

# **Mil-Spec Connectors & Accessories**



**DEUTSCH ECD**

## **Defense / Aerospace Operations . . .**

*is the world's premier manufacturer of electrical interconnection devices for use in defense, aerospace, and commercial applications. Whether you need an interconnection device for a commercial or military aircraft, missile, tank, truck transmission or a host of other applications, Deutsch has the solution you're looking for.*

### **Deutsch ECD Defense Aerospace Operations**

5733 W. Whittier Ave., Hemet CA (USA) 92545  
Phone 909/765-2200 • FAX 909/922-1544

## Introduction

Representing the most advanced design in use which both reflects and sets the pace for future developments, Deutsch presents its AFD series connectors qualified to the new Navy Specification MIL-C-0026482. Specifically designed to eliminate failure modes characteristic of many previous devices, MIL-C-0026482 represents a significant improvement over earlier connector types.

Designated as Series 2 of MIL-C-0026482, Deutsch AFD series connectors utilize only the latest "state of the art" concepts and are intermateable and interchangeable with earlier Series 1 devices. Because of this intermateability and interchangeability feature, existing electrical systems can be upgraded easily and inexpensively.

The Navy's release of this new specification represents a major step forward in achieving a true commonality program. The Deutsch AFD series connectors offer several advantages over previous devices, such as:

- Higher Performance Characteristics
- Completely sealed against rigorous environments
- Lower Assembly and Rework Costs

Deutsch MIL-C-0026482 connectors utilize crimp-type contacts... that are inserted, released and removed from the rear of the connector. All that is needed is one, simple, fail-safe insertion/removal tool to install or remove wired contacts. Because the entire assembly process is performed at the connector rear, the possibility of damaging the critical interface of the connector is greatly reduced. This rear release feature also permits the removal or installation of any number of contacts without uncoupling the connectors.

Deutsch uses only high-grade materials and finishes in the fabrication of these connectors. Aluminum components are nickel plated; elastomer components are made of high-temperature, fluid resistant silicone which resists a permanent set and will not revert upon exposure to temperature extremes. The plastic

## DEUTSCH AFD CONNECTOR SERIES

components of the connector are made of high-strength, electrical grade material. All material and components are processed, manufactured, and quality-controlled in-house to assure exacting performance and high reliability

Here are only a few of the reasons why Deutsch connectors should be considered for retrofit or new design:

