

## DESCRIPTION

## PRODUCT COVERED:

CNR, USR - Special-Use Switches, Component. Cat. Nos. B1, B2, B4, B4MASK, B4D, B10, B19, B40 with suffixes.

Cat. No.	Electrical Rating	Temp. (°C)	POL/THR	PP	ENDUR	SPCOA
Series B1, f/b terminal code f/b switch function code f/b Rating Code 4, B, C, D or E w/wo suffixes	(See Rating Code below)	105	1/1, 2	-	6K	2,3,10
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Series B2, f/b terminal code f/b switch function code f/b Rating Code B, C, D or E w/wo suffixes	(See Rating Code below)	105	1,2/1,2	PP	6K	2,3,10
	*					
Series B4, f/b terminal code f/b switch function code f/b Rating Code 4, B, C, D, E, N, R <b>or S</b> w/wo suffixes	(See Rating Code below)	105	1,2/1,2	PP	6K	2,3,10, <b>11</b>
	*					
Series B10, f/b terminal code f/b function code, f/b Rating Code C or E w/wo suffixes	(See Rating Code below)	105	1,2/1,2	PP	6K	3
Series B10, f/b terminal code f/b function code, f/b Rating Code C or E w/wo suffixes f/b W as last one character	(See Rating Code below)	65	1,2/1,2	PP	6K	3
	*					
Series B19, f/b terminal code f/b function code, f/b Rating Code C or E w/wo suffixes	(See Rating Code below)	105	1,2/1,2	PP	6K	3

Series B40, f/b terminal code f/b function code, f/b Rating Code C or E w/wo suffixes.	(See Rating Code below)	105	1,2/1,2	PP	6K	3
Series B4MASK, f/b terminal code f/b function code, f/b Rating Code C, E, N, R <b>or S</b> w/wo suffixes	(See Rating Code below)	105	1,2/1,2	PP	6K	3, 9, 10, <b>11</b>
	*					
Series B4D, f/b terminal code f/b function code, f/b Rating Code C, E, N, R <b>or S</b> w/wo suffixes	(See Rating Code below)	105	1,2/1,2	PP	6K	3, 9, 10, <b>11</b>
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## Rating Code

## Electrical Rating

4	16 A 125, 10A 250 V ac; 1/3 hp, 125 V ac; 1/2 hp, 250 V ac
B	10 A, 125/250 V ac
C, E, R	20 A, 125 V ac; 16 A, 250 V ac; 1/3 hp, 125 V ac; 3/4 hp, 250 V ac; 3/4 hp, 125 V ac, (see SPCOA page 2).
D	20 A, 125 V ac; 1/3 hp, 125 V ac
N	20 A, 125 V ac; 16 A, 250 V ac; 3/4 hp, 250 V ac; 3/4 hp, 125 V ac, (see SPCOA page 2).
S	25 A, 125 V ac; 16 A, 250 V ac 3/4 hp, 125 V ac, 250 V ac (see SPCOA <b>11</b> , page 2A).

## Nonmenclature Breakdown

$\frac{B}{Z}$	$\frac{1}{Y}$	$\frac{B}{X}$	$\frac{C}{W}$	$\frac{4}{V}$	$\frac{W}{U}$
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Z - B Series

Y - Model Identification - 1, 2, 4, 10, 19, 40

X - Terminal Type - See Ills.

W - Switch Function - See Ills.

V - Rating Code - 4, B, C, D, E, N, R or S

U - Optional digit (**available for B10 models only**) - nomenclature of models  
**B10** rated 65°C ends with code W

## EXPLANATION OF ABBREVIATION:

f/b - followed by

w/wo - with or without

Res. - Resistive load. 98-100 percent 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 - Number of Endurance Test cycles of operation

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

## ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

Use - The switches covered by this report are for use only in **complete equipment** where the suitability of the **combination** is determined by Underwriters Laboratories Inc.

## Standard CONDITIONS OF ACCEPTABILITY

General - The following five conditions of acceptability apply to all switches covered by this report.

1. The switch terminals have been investigated for use only with copper wire or copper alloy quick-connect terminals.
2. A Standard sized quick-connect tab is to be mated with the appropriate standard size quick-connect connector. The tab is provided with a detent that shall be properly matched to the connector.
3. The spacing between any terminals and a flat trourting surface has been judged in accordance with the Standard for Special-Use Switches (EL 1054). However, the spacing requirements between the connection when installed on the terminal and the trourting surface shall ca~ly with the end-use Standard spacings.
4. For switches with integral leads, the **temperature** rating of the leads is 60<sup>0</sup>C mininum unless the leads are surface marked with a higher rating.
5. The switch has been subjected to a **minimum** 6000 Cycle Endurance Test.

## SPECIAL CONDITIONS OF ACCEPTABILITY

General - One or more of the following conditions of acceptability apply as indicated in the product covered table beginning on Page 1 of this report under the SPOY. (Special COA's) column.

1. The nonstandard quick-connect tabs 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).
7. These switches employ an integral potentiometer. The investigation was limited to the switching function of the switch. The insulating materials and the spacings of the integral potentiometer should be investigated for compliance with the end-use product Standard.
8. The switch employs auxiliary contacts located externally to 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-use product Standard.
9. The switch is for surface mounting. The body and contacts have a temperature rating of 105°C, instead the external button and gasket have a temperature rating of 50°C. **The rubber was not evaluated as gasket use with water or other liquid.**
10. Electrical ratings of 3/4 hp 125 Vac for rating code C, E, N, R and S is only for double poles single through (B scheme in Appendix pages)

configuration and with body completely enclosed on lateral sides, except for means for rocker connection. Only for B4, B4mask and B4D series.

11. Switch with electrical code S are only double poles single through (B scheme in Appendix pages) configuration, with body completely enclosed on lateral sides (except for means for rocker connection) and tab terminals 6.3x0.8 mm.