

FEBRUARY 4, 2015

1

UL 98B

Outline of Investigation for Enclosed and Dead-front Switches for use in  
Photovoltaic Systems

Issue Number 3

February 4, 2015

*Summary of Topics*

*This is the third issue of the Outline of Investigation for Enclosed and Dead-Front Switches for Use in Photovoltaic Systems, Subject 98B. These requirements cover enclosed and dead-front switches rated up to 1500 V dc, intended for use in dc photovoltaic (PV) systems and installed in accordance with Article 690 of the National Electrical Code, ANSI/NFPA-70. These switches are intended for ambient conditions between minus 20 to +50°C.*

The following table lists the future effective dates with the corresponding reference.

Future Effective Dates	References
December 31, 2019	Paragraphs 13.5, 13.6, 13.10, 13.12, 14.5, 22.1, 23.3, 23.6, 23.12 – 23.17, Sections 17, 20, and 24 – 27.

UL's Outlines of Investigation are copyrighted by UL. Neither a printed nor electronic copy of an Outline of Investigation should be altered in any way. All of UL's Outlines of Investigation and all copyrights, ownerships, and rights regarding those Outlines of Investigation shall remain the sole and exclusive property of UL.

COPYRIGHT © 2015 UNDERWRITERS LABORATORIES INC.

No Text on This Page

## CONTENTS

### INTRODUCTION

1 Scope .....	5
2 Components .....	5
3 Units of Measurement .....	6
4 Undated References .....	6
5 Glossary .....	6

### CONSTRUCTION

6 General .....	6
7 Spacings .....	7
8 Wire Terminals .....	7
9 Bus Bars .....	8
10 Enclosure Doors .....	8
11 Fusing .....	9
12 Wiring and Bending Space .....	9

### PERFORMANCE

13 General .....	9
14 Heating Test .....	11
15 Endurance Test .....	12
16 Close-Open Test .....	12
17 Short Circuit Withstand Test .....	12
18 Electrically Tripped Switches .....	13
18.1 General .....	13
18.2 Heating test .....	13
18.3 Endurance test for electrically tripped switches .....	13
18.4 Contact opening test for electrically tripped switches .....	13
19 Mold Stress Relief Test .....	14
20 Strength of Insulating Base and Support Test .....	14
21 Wire Terminals for Other Class and Strand Configurations .....	14

### RATINGS

22 General .....	14
------------------	----

### MARKINGS

23 General .....	15
------------------	----

### ACCESSORIES

24 Construction .....	17
24.1 General .....	17
24.2 Mounting .....	17
24.3 Field wiring .....	18
24.4 Strain relief .....	18
24.5 Spacings .....	19

24.6	Electrical tripping mechanism .....	19
24.7	Overvoltage-trip release devices .....	20
24.8	Electrical operators .....	20
24.9	Alarm and auxiliary switches .....	20
24.10	Alarm switches .....	20
25	PERFORMANCE .....	20
25.1	General .....	20
25.2	Electrical tripping mechanism .....	21
25.3	<i>(Reserved)</i> .....	21
25.4	Overvoltage-trip release devices .....	21
25.5	Electrical operators .....	23
25.6	Alarm and auxiliary switches .....	23
26	Ratings .....	25
27	Markings .....	26