

INCH-POUND

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SUPERSEDING  
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MILITARY SPECIFICATION

ELECTRICAL DISTRIBUTION ASSEMBLIES FOR TENT,  
EXTENDABLE, MODULAR, PERSONNEL (TEMPER)

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

1. SCOPE

1.1 Scope. This specification covers four types of electrical distribution assemblies for use with the TEMPER tent.

1.2 Classification. The electrical distribution assemblies shall be of the following types as specified (see 6.2).

- TYPE I - 120 volt single phase, direct connect style distribution box
- TYPE II - 208 volt three phase, direct connect style distribution box
- TYPE III - 120 volt single phase, receptacle style distribution box
- TYPE IV - 208 volt three phase, receptacle style distribution box

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 6150

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

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## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 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

## FEDERAL

- PPP-B-26 - Bag, Plastic (General Purpose)
- PPP-B-601 - Boxes, Wood, Cleated-Plywood
- PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner
- PPP-B-636 - Boxes, Shipping, Fiberboard

## STANDARDS

## MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-147 - Palletized Unit Loads
- MIL-STD-731 - Quality of Wood Members for Containers and Pallets
- MIL-STD-202 - Test Methods for Electronic and Electrical Component Parts

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

## DRAWINGS

## U. S. ARMY NATICK RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER

- 1-6-6002 - Power Control Panel Lead Sheet
- 1-6-6003 - Cover Plate, Control Box
- 1-6-6004 - Gasket, Control Box
- 1-6-6005 - Power Panel Stand Assy

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1-6-6006	- Mounting Plate
1-6-6007	- Foot, Stand
1-6-6008	- U-Bracket
1-6-6009	- Tube, Outer
1-6-6010	- Tube, Inner
1-6-6011	- Power Control Type I/120V
1-6-6012	- Control Box Type I/120V
1-6-6013	- Cable Assy Outlet Type I
1-6-6014	- Cable Assy Light Type I & II
1-6-6015	- Cable Extension Outlet Type I & II
1-6-6016	- Convenience Outlet Type I & II
1-6-6017	- Extension Cable Type I & II
1-6-6018	- Light Cables Type I & II
1-6-6019	- Wiring Diagram for Type I/120V
1-6-6020	- Wiring Diagram for Type III
1-6-6021	- Terminal Board, Bracket
1-6-6022	- Convenience Outlet Strap Assy
1-6-6023	- Convenience Outlet Back Plate
1-6-6026	- Power Control Type II/208V
1-6-6027	- Control Box Type II/208V
1-6-6028	- Cable Assy Outlet Type II
1-6-6029	- Wiring Diagram for Type II & IV
1-6-6030	- Wiring Diagram for Type IV
1-6-6041	- Power Control Type III/120V
1-6-6042	- Control Box Type III/120V
1-6-6043	- Cable Assy Outlet Type III
1-6-6044	- Cable Assy Light Type III & IV
1-6-6045	- Cable Extension Outlet Type III & IV
1-6-6046	- Convenience Outlet Type III & IV
1-6-6047	- Extension Cable Type III & IV
1-6-6048	- Light Cables Type III & IV
1-6-6056	- Power Control Type IV/208V
1-6-6057	- Control Box Type IV/208V
1-6-6058	- Cable Assy Outlet Type IV

(Copies of drawings are available from the U.S. Army Natick Research, Development, and Engineering Center, ATTN: STRNC-EMSS, Natick, MA 01760-5014.)

2.2 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.

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## 3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.2 Materials and components. Materials and components shall be as specified on the applicable drawings and as specified herein. For components for which the contractor proposes to use an item considered to be equal to the component specified, prior to its use the contractor shall furnish a sample of the component with supporting data to the contracting officer for subsequent evaluation by the responsible military agency. The supporting data required shall prove the functional equivalence and design compatibility of the item proposed to be used. Prior to manufacture of the first article, the contractor shall submit for the contracting officer's approval, a list identifying each proposed alternate component, together with proof that each listed component complies with requirements specified herein. The contracting officer, at his option, may require a physical sample of the proposed substitution. Approval of the submitted listing, together with necessary supporting data, authorizes the commencement of the first article or production manufacture, as applicable, and does not relieve the contractor of the responsibility that these components perform in accordance with specified requirements when incorporated into the end product. It is encouraged that recycled material be used when practical as long as it meets the requirements of this specification.

3.3 Construction. Construction shall conform in all respects to the drawings listed in section 2 and as specified herein.

3.4 Performance.3.4.1 Electrical assemblies.

3.4.1.1 Cables. The electrical cable assemblies shall have a direct current (DC) resistance of less than 1 ohm when tested for electrical continuity as specified in 4.4.4. In addition, insulation resistance shall be greater than 100 megohms when tested as specified in 4.4.4.

