

# TE Connectivity DEUTSCH

## 983 Series/EN2997 Series Connectors



### HIGH-PERFORMANCE AEROSPACE CONNECTORS FOR AIRCRAFT ENGINES & BOOSTERS

TE DEUTSCH 983 series / EN2997 series connectors are enhanced over standard MIL-DTL-83723 mil spec connectors. TE DEUTSCH 983 / EN2997 connectors have improvements such as anti-rotation, reduced elastomer barriers for use with newer and older generation wires and shell-to-shell metal bottoming. These TE DEUTSCH aerospace connectors are designed for military and commercial aircraft engines and boosters. For full product details on TE DEUTSCH 983 series / EN2997 series connectors, please see the specifications below.

### APPLICATIONS

- High-performance military aircraft
- Commercial aircraft
- Communications equipment
- Armored personnel carriers & tanks
- High temperature industrial equipment

### FEATURES

- High-reliability
- EMI-shielding protection
- Operates at extreme temperatures
- High vibration applications
- Meets and exceeds MIL-DTL-83723 specification
- EN2997 qualified

TECHNICAL  
SPECIFICATIONS**MATERIALS AND FINISHES**

|                  |                                            |
|------------------|--------------------------------------------|
| Shell            | Aluminium Alloy or Stainless Steel         |
| Shell Plating    | Nickel, Olive Drab Cadmium, Black Anodized |
| Contacts         | Copper Alloy                               |
| Contact Platings | Gold plating                               |
| Insulator        | Thermo-setting, Hermetic - Sintered Glass  |
| Seals            | Silicone                                   |

**ELECTRICAL DATA**

|                       |                                                                 |
|-----------------------|-----------------------------------------------------------------|
| Wire Range Sizes      | 12-24AWG                                                        |
| Insulation Resistance | 5000 Megaohms minimum at +260C (500F) and 65% Relative Humidity |

## Test Voltage

| SEA LEVEL             | SEA LEVEL<br>VAC RMS             |
|-----------------------|----------------------------------|
| Sea Level             | 1500Vrms @ 50Hz mated connectors |
| 15,000M (49,212 feet) | 1000Vrms @ 50Hz mated connectors |
| 30,000M (98,425 feet) | 200Vrms @ 50Hz mated connectors  |

## Current Rating

| WIRE SIZE | CONTACT SIZE | MAX. CURRENT RATING<br>PER CONTACT AMPS | HERMETIC |
|-----------|--------------|-----------------------------------------|----------|
| 24        | 20           | 3                                       | 5        |
| 22        | 20           | 5                                       | -        |
| 20        | 20           | 7.5                                     | -        |
| 18        | 20           | 7.5                                     | -        |
| 20        | 16           | 7.5                                     | -        |
| 18        | 16           | 11                                      | -        |
| 16        | 16           | 13                                      | 10       |
| 14        | 12           | 17                                      | -        |
| 12        | 12           | 23                                      | 17       |

## MECHANICAL DATA

|                       |                                                                                                        |
|-----------------------|--------------------------------------------------------------------------------------------------------|
| Operating Temperature | W & WS - +175°C (+347°F)<br>A, R, RS, K, S, Y - +200°C (+392°F)<br>KE, SE, YE - +260°C cyclic (+500°F) |
|-----------------------|--------------------------------------------------------------------------------------------------------|

### Wire Sealing Range

| CONTACT SIZE | MINIMUM |      | MAXIMUM |      |
|--------------|---------|------|---------|------|
|              | IN      | MM   | IN      | MM   |
| 20           | 0.033   | 0.85 | 0.083   | 2.10 |
| 16           | 0.047   | 1.20 | 0.106   | 2.70 |
| 12           | 0.075   | 1.90 | 0.157   | 4.00 |
| 8 (8 AWG)    | 0.161   | 4.10 | 0.173   | 4.40 |

### Insulation Strip Length

| CONTACT SIZE | STRIP LENGTH |      |
|--------------|--------------|------|
|              | IN           | MM   |
| 20           | 0.188        | 4.77 |
| 16           | 0.283        | 7.18 |
| 12           | 0.283        | 7.18 |
| 8            | 0.354        | 8.99 |

|             |                                                                |
|-------------|----------------------------------------------------------------|
| Mating Life | A, W, WS, R, RS - 250 cycles; K, S, Y, KE, SE, YE - 500 cycles |
|-------------|----------------------------------------------------------------|

|            |                                                                                              |
|------------|----------------------------------------------------------------------------------------------|
| Salt Spray | A, R, RS - 48 hours per EN 2591-307<br>W, WS, K, S, Y, KE, SE, YE - 500 hours per EN2591-307 |
|------------|----------------------------------------------------------------------------------------------|

|           |                                                         |
|-----------|---------------------------------------------------------|
| Vibration | 10 - 2000 Hz along 2 axis per EN2591 test 403, method B |
|-----------|---------------------------------------------------------|

|       |                           |
|-------|---------------------------|
| Shock | 300 g/ 3ms per EN2591-402 |
|-------|---------------------------|

|                                         |  |
|-----------------------------------------|--|
| Shielding efficiency as per EN 2591-213 |  |
|-----------------------------------------|--|

|                 |                             |
|-----------------|-----------------------------|
| Fire resistance | K, S, KE, SE per EN2591-318 |
|-----------------|-----------------------------|

|        |                                                 |
|--------|-------------------------------------------------|
| Sealed | 16.10 <sup>-6</sup> m <sup>3</sup> /h / 100 kPa |
|--------|-------------------------------------------------|

|              |                       |
|--------------|-----------------------|
| Contact Type | Crimp, Power, Quadrax |
|--------------|-----------------------|

|                    |         |
|--------------------|---------|
| Number of Circuits | 3 to 61 |
|--------------------|---------|

|                   |                                                         |
|-------------------|---------------------------------------------------------|
| Contact Insertion | Rear Insertion/Rear Extraction with simple plastic tool |
|-------------------|---------------------------------------------------------|

|              |                                               |
|--------------|-----------------------------------------------|
| Polarization | Five keyways with optional keyway orientation |
|--------------|-----------------------------------------------|

|           |        |
|-----------|--------|
| Approvals | EN2997 |
|-----------|--------|

## HOW TO ORDER 983/EN2997 SERIES CONNECTORS - COMMERCIAL

| 1                  | 2             | 3             | 4              | 5                   | 6               |
|--------------------|---------------|---------------|----------------|---------------------|-----------------|
| <b>983-0</b>       | <b>A</b>      | <b>22-55</b>  | <b>P</b>       | <b>N</b>            | <b>L</b>        |
| <b>SHELL STYLE</b> | <b>FINISH</b> | <b>LAYOUT</b> | <b>CONTACT</b> | <b>POLARIZATION</b> | <b>MODIFIER</b> |

(Commercial part number example)

**STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE****RECEPTACLES**

Mates with

**PLUGS****983-0**Square Flange  
Receptacle**983-1**Solder Receptacle -  
Hermetic Only**983-7**

Jam Nut Receptacle

**983-6**

Plug

**STEP 2: SELECT FINISH**

**A** = Black anodized  
**W** = Olive Drab  
**WS** = Olive Drab RFI Shielding  
**R** = Nickel

**RS** = Nickel RFI Shielding  
**K** = Stainless Steel  
**S** = Stainless Steel RFI Shielding  
**Y** = Stainless Hermetic

