

INCH-POUND
MIL-PRF-39015/2H
19 May 1997
SUPERSEDING
MIL-R-39015/2G
13 December 1971

PERFORMANCE SPECIFICATION
RESISTORS, VARIABLE, WIRE-WOUND
(LEAD-SCREW ACTUATED),
NONESTABLISHED RELIABILITY, AND ESTABLISHED RELIABILITY
STYLE RTR22

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the associated requirements for style RTR22, lead-screw actuated, wire-wound, variable resistors. Available in a ± 5 percent resistance tolerance and terminal types L, P, W, and X.

1.2 Part or Identifying Number (PIN). Resistors covered by this specification are identified by a PIN which will consist of the document number and slash sheet, resistance value designator, terminal type, and product level. The PIN is derived in accordance with MIL-PRF-39015 and in the following format.

M39015/2	-	001	P	M
Associated specification number		Resistance value designator	Terminals	Product level designator

NOTE: The slash "/" and the dash "-" are needed in the procurement of this part.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document user are cautioned that they must meet all specified requirements documents cited in sections 3, and 4 of this specification, whether or not they are listed.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be address to: US Army Communications-Electronics Command, ATTN: AMSEL-LC-LEO-E-EP, Fort Monmouth, NJ 07703-5023 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 5905

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-PRF-39015 - Resistors, Variable, Wire Wound, (Lead Screw Actuated), Non-Established Reliability, and Established Reliability, General Specification for.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Defense Printing Service Detachment Office, Building 4D, Customer Service, 700 Robbins Avenue, Philadelphia PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 General. The requirements for acquiring the product described herein shall consist of this document and MIL-PRF-39015.

3.2 Design and construction. Resistors shall be of the design, construction, and physical dimensions specified on figure 1.

3.3 Power rating. The power rating shall be 3/4 watt, based on full load operation at an ambient temperature of 85°C.

3.4 Nominal resistance value, maximum resolution, and maximum rated ac or dc working voltage. Nominal resistance value, maximum resolution, and maximum rated ac or dc working voltages shall be as specified in table I.

3.5 Actual effective electrical travel. Actual effective electrical travel shall be 20 turns minimum, and 42 turns maximum.

3.6 Operating torque. Operating torque shall be a maximum of 5 ounce-inches.

3.7 Weight. The maximum weight shall be .00529 pound (2.4 grams).

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-39015.

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TABLE I. Nominal resistance value, and maximum resolution, and maximum rated ac or dc working voltage.

Type designation <u>1/</u>	Nominal resistance value (in ohms) <u>2/</u>	Maximum resolution <u>3/</u>	Maximum rated ac or dc working voltage	Dash number <u>4/</u>
	<u>Ohms</u>	<u>Percent</u>	<u>Volts</u>	
RTR22D-100-	10	1.3	2.7	009
RTR22D-200-	20	1.0	3.8	010
RTR22D-500-	50	.80	6.1	011
RTR22D-101-	100	.51	8.7	001
RTR22D-201-	200	.42	12.3	002
RTR22D-501-	500	.42	19.4	003
RTR22D-102-	1,000	.36	27.4	004
RTR22D-202-	2,000	.29	38.7	005
RTR22D-502-	5,000	.26	61.3	006
RTR22D-103-	<u>5/</u> 10,000	.14	86.7	007
RTR22D-203-	<u>6/</u> 20,000	.11	122.0	008

1/ Type designation is for information only and will include additional symbols to complete type designations.

2/ For Navy use, resistance values shall be based on the use of wire having no less than .001-inch nominal (.0009 absolute) diameter.

