
SIDE CONNECTED

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-15291.



NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is ± 0.015 .

FIGURE 1. Class 1SR switched, base mounted.

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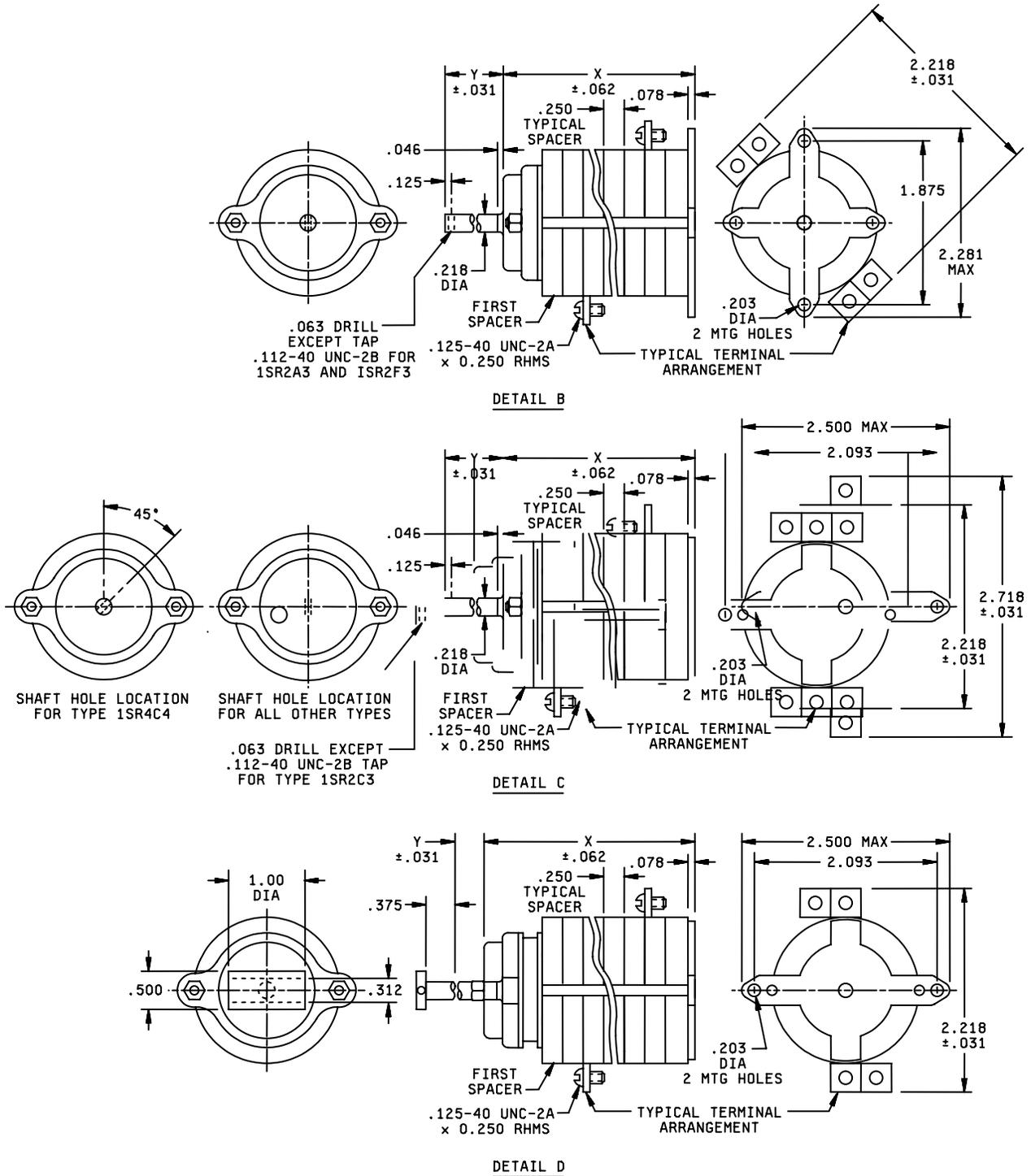


FIGURE 2. Class 1SR switched, base mounted - Continued.

TABLE I. Type and switching characteristics.