**KE** = Stainless High Temp  
**SE** = Stainless Shielded High Temp  
**YE** = Stainless High Temp Hermetic

**STEP 3: SELECT LAYOUT**

⇒ See pages 18-19 for listing by # of contacts

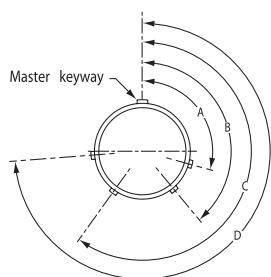
| INSERT | TOTAL | 20 | 16 | 12 | QUADRAX |
|--------|-------|----|----|----|---------|
| 08-03  | 3     | 3  |    |    |         |
| 08-98  | 3     | 3  |    |    |         |
| 10-05  | 5     | 5  |    |    |         |
| 10-06  | 6     | 6  |    |    |         |
| 12-03  | 3     |    | 3  |    |         |
| 12-12  | 12    | 12 |    |    |         |
| 14-04  | 4     |    |    | 4  |         |
| 14-07  | 7     |    | 7  |    |         |
| 14-12  | 12    | 9  | 3  |    |         |
| 14-15  | 15    |    |    |    |         |
| 16-10  | 10    |    | 10 |    |         |
| 16-24  | 24    | 24 |    |    |         |
| 18-02  | 2     |    |    |    | 2       |
| 18-08  | 8     |    |    | 8  |         |
| 18-14  | 14    |    | 14 |    |         |
| 18-31  | 31    | 31 |    |    |         |
| 20-04  | 4     |    |    |    | 4       |
| 20-16  | 16    |    | 16 |    |         |
| 20-25  | 25    | 19 |    | 6  |         |
| 20-28  | 28    | 24 |    | 4  |         |
| 20-39  | 39    | 37 | 2  |    |         |
| 20-41  | 41    | 41 |    |    |         |
| 22-12  | 12    |    |    | 12 |         |
| 22-19  | 19    |    | 19 |    |         |
| 22-30  | 30    | 24 |    | 6  |         |
| 22-32  | 32    | 26 |    | 6  |         |
| 22-39  | 39    | 27 | 12 |    |         |
| 22-55  | 55    | 55 |    |    |         |
| 24-30  | 30    |    | 30 |    |         |
| 24-57  | 57    | 55 |    | 2  |         |
| 24-61  | 61    | 61 |    |    |         |
| 28-06  | 6     |    |    |    | 6       |
| 28-42  | 42    |    | 42 |    |         |

**STEP 4: SELECT CONTACT****P** = Pin**S** = Socket**STEP 5: SELECT POLARIZATION**

**N** = Normal  
**6** = Next Most Popular

**7** = Not Popular  
**8** = Check for Availability

**9** = Check for Availability  
**Y** = Check for Availability  
 (not available in size 8)



Mating Face of Plug

| KEY POSITION | SHELL SIZE 8 |     |     |     | SHELL SIZE 10 |     |     |     | SHELL SIZE 12 - 28 |     |     |     |
|--------------|--------------|-----|-----|-----|---------------|-----|-----|-----|--------------------|-----|-----|-----|
|              | A            | B   | C   | D   | A             | B   | C   | D   | A                  | B   | C   | D   |
| N            | 105          | 140 | 215 | 265 | 105           | 140 | 215 | 265 | 105                | 140 | 215 | 265 |
| 6            | 102          | 132 | 248 | 320 | 102           | 132 | 248 | 320 | 18                 | 148 | 192 | 259 |
| 7            | 80           | 118 | 230 | 312 | 80            | 118 | 230 | 312 | 92                 | 152 | 222 | 342 |
| 8            | 35           | 140 | 205 | 275 | 35            | 140 | 205 | 275 | 84                 | 152 | 204 | 334 |
| 9            | 64           | 155 | 234 | 304 | 64            | 155 | 234 | 304 | 24                 | 135 | 199 | 240 |
| Y            | -            | -   | -   | -   | 25            | 115 | 220 | 270 | 98                 | 152 | 268 | 338 |

**STEP 6: SELECT MODIFIER**

**Blank** = Supplied with contacts  
**L** = Supplied without contacts

## HOW TO ORDER 983/EN2997 SERIES CONNECTORS - ASD-STAN

| 1              | 2                  | 3             | 4              | 5                   |
|----------------|--------------------|---------------|----------------|---------------------|
| <b>EN2997A</b> | <b>0</b>           | <b>22-55</b>  | <b>M</b>       | <b>N</b>            |
| <b>FINISH</b>  | <b>SHELL STYLE</b> | <b>LAYOUT</b> | <b>CONTACT</b> | <b>POLARIZATION</b> |

(ASD-STAN part number example)

## STEP 1: SELECT FINISH

EN2997A = Black anodized

EN2997W = Olive Drab

EN2997WS = Olive Drab RFI Shielding

EN2997R = Nickel

EN2997RS = Nickel RFI Shielding

EN2997K = Stainless Steel

EN2997S = Stainless Steel RFI Shielding

EN2997Y = Stainless Hermetic

EN2997KE = Stainless High Temp

EN2997SE = Stainless Shielded High Temp

EN2997YE = Stainless High Temp Hermetic

## STEP 2: SELECT SHELL STYLE, PLUG OR RECEPTACLE

## RECEPTACLES

Mates with

## PLUGS

**EN2997\_0**Square Flange  
Receptacle**EN2997\_1**Solder Receptacle -  
Hermetic Only**EN2997\_7**

Jam Nut Receptacle

**EN2997\_6**

Plug

## STEP 3: SELECT LAYOUT

↔ See pages 18-19 for listing by # of contacts

| INSERT | TOTAL | 20 | 16 | 12 | QUADRAX |
|--------|-------|----|----|----|---------|
| 08-03  | 3     | 3  |    |    |         |
| 08-98  | 3     | 3  |    |    |         |
| 10-05  | 5     | 5  |    |    |         |
| 10-06  | 6     | 6  |    |    |         |
| 12-03  | 3     |    | 3  |    |         |
| 12-12  | 12    | 12 |    |    |         |
| 14-04  | 4     |    |    | 4  |         |
| 14-07  | 7     |    | 7  |    |         |
| 14-12  | 12    | 9  | 3  |    |         |
| 14-15  | 15    |    |    |    |         |
| 16-10  | 10    |    | 10 |    |         |
| 16-24  | 24    | 24 |    |    |         |
| 18-02  | 2     |    |    |    | 2       |
| 18-08  | 8     |    |    | 8  |         |
| 18-14  | 14    |    | 14 |    |         |
| 18-31  | 31    | 31 |    |    |         |
| 20-04  | 4     |    |    |    | 4       |
| 20-16  | 16    |    | 16 |    |         |
| 20-25  | 25    | 19 |    | 6  |         |
| 20-28  | 28    | 24 |    | 4  |         |
| 20-39  | 39    | 37 | 2  |    |         |
| 20-41  | 41    | 41 |    |    |         |
| 22-12  | 12    |    |    | 12 |         |
| 22-19  | 19    |    | 19 |    |         |
| 22-30  | 30    | 24 |    | 6  |         |
| 22-32  | 32    | 26 |    | 6  |         |
| 22-39  | 39    | 27 | 12 |    |         |
| 22-55  | 55    | 55 |    |    |         |
| 24-30  | 30    |    | 30 |    |         |
| 24-57  | 57    | 55 |    | 2  |         |
| 24-61  | 61    | 61 |    |    |         |
| 28-06  | 6     |    |    |    | 6       |
| 28-42  | 42    |    | 42 |    |         |

**STEP 4: SELECT CONTACT**

- M** = Pin  
**F** = Socket  
**A** = Less Pins  
**B** = Less Sockets  
**C** = Pin contact size 20, with crimp barrel for 18 AWG  
**D** = Socket contact size 20, with crimp barrel for 18 AWG

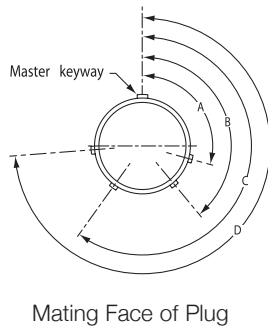
**NOTE:** A, M, or C marked with M per EN2997  
 B, F, or D marked with F per EN2997

