

INCH-POUND

MIL-S-15291/13A(SH)

22 July 1991

SUPERCEDING

MIL-S-15291/13(SH)

17 April 1981

MILITARY SPECIFICATION SHEET

SWITCHES, ROTARY, SNAP ACTION CLASS 20SR BASE MOUNTED, SIDE CONNECTED

This specification is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation MIL-S-15291

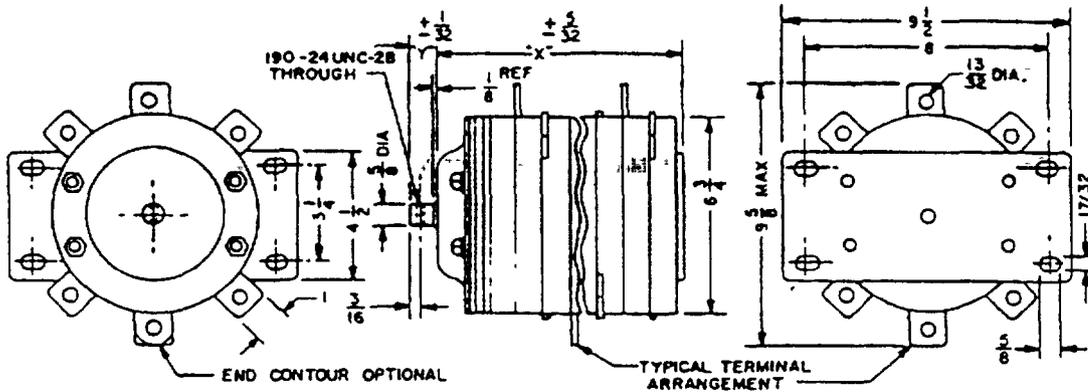


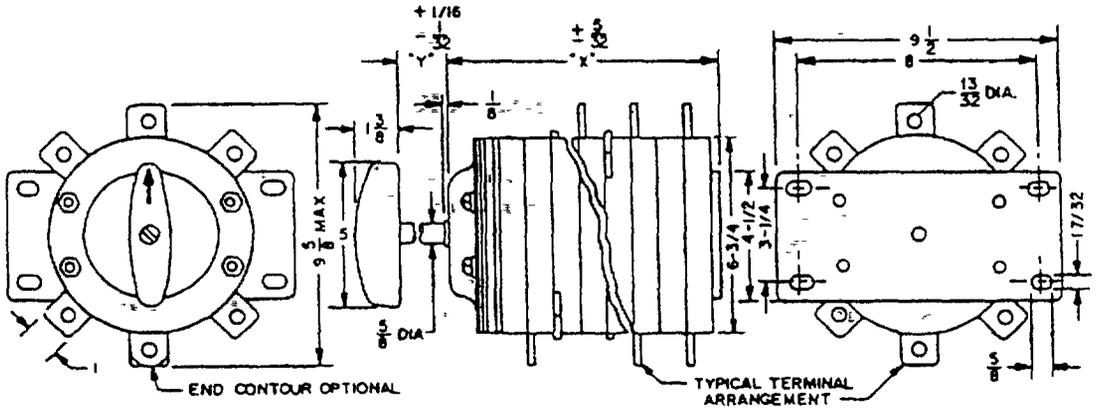
FIGURE 1. Class 20SR base mounted, side connected, with coupler shaft

AMSC N/A

FSC 5930

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited

MIL-S-15291/13A(SH)



NOTES

- 1 Dimensions are in inches
- 2 Unless otherwise specified, tolerance is plus or minus 0.015.

FIGURE 2. Class 20SR base mounted, side connected, with handle

TABLE I Type and switching characteristics

M15291/13 Dash No Type designation	Detail ref	Dim "X" Dim "Y"	Handle or shaft positions	Circuit and spacer configuration 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		
-001	Fig 2	4 13 16	OFF ON OFF ON											
	72	7 16	OFF ON OFF ON											
-002	Fig 2	6 11 32	OFF ON OFF ON											
	72	7 16	OFF ON OFF ON											
-003	Fig 1	11 6 32	OFF ON OFF ON											
	20SR284	72	3 4											
-004	Fig 1	8 3 32	OFF ON OFF ON											
	20SR384	72	3 4											
-005	Fig 2	8 31 32	ON 1 OFF ON 2											
	20SR453	80	2											

MIL-S-15291/13A(SH)

REQUIREMENTS:

Applicable specification:	MIL-S-15291
Dimensions and mounting	See figures 1 and 2
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):	100 inch-pounds
Vibration	50 Hz, MIL-STD-167-1
Shock	High impact, MIL-S-901
Insulation (spacers and decks):	Glass alkyd, MAI-60 (or MAI-30) in accordance with MIL-M-14
Contact resistance:	1.5 milliohms maximum
Dielectric withstanding voltage	2,000 Vrms
Insulation resistance:	200 megohms minimum
Temperature rise	50 °C maximum
Contact material	Rotor, phosphor bronze – Stationary contact, copper
Mounting bolts	(4) 1/2 diameter, length, and headstyle to suit application Bolts not furnished.
Handle	M15291/12-100

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)	200	500	6,000	8	4,000
Direct current	200	250	4,000	3	-

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.

GENERAL INFORMATION:

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 ratings 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.

TABLE III Extended ratings.

		AC - 60 or 400 Hz												
		125 volts				250 volt				500 volt				
Switching character-istics	Amp. Operations	Resistive or lamp load		Inductive load 0.75 p f		Resistive or lamp load		Inductive load 0.75 p f		Resistive or lamp load		Inductive load 0.75 p f		
		Amp. Operations	6,000	200	6,000	200	Amp. Operations	6,000	200	6,000	200	Amp. Operations	6,000	200
A B	200	6,000	200	6,000	200	6,000	200	6,000	200	6,000	200	6,000	200	6,000
		DC												
		120 volts				250 volts				350 volts				
A B	200	Resistive or lamp load		Inductive load		Resistive or lamp load		Inductive load		Resistive or lamp load		Inductive load		
		Amp. Operations	4,000	---	Amp. Operations	---	Amp. Operations	200	4,000	200	4,000	---	Amp. Operations	---

¹0.025 henry for inductive circuit

**APPLICATION AND
ACQUISITION GUIDE:**

PIN and type designation cross reference shall be as shown in table IV.

TABLE IV. *Application and acquisition guide*

M15291/13 dash No	Type designation	For new or existing design	For re- placement	Circuit configuration
-001	-	X		A (off-on-off-on)
-002	-	X		A (off-on-off-on)
-003	20SR2B4	X		B (off-on 1-off-on 2)
-004	20SR3B4	X		B (off-on 1-off-on 2)
-005	20SR4S3	X		S (see table I)

Revision letters are not used to denote changes due to the extensiveness of the changes

Preparing activity:
Navy - SH
(Project 5930-N663-14)