REVISIONS			
LTR	**DESCRIPTION**	**DATE**	**APPROVED**
A	Update to the latest DLA Land and Maritime drawing format.	20 Nov 13	M Radecki

CURRENT DESIGN ACTIVITY CAGE CODE 037Z3
HAS CHANGED NAMES TO:
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

Prepared in accordance with ASME Y14.100

REV																						
PAGE																						
REV STATUS OF PAGES	**REV**			A	A	A	A	A	A	A												
	PAGES			1	2	3	4	5	6	7												

PMIC N/A	**PREPARED BY** Fred Lester	**DESIGN ACTIVITY** **DEFENSE SUPPLY CENTER, COLUMBUS** **COLUMBUS, OH**
Original date of Drawing: 9 June 2008	**CHECKED BY** William Sindelar	**TITLE** DISCHARGER, ELECTROSTATIC, TRAILING EDGE, NON-INTEGRAL BASE
	APPROVED BY Michael Radecki	
	SIZE A / **CODE IDENT. NO.** 037Z3	**DWG NO.** **08004**
	REV A	**PAGE** 1 **OF** 7

1. SCOPE

1.1 Scope. This drawing describes the requirements for an electrostatic discharger used on aircraft.

1.2 Part or Identifying Number (PIN). The complete PIN is 08004-01.

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 users are cautioned that they must meet all specified requirements of documents in sections 3 and 4 of this specification, whether or not they are listed.

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 cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-9129 - Dischargers, Electrostatic.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-1285 - Marking of Electrical and Electronic Parts.

(Copies of these documents are available online at http://quicksearch.dla.mil or https://assist.dla.mil or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, 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 Interface and physical dimensions. The interface and physical dimensions shall be as specified herein (see figure 1).

3.1.1 Changes to product. The manufacturer shall notify the acquiring activity of any changes to the product that may affect the form, fit, or function of the device. Such notification shall be given prior to shipment of any device incorporating the identified change.

3.2 Marking. Marking shall be in accordance with MIL-STD-1285, except the electrostatic discharger shall be marked with the PIN as specified herein (see 1.2), the manufacture's name or Commercial and Government Entity (CAGE) code, and date lot codes.

3.3 Pure tin. The use of pure tin, as an underplate or final finish, is prohibited both internally and externally. Tin content of discharger components and solder shall not exceed 97 percent, by mass. Tin shall be alloyed with a minimum of 3 percent lead, by mass (see 6.3).

3.4 Manufacturer eligibility. To be eligible for listing as an approved source of supply, a manufacturer shall perform group A and group B inspections. A certificate of compliance and group A and group B test results shall be required from a manufacturer requesting to be an approved source of supply (see 6.7).