**STEP 5: SELECT POLARIZATION**

- N** = Normal  
**6** = Next Most Popular

- 7** = Not Popular  
**8** = Check for Availability

- 9** = Check for Availability  
**Y** = Check for Availability  
 (not available in size 8)



| KEY POSITION | SHELL SIZE 8 |     |     |     | SHELL SIZE 10 |     |     |     | SHELL SIZE 12 - 28 |     |     |     |
|--------------|--------------|-----|-----|-----|---------------|-----|-----|-----|--------------------|-----|-----|-----|
|              | A            | B   | C   | D   | A             | B   | C   | D   | A                  | B   | C   | D   |
| N            | 105          | 140 | 215 | 265 | 105           | 140 | 215 | 265 | 105                | 140 | 215 | 265 |
| 6            | 102          | 132 | 248 | 320 | 102           | 132 | 248 | 320 | 18                 | 148 | 192 | 259 |
| 7            | 80           | 118 | 230 | 312 | 80            | 118 | 230 | 312 | 92                 | 152 | 222 | 342 |
| 8            | 35           | 140 | 205 | 275 | 35            | 140 | 205 | 275 | 84                 | 152 | 204 | 334 |
| 9            | 64           | 155 | 234 | 304 | 64            | 155 | 234 | 304 | 24                 | 135 | 199 | 240 |
| Y            | -            | -   | -   | -   | 25            | 115 | 220 | 270 | 98                 | 152 | 268 | 338 |

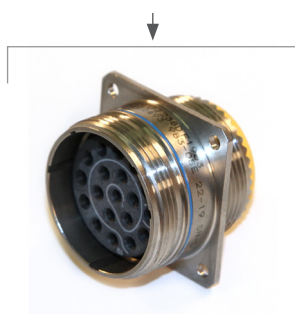
## HOW TO ORDER BACC63CM/CN SERIES CONNECTORS

|               | 1                  | 2             | 3              | 4                   | 5               |
|---------------|--------------------|---------------|----------------|---------------------|-----------------|
| <b>BACC63</b> | <b>CM</b>          | <b>2255</b>   | <b>P</b>       | <b>N</b>            | <b>A</b>        |
| <b>PREFIX</b> | <b>SHELL STYLE</b> | <b>LAYOUT</b> | <b>CONTACT</b> | <b>POLARIZATION</b> | <b>MODIFIER</b> |

(BACC part number example)

## STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE

## RECEPTACLES



## CN

Square Flange  
Receptacle

Mates with

## PLUGS



## CM

Plug  
Accessory teeth per MIL-DTL-83723  
(Normal 3 teeth)

## STEP 2: SELECT LAYOUT

➔ See pages 18-19 for listing by # of contacts

| INSERT | TOTAL | 20 | 16 | 12 | QUADRAX |
|--------|-------|----|----|----|---------|
| 0803   | 3     | 3  |    |    |         |
| 0898   | 3     | 3  |    |    |         |
| 1005   | 5     | 5  |    |    |         |
| 1006   | 6     | 6  |    |    |         |
| 1203   | 3     |    | 3  |    |         |
| 1212   | 12    | 12 |    |    |         |
| 1404   | 4     |    |    | 4  |         |
| 1407   | 7     |    | 7  |    |         |
| 1412   | 12    | 9  | 3  |    |         |
| 1415   | 15    |    |    |    |         |
| 1610   | 10    |    | 10 |    |         |
| 1624   | 24    | 24 |    |    |         |
| 1802   | 2     |    |    |    | 2       |
| 1808   | 8     |    |    | 8  |         |
| 1814   | 14    |    | 14 |    |         |
| 1831   | 31    | 31 |    |    |         |
| 2004   | 4     |    |    |    | 4       |
| 2016   | 16    |    | 16 |    |         |
| 2025   | 25    | 19 |    | 6  |         |
| 2028   | 28    | 24 |    | 4  |         |
| 2039   | 39    | 37 | 2  |    |         |
| 2041   | 41    | 41 |    |    |         |
| 2212   | 12    |    |    | 12 |         |
| 2219   | 19    |    | 19 |    |         |
| 2230   | 30    | 24 |    | 6  |         |
| 2232   | 32    | 26 |    | 6  |         |
| 2239   | 39    | 27 | 12 |    |         |
| 2255   | 55    | 55 |    |    |         |
| 2430   | 30    |    | 30 |    |         |
| 2457   | 57    | 55 |    | 2  |         |
| 2461   | 61    | 61 |    |    |         |
| 2806   | 6     |    |    |    | 6       |
| 2842   | 42    |    | 42 |    |         |

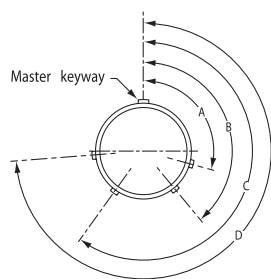


**STEP 3: SELECT CONTACT****P** = Pin**S** = Socket**STEP 4: SELECT POLARIZATION**

**N** = Normal  
**6** = Next Most Popular

**7** = Not Popular  
**8** = Check for Availability

**9** = Check for Availability  
**Y** = Check for Availability  
 (not available in size 8)



Mating Face of Plug

| KEY POSITION | SHELL SIZE 8 |     |     |     | SHELL SIZE 10 |     |     |     | SHELL SIZE 12 - 28 |     |     |     |
|--------------|--------------|-----|-----|-----|---------------|-----|-----|-----|--------------------|-----|-----|-----|
|              | A            | B   | C   | D   | A             | B   | C   | D   | A                  | B   | C   | D   |
| N            | 105          | 140 | 215 | 265 | 105           | 140 | 215 | 265 | 105                | 140 | 215 | 265 |
| 6            | 102          | 132 | 248 | 320 | 102           | 132 | 248 | 320 | 18                 | 148 | 192 | 259 |
| 7            | 80           | 118 | 230 | 312 | 80            | 118 | 230 | 312 | 92                 | 152 | 222 | 342 |
| 8            | 35           | 140 | 205 | 275 | 35            | 140 | 205 | 275 | 84                 | 152 | 204 | 334 |
| 9            | 64           | 155 | 234 | 304 | 64            | 155 | 234 | 304 | 24                 | 135 | 199 | 240 |
| Y            | -            | -   | -   | -   | 25            | 115 | 220 | 270 | 98                 | 152 | 268 | 338 |

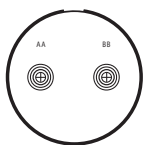
**STEP 5: SELECT MODIFIER**

**A** = Supplied with contacts  
**Blank** = Supplied without contacts

## LAYOUTS BY NUMBER OF CONTACTS

○=20    ○=16    ●=12    ⊗=8 (Quadrax)