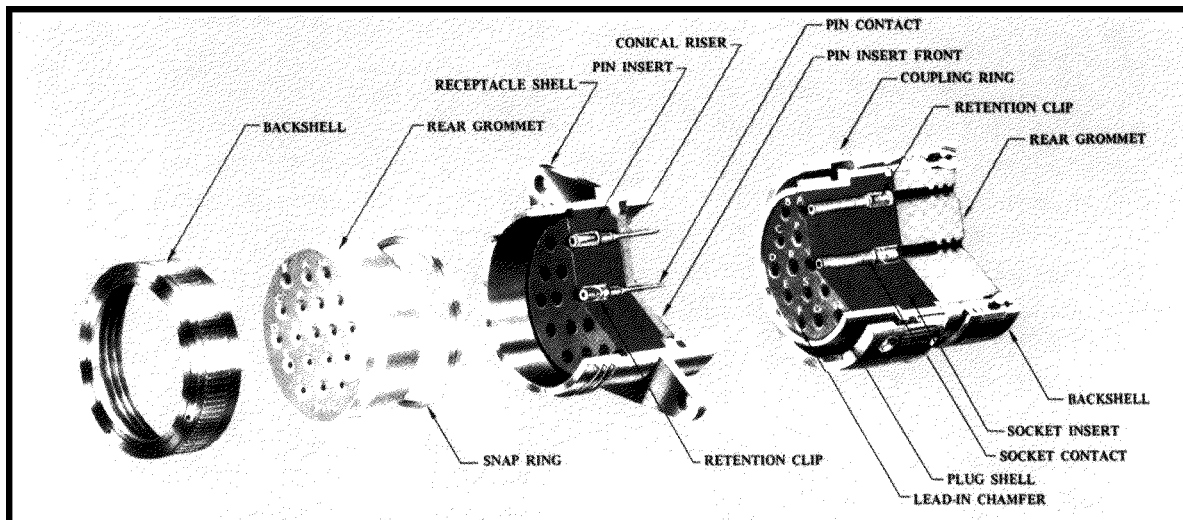
### INDIVIDUAL CONTACT SEALING

Pin contacts are surrounded by conical-shaped risers on the silicone blanket of the insert which fit into chamfered lead-ins of the socket insert upon connector mating. This "cork-in-bottle" sealing effect assures individual contact sealing at the connector interface.

### PROTECTION AGAINST BENT CONTACTS IS BUILT INTO THE DESIGN

Contacts are of one basic configuration with improved geometry for greater bend resistance. The closely-toleranced contact cavity of the plastic insert will not accept a contact that is bent beyond pre-established limits. The closed-down design also prevents unacceptable splaying of contacts when side-loads are applied to the wire bundle. In addition, if a pin contact should become slightly bent, the lead-in chamfer of the hard plastic socket insert acts as a funnel, straightening the pin and guiding it into the socket for proper engagement.





### Multiple Seals provide Protection Against Contamination



In addition to individual contact sealing, these connectors incorporate additional protective seals to assure sealing against environmental extremes: interfacial compression seal, peripheral static/dynamic

shell-to-shell seal, insert-to-shell seal, and redundant rear wire seals.

### Positive Locking Contacts

When the contact has been fully inserted into the insert cavity, the contact retention lines within the insert snap behind the shoulder of the contact. Once seated, contacts remain locked in place, resistant to shock and vibration. Retained between the dielectric insert and contact retention lines, contacts are safeguarded against failures due to contact pushout or pullout.

### Positive Contact Engagement

The shell design, the relation of the inserts within the shell, the location of the contact retention device within the inserts, and the contacts themselves, are carefully controlled to assure proper pin and socket engagement under worst case conditions.

This information is for reference only. Consult factory for envelope drawings, updated specifications, and additions to the product line.



# MIL-C-26482 Series 2 Bayonet Coupling Connectors

## Shell Styles

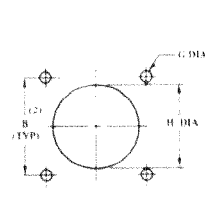
### SQUARE FLANGE MOUNT RECEPTACLES



RESILIENT

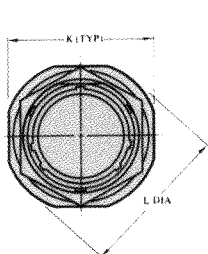


HERMETIC

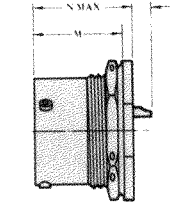
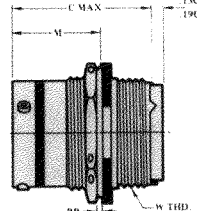