M15291/3 DASH NO. TYPE DESIGNATION	DETAIL REF	DIM "X"	HANDLE OR SHAFT POSITION	CIRCUIT AND SPACER CONFIGURATIONS ROTOR POSITION, SPACER LOCATIONS, TERMINAL MARKING AND LOCATIONS									NOTES
	TORQUE IN-LBS	DIM "Y"		NO 1	NO 2	NO 3	NO 4	NO 5	NO 6	NO 7	NO 8	NO 9	
-001 1SR2A3	FIG 1 DETAIL B	1.375											
	4	1.156											
-002 1SR2A4	FIG 1 DETAIL B	1.375											
	4	.281											
-003 1SR2A4A	FIG 1 DETAIL D	1.562											
	4	.281											
-004 1SR3A4	FIG 1 DETAIL C	1.625											
	4	.281											
-005 1SR4A3	FIG 1 DETAIL A	2.125											
	4	1.156											
-006 1SR4A4	FIG 1 DETAIL A	2.125											
	4	.281											
-007 1SR4A4A	FIG 1 DETAIL D	2.312											
	4	.281											
-008 1SR2B4	FIG 1 DETAIL A	1.375											
	4	.281											

See footnote at end of table.

TABLE I. Type and switching characteristics - Continued.

M15291/3 DASH NO. TYPE DESIGNATION	DETAIL REF	DIM "X"	HANDLE OR SHAFT POSITION	CIRCUIT AND SPACER CONFIGURATIONS ROTOR POSITION, SPACER LOCATIONS, TERMINAL MARKING AND LOCATIONS									NOTES	
				NO 1	NO 2	NO 3	NO 4	NO 5	NO 6	NO 7	NO 8	NO 9		
-009 1SR2B4A	FIG 1 DETAIL A	2.125												
	4	.281												
-010 1SR3B3	FIG 1 DETAIL A	2.625												
	4	1.156												
-011 1SR3B4	FIG 1 DETAIL A	2.625												
	4	.281												
-012	FIG 1 DETAIL A	2.625												
	4	.281												
-013 1SR1C4	FIG 1 DETAIL B	1.375												1
	4	.281												
-014 1SR2C3	FIG 1 DETAIL C	1.875												1
	4	1.156												
-016 1SR2C4A	FIG 1 DETAIL C	1.625												1
	4	.281												
-017 1SR3C4	FIG 1 DETAIL C	2.125												1
	4	.281												

See footnotes at end of table.

TABLE I. Type and switching characteristics - Continued.

M15291/3 DASH NO. TYPE DESIGNATION	DETAIL REF	DIM "X"	HANDLE OR SHAFT POSITION	CIRCUIT AND SPACER CONFIGURATIONS ROTOR POSITION, SPACER LOCATIONS, TERMINAL MARKING AND LOCATIONS									NOTES
	TORQUE IN-LBS	DIM "Y"		NO 1	NO 2	NO 3	NO 4	NO 5	NO 6	NO 7	NO 8	NO 9	
-018 1SR4C4	FIG 1 DETAIL C	2.750											1
	8	.281											
-019 1SR2E4	FIG 1 DETAIL A	2.125											
	4	.281											
-020 1SR2F3	FIG 1 DETAIL B	1.375											
	4	1.156											
-021 1SR2F4	FIG 1 DETAIL B	1.375											
	4	.281											
-022 1SR3F4	FIG 1 DETAIL A	3.000											
	4	.281											

1/ External jumpers not furnished.

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REQUIREMENTS:

Applicable specification: MIL-DTL-15291.

Dimensions and mounting: See figure 1.

Switching characteristics: See table I.

Angle of throw: 90 degrees.

Switching action: Snap action, reciprocating.

Electrical and endurance ratings: See table II.

Stop strength (applicable to switches with stops): 30 inch-pounds.

Vibration: 50 Hz, MIL-STD-167-1.

Shock (high impact): High impact, MIL-S-901.

Overload: 600 percent of ac rating, 50 make and break operations.

Contact resistance: 0.02 ohms maximum.

Dielectric withstanding voltage: 1,250 V rms.

Insulation resistance: : 200 megohms minimum.

Temperature rise: 50°C maximum.

Mounting screws: .190-24UNC-2A (4) length and headstyle to suit application. Screws not furnished.

Terminal marking: Terminal markings shown in table I locate terminals as viewed from the front of the switch (handle end). Markings shall be stamped in front surfaces of terminals, clear of the screw heads.

Switches not covered by specification sheets: Switches which are fabricated from standard parts, as used in qualified switches, but which do not comply with switches detailed herein with respect to circuit characteristics, switching action, mounting arrangement, and handle details may be acquired under this specification from contractors having qualification approval under this specification.

Extended ratings: Switches detailed herein have been tested and found satisfactory at the extended rating listed in table III. Reduced life expectancy must be anticipated for switches used at these increased voltage or current levels. Tests under the conditions of table III are not required for qualification acceptance and they are not repeated routinely as for maintenance of qualification. Supplemental evaluations and tests applicable to particular circuit requirements are recommended.