2



LAYOUT  
# OF CONTACTS      18-02  
2#8 QUADRAX

3



8-03  
3#20

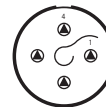


8-98\*  
3#20

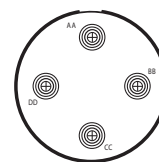


12-03  
3#16

4



14-04  
4#12



20-04  
4#8 QUADRAX

5

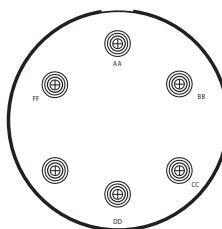


LAYOUT  
# OF CONTACTS      10-05  
5#20

6

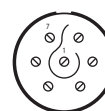


10-06  
6#20



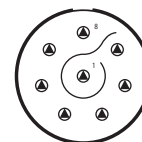
28-06  
6#8 QUADRAX

7



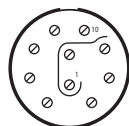
14-07  
7#16

8



18-08  
8#12

10

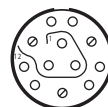


LAYOUT  
# OF CONTACTS      16-10  
10#16

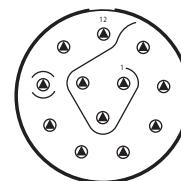
12



12-12  
12#20

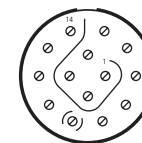


14-12  
9#20 3#16



22-12  
12#12

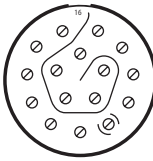
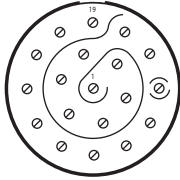
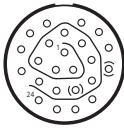
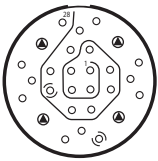
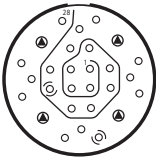
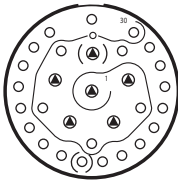
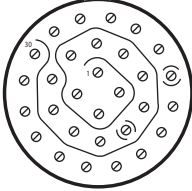
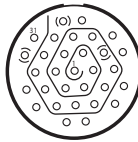
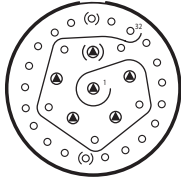
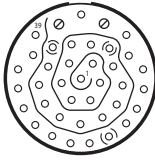
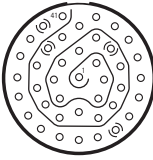
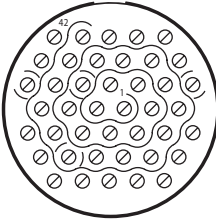
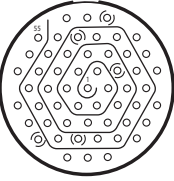
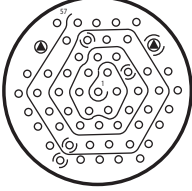
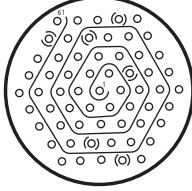
14



18-14  
14#16

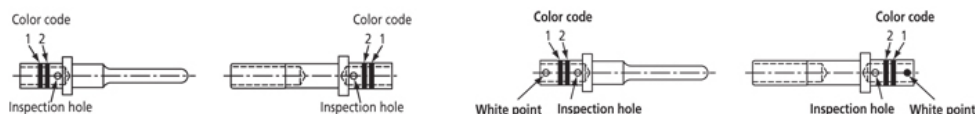
# LAYOUTS BY NUMBER OF CONTACTS

○=20    ◊=16    ●=12    ⊕=8 (Quadrax)

|                         |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                         | 15                                                                                  | 16                                                                                  | 19                                                                                  | 24                                                                                   | 25                                                                                    |                                                                                       |
|                         |    |    |    |   |    |                                                                                       |
| LAYOUT<br># OF CONTACTS | 14-15<br>15#20                                                                      | 20-16<br>16#16                                                                      | 22-19<br>19#16                                                                      | 16-24<br>24#20                                                                       | 20-25<br>19#20 6#12                                                                   |                                                                                       |
|                         |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|                         | 28                                                                                  | 30                                                                                  |                                                                                     | 31                                                                                   | 32                                                                                    |                                                                                       |
|                         |   |   |   |  |   |                                                                                       |
| LAYOUT<br># OF CONTACTS | 20-28<br>24#20 4#12                                                                 | 22-30<br>24#20 6#12                                                                 | 24-30<br>30#16                                                                      | 18-31<br>31#20                                                                       | 22-32<br>26#20 6#12                                                                   |                                                                                       |
|                         |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|                         | 39                                                                                  | 41                                                                                  | 42                                                                                  | 55                                                                                   | 57                                                                                    | 61                                                                                    |
|                         |  |  |  |  |  |  |
| LAYOUT<br># OF CONTACTS | 20-39<br>37#20 2#16                                                                 | 20-41<br>41#20                                                                      | 28-42<br>42#16                                                                      | 22-55<br>55#20                                                                       | 24-57<br>55#20 2#12                                                                   | 24-61<br>61#20                                                                        |

## CONTACTS

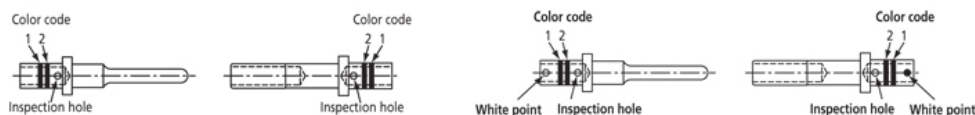
## PINS



| CONTACT<br>SIZE | WIRE<br>CRIMP<br>SIZE<br>RANGE | TYPE             | PIN PART<br>NUMBER | COLOR BANDS |        | WIRE STRIP<br>LENGTHS |      | WIRE INSULATION SEALING<br>RANGE |       |       |      | WIRE HOLE FILLER |
|-----------------|--------------------------------|------------------|--------------------|-------------|--------|-----------------------|------|----------------------------------|-------|-------|------|------------------|
|                 |                                |                  |                    | 1           | 2      | IN.                   | MM   | MIN                              |       | MAX   |      |                  |
|                 |                                |                  |                    |             |        |                       |      | IN                               | MM    | IN    | MM   |                  |
| 20              | 20,22,24                       | Standard         | 006-0937-20A       | Red         | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0140-20      |
| 20              | 18,20,22,24                    | Standard         | 006-0044-20A       | Violet      | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0140-20      |
| 20              | 26,28,30                       | Standard         | 006-0972-20        | White       | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0140-20      |
| 16              | 16,18,20                       | Standard         | 006-0937-16A       | Blue        | Blue   | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0139-16      |
| 16              | 14,16,18                       | Standard         | 006-1102-16        | Orange      | Blue   | 0.283                 | 7.18 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0139-16      |
| 16              | 20,22,24                       | Standard         | 182-0451-16        | Red         | Blue   | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0139-16      |
| 16              | 26,28,30                       | Standard         | 025-0870-16        | Black       | Blue   | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0139-16      |
| 12              | 12,14                          | Standard         | 006-0937-12A       | Yellow      | Yellow | 0.283                 | 7.18 | 0.075                            | 1.90  | 0.157 | 4.00 | 097-0138-12      |
| 20              | 20,22,24                       | High-Temperature | 097-0015-20        | Red         | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 24                             | High-Temperature | 097-0047-20        | Blue        | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 16              | 16,18,20                       | High-Temperature | 097-0014-16        | Blue        | Blue   | 0.283                 | 7.18 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0140-16      |
| 16              | 14                             | High-Temperature | 097-0177-16        | Blue        | Orange | 0.283                 | 7.18 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0140-16      |
| 12              | 12,14                          | High-Temperature | 097-0165-12        | Yellow      | Yellow | 0.283                 | 7.18 | 0.075                            | 1.90  | 0.157 | 4.00 | 097-0138-12      |
| 20              | 20,22,24                       | chromel          | 006-1186-20        | Red         | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | alumel           | 006-1188-20        | Red         | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | chromel          | 006-1131-20        | Black       |        | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | alumel           | 006-1132-20        | Orange      |        | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | alumel           | 025-0402-20        | Violet      | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | chromel          | 025-0404-20        | Violet      | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 16              | 20,22,24                       | chromel          | 006-0982-16        | None        |        | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0140-16      |
| 16              | 20,22,24                       | alumel           | 006-0983-16        | None        |        | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0140-16      |
| 8               | 6                              | Power K6*        | 182-0672-06        | Green       | Green  | 0.354                 | 9.00 | 0.209                            | 5.30  | 0.224 | 5.70 | 182-8004-08A     |
| 8               | 8                              | Power K6*        | 182-0672-08        | Green       | Red    |                       |      | 0.161                            | 4.10  | 0.173 | 4.40 | 182-8004-08A     |
| 8               | 10-12                          | Power K6*        | 182-0672-10        | Green       | Brown  |                       |      | 0.098                            | 3.50  | 0.131 | 3.33 | 182-8004-08A     |