PANEL CUTOUT

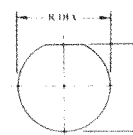
### SINGLE HOLE MOUNT RECEPTACLES



RESILIENT

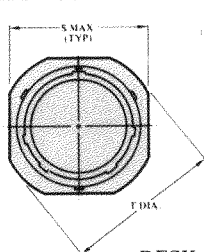


HERMETIC

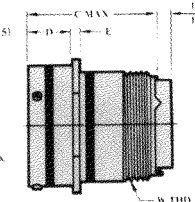


PANEL CUTOUT

### CABLE CONNECTING RECEPTACLE



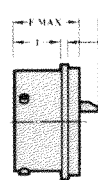
RESILIENT



### SOLDER MOUNT RECEPTACLE

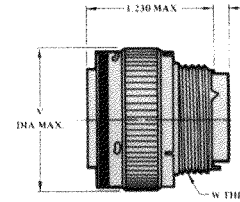


HERMETIC



PANEL CUTOUT

### PLUG (3)



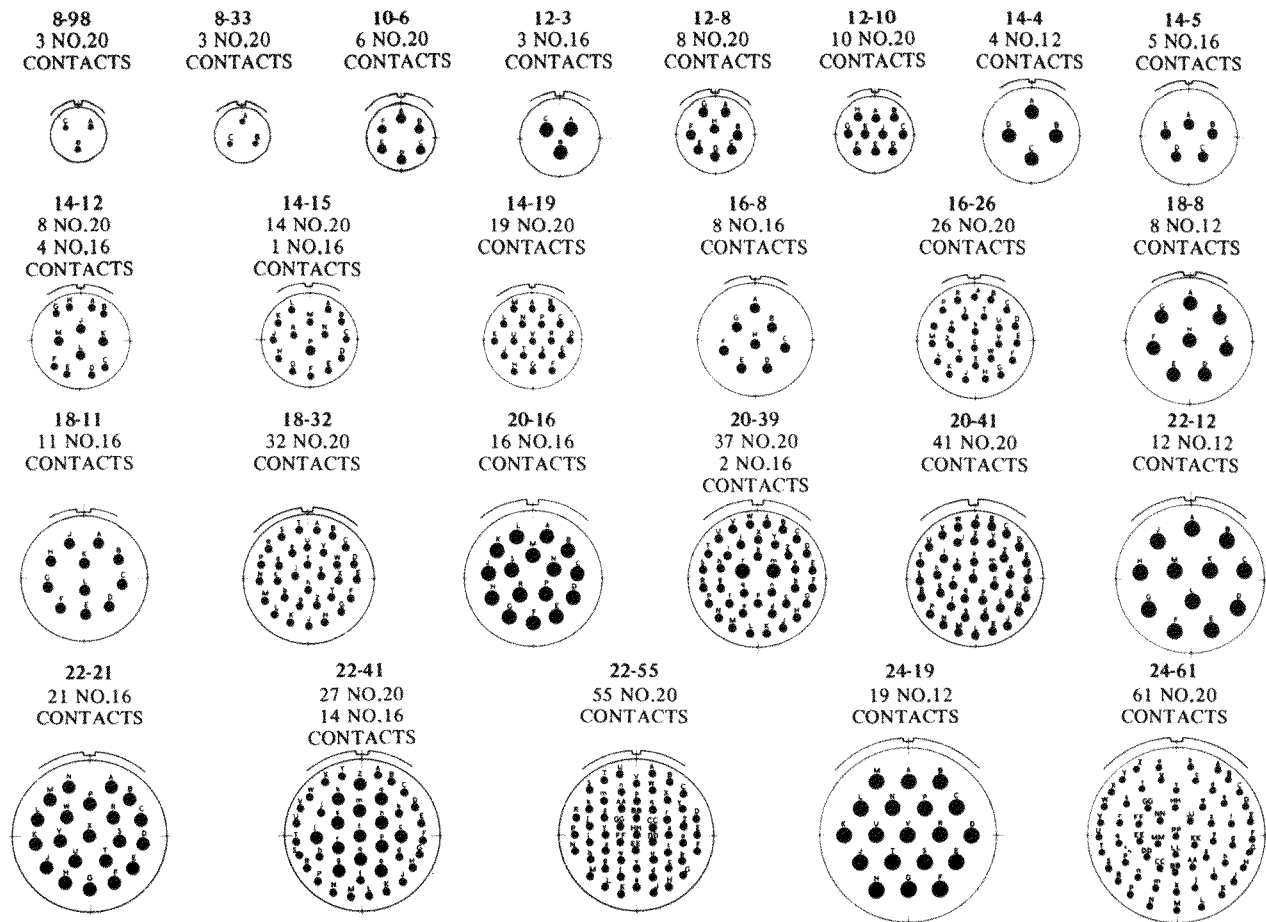
RESILIENT

| SIZE | AA MAX PANEL |      | BB MAX PANEL | A MAX (2) |       | B ±.005 (2) |       | C MAX | (2) D ±.005  |              | E            | F MAX | G ±.005 | H              | (4) J        |
|------|--------------|------|--------------|-----------|-------|-------------|-------|-------|--------------|--------------|--------------|-------|---------|----------------|--------------|
|      | N            | W    |              | N         | W     | N           | W     |       | N            | W            |              |       |         |                |              |
| 8    | .087         | .118 | .187         | .828      | 1.065 | .594        | .734  | 1.215 | .462<br>.431 | .493<br>.462 | .078<br>.046 | .801  | .120    | .573<br>.563   | .598<br>.578 |
| 10   | .087         | .118 | .187         | .954      | 1.141 | .719        | .812  | 1.215 | .462<br>.431 | .493<br>.462 | .078<br>.046 | .801  | .120    | .690<br>.680   | .598<br>.578 |
| 12   | .087         | .118 | .187         | 1.047     | 1.266 | .812        | .938  | 1.215 | .462<br>.431 | .493<br>.462 | .078<br>.046 | .801  | .120    | .869<br>.859   | .598<br>.578 |