3.4.1.2 Distribution boxes. The electrical distribution boxes shall have a DC resistance of less than 1 ohm when tested for electrical continuity as specified in 4.4.4.

3.5 Workmanship. The end item shall conform to the quality of product established by this specification and the occurrence of defects shall not exceed the applicable acceptable quality levels.

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## 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for ensuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point, or at all points in the manufacturing process necessary to ensure compliance with all dimensional requirements.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 First article inspection. When a first article is required (see 3.1 and 6.2), it shall be examined for the defects specified in 4.4.2 and 4.4.3 and tested for characteristics specified in 4.4.4. Any nonconformance or test failure shall be cause for rejection of the first article.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

4.4.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

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4.4.2 End item visual examination. The end items shall be examined for the defects listed in table I. The lot size shall be expressed in units of electrical distribution assemblies of one type only. The sample unit shall be one electrical distribution assembly. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 2.5 for major defects and 6.5 for total (major and minor combined) defects.

TABLE I. End item visual defects

Examine	Defect	Classification	
		Major	Minor
Distribution boxes	Broken	101	
	Malformed	102	
	Switches fail to operate	103	
	Corroded areas		201
	Burrs or sharp edges	104	
	Welds containing any pits, protrusions, or voids	105	
Distribution box stands	Broken	106	
	Malformed	107	
	Corroded areas		202
	Burrs or sharp edges	108	
	Welds improperly located	109	
	Welds containing any pits, protrusions, or voids		203
Cable wires	Evidence of burns, cracking, abrasions, cuts, or pinch marks	110	
Soldered connections	Rough or incomplete	111	
	Poorly formed		204
	Lack of adherence	112	
	Dull or dirty appearance		205
	Presence of protrusions, pits, or voids		206
	Not properly insulated	113	
Cleanliness	Grease or oil stain on components, excess flux or solder		207
Marking and labels	Omitted, incorrect, illegible, or misplaced		208

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4.4.3 End item dimensional examination. The end items shall be examined for conformance to the dimensions specified on the drawings. Only those dimensions that can be evaluated without damaging or disassembling the end items shall be examined. Any dimension not within the specified tolerance shall be classified as a defect. The lot size shall be expressed in units of electrical distribution assemblies of one type only. The sample unit shall be one electrical distribution assembly of one type only. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

4.4.4 End item testing. The end item shall be tested for the characteristics listed in table II. The lot size shall be expressed in units of electrical distribution assemblies of one type only. The sample unit shall be the number of assemblies indicated by the inspection level. The inspection level shall be S-1. Any test failure shall be cause for rejection of the lot.

TABLE II. End item tests

Characteristic	Requirement paragraph	Test method
Electrical continuity	3.4.1.1	4.5.1
Insulation resistance	3.4.1.1	4.5.2
Distribution box continuity	3.4.1.2	4.5.3

4.4.5 Packaging examination. The fully packaged end items shall be examined for the defects listed below. The lot size shall be expressed in units of shipping containers. The sample unit shall be one shipping container fully packaged. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 2.5.

<u>Examine</u>	<u>Defect</u>
Marking (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application
Materials	Any component missing, damaged, or not as specified
Workmanship	Inadequate application of components, such as: incomplete sealing or closure of flap, improper taping, loose strapping, or inadequate stapling Bulged or distorted container

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<u>Examine</u>	<u>Defect</u>
Content	Number per container is more or less than required

4.4.6 Palletization examination. The fully packaged and palletized end items shall be examined for the defects listed below. The lot size shall be expressed in units of palletized unit loads. The sample unit shall be one palletized unit load, fully packaged. The inspection level shall be S-1 and the AQL, expressed in terms of defects per hundred units, shall be 6.5.

<u>Examine</u>	<u>Defect</u>
Finished dimensions	Length, width, or height exceeds specified maximum requirement
Palletization	Pallet pattern not as specified Interlocking of loads not as specified Load not bonded as specified
Weight	Exceeds maximum load limits
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application

#### 4.5 Methods of inspection.

4.5.1 Electrical continuity for cable assemblies. Each conductor in the electrical cable assembly shall be tested in accordance with Method 303 of MIL-STD-202. The test current shall not exceed 15 milliamperes. Measurement shall be made between connector pins which are mutually common to each other electrically. The continuity for each pin shall be checked for compliance with the continuity requirement of 3.4.1.1. Failure to comply shall be considered a test failure.

4.5.2 Insulation resistance for cable assemblies. The cable assembly shall be tested in accordance with Method 302 of MIL-STD-202. The test potential shall be 500 volts, test condition B. Insulation resistance measurement shall be made between the mutually insulated points and between insulated points and connector shell or ground. Each resistance measurement shall be checked for compliance with the continuity requirement of 3.4.1.1. Failure to comply shall be considered a test failure.