\*For 18-02, 20-04 &amp; 28-06 inserts only

## SOCKETS



| CONTACT<br>SIZE | WIRE<br>CRIMP<br>SIZE<br>RANGE | TYPE             | PIN PART<br>NUMBER | COLOR BANDS |        | WIRE STRIP<br>LENGTHS |      | WIRE INSULATION SEALING<br>RANGE |       |       |      | WIRE HOLE FILLER |
|-----------------|--------------------------------|------------------|--------------------|-------------|--------|-----------------------|------|----------------------------------|-------|-------|------|------------------|
|                 |                                |                  |                    | 1           | 2      | IN.                   | MM   | MIN                              |       | MAX   |      |                  |
|                 |                                |                  |                    |             |        |                       |      | IN                               | MM    | IN    | MM   |                  |
| 20              | 20,22,24                       | Standard         | 006-0937-20A       | Red         | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0140-20      |
| 20              | 18,20,22,24                    | Standard         | 006-0044-20A       | Violet      | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0140-20      |
| 20              | 26,28,30                       | Standard         | 006-0972-20        | White       | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0140-20      |
| 16              | 16,18,20                       | Standard         | 006-0937-16A       | Blue        | Blue   | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0139-16      |
| 16              | 14,16,18                       | Standard         | 006-1102-16        | Orange      | Blue   | 0.283                 | 7.18 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0139-16      |
| 16              | 20,22,24                       | Standard         | 182-0451-16        | Red         | Blue   | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0139-16      |
| 16              | 26,28,30                       | Standard         | 025-0870-16        | Black       | Blue   | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0139-16      |
| 12              | 12,14                          | Standard         | 006-0937-12A       | Yellow      | Yellow | 0.283                 | 7.18 | 0.075                            | 1.90  | 0.157 | 4.00 | 097-0138-12      |
| 20              | 20,22,24                       | High-Temperature | 097-0015-20        | Red         | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 24                             | High-Temperature | 097-0047-20        | Blue        | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 16              | 16,18,20                       | High-Temperature | 097-0014-16        | Blue        | Blue   | 0.283                 | 7.18 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0140-16      |
| 16              | 14                             | High-Temperature | 097-0177-16        | Blue        | Orange | 0.283                 | 7.18 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0140-16      |
| 12              | 12,14                          | High-Temperature | 097-0165-12        | Yellow      | Yellow | 0.283                 | 7.18 | 0.075                            | 1.90  | 0.157 | 4.00 | 097-0138-12      |
| 20              | 20,22,24                       | chromel          | 006-1186-20        | Red         | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | alumel           | 006-1188-20        | Red         | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | chromel          | 006-1131-20        | Black       |        | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | alumel           | 006-1132-20        | Orange      |        | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | alumel           | 025-0402-20        | Violet      | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 20              | 20,22,24                       | chromel          | 025-0404-20        | Violet      | Red    | 0.188                 | 4.77 | 0.033                            | 0.850 | 0.083 | 2.10 | 097-0139-20      |
| 16              | 20,22,24                       | chromel          | 006-0982-16        | None        |        | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0140-16      |
| 16              | 20,22,24                       | alumel           | 006-0983-16        | None        |        | 0.188                 | 4.77 | 0.047                            | 1.20  | 0.106 | 2.70 | 097-0140-16      |
| 8               | 6                              | Power K6*        | 182-0672-06        | Green       | Green  | 0.354                 | 9.00 | 0.209                            | 5.30  | 0.224 | 5.70 | 182-8004-08A     |
| 8               | 8                              | Power K6*        | 182-0672-08        | Green       | Red    |                       |      | 0.161                            | 4.10  | 0.173 | 4.40 | 182-8004-08A     |
| 8               | 10-12                          | Power K6*        | 182-0672-10        | Green       | Brown  |                       |      | 0.098                            | 3.50  | 0.131 | 3.33 | 182-8004-08A     |

\*For 18-02, 20-04 &amp; 28-06 inserts only

## PINS



| CONTACT SIZE | HAND CRIMP TOOL | TURRET HEAD (LOCATOR) | POWER CRIMP TOOL | POWER TOOL LOCATOR | PLASTIC INSERTION/ EXTRACTION TOOL |
|--------------|-----------------|-----------------------|------------------|--------------------|------------------------------------|
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570/16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570/16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570/16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570/16                          |
| 12           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-12                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-16                          |
| 12           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-12                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-16                          |
| 8            | -               | -                     | M22520/23-01     | M22520/23-03       | 025-0711-06                        |
| 8            | -               | -                     | M22520/23-01     | M22520/23-03       | 025-0711-06                        |
| 8            | -               | -                     | M22520/23-01     | TP1498             | 025-0711-06                        |

\*For 18-02, 20-04 &amp; 28-06 inserts only

## SOCKETS

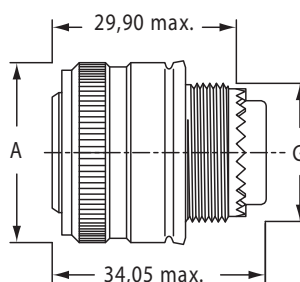


| CONTACT SIZE | HAND CRIMP TOOL | TURRET HEAD (LOCATOR) | POWER CRIMP TOOL | POWER TOOL LOCATOR | PLASTIC INSERTION/ EXTRACTION TOOL |
|--------------|-----------------|-----------------------|------------------|--------------------|------------------------------------|
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570/16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570/16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570/16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570/16                          |
| 12           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-12                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-16                          |
| 12           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-12                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 20           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-20                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-16                          |
| 16           | M22520/1-01     | M22520/1-02           | WA27F            | M22520/1-02        | M15570-16                          |
| 8            | -               | -                     | M22520/23-01     | M22520/23-03       | 025-0711-06                        |
| 8            | -               | -                     | M22520/23-01     | M22520/23-03       | 025-0711-06                        |
| 8            | -               | -                     | M22520/23-01     | TP1498             | 025-0711-06                        |

\*For 18-02, 20-04 &amp; 28-06 inserts only

## DIMENSIONS

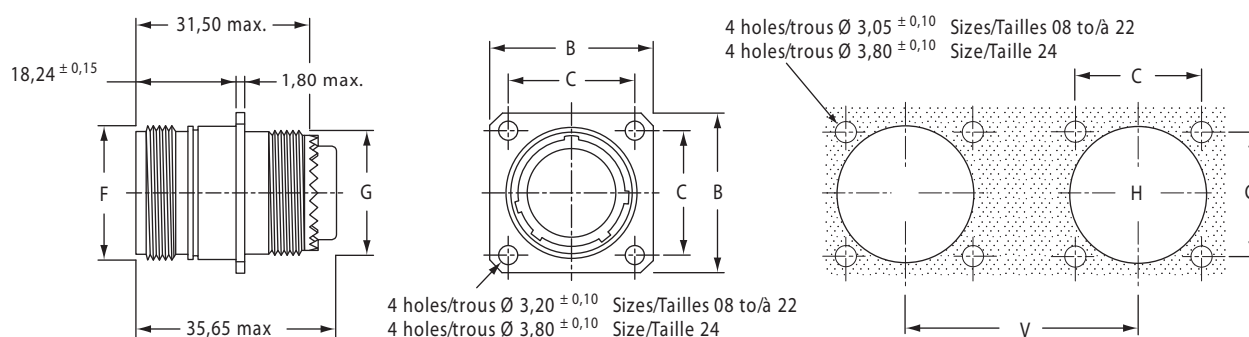
## PLUG - CRIMP TYPE 6



| SHELL SIZE | A MAX.        | G MAX.        | WEIGHT GRAMS* |           |
|------------|---------------|---------------|---------------|-----------|
|            |               |               | STEEL         | ALUMINIUM |
| 08         | .839 (21.30)  | .500 (12.70)  | 31            | 14        |
| 10         | .980 (24.90)  | .624 (15.85)  | 44            | 21        |
| 12         | 1.165 (29.60) | .750 (19.05)  | 57            | 26        |
| 14         | 1.230 (31.24) | .874 (22.20)  | 72            | 38        |
| 16         | 1.276 (32.42) | 1.000 (25.40) | 82            | 39        |
| 18         | 1.470 (37.24) | 1.061 (26.95) | 95            | 43        |
| 20         | 1.965 (49.91) | 1.187 (30.15) | 108           | 48        |
| 22         | 1.735 (44.07) | 1.311 (33.30) | 121           | 65        |
| 24         | 1.860 (47.24) | 1.437 (36.50) | 134           | 67        |
| 28         | 2.175 (55.24) | 1.750 (44.45) | 160           | 103       |

