



---

# UL 150

## STANDARD FOR SAFETY

### Antenna Rotators



UL Standard for Safety for Antenna Rotators, UL 150

Fourth Edition, Dated November 9, 2004

### **Summary of Topics**

***This revision to ANSI/UL 150 dated September 1, 2020 is being issued to update the title page to reflect the most recent designation as a Reaffirmed American National Standard (ANS). No technical changes have been made.***

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 requirements are substantially in accordance with Proposal(s) on this subject dated June 26, 2020.

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.

No Text on This Page

**NOVEMBER 9, 2004**  
(Title Page Reprinted: September 1, 2020)



**ANSI/UL 150-2011 (R2020)**

1

## **UL 150**

### **Standard for Antenna Rotators**

First Edition – October, 1983  
Second Edition – October, 1989  
Third Edition – July, 1994

### **Fourth Edition**

**November 9, 2004**

This ANSI/UL Standard for Safety consists of the Fourth Edition including revisions through September 1, 2020.

The most recent designation of ANSI/UL 150 as a Reaffirmed American National Standard (ANS) occurred on August 31, 2020. 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 © 2020 UNDERWRITERS LABORATORIES INC.**

No Text on This Page

## CONTENTS

### INTRODUCTION

1	Scope .....	7
2	General .....	7
2.1	Components .....	7
2.2	Units of measurement .....	7
2.3	Undated references .....	8
3	Glossary .....	8

### CONSTRUCTION

4	General .....	10
5	Enclosure .....	10
5.1	Control unit .....	10
5.2	Drive unit .....	10
6	Mechanical Assembly .....	10
7	Materials .....	11
7.1	General .....	11
7.2	Guard and barrier insulating material for rendering live parts inaccessible .....	12
8	Protection Against Corrosion .....	13
9	Current-Carrying Parts .....	13
10	Accessibility of Parts .....	13
10.1	General .....	13
10.2	Control unit .....	13
10.3	Drive unit .....	14
10.4	Adjustment openings and control shafts – control unit .....	16
10.5	Top opening – control unit .....	16
11	Electric Shock .....	18
12	Supply Connections .....	18
12.1	General .....	18
12.2	Power-supply cord .....	18
12.3	Cord strain relief .....	19
12.4	Cord push-back relief .....	19
12.5	Bushings .....	19
12.6	Cord Routing .....	20
12.7	Attachment plug .....	20
12.8	Polarization .....	20
13	Grounding .....	21
13.1	General .....	21
13.2	Grounding-type cord-connector body .....	22
13.3	Grounding adapters .....	22
14	Transformers .....	22
15	Capacitors .....	22
16	Lampholders .....	23
17	Receptacles .....	23
18	Overload Protection .....	23
19	Wiring .....	23
19.1	Sleeving, tape, tubing, and wire insulation– control unit .....	23
19.2	Mechanical protection .....	24
19.3	Cable and wiring subject to motion .....	24
19.4	Opening in metal .....	24
20	Connectors, Components, and Leads .....	24
20.1	Quick-connect terminals .....	24

	20.2 Aluminum terminations.....	25
21	Captive Parts .....	25
	21.1 General.....	25
	21.2 Captive knobs .....	25
22	Switches.....	25
	22.1 General.....	25
	22.2 Drive-unit-control switches .....	25
23	Spacings .....	26
	23.1 Primary circuits.....	26
	23.2 Barriers and liners.....	26
	23.3 Fuse and fuse clip.....	26
24	Control-Unit-Output Limitations .....	26
25	Drive-Unit-Discharge Path .....	27

## PROTECTION AGAINST INJURY TO PERSONS

26	General .....	27
27	Power-Operated Moving Parts .....	28
28	Enclosures and Guards .....	28
29	Sharp Edges .....	28
30	Installation and Assembly .....	28

## PERFORMANCE

31	General .....	28
	31.1 Voltmeters.....	28
	31.2 Cheesecloth indicators.....	29
	31.3 Supply circuit.....	29
32	Operation Test .....	29
	32.1 General.....	29
33	Connector and Component Displacement Test .....	29
34	Leakage-Current and Shock-Current Tests.....	30
	34.1 Leakage current test .....	30
	34.2 Shock current test.....	32
35	Leakage-Current Test After Humidity Conditioning .....	32
36	Resistance of Grounding Circuit Test .....	32
37	Power-Input Test .....	33
38	Temperature Test .....	33
	38.1 General.....	33
	38.2 Thermal equilibrium .....	35
	38.3 Test conditions .....	35
	38.4 Operating conditions .....	35
	38.5 Thermocouples .....	35
	38.6 Winding-temperature measurement .....	36
39	Control-Unit-Output Tests.....	36
	39.1 Current-capacity test.....	36
	39.2 Volt-ampere-capacity test.....	37
	39.3 Measurement .....	37
	39.4 Continuous operation test.....	37
	39.5 Open-circuit-voltage test .....	37
	39.6 Unreliable-component-failure test .....	37
40	Dielectric Voltage-Withstand Test .....	38
	40.1 General.....	38
	40.2 Maximum voltage .....	39
41	Capacitor Test.....	39