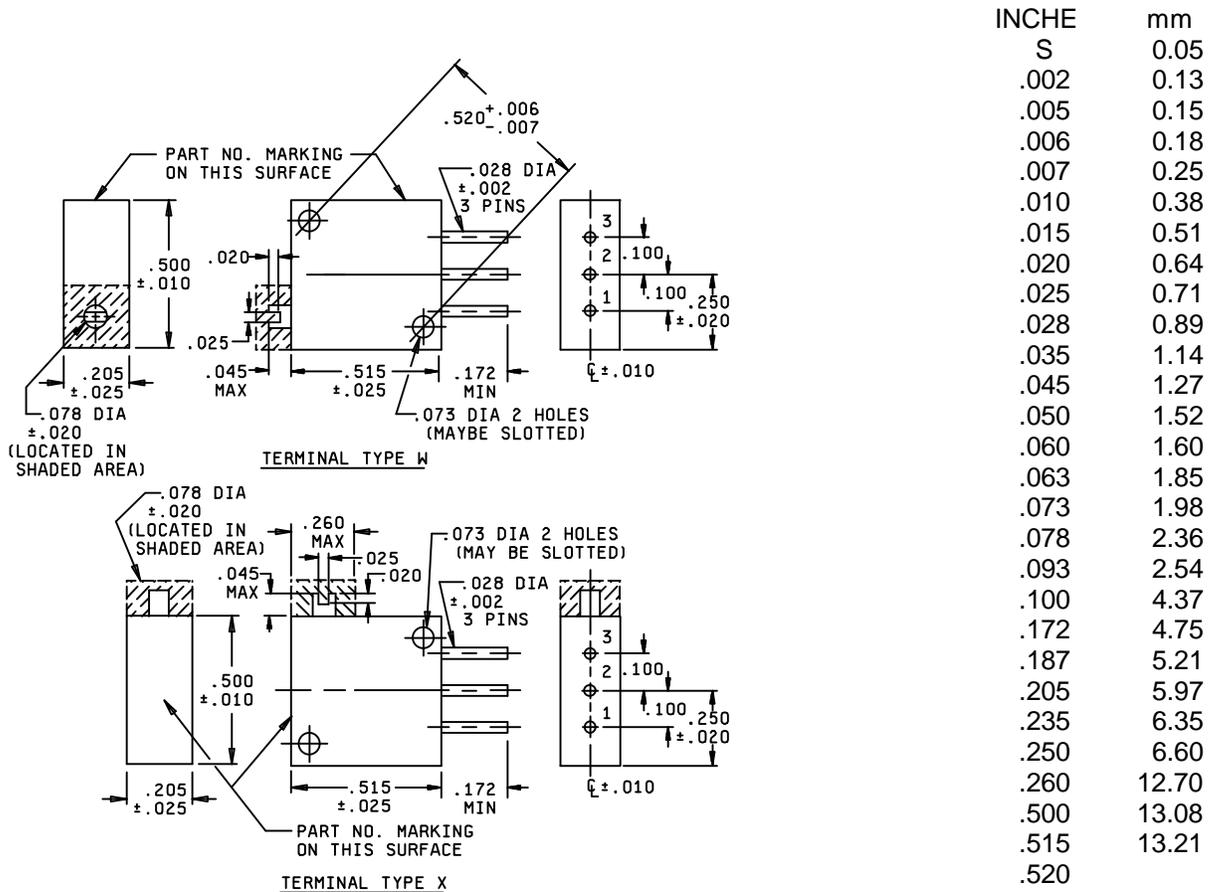
3/ Maximum resolution shown is theoretical.

4/ Complete dash number will include symbols for terminal type and failure rate level.

5/ Value based on the use of wire having no less than .001-inch nominal (.0009 absolute) diameter.

6/ Value based on the use of wire having no less than .0008-inch nominal (.00072 absolute) diameter.

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NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is ± 0.005 (.13 mm).
3. Metric equivalents (to the nearest .01 mm) are given for general information only.
4. The entire slot of the actuating screw must be above the surface of the unit.
5. For types P, W, and X, normal mounting means is by use of pins only.
6. The three leads shall be of the stranded wire, AWG size 28 to 30, having a minimum length of 6 (152.4 mm); they shall be insulated with polytetrafluoroethylene, stripped $.250 \pm .062$ (6.35 ± 1.57 mm) from the end, and color coded.
7. Dimensions not shown are the same as for type P.
8. The picturization of the styles above are given as representative of the envelope of the item. Slight deviations from the outline shown, which are contained within the envelope, and do not alter the functional aspects of the device are acceptable.
9. Mounting holes and/or slots are optional for terminal styles P, W, and X.

FIGURE 1. Style RTR22 resistors - Continued.

5. PACKAGING

5.1 Packaging. For acquisition purposes, packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Notes. In addition to the notes specified herein, the notes specified in MIL-PRF-39015 are applicable to this specification.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, date of the specification, and complete PIN.
- b. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1).
- c. Packaging requirements (see 5.1).

6.3 MIL-R-27208 substitution data. Resistors of this specification, regardless of their failure rate designation, are substitutes for resistors of the same resistance value, tolerance, terminal characteristic, and resistance temperature specified in the specification MIL-R-27208/4.

6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 85

Review activities:
Army - AR, AT, AV, ME, MI
Navy - AS, MC, OS
Air Force - 17, 19

Preparing activity:
Army - CR

Agent:
DLA - CC

(Project 5905-1453-02)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER
MIL-PRF-39015/2H

2. DOCUMENT DATE (YYMMDD)
970519

3. DOCUMENT TITLE RESISTORS, VARIABLE, WIRE-WOUND (LEAD-SCREW ACTUATED), NONESTABLISHED RELIABILITY, AND ESTABLISHED RELIABILITY STYLE RTR22

4. NATURE OF CHANGE *Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*

b. ORGANIZATION

c. ADDRESS *(Include Zip Code)*

d. TELEPHONE *(Include Area Code)*
(1) Commercial
(2) AUTOVON
(if applicable)

7. DATE SUBMITTED
(YYMMDD)

8. PREPARING ACTIVITY

a. NAME
J. CARVER

b. TELEPHONE *Include Area Code)*
(1) Commercial (2) AUTOVON
(908) 427-3441 987-3441

c. ADDRESS *(Include Zip Code)*
US ARMY COMMUNICATIONS-ELECTRONICS
COMMAND, ATTN: AMSEL-LC-LEO-E-EP
FORT MONMOUTH, NJ 07703-5023

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:
DEFENSE QUALITY AND STANDARDIZATION OFFICE
5203 Leesburg Pike, Suite 1403, Falls Church, VA 22401-3466
Telephone (703) 756-2340 AUTOVON 289-2340