\*Without contacts

## SQUARE FLANGE - CRIMP STYLE TYPE 0

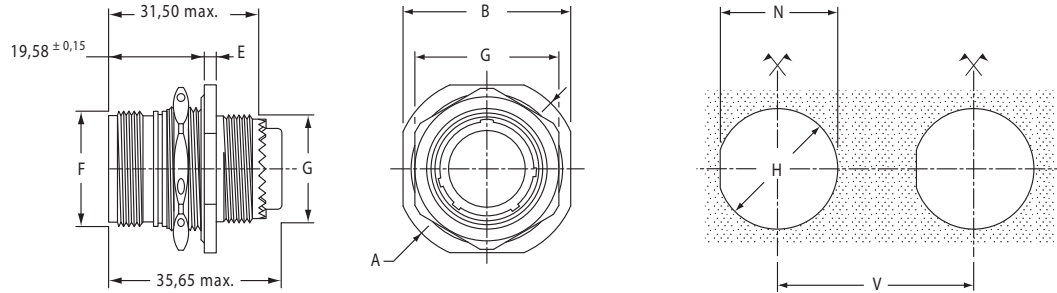


| SHELL SIZE | B MAX.        | C +/- .002<br>(+/- .05) | F MAX.        | G MAX.        | H + 0 / - .001<br>(+0 / - .02) | V MIN.        | WEIGHT GRAMS* |           |
|------------|---------------|-------------------------|---------------|---------------|--------------------------------|---------------|---------------|-----------|
|            |               |                         |               |               |                                |               | STEEL         | ALUMINIUM |
| 08         | .817 (20.75)  | .594 (15.09)            | .562 (14.27)  | .500 (12.70)  | .622 (15.80)                   | 1.248 (31.70) | 31            | 14        |
| 10         | .942 (23.93)  | .719 (18.26)            | .688 (17.47)  | .625 (15.88)  | .736 (18.70)                   | 1.374 (34.90) | 44            | 21        |
| 12         | 1.036 (26.32) | .812 (20.62)            | .875 (22.22)  | .750 (19.05)  | .921 (23.40)                   | 1.559 (39.60) | 57            | 26        |
| 14         | 1.130 (28.71) | .906 (23.01)            | .938 (23.82)  | .875 (22.23)  | .980 (24.90)                   | 1.624 (41.25) | 72            | 38        |
| 16         | 1.255 (31.88) | .969 (24.61)            | 1.062 (26.97) | 1.000 (25.40) | 1.114 (28.3)                   | 1.750 (44.45) | 82            | 39        |
| 18         | 1.348 (34.24) | 1.050 (26.67)           | 1.188 (30.18) | 1.062 (26.97) | 1.224 (31.10)                  | 1.864 (47.35) | 95            | 43        |
| 20         | 1.442 (36.63) | 1.156 (29.36)           | 1.312 (33.32) | 1.188 (30.18) | 1.358 (34.50)                  | 2.043 (51.90) | 108           | 48        |
| 22         | 1.567 (39.80) | 1.250 (31.75)           | 1.438 (36.53) | 1.312 (33.32) | 1.476 (37.50)                  | 2.130 (54.10) | 121           | 65        |
| 24         | 1.708 (43.39) | 1.375 (34.92)           | 1.562 (39.67) | 1.438 (36.53) | 1.598 (40.6)                   | 2.254 (57.25) | 134           | 67        |
| 28         | 2.005 (50.93) | 1.562 (39.67)           | 1.812 (46.02) | 1.750 (44.45) | 1.890 (48.00)                  | 2.569 (65.25) | 160           | 103       |

\*Without contacts

All dimensions in inches (millimeters in parenthesis)

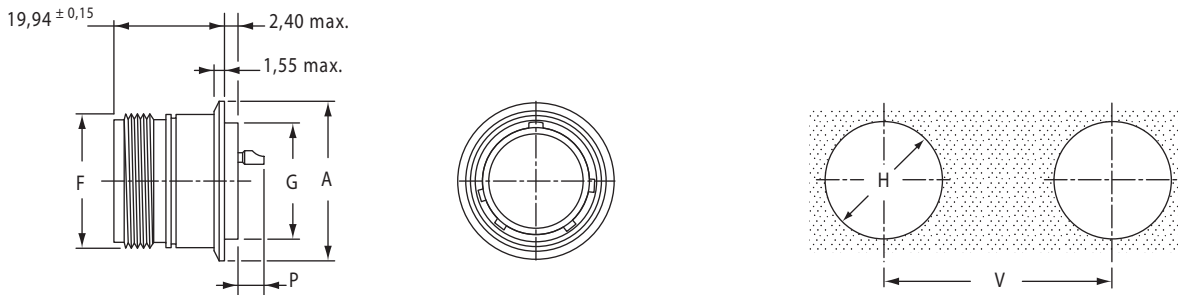
# JAM NUT MOUNTING - CRIMP STYLE TYPE 7



| SHELL SIZE | A MAX.           | B MAX.           | E MAX.         | F MAX.           | G MAX.           | H + 0 / - .001<br>(+0 / - .02) | M MAX.           | N + 0 / - .001<br>(+0 / - .02) | V MIN.           | WEIGHT MAX GRAMS* |           | TIGHTENING TORQUE OF PANEL NUT |
|------------|------------------|------------------|----------------|------------------|------------------|--------------------------------|------------------|--------------------------------|------------------|-------------------|-----------|--------------------------------|
|            |                  |                  |                |                  |                  |                                |                  |                                |                  | STEEL             | ALUMINIUM |                                |
| 08         | 1.078<br>(27.38) | .980<br>(24.89)  | .137<br>(3.48) | .562<br>(14.27)  | .500<br>(12.70)  | .640<br>(16.26)                | .829<br>(21.06)  | .610<br>(15.50)                | 1.248<br>(31.70) | 32                | 15        | 7m.N max.                      |
| 10         | 1.192<br>(30.28) | 1.104<br>(28.04) | .137<br>(3.48) | .688<br>(17.47)  | .625<br>(15.88)  | .765<br>(19.43)                | .954<br>(24.23)  | .735<br>(18.67)                | 1.374<br>(34.90) | 41                | 21        | 10m.N max.                     |
| 12         | 1.380<br>(35.05) | 1.291<br>(32.79) | .137<br>(3.48) | .875<br>(22.22)  | .750<br>(19.05)  | .952<br>(24.18)                | 1.142<br>(29.01) | .922<br>(23.42)                | 1.559<br>(39.60) | 58                | 30        | 12m.N max.                     |
| 14         | 1.516<br>(38.51) | 1.391<br>(35.33) | .137<br>(3.48) | .938<br>(23.82)  | .875<br>(22.23)  | 1.015<br>(25.78)               | 1.205<br>(30.61) | .985<br>(25.02)                | 1.624<br>(41.25) | 68                | 35        | 15m.N max.                     |
| 16         | 1.641<br>(41.68) | 1.516<br>(38.51) | .137<br>(3.48) | 1.062<br>(26.97) | 1.000<br>(25.40) | 1.140<br>(28.96)               | 1.329<br>(33.76) | 1.110<br>(28.20)               | 1.750<br>(44.45) | 82                | 46        | 18m.N max.                     |
| 18         | 1.766<br>(44.86) | 1.641<br>(41.68) | .137<br>(3.48) | 1.188<br>(30.18) | 1.062<br>(26.97) | 1.265<br>(32.13)               | 1.455<br>(36.96) | 1.230<br>(31.25)               | 1.864<br>(47.35) | 88                | 51        | 22m.N max.                     |
| 20         | 1.954<br>(49.63) | 1.766<br>(44.86) | .137<br>(3.48) | 1.312<br>(33.32) | 1.188<br>(30.18) | 1.390<br>(35.31)               | 1.579<br>(40.11) | 1.355<br>(34.42)               | 2.043<br>(51.90) | 100               | 56        | 25m.N max.                     |
| 22         | 2.078<br>(52.78) | 1.954<br>(49.63) | .148<br>(3.76) | 1.438<br>(36.53) | 1.312<br>(33.32) | 1.515<br>(38.48)               | 1.705<br>(43.31) | 1.480<br>(37.59)               | 2.130<br>(54.10) | 123               | 69        | 27m.N max.                     |
| 24         | 2.182<br>(55.42) | 2.079<br>(52.81) | .148<br>(3.76) | 1.562<br>(39.67) | 1.438<br>(36.53) | 1.640<br>(41.66)               | 1.829<br>(46.46) | 1.605<br>(40.77)               | 2.254<br>(57.25) | 137               | 82        | 29m.N max.                     |
| 28         | 2.434<br>(61.82) | 2.331<br>(59.21) | .148<br>(3.76) | 1.812<br>(46.02) | 1.750<br>(44.45) | 1.890<br>(48.01)               | 2.142<br>(54.41) | 1.856<br>(47.14)               | 2.569<br>(65.25) | 191               | 120       | 30m.N max.                     |

