

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

AS34591

FEDERAL SUPPLY CLASS
5935

NOTICE

THIS DOCUMENT HAS BEEN TAKEN DIRECTLY FROM U.S. MILITARY SPECIFICATION MS3459D AND CONTAINS ONLY MINOR EDITORIAL AND FORMAT CHANGES REQUIRED TO BRING IT INTO CONFORMANCE WITH THE PUBLISHING REQUIREMENTS OF SAE TECHNICAL STANDARDS. THE INITIAL RELEASE OF THIS DOCUMENT IS INTENDED TO REPLACE MS3459D. ANY PART NUMBERS ESTABLISHED BY THE ORIGINAL SPECIFICATION REMAIN UNCHANGED.

THE ORIGINAL MILITARY SPECIFICATION WAS ADOPTED AS AN SAE STANDARD UNDER THE PROVISIONS OF THE SAE TECHNICAL STANDARDS BOARD (TSB) RULES AND REGULATIONS (TSB 001) PERTAINING TO ACCELERATED ADOPTION OF GOVERNMENT SPECIFICATIONS AND STANDARDS. TSB RULES PROVIDE FOR (A) THE PUBLICATION OF PORTIONS OF UNREVISED GOVERNMENT SPECIFICATIONS AND STANDARDS WITHOUT CONSENSUS VOTING AT THE SAE COMMITTEE LEVEL, AND (B) THE USE OF THE EXISTING GOVERNMENT SPECIFICATION OR STANDARD FORMAT.

ANY MATERIAL RELATING TO QUALIFIED PRODUCT LISTS HAS NOT BEEN ADOPTED BY SAE. THIS MATERIAL WAS PART OF THE ORIGINAL MILITARY SPECIFICATION AND IS REPRINTED HERE FOR HISTORIC REFERENCE ONLY.

SAENORM.COM : Click to view the full PDF of as34591

ISSUED 1998-01 REAFFIRMED 2003-11

PREPARED BY SUBCOMMITTEE AE-8C1

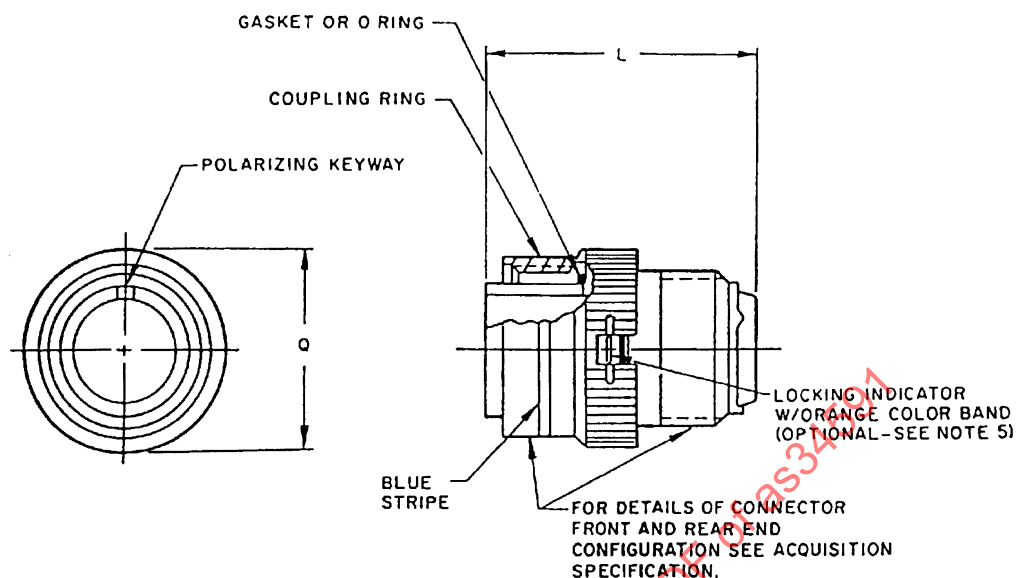
SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

CONNECTOR, PLUG, ELECTRICAL, SELF-LOCKING,
COUPLING NUT, REAR RELEASE, CRIMP CONTACT,
AN TYPE

AS34591
SHEET 1 OF 6

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION: MIL-C-5015.



CLASSES K, L, AND W ENVIRONMENT RESISTANT

CLASS K CONNECTORS WITH ELECTROLESS NICKEL FINISH INACTIVE FOR NEW DESIGN AFTER 11 JUNE 1974. USE CLASS KT OR KS.