3.5 Electrical characteristics.

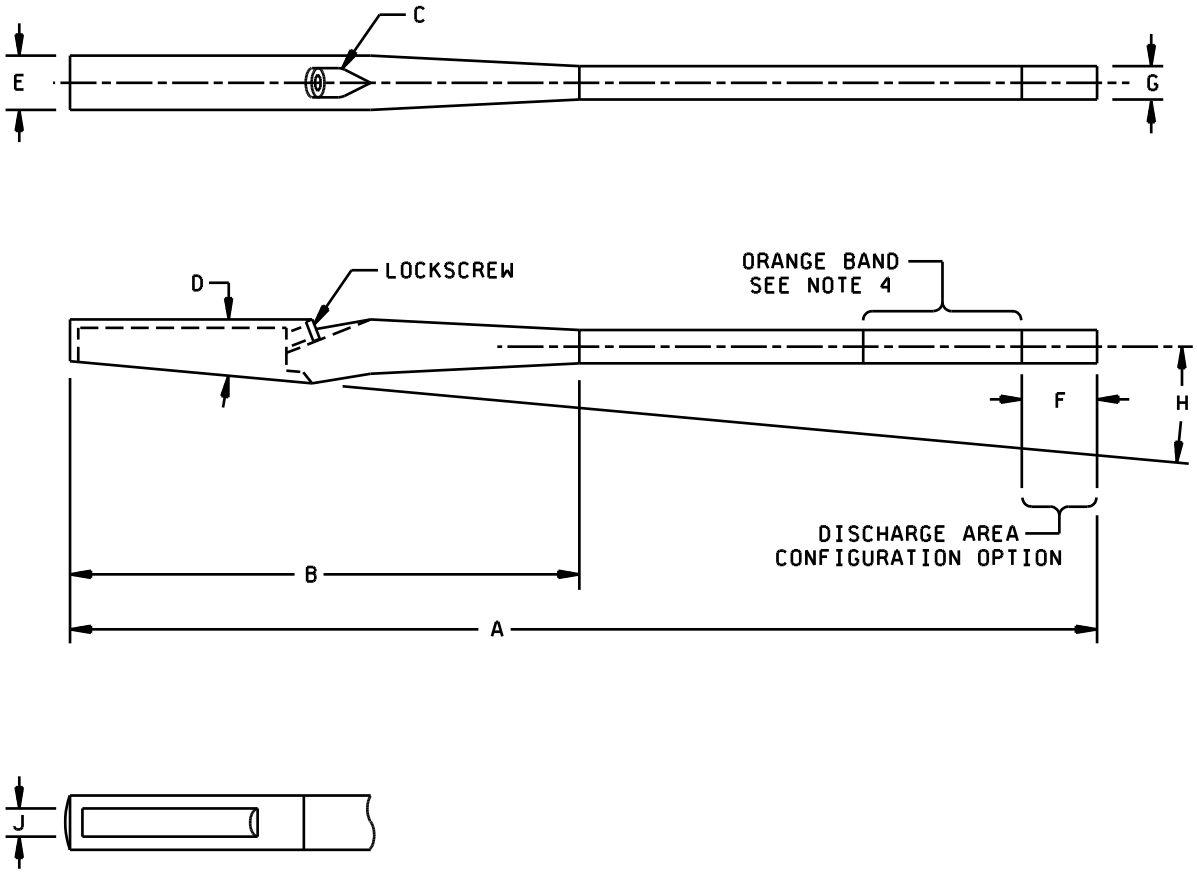
3.5.1 Radio frequency discharge noise. Radio frequency discharge noise shall be in accordance with 3.6.2 and 4.6.2.2 of MIL-DTL-9129.

3.5.2 Discharge current. Discharge current shall be in accordance with 3.6.1 and 4.6.2.1 of MIL-DTL-9129.

3.5.3 Continuous discharge. Continuous discharge shall be in accordance with 3.6.3 and 4.6.2.3 of MIL-DTL-9129.

3.5.4 Power dissipation. Power dissipation shall be in accordance with 3.6.4 and 4.6.2.4 of MIL-DTL-9129.

3.5.5 D.C. resistance. D.C. resistance shall be in accordance with 3.6.6 and 4.6.4 of MIL-DTL-9129.



PIN 08004-	Overall length A	Length of holder B	Thread size C	Dia. D	Bracket width E	Length of dis-charge area F	Dia. of body or sleeve G	Height on angle type dis-chargers H	J	Holder figure from MIL-D-9129/9 See note 3
01	8.87 ±.12	4.40 max.	See note 5	.68 max.	0.53 max.	1.50 max.	.58 max.	1.3 max.	.43 max.	1

Inches	mm	Inches	mm
0.12	3.05	1.30	33.02
0.43	10.92	1.50	38.10
0.53	13.46	4.40	111.76
0.58	14.73	8.87	225.30
0.66	16.76		

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dischargers must interface with holder shown in this column.
4. An international orange band, .800 +.120, -.000 (20.32 mm +3.05 mm, - 0.00 mm) inches long, shall encircle diameter G to visually indicate the tip fail point dimensioned by F.
5. Screw supplied must interface with its mating discharger, therefore screw thread length and screw thread size is optional.