| 14   | .087         | .118 | .187         | 1.141     | 1.360 | .906        | 1.031 | 1.215 | .462<br>.431 | .493<br>.462 | .078<br>.046 | .801  | .120    | .994<br>.984   | .598<br>.578 |
| 16   | .087         | .118 | .187         | 1.234     | 1.453 | .969        | 1.125 | 1.215 | .462<br>.431 | .493<br>.462 | .078<br>.046 | .801  | .120    | 1.118<br>1.108 | .598<br>.578 |
| 18   | .087         | .118 | .187         | 1.328     | 1.532 | 1.062       | 1.203 | 1.215 | .462<br>.431 | .493<br>.462 | .078<br>.046 | .801  | .120    | 1.243<br>1.233 | .598<br>.578 |
| 20   | .212         | .212 | .250         | 1.453     | 1.688 | 1.156       | 1.297 | 1.275 | .587<br>.556 | .587<br>.556 | .110<br>.078 | .863  | .120    | 1.368<br>1.358 | .660<br>.640 |
| 22   | .212         | .212 | .250         | 1.578     | 1.766 | 1.250       | 1.375 | 1.275 | .587<br>.556 | .587<br>.556 | .110<br>.078 | .895  | .120    | 1.493<br>1.483 | .660<br>.640 |
| 24   | .212         | .212 | .219         | 1.703     | 1.891 | 1.375       | 1.500 | 1.275 | .620<br>.589 | .620<br>.589 | .110<br>.078 | .895  | .147    | 1.620<br>1.610 | .660<br>.640 |

- NOTES: 1. All Dimensions in inches.  
 2. N= Narrow Flange W = Wide Flange.  
 3. Plugs with RFI Fingers Have Same Dimensional Control as Shown.  
 4. "J" Dimension Same for Both Narrow and Wide Square Flange Connector.  
 5. Use narrow flange dimensions. (See Note 2)



# Insert Arrangements



## NOTES:

1. For Other Insert Arrangements Consult Factory.
2. Cavity Identification Shown Here is for Pin Insert Face (Socket Opposite) and is for Reference Only. Actual Insert Marking Shall be in Accordance With MIL-C-0026482