\*Without contacts

# SQUARE FLANGE - HERMETIC TYPE 0

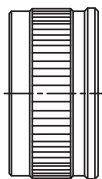


| SHELL SIZE | B MAX.        | C +/- .002<br>(+/- .05) | F MAX.        | G MAX.        | H + 0 / - .001<br>(+0 / - .02) | P MAX.      |             | V MIN.        | WEIGHT MAX. GRAMS* |
|------------|---------------|-------------------------|---------------|---------------|--------------------------------|-------------|-------------|---------------|--------------------|
|            |               |                         |               |               |                                | SIZE        | SIZE        |               |                    |
|            |               |                         |               |               |                                | 20          | 16-12       |               |                    |
| 08         | .817 (20.75)  | .594 (15.09)            | .562 (14.27)  | .500 (12.70)  | .622 (15.80)                   | .194 (4.93) | .224 (5.69) | 1.248 (31.70) | 18                 |
| 10         | .942 (23.93)  | .719 (18.26)            | .688 (17.47)  | .625 (15.88)  | .736 (18.70)                   | .194 (4.93) | .224 (5.69) | 1.374 (34.90) | 24                 |
| 12         | 1.036 (26.32) | .812 (20.62)            | .875 (22.22)  | .750 (19.05)  | .921 (23.40)                   | .194 (4.93) | .224 (5.69) | 1.559 (39.60) | 31                 |
| 14         | 1.130 (28.71) | .906 (23.01)            | .938 (23.82)  | .875 (22.23)  | .980 (24.90)                   | .194 (4.93) | .224 (5.69) | 1.624 (41.25) | 40                 |
| 16         | 1.255 (31.88) | .969 (24.61)            | 1.062 (26.97) | 1.000 (25.40) | 1.114 (28.3)                   | .194 (4.93) | .224 (5.69) | 1.750 (44.45) | 49                 |
| 18         | 1.348 (34.24) | 1.050 (26.67)           | 1.188 (30.18) | 1.062 (26.97) | 1.224 (31.10)                  | .194 (4.93) | .224 (5.69) | 1.864 (47.35) | 54                 |
| 20         | 1.442 (36.63) | 1.156 (29.36)           | 1.312 (33.32) | 1.188 (30.18) | 1.358 (34.50)                  | .194 (4.93) | .224 (5.69) | 2.043 (51.90) | 62                 |
| 22         | 1.567 (39.80) | 1.250 (31.75)           | 1.438 (36.53) | 1.312 (33.32) | 1.476 (37.50)                  | .194 (4.93) | .224 (5.69) | 2.130 (54.10) | 77                 |
| 24         | 1.708 (43.39) | 1.375 (34.92)           | 1.562 (39.67) | 1.438 (36.53) | 1.598 (40.60)                  | .194 (4.93) | .224 (5.69) | 2.254 (57.25) | 88                 |

\*Without contacts

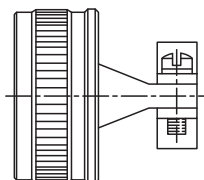
All dimensions in inches (millimeters in parenthesis)

## COMPRESSION NUT



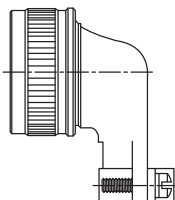
| SHELL SIZE | STAINLESS STEEL FOR K-KE-S-SE CLASSES | ALUMINUM NICKEL PLATED FOR R-RS CLASSES | ALUMINUM CADMIUM PLATED FOR W-WS CLASSES | ALUMINUM BLACK ANODIZED PLATED FOR A CLASS |
|------------|---------------------------------------|-----------------------------------------|------------------------------------------|--------------------------------------------|
| 8          | 66240-08                              | 006-0909-08A499                         | 006-0909-08A838                          | 006-0909-08                                |
| 10         | 66240-10                              | 006-0909-10A499                         | 006-0909-10A838                          | 060-0909-10                                |
| 12         | 66240-12                              | 006-0909-12A499                         | 006-0909-12A838                          | 060-0909-12                                |
| 14         | 66240-14                              | 006-0909-14A499                         | 006-0909-14A838                          | 060-0909-14                                |
| 16         | 66240-16                              | 006-0909-16A499                         | 006-0909-16A838                          | 060-0909-16                                |
| 18         | 66240-18                              | 006-0909-18A499                         | 006-0909-18A838                          | 060-0909-18                                |
| 20         | 66240-20                              | 006-0909-20A499                         | 006-0909-20A838                          | 060-0909-20                                |
| 22         | 66240-22                              | 006-0909-22A499                         | 006-0909-22A838                          | 060-0909-22                                |
| 24         | 66240-24                              | 006-0909-24A499                         | 006-0909-24A838                          | 060-0909-24                                |
| 28         | 66240-28                              | 006-0909-28A499                         | 006-0909-28A838                          | 060-0909-28                                |

## STRAIGHT CABLE CLAMP



| SHELL SIZE | STAINLESS STEEL FOR K-KE-S-SE CLASSES | ALUMINUM NICKEL PLATED FOR R-RS CLASSES | ALUMINUM CADMIUM PLATED FOR W-WS CLASSES | ALUMINUM BLACK ANODIZED PLATED FOR A CLASS |
|------------|---------------------------------------|-----------------------------------------|------------------------------------------|--------------------------------------------|
| 8          | 66241-08A                             | 006-0910-08A499                         | 006-0910-08A838                          | 006-0910-08                                |
| 10         | 66241-10A                             | 006-0910-10A499                         | 006-0910-10A838                          | 006-0910-10                                |
| 12         | 66241-12A                             | 006-0910-12A499                         | 006-0910-12A838                          | 006-0910-12                                |
| 14         | 66241-14A                             | 006-0910-14A499                         | 006-0910-14A838                          | 006-0910-14                                |
| 16         | 66241-16A                             | 006-0910-16A499                         | 006-0910-16A838                          | 006-0910-16                                |
| 18         | 66241-18A                             | 006-0910-18A499                         | 006-0910-18A838                          | 006-0910-18                                |
| 20         | 66241-20A                             | 006-0910-20A499                         | 006-0910-20A838                          | 006-0910-20                                |
| 22         | 66241-22A                             | 006-0910-22A499                         | 006-0910-22A838                          | 006-0910-22                                |
| 24         | 66241-24A                             | 006-0910-24A499                         | 006-0910-24A838                          | 006-0910-24                                |
| 28         | 66241-28A                             | 006-0910-28A499                         | 006-0910-28A838                          | 006-0910-28                                |