NOTES

1. DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES DECIMALS ± 0.16 .
2. DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH ANSI-Y14 5M-82
3. MIL-C-5015 CRIMP CONTACT FRONT AND REAR RELEASE CONNECTORS AND SOLDER CONTACT CONNECTORS ARE INTERMATEABLE.
4. UNLESS OTHERWISE SHOWN, CORRESPONDING FEATURES OF PIN AND SOCKET CONTACT CONNECTORS ARE IDENTICAL
5. A LOCKING INDICATOR IS PERMITTED AS AN OPTIONAL DESIGN FEATURE. AN EXPLANATION OF THE OPERATION AND FUNCTION OF THE LOCKING FEATURE SHALL BE PROVIDED BY THE MANUFACTURER
6. EXTRACTION TOOL M81969/14-03 SHALL BE USED TO REMOVE SIZE 16 CONTACTS THAT ARE CRIMPED TO MIL-W-25038 OR MIL-C-27500 FIRE ZONE WIRE

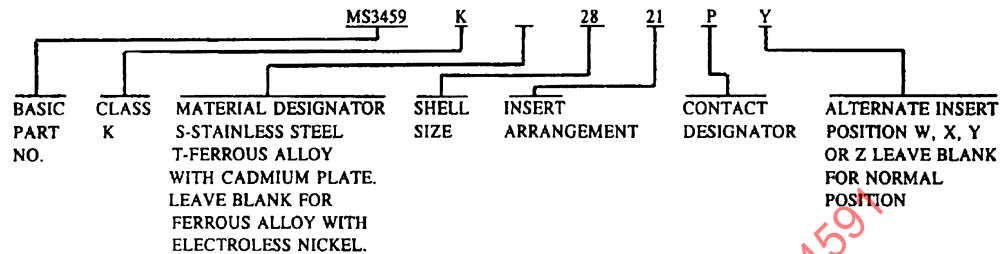
AS34591

TABLE I. CLASSES K, L AND W CONNECTOR DIMENSIONS.

SIZE	L MAX		Q MAX	
	SIZE 16 & 12 CONTACTS	SIZE 8, 4 & 0 CONTACTS		
8S	2.031		93	
10S			1.088	
10SL			1.088	
12S			1.213	
12	2.125		1.213	
14S	2.031		1.358	
14	2.125		1.358	
16S	2.031		1.463	
16	2.125		2.500	1.463
18				1.588
20				1.713
22		1.788		
24		1.963		
28		2.213		
32		2.463		
36		2.713		
40		2.963		

7. FOR INSERT ARRANGEMENTS SEE MIL-STD-1651.
8. MANUFACTURERS MAY CONTINUE TO SUPPLY MS3459C CONNECTORS FOR SIX MONTHS FROM THE DATE OF THIS REVISION, OR UNTIL THEY EXHAUST THEIR INVENTORIES, WHICHEVER COMES FIRST.
9. FOR DESIGN PURPOSES, THIS DOCUMENT TAKES PRECEDENCE OVER THE SPECIFICATIONS AND STANDARDS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

EXAMPLE OF PART NO.



REQUIREMENTS

1. **QUALIFICATION** - TWO CONNECTORS EACH, CONSISTING OF A QUALIFIED CLASS K WALL MOUNTING RECEPTACLE WITH PIN CONTACTS, AND A SELF-LOCKING MATING PLUG CONFORMING TO THIS DOCUMENT COMPRISE THE TEST SAMPLE. THEY SHALL BE OF A MEDIUM SHELL SIZE (18 TO 28) WITH MAXIMUM CONTACT DENSITY, AND SHALL BE FULLY WIRED WITH WIRE CONFORMING TO MIL-W-25038/1. QUALIFICATION TESTING FOR THE SELF-LOCKING PLUS SHALL CONSIST OF THE FOLLOWING TESTS, PERFORMED IN THE SEQUENCE LISTED.
 - A. **VISUAL AND MECHANICAL EXAMINATION OF PRODUCT**
 - B. **COUPLING FORCES** - SELF-LOCKING TYPE CONNECTORS SHALL MEET THE COUPLING AND UNCOUPLING FORCE REQUIREMENTS SPECIFIED IN TABLE II, BEFORE AND AFTER ANY CONDITIONING TESTS.
 - C. **ICE RESISTANCE** - THE TWO FULLY MATED SELF-LOCKING CONNECTORS SHALL BE IMMERSSED IN TAP WATER FOR ONE MINUTE AND THEN PLACED IN AN AMBIENT TEMPERATURE OF $-55 \pm 5^{\circ}\text{C}$ (-67°F) FOR ONE HOUR. A MINIMUM OF 3 SUCH CYCLES SHALL BE PERFORMED UNTIL THE CONNECTOR SURFACES ARE COMPLETELY ICED OVER. IMMEDIATELY AFTER REMOVAL FROM THE LAST CYCLE AT THE LOW AMBIENT TEMPERATURE, THE FROZEN SELF-LOCKING CONNECTORS SHALL BE UNMATED USING CONNECTOR PLIERS OR STRAP WRENCH AND REMATED. THE SELF-LOCKING CONNECTORS SHALL BE CAPABLE OF FUNCTIONING DURING AND AFTER THIS TEST AND THE UNMATING PROCESS SHALL NOT CAUSE DAMAGE TO THE LOCKING MECHANISM. IN ADDITION, THE CONNECTORS SHALL MEET THE COUPLING AND UNCOUPLING FORCES OF TABLE II.