4.5.3 Electrical continuity of distribution boxes. Each circuit in the electrical distribution box shall be tested in accordance with Method 303 of MIL-STD-202. The test current shall not exceed 15 milliamperes. Measurement shall be made between each terminal pin of the circuit which is electrically common to each other terminal pin. The continuity for each pin shall be checked for compliance with the continuity requirements of 3.4.1.2. Failure to comply shall be considered a test failure.



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## 5. PACKAGING

5.1 Preservation. Preservation shall be level A.5.1.1 Level A preservation.

5.1.1.1 Cables. All cables shall be individually coiled into loops of approximately 12 inches in diameter and secured with a plastic coated metal twist tie. Each item shall then be inserted in a close-fitting clear polyethylene film bag having a minimum thickness of 0.004 inches conforming to type II, style 2 of PPP-B-26. Each bagged item shall be unit packed in a snug-fitting fiberboard box conforming to style RSC, grade V3c of PPP-B-636. Cushioning shall be used as necessary to prevent movement or damage during transit. Closure shall be in accordance with PPP-B-636.

5.1.1.2 Power panel stand assembly. The power panel stand assembly shall be unit packed in a snug-fitting fiberboard box conforming to style FPF, grade V3c of PPP-B-636. Closure shall be in accordance with PPP-B-636.

5.2 Packing. Packing shall be level A or B as specified (see 6.2).

5.2.1 Level A packing. Items, preserved as specified in 5.1, shall be packed in the quantities specified in table IV in a cleated plywood container conforming to overseas type, style A or B, type 2 load of PPP-B-601, or a nailed wood shipping container conforming to class 2, style 2, 2-1/2, 4, 4-1/2, or 5 of PPP-B-621. Cushioning shall be used as necessary to prevent movement or damage during transit. Each shipping container shall be closed and reinforced in accordance with the appendix of the applicable container specification.

TABLE IV. Packing quantities

<u>Item</u>	<u>Quantity per shipping container</u>
Electrical Distribution Box (Type I and II)	1
Electrical Distribution Box (Type III and IV)	1
Power Panel Stand Assembly	12
Light Cables (Type I and II)	12
Cable Assembly Light (Type I and II)	12

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TABLE IV. Packing quantities (cont'd)

<u>Item</u>	<u>Quantity per shipping container</u>
Light Cables (Type III and IV)	12
Cable Assembly Light (Type III and IV)	12

5.2.2 Level B packing. Items, preserved as specified in 5.1, shall be packed in the quantities specified in table IV in a snug-fitting fiberboard shipping container conforming to FOL, grade V11c or V13c of PPP-B-636. Each shipping container shall be closed and reinforced as specified in the appendix of PPP-B-636. Cushioning shall be used as necessary to prevent movement or damage during transit.

5.2.3 Marking. In addition to any special marking required by the contract or purchase order, unit packs, shipping containers, and palletized unit loads shall be marked in accordance with MIL-STD-129.

5.3 Palletization. When specified (see 6.2), items packed as specified in 5.2 shall be palletized on a 4-way entry pallet in accordance with load type I or Ia of MIL-STD-147. Pallet types shall be type I (4-way entry), type IV, or type V in accordance with MIL-STD-731. Each prepared load shall be bonded with straps in accordance with bonding means C and D or film bonding means F or G. Pallet pattern shall be in accordance with the appendix of MIL-STD-147.

## 6. NOTES

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

6.1 Intended use. The electrical distribution assemblies are designed to supply adequate electrical power to lighting fixtures and to the electrical outlets of the TEMPER.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Type required (see 1.2).
- c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1).

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- d. When a first article is required (see 3.1, 4.3, and 6.3).
- e. Level of packing (see 5.2).
- f. When palletization is required (see 5.3).

6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

6.4 Subject term (key word) listing.

Box  
Electric receptacle  
Extension  
Lighting  
Outlet  
Power supply

6.5 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 - GL  
Air Force - 99

Preparing activity:

Army - GL  
(Project 6150-0203)

Review activities:

Air Force - 82  
DLA - GS

# 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-E-44258A

2. DOCUMENT DATE (YYMMDD)  
90/03/30

### 3. DOCUMENT TITLE

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

U.S. Army Natick RD&E Center

b. TELEPHONE (Include Area Code)  
(1) Commercial  
508-651-5221

(2) AUTOVON  
256-5221

c. ADDRESS (Include Zip Code)

Commander, U.S. Army Natick RD&E Center  
ATTN: STRNC-ES  
Natick, MA 01760-5014

**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:**  
Defense Quality and Standardization Office  
5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466  
Telephone (703) 756-2340 AUTOVON 289-2340