| K              | L              | M            | N MAX | P±.005 | R±.005 | S MAX | T              | U±.005 | V MAX | W THREAD-2A    | X              | Y            |              | Z            |              |
|----------------|----------------|--------------|-------|--------|--------|-------|----------------|--------|-------|----------------|----------------|--------------|--------------|--------------|--------------|
|                |                |              |       |        |        |       |                |        |       |                |                | CONTACT SIZE |              | CONTACT SIZE |              |
| .954<br>.923   | 1.078<br>1.047 | .707<br>.691 | .820  | .536   | .572   | .828  | .958<br>.918   | .570   | .782  | 1/2-20 UNF     | .635<br>.615   | .178<br>.118 | .248<br>.188 | .134<br>.074 | .204<br>.144 |
| 1.078<br>1.047 | 1.203<br>1.172 | .707<br>.691 | .820  | .661   | .697   | .954  | 1.082<br>1.042 | .680   | .926  | 5/8-24 UNEF    | .760<br>.740   | .178<br>.118 | .248<br>.188 | .134<br>.074 | .204<br>.144 |
| 1.266<br>1.235 | 1.391<br>1.360 | .707<br>.691 | .820  | .824   | .895   | 1.047 | 1.176<br>1.136 | .789   | 1.043 | 3/4-20 UNEF    | .854<br>.834   | .178<br>.118 | .248<br>.188 | .134<br>.074 | .204<br>.144 |
| 1.391<br>1.360 | 1.516<br>1.485 | .707<br>.691 | .820  | .948   | 1.010  | 1.141 | 1.270<br>1.230 | .914   | 1.183 | 7/8-20 UNEF    | .979<br>.959   | .178<br>.118 | .248<br>.188 | .134<br>.074 | .204<br>.144 |
| 1.516<br>1.485 | 1.641<br>1.610 | .707<br>.691 | .820  | 1.072  | 1.135  | 1.234 | 1.364<br>1.324 | 1.039  | 1.305 | 1-20 UNEF      | 1.104<br>1.084 | .178<br>.118 | .248<br>.188 | .134<br>.074 | .204<br>.144 |
| 1.641<br>1.610 | 1.766<br>1.735 | .707<br>.691 | .820  | 1.197  | 1.260  | 1.328 | 1.458<br>1.418 | 1.164  | 1.391 | 1 1/16-18 UNEF | 1.228<br>1.208 | .178<br>.118 | .248<br>.188 | .134<br>.074 | .204<br>.144 |
| 1.828<br>1.797 | 1.954<br>1.923 | .772<br>.754 | .920  | 1.322  | 1.385  | 1.453 | 1.582<br>1.542 | 1.258  | 1.531 | 1 3/16-18 UNEF | 1.322<br>1.302 | .178<br>.118 | .248<br>.188 | .099<br>.039 | .169<br>.109 |
| 1.954<br>1.923 | 2.078<br>2.047 | .772<br>.754 | .920  | 1.447  | 1.510  | 1.578 | 1.708<br>1.668 | 1.383  | 1.656 | 1 5/16-18 UNEF | 1.448<br>1.428 | .146<br>.086 | .216<br>.156 | .099<br>.039 | .169<br>.109 |
| 2.078<br>2.047 | 2.203<br>2.172 | .772<br>.754 | .951  | 1.572  | 1.635  | 1.703 | 1.832<br>1.792 | 1.508  | 1.777 | 1 7/16-18 UNEF | 1.574<br>1.554 | .146<br>.086 | .216<br>.156 | .099<br>.039 | .169<br>.109 |



## Protective Covers for 26482 (AFD)



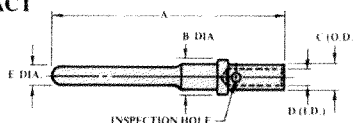
1. Dimensions are in inches unless otherwise specified.
2. Materials: Cap . . . . . Black Composite  
Chain . . . . . Stainless Steel  
Fasteners . . . Stainless Steel  
Gasket . . . . . Silicone  
Washer . . . . . Stainless Steel
3. Caps are interchangeable with MIL-C-26482 type receptacles.
4. The 88074-\*\*-Shielded cap contains a U.L. 94V-0 rated conductive silicone elastomer.
5. Shielded caps exceed MIL-C-25482 requirements for RFI shielding (65dB @ 100 MHz, and 45dB @ 1,000 MHz).
6. Consult factory for availability.