## RIGHT ANGLE CABLE CLAMP

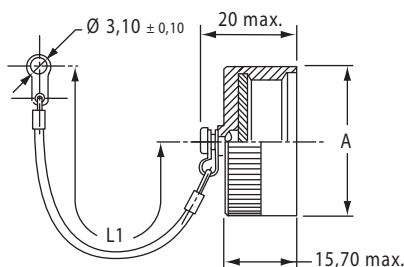


| SHELL SIZE | STAINLESS STEEL FOR K-KE-S-SE CLASSES | ALUMINUM NICKEL PLATED FOR R-RS CLASSES | ALUMINUM CADMIUM PLATED FOR W-WS CLASSES | ALUMINUM BLACK ANODIZED PLATED FOR A CLASS |
|------------|---------------------------------------|-----------------------------------------|------------------------------------------|--------------------------------------------|
| 8          | 66332-08A                             | 006-0908-08A499                         | 006-0908-08A838                          | 006-0908-08                                |
| 10         | 66332-10A                             | 006-0908-10A499                         | 006-0908-10A838                          | 006-0908-10                                |
| 12         | 66332-12A                             | 006-0908-12A499                         | 006-0908-12A838                          | 006-0908-12                                |
| 14         | 66332-14A                             | 006-0908-14A499                         | 006-0908-14A838                          | 006-0908-14                                |
| 16         | 66332-16A                             | 006-0908-16A499                         | 006-0908-16A838                          | 006-0908-16                                |
| 18         | 66332-18A                             | 006-0908-18A499                         | 006-0908-18A838                          | 006-0908-18                                |
| 20         | 66332-20A                             | 006-0908-20A499                         | 006-0908-20A838                          | 006-0908-20                                |
| 22         | 66332-22A                             | 006-0908-22A499                         | 006-0908-22A838                          | 006-0908-22                                |
| 24         | 66332-24A                             | 006-0908-24A499                         | 006-0908-24A838                          | 006-0908-24                                |
| 28         | 66332-28A                             | 006-0908-28A499                         | 006-0908-28A838                          | 006-0908-28                                |

All dimensions in inches (millimeters in parenthesis)

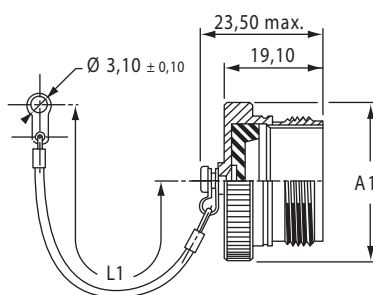


## DUSTCAP FOR RECEPTACLES



| KEYING | STAINLESS STEEL FOR<br>K-KE-S-SE CLASSES | ALUMINUM NICKEL PLATED<br>FOR R-RS CLASSES | ALUMINUM CADMIUM PLATED<br>FOR W-WS CLASSES |
|--------|------------------------------------------|--------------------------------------------|---------------------------------------------|
| N      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| 6      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| 7      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| 8      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| 9      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| Y      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |

## DUSTCAP FOR PLUGS



| KEYING | STAINLESS STEEL FOR<br>K-KE-S-SE CLASSES | ALUMINUM NICKEL PLATED<br>FOR R-RS CLASSES | ALUMINUM CADMIUM PLATED<br>FOR W-WS CLASSES |
|--------|------------------------------------------|--------------------------------------------|---------------------------------------------|
| N      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| 6      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| 7      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| 8      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| 9      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |
| Y      | 983-3KE-***                              | 983-3R-***                                 | 983-3W-***                                  |

\*Choose lanyard type

C = chain and small eyelet

D = cord and small eyelet

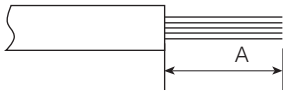
N = no chain or cord, with holes for locking wire

## = choose shell size

| SHELL<br>SIZE | A MAX. |       | A1 MAX. |       | L1 +/-6MM (+/- .236) |     |
|---------------|--------|-------|---------|-------|----------------------|-----|
|               | IN.    | MM.   | IN.     | MM.   | IN.                  | MM. |
| 08            | 0.776  | 19.70 | 0.766   | 19.45 | 5.00                 | 127 |
| 10            | 0.906  | 23.00 | 0.906   | 23.00 | 5.00                 | 127 |
| 12            | 1.077  | 27.35 | 1.077   | 27.35 | 5.00                 | 127 |
| 14            | 1.140  | 28.95 | 1.140   | 28.95 | 5.00                 | 127 |
| 16            | 1.266  | 32.15 | 1.266   | 32.15 | 5.00                 | 127 |
| 18            | 1.374  | 34.90 | 1.374   | 34.90 | 5.00                 | 127 |
| 20            | 1.510  | 38.35 | 1.510   | 38.35 | 5.00                 | 127 |
| 22            | 1.624  | 41.25 | 1.624   | 41.25 | 5.00                 | 127 |
| 24            | 1.760  | 44.70 | 1.760   | 44.70 | 5.00                 | 127 |
| 28            | 2.000  | 50.80 | 2.020   | 51.30 | 5.00                 | 127 |

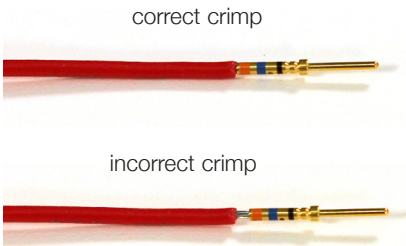
### WIRE STRIPPING

Strip insulation from end of wire to be crimped.  
(See table for proper stripping dimensions.) Do not cut or damage wire strands.



| WIRE SIZE | A                       |
|-----------|-------------------------|
| 20        | .157 (4.0) - .197 (5.0) |
| 16        | .252 (6.4) - .315 (8.0) |
| 12        | .252 (6.4) - .315 (8.0) |
| 8         | .336 (8.5) - .372 (9.4) |

### WIRE STRIPPING AND CONTACT CRIMPING



**STEP 1:** Insert wire into rear of contact. Wire insulation must press against rear of contact. Wire must be visible though inspection hole



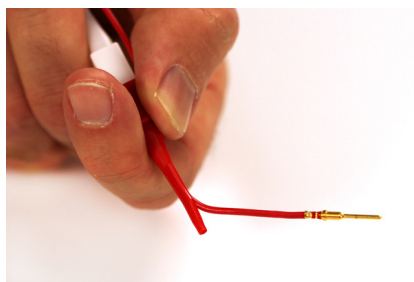
**STEP 2:** M22520 series crimp tool and locator is recommended. ➔ [See Contact and Tooling table on pages 20-21](#)

| CONTACT SIZE | COLOR  |
|--------------|--------|
| 20           | Red    |
| 16           | Blue   |
| 12           | Yellow |



**STEP 3:** Insert contact into tool jaws. To crimp, squeeze handles together fully until ratchet releases and allows handles to expand; otherwise, contact may not be extracted from tool jaws. Maintain slight insertion pressure on wire while crimping contact to wire.

## CONTACT INSERTION



**STEP 1:** Remove backshell and put wired contacts through cable opening.



**STEP 2:** Use colored end of plastic insertion / extraction tool for insertion. Place wire and contact into tool so that the tool rests on the rear of the contact shoulder.

**STEP 3:** Press tool against contact shoulder and, with firm and even pressure, insert wired contact into center contact cavity.

**STEP 4:** Remove tool and pull back lightly on wire to make sure contact is properly seated. Repeat operation with remainder of contacts to be inserted, beginning with center cavity and working outward.

**STEP 5:** After all contacts are inserted, fill any empty cavities with wire sealing plugs. Re-attach backshell and tighten cable clamps.

## CONTACT EXTRACTION



**STEP 1:** Remove backshell from connector and slide back along wire bundle.

**STEP 2:** Use white end of plastic insertion / extraction tool for extraction. Place tool around wire, and insert tool into contact cavity until tool tip bottoms against the contact shoulder.



**STEP 4:** Hold firmly onto wire and tool and extract from connector. Repeat operation for all contacts to be extracted.

**STEP 5:** Fill any empty cavities with wire sealing plugs. Re-attach backshell and tighten cable clamps.