FIGURE 1. Dimensions and configurations.

3.5.6 Solvent resistance. This electrostatic discharge shall be resistant to solvents in accordance with 3.6.10 and 4.6.8 of MIL-DTL-9129.

3.5.7 Thermal shock. Thermal shock shall be in accordance with 3.6.11 and 4.6.9 of MIL-DTL-9129.

3.5.8 Tension. Tension shock shall be in accordance with 3.6.13 and 4.6.11 of MIL-DTL-9129.

3.5.9 Salt spray. Salt spray testing shall be in accordance with 3.6.12 and 4.6.10 of MIL-DTL-9129.

3.5.10 Sand and dust. Sand and dust testing shall be in accordance with 3.6.14 and 4.6.12 of MIL-DTL-9129.

3.5.11 Lightning survivability. Lightning survivability shall be in accordance with 3.6.16 and 4.6.14 of MIL-DTL-9129.

3.5.12 Electrical flashover. Electrical flashover shall be in accordance with 3.6.5 and 4.6.3 of MIL-DTL-9129.

3.6 Materials. Materials shall be in accordance with 3.4 of MIL-DTL-9129.

3.7 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.8 Certificate of compliance. A certificate of compliance shall be required from a manufacturer requesting to be an approved source of supply.

3.9 Workmanship. Parts shall be free of flash pits, voids, and excessive mold marks. Visible parting line is acceptable.

4. VERIFICATION

4.1 Conformance inspection.

4.1.1 Inspection of product for delivery. Inspection of product for delivery shall consist of the group A and B inspections of MIL-DTL-9129.

4.1.1.1 Inspection lot. An inspection lot shall consist of all dischargers of the same type produced under essentially the same conditions, and offered for inspection at one time. The lot may include the entire contract quantity, or it may be the production of any convenient time period at the choice of the Government inspector.

4.1.1.2 Group A inspection. Group A inspection shall consist of the inspections specified in table I, in the order shown.

4.1.1.2.1 Sampling plan. Group A inspection shall be on an inspection lot basis. Samples shall be selected in accordance with table II, based on the inspection lot. If there are one or more failures, the inspection lot shall be considered to have failed.

4.1.1.2.2 Rejected lots. The rejected lots shall be segregated from new lots and those lots that have passed inspection. The supplier may rework it to correct the defect or 100 percent inspect the lot and remove all defective parts. The rejected lot shall then be inspected in accordance with table I for those quality characteristics found defective in the sample. If one or more defects are found in this second sample, the lot shall be rejected and shall not be supplied to this specification.

TABLE I. Group A inspection.

Inspection	Requirement paragraph
Visual and mechanical inspection	
Dimensions	3.1
Marking	3.2
Workmanship	3.9
Discharge current	3.5.2
Radio frequency discharge noise	3.5.1

TABLE II. Group A zero defect sampling plan.

Lot size			Sample size
1	-	13	100 percent
14	-	150	13
151	-	280	20
281	-	500	29
501	-	1,200	34
1,201	-	3,200	42
3,201	-	10,000	50
10,001	-	35,000	60
35,001	-	150,000	74
150,001	-	500,000	90
500,001	-	and up	102

4.1.1.2.3 Disposition of sample units. Sample units which have passed all the group A inspection may be delivered on the contract or purchase order, if the lot is accepted and the sample units are still within specified electrical tolerances.

4.1.1.3 Group B inspection. Group B inspection shall consist of the inspections specified in table III, in the order shown.

4.1.1.3.1 Sampling plan. Group B inspection shall not be required for contracts or orders of less than 100 units. Dischargers shall be selected at random from sample units which passed group A inspection. The number of sample units required shall be as noted in table II. Failure of any group B tests shall constitute rejection of the lot.

4.1.1.3.2 Rejected lots. If an inspection lot is rejected, the manufacturer may rework it to correct the defects, or screen out the defective units, and resubmit for reinspection. Resubmitted lots shall be inspected using lightened inspection. Such lots shall be separate from new lots, and shall be clearly identified as reinspected lots.