| SIZE | A MAX | B REF | SCALLOP COUNT |
|------|-------|-------|---------------|
| 08   | 1.200 | 0.916 | 4             |
| 10   | 1.200 | 1.040 | 4             |
| 12   | 1.200 | 1.220 | 6             |
| 14   | 1.200 | 1.230 | 6             |
| 16   | 1.200 | 1.480 | 6             |
| 18   | 1.200 | 1.615 | 8             |
| 20   | 1.200 | 1.750 | 8             |
| 22   | 1.200 | 1.895 | 8             |
| 24   | 1.250 | 2.050 | 8             |

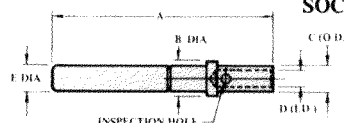


# Contact & Tooling Information

PIN CONTACT



SOCKET CONTACT



| CONTACTS (1)     |                   |       |            |        |        |        |        |        |        | SEALING PLUG     |                   | INSERTION/REMOVAL TOOL |                   | WIRE STRIP LENGTH |
|------------------|-------------------|-------|------------|--------|--------|--------|--------|--------|--------|------------------|-------------------|------------------------|-------------------|-------------------|
| DEUTSCH PART NO. | MILITARY PART NO. | STYLE | COLOR CODE | SIZE   | MAX. A | MAX. B | MAX. C | MIN. D | MAX. E | DEUTSCH PART NO. | MILITARY PART NO. | DEUTSCH PART NO.       | MILITARY PART NO. |                   |
| 0641-1-2031      | M39029/4-110      | PIN   | RED        | (4) 20 | .720   | .103   | .078   | .048   | .041   | 4113-4-2001      | MS27488-20-2      | M15570-20              | M81969/14-11      | 5/32" to 7/32"    |
| 100503           | M39029/5-115      | SOC   | RED        | 20     | .656   | .103   | .078   | .048   | .078   |                  |                   |                        |                   |                   |
| 0641-2-1631      | M39029/4-111      | PIN   | BLUE       | 16     | .821   | .133   | .103   | .066   | .0635  | 0613-1-1601      | MS27488-16-2      | M15570-16              | M81969/14-03      | 1/4" to 5/16"     |
| 100504           | M39029/5-116      | SOC   | BLUE       | 16     | .759   | .133   | .103   | .066   | .113   |                  |                   |                        |                   |                   |
| 0641-3-1231      | M39029/4-113      | PIN   | YELLOW     | 12     | .821   | .190   | .151   | .098   | .095   | 0613-1-1201      | MS27488-12-2      | M15570-12              | M81969/14-04      | 1/4" to 5/16"     |
| 100505           | M39029/5-118      | SOC   | YELLOW     | 12     | .759   | .190   | .151   | .098   | .161   |                  |                   |                        |                   |                   |

NOTES: (1) Use Crimp Tool M22520/1-01 Positioner Part No. M22520/1-02.  
 2 Size 8 Power Contacts, Coax Contacts, and Size 12 Shielded Contacts are Available (Consult Factory).  
 3 Tool for Removal of Unwired Contacts is Also Available Under Part No. M15571.  
 4 Crimp Barrel is Color Coded per Tabulation.

## Ordering Information

### MILITARY PART NUMBERING SYSTEM



### DEUTSCH PART NUMBERING SYSTEM



NOTES: 1. All Electrical and Mechanical Specifications per MIL-C-0026482.  
 2. Consult Factory for Detailed Description of General Operating Specifications.  
 3. The Letter "N" is Not Used in the MS Part Number to Identify "Normal" Insert Clocking.  
 4. Consult Factory for Available Alternate Insert Clocking Position data.  
 5. Connectors are furnished less backshell, however backshells should be used to insure that sealing requirements are met.

