

UL 1640

STANDARD FOR SAFETY

Portable Power-Distribution Equipment



JULY 14, 2021 - UL1640 tr1

UL Standard for Safety for Portable Power-Distribution Equipment, UL 1640

Fourth Edition, Dated November 14, 2016

Summary of Topics

This revision of ANSI/UL 1640 dated July 14, 2021 includes the following changes in requirements:

- Revision of Criteria for the Use of "100 Percent Rated" Circuit Breakers; 15.2.1

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated May 7, 2021.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of UL.

UL provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will UL be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold UL harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

tr2 JULY 14, 2021 - UL1640

No Text on This Page

This is a preview. Click here to purchase the full publication.

NOVEMBER 14, 2016

(Title Page Reprinted: July 14, 2021)



1

UL 1640

Standard for Portable Power-Distribution Equipment

The first edition was titled Portable Power Distribution Units.

First Edition – October, 1995 Second Edition – July, 2000 Third Edition – October, 2012

Fourth Edition

November 14, 2016

This ANSI/UL Standard for Safety consists of the Fourth Edition including revisions through July 14, 2021.

The most recent designation of ANSI/UL 1640 as an American National Standard (ANSI) occurred on July 14, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at https://csds.ul.com.

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

COPYRIGHT © 2021 UNDERWRITERS LABORATORIES INC.

No Text on This Page

CONTENTS

IN	JT	R	റ	ח	П	C.	ΤI	റ	N
11	7 I	1.	v	$\mathbf{-}$	u	v		v	11

1	Scope	
2	Components	
3	Units of Measurement	8
4	Undated References	
5	Glossary	8
	·	
PART 1	- ALL EQUIPMENT	
CONST	RUCTION	
6	General	10
7	Current-Carrying Parts	
	7.1 General	
	7.2 Bus bars	
	7.3 Support and securement of live parts	
	7.4 Internal wiring	
8	Electrical Insulation Material.	
9	Enclosure	
9	9.1 General	
	9.2 Specific enclosures	
	9.3 Cast metal	
	9.4 Sheet metal	
	9.5 Doors and covers	
	9.6 Inlet and receptacle doors	
	9.7 Polymeric	
	9.8 Enclosure of switches, circuit breakers, or fuses	
40	9.9 Accessibility of live parts	
10		
11	Corrosion Protection	
12		
	12.1 General	
	12.2 Output receptacle grounding	
13	·	
	13.1 General	
	13.2 Cord-connected equipment	
	13.3 Multi-conductor inlet input	
	13.4 Single-conductor inlets and plugs	
	13.5 Interlocked inlet assemblies	
	13.6 Sequentially-interlocked inlet assemblies	
	13.7 Bus bars	
14		
	14.1 General	
	14.2 Receptacles	
15		
	15.1 General	
	15.2 Circuit breakers	
	15.3 Fuses	
	15.4 Fuseholders	43
16	Spacings	44
17	Switches	47

18	Transformers	40
PERFOR	RMANCE	
19	General	40
20	Temperature Test	
21	Clamped-Joint Temperature Test	
22	Dielectric Voltage-Withstand Test	
	22.1 General	
	22.2 Clamped insulating joint	
	22.3 Insulating barriers	
23	Strain-Relief Test	
24	Resistance to Rain Test	
25	Icing Test	
26	Gasket Tests	
27	Spring-Closing Cycling Test	
28	Metallic Coating Thickness Test	
RATING	S	
29	Details	59
MARKIN	GS	
30	General	60
31	Public Access	61
32	Conductors in Parallel	61
33	Enclosure Type	61
34	Neutral Connection	62
35	Qualified Personnel	
36	Receptacle Ratings	62
37	Multi-Pole Receptacle Configuration	
38	Single-Pole Inlets or Output Receptacles	
39	Supply Cord Without Attachment Plug	
40	Switches or Circuit Breakers	63
PART 2	- BUS BAR CLAMPS	
CONST	RUCTION	
41	General	64
PERFOR	RMANCE	
42	General	64
MARKIN	GS	
43	Details	65
PART 3	- CABLE-SPLICING BLOCKS	

CONST	RUCTION	
44	General	.65
PERFOR	RMANCE	
45	General	.66
46	Temperature Test	
47	Loose Connection Test	
48	Drop Test	
49	Pullout Test	
50	Crushing Test	.67
51	Insulation Resistance and Dielectric Voltage-Withstand Test	.67
52	Impact Test	.67
RATING	s	
53	Details	.67
MARKIN	IGS	
54	Details	.68
	4 - CONSTRUCTION-SITE EQUIPMENT FOR TEMPORARY INSTALLATIONS ACCORDANCE WITH ARTICLE 590 OF THE NEC	IN
CONST	RUCTION	
55	General	.68
56	Mounting Legs	
57	Ground-Fault Protection for Personnel	
58	Receptacles	.69
59	Supply Connection	.69
60	Overcurrent Protection	
61	Enclosures	
62	Spacings	.70
PERFOR	RMANCE	
63	General	. 70
64	Loading Tests	
65	Resistance to Rain Test	
66	Door Endurance Test	
MARKIN	IGS	
67	Details	.71
SUPPLE	MENT SA – FOLLOW-UP INSPECTION INSTRUCTIONS	
GENERA	AL	
SA1	1 Scope	73
SA		. 73

SA3 General 74 RESPONSIBILITY OF THE FIELD REPRESENTATIVE SA4 General 75 SA5 General 75 SA6 Enclosures 76 SA6.1 Sheet metal thickness 76 SA6.2 Corrosion protection 77 SA6.3 Types 77 SA6.4 Current-carrying parts (bus bars) 77 SA6.5 Grounding 77

APPENDIX A

SA7

SA8

SA9

SA10

SA11

SA12 SA13

RESPONSIBILITY OF THE MANUFACTURER

Standards for Components	80
--------------------------	----

General 79