

## DESCRIPTION

## PRODUCT COVERED:

USR/CNR - Special-use switches, component.

Cat No	Electrical Rating	Temp. °C	Pol/ Thr	PP	Endur	SPCOA
*U83118, U83118M, U831118S1, U83119T1, U83119T2 and U83120, f/b W1, W2 or W3, ww/o added numbers and letters	5 A, 250 V ac; 10 A, 125 V ac; 10 A, 30 V dc	65	1/2	-	6K	-

## EXPLANATION OF PRODUCT COVERED TABLE:

Abbreviations f/b - followed by  
if ww/o - with or without  
used Res. - Resistive load. 98-100 % power factor.

POL/THR No. of Poles/No. of Throws. "M" stands for Multi-Pole or Multi-Throw, e.g. 2/M indicates 2 Pole, Multi-Throw.

PP - "PP" stands for Per Pole. PP in this column indicates that each pole is capable of switching the rated current.

ENDUR - Endurance Rating

SPCOA - Special Conditions of Acceptability; the applicable special COAs are indicated in this column in number form. The corresponding COAs are given in the following pages.

USR - Indicates switches that have been investigated to the Standard for Special-Use Switches, UL 1054.

CNR - Indicates switches that have been investigated to the Canadian Standard for Special-Use Switches, CSA C22.2 No 55.

The devices covered by this Report are SPDT special-use switches.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE USE):

## STANDARD CONDITIONS OF ACCEPTABILITY

1. The switch terminals have been investigated for use only with copper wire or copper alloy, quick-connect terminals.

3. The spacing between any terminals and a flat mounting surface has been judged in accordance with UL 1054 (Special Use Switches). However, the spacing requirements between the connection when installed on the terminal and the mounting surface shall comply with the end-use Standard spacings.

4. For switches with integral leads, the temperature rating of the leads is 60°C minimum unless the leads are surface marked with a higher rating.

5. The switch has been subjected to a minimum 6000 c  
endurance test.

## SPECIAL CONDITIONS OF ACCEPTABILITY

General - One or more of the following Conditions of Acceptability apply as indicated in the Product Covered table on Page 1 of this Report under the SPCOA (Special COA's) column.

1. The nonstandard quick-connect tabs (i.e., other than noted in Table 7.1 of UL 1054) have been investigated with a specific nonstandard connector attached to wires of a specified size.

2. These are lighted switches employing a lamp. The lamp life should be evaluated when required by the end-use product Standard.

3. The switch has openings in the housing adjacent to arcing parts. The end-use application may involve environments (such as excessive dust or adjacent combustible material) that would exclude an opening in the switch housing.

4. These are diaphragm activated water level switches. Samples of the diaphragm have been subjected to aging tests for use at a specific temperature (shown within parenthesis in °C) and have also been examined for tensile strength and elongation after exposure to detergent. However, if the switch is mounted below the level of water which indirectly actuates it and the switch has an integral metal case, the metal case is to be considered a live part.

5. These are speed control switches. The investigation was limited to the switching function of the switch. In the final application it should be determined that the speed control circuit can be used with a particular appliance without resulting in a hazardous condition such as overheating of a motor or the switch in other than the full speed position. Open and shorted components of the speed control circuit shall be evaluated for compliance with the end-use Standard.

6. The switch employs screw-type pressure wire connectors or push-in terminals. These have been evaluated for use with solid and/or solder dipped stranded conductors of a specified size (shown within parenthesis in AWG).

8. The switch employs auxiliary contacts located externally of the main switch contact chamber. The auxiliary contacts were not tested as part of this investigation. The suitability of the auxiliary contacts must be determined in accordance with the end product Standard.

The Suffix W1 devices are intended for use with solid or solder dipped stranded copper wire.

Catalog No. 83118M is similar to Cat. No. 83118 except for the molded base material.

The Suffixes W1, W2 and W3, respectively, indicate setscrew terminal, solder-lug terminal and disconnect tab type terminal.

The added suffix number and letters indicate the addition of external actuators as shown in the illustrations.

Corrosion Protection - All ferrous metal parts are protected against corrosion by plating, painting, galvanizing or equivalent.

Spacings - Spacings between uninsulated live-metal parts of opposite polarity and also those parts and dead-metal parts including openings for mounting screws are not less than 3/64 in. (1.2 mm) through air or over surface for switches rated 250 V or less, and not less than 1/8 in. (3.2 mm) for switches rated 251 V or greater unless noted.

Marking - Manufacturer's name or trademark and the electrical rating.

FIG. 1 (M69-5598)

- A - CAT. NO. 83118W1  
B - CAT. NO. 83119T1W3  
C - CAT. NO. 83119T2W3  
D - CAT. NO. 83120W1  
E - CAT. NO. 83118MW1  
F - ILLUSTRATES TYPES OF ADDED EXTERNAL ACTUATORS AND  
W2 TERMINAL

General - The cover and base on all switches except Cat. No. 83118M is molded phenolic composition. The cover on Cat. No. 83118M is molded phenolic composition and the base is molded polycarbonate (65°C) (Bayer AG Makralon 2405).

The molded pushbuttons are nylon (65°C) and the ends of the metal pushbuttons are provided with a molded nylon (65°C) insert (Rhône Poulenc, 6.6 nylon, Type A221).

All current-carrying parts are nonferrous alloys.

3/64 in. (1.2 mm) minimum spacings between live parts and exposed dead-metal parts.

The Suffix W1 terminal is provided with approx 3/32 in. (2.4 mm) holes for side or back wiring and an approx 7/64 in. (2.8 mm) setscrew with a hemispherical end.

The Suffix W3 terminal is copper alloy, approx 1/32 in. (0.8 mm) thick and 1/4 in. (6.4 mm) wide.

Ratings -

5 A, 250 V ac  
10 A, 125 V ac  
10 A, 30 V dc

Marking - Manufacturer's name and the above rating.