Application and Acquisition Guide: PIN and type designation cross reference shall be as shown on table IV.

TABLE II. Electrical and endurance ratings.

Tests	Current (amperes)	Voltage (volts)	Electrical operations (number of operations)	Test rate (operations per minute)	De-energized operations (number of operations)
Alternating current (rms)	10	125	30,000	30	20,000
Direct current	10	120	20,000	15	---

TABLE III. Extended ratings.

Switching characteristics	AC - 60 or 400 Hertz											
	125 volts				250 volts				500 volts			
	Resistive or lamp load		Inductive load 0.75 pF		Resistive or lamp load		Inductive load 0.75 pF		Resistive or lamp load		Inductive load 0.75 pF	
	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations
All <u>1/</u>	10	30,000	10	30,000	---	---	---	---	---	---	---	---
C, E, F <u>2/</u>	15	10,000	15	10,000	10	10,000	10	10,000	5	10,000	5	10,000
A, B <u>3/</u>	15	10,000	15	10,000	10	10,000	10	10,000	5	10,000	5	10,000
A, B	15	10,000	15	10,000	15	10,000	15	10,000	10	10,000	10	10,000
	DC											
	120 volts				250 volts				350 volts			
	Resistive or lamp load		Inductive, load <u>4/</u>		Resistive or lamp load		Inductive, load <u>4/</u>		Resistive or lamp load		Inductive, load <u>4/</u>	
	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations
All <u>3/</u>	5	20,000	---	---	---	---	---	---	---	---	---	---
C, E, F	10	10,000	10	10,000	5	10,000	5	10,000	2	10,000	2	10,000
C, E, F <u>2/</u>	---	---	---	---	---	---	---	---	---	---	---	---
A, B <u>2/</u>	10	10,000	10	10,000	5	10,000	5	10,000	2	10,000	2	10,000
A, B	10	20,000	15	10,000	---	---	---	---	---	---	---	---

1/ 45 degree blades are rated only at 5 amps, 125 V ac, 120 V dc.

2/ Switching characteristic F is not rated for 500 volts in class 1SR.

3/ Single pole break - all other ratings are based on breaking both sides of the line in accordance with figures 1 and 2 of MIL-DTL-15291.

4/ 0.24 henry for inductive current.

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TABLE IV. Application and acquisition guide.

M15291/3 dash no.	Type designation	For new or existing design	For replacement	Circuit configuration
-001	1SR2A3		X <u>1/</u>	A (on-off-on-off)
-002	1SR2A4	X		A (on-off-on-off)
-003	1SR2A4A	X		A (off-on)
-004	1SR3A4	X		A (on-off-on-off)
-005	1SR4A3		X <u>2/</u>	A (on-off-on-off)
-006	1SR4A4	X		A (on-off-on-off)
-007	1SR4A4A	X		A (off-on)
-008	1SR2B4		X <u>3/</u>	B (on 1-off-on 2-off)
-009	1SR2B4A	X		B (on 1-off-on 2 off)
-010	1SR3B3		X <u>4/</u>	B (on 1-off-on 2-off)
-011	1SR3B4	X		B (on 1-off-on 2-off)
-012	1SR4B4	X		B (on 1-off-on 2-off)
-013	1SR1C4	X		C (on 1-on 2-on 1-on 2)
-014	1SR2C3		X <u>5/</u>	C (on 1-on 2-on 1-on 2)
-015	1SR2C4		X <u>5/</u>	C (on 1-on 2-on 1-on 2)
-016	1SR2C4A	X		C (on 1-on 2-on 1-on 2)
-017	1SR3C4	X		C (on 1-on 2-on 1-on 2)
-018	1SR4C4	X		C (on 1-on 2-on 1-on 2)
-019	1SR2E4	X		E (off-on 1-on 2-on 3)
-020	1SR2F3		X <u>6/</u>	F (off-on 1-on 1 and 2-on 2)
-021	1SR2F4	X		F (off-on 1-on 1 and 2-on 2)
-022	1SR3F4	X		F (off-on 1-on 1 and 2-on 2)

1/ Use M15291/3-002 in new designs.

2/ Use M15291/3-006 in new designs.

3/ Use M15291/3-009 in new designs.

4/ Use M15291/3-011 in new designs.

5/ Use M15291/3-016 in new designs.

6/ Use M15291/3-021 in new designs.

Referenced Documents:

MIL-DTL-15291
MIL-S-901
MIL-STD-167 -1

Changes from previous issue: 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 - SH
DLA - CC

Preparing activity:
DLA - CC

(Project 5930-1900)

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/> .