4.1.1.3.3 Disposition of sample units. Sample units which have passed all the group B inspection may be delivered on the contract or purchase order, if the represented lot is accepted and adhesive mountings were not used during the tests.

TABLE III. Group B inspection.

Inspection	Requirement paragraph
Direct current resistance	3.5.5
Power dissipation	3.5.4
Discharge current	3.5.2
Radio frequency discharge noise	3.5.1

4.2 Methods of inspection.

4.2.1 Visual and mechanical inspection. Electrostatic dischargers shall be examined to verify that the physical dimensions, marking, and workmanship are in accordance with the applicable requirements (see 3.1, 3.2, and 3.7). All dimensional characteristics are considered defective when out of tolerance. All workmanship characteristics are considered defective when they would be detrimental to the intended use, performance requirements, or environmental survival.

4.2.2 Discharge current. The discharge current shall be tested in accordance with 3.6.1 and 4.6.2.1 of MIL-DTL-9129.

4.2.3 Radio frequency discharge noise. The radio frequency discharge noise shall be tested in accordance with 3.6.2 and 4.6.2.2 of MIL-DTL-9129.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Departments 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 Intended use. Devices conforming to this drawing are intended for use when military specifications do not exist and qualified military devices that will perform the required function are not available for OEM application.

6.2 Ordering data. The contract or purchase order should specify the following:

a. Complete PIN (see 1.2).

b. Requirements for delivery of one copy of the conformance inspection data or certificate of conformance that parts have passed conformance inspection with each shipment of parts by the manufacturer.

c. Whether the manufacturer performs the group A inspection or provides a certificate of compliance with group A requirements.

d. Requirements for notification of change in product to contracting activity, if applicable.

e. Requirements for packaging (see 5.1).

6.3 Tin whisker growth. The use of alloys with tin content greater than 97 percent, by mass, may exhibit tin whisker growth problems after manufacture. Tin whiskers may occur anytime from a day to years after manufacture and can develop under typical operating conditions, on products that use such materials. Conformal coatings applied over top of a whisker-prone surface will not prevent the formation of tin whiskers. Alloys of 3 percent lead, by mass, have shown to inhibit the growth of tin whiskers. For additional information on this matter, refer to ASTM-B545 (Standard Specification for Electrodeposited Coatings of Tin).

6.4 Environmentally preferable materials. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website http://www.epa.gov/osw/hazard/wastemin/priority.htm. Included in the EPA list of 31 priority chemicals are cadmium, lead, and mercury. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see Section 3).

6.5 Replaceability. Devices covered by this drawing will replace the same commercial device covered by contractor prepared specification or drawing.

6.6 Users of record. Coordination of this document for future revisions is coordinated only with the approved sources of supply and the users of record of this document. Requests to be added as a recorded user of this drawing may be achieved online at Circuitprotect@dla.mil or if in writing to: DLA Land and Maritime, ATTN: VAT, Post Office Box 3990, Columbus, OH 43218-3990 or by telephone (614) 692-0548 or DSN 850-0548.

6.7 Approved source of supply. An approved source of supply is listed herein. Additional sources will be added as they become available. Assistance in the use of this drawing may be obtained online at CircuitProtect@dla.mil, or by contacting DLA Land and Maritime, ATTN: VAT, Post Office Box 3990, Columbus, OH 43218-3990 or by telephone (614) 692-0548 or DSN 850-0548.

DSCC drawing PIN 08004- 1/	Vendor similar designation or type number	Vendor CAGE	Vendor name and address
01	740001-Q	55635	Dayton-Granger, Incorporated 3299 S. W. 9th Avenue Fort Lauderdale, FL 33315-3026 Phone number (954) 463-3451 Facsimile number (954) 761-3172 E-mail: sales@daytongranger.com Uniform Resource Locator (URL): http://www.daytongranger.com/

1/ Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

6.8 Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.