



SOURIAU

8D Series

MIL-DTL-38999 Series III





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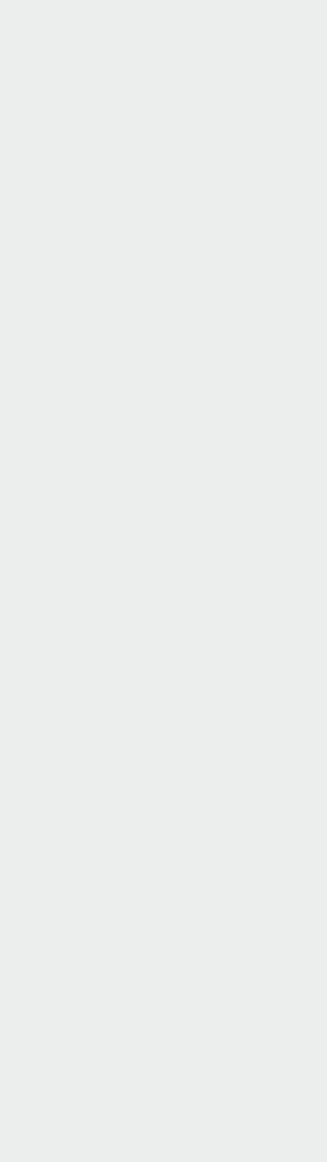
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and Series.



8D Series

Overview

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8D Series

MIL-DTL-38999 Series III



A universal product platform: MIL-DTL-38999

38999 Series I: 8LT Series



- ▶ High density (#22D) MIL-spec circular (1980's)
- ▶ Scoop proof
- ▶ Coupling system: Bayonet
- ▶ Method of mounting: screws or jam nut
- ▶ Shell: Aluminum alloy
- ▶ Plating: olive green cadmium or nickel
- ▶ QPL approved
- ▶ Numerous layouts

38999 Series II: 8T Series



- ▶ Short version of MIL-DTL-38999 Series I
- ▶ Low profile = lightweight
- ▶ High density MIL-spec circular (1980's)
- ▶ Non-scoop proof, bayonet coupling
- ▶ Method of mounting: screws or jam nut
- ▶ Shell: Aluminum alloy
- ▶ Plating: cadmium, nickel, hard anodized
- ▶ QPL approved
- ▶ Numerous layouts

A universal product platform: VG96912 & JN1003

8ST Series



- ▶ High density - same layouts as 38999 Series I
- ▶ Lightweight version of Series I
- ▶ Scoop proof, bayonet coupling
- ▶ Method of mounting: screws or jam nut
- ▶ Shell: Aluminum alloy
- ▶ Plating: olive green cadmium or nickel
- ▶ VG 96912 German specification
- ▶ JN 1003 Typhoon specification

8D Series

MIL-DTL-38999 Series III



8D Series - Presentation

38999 Series III: 8D Series

Since the early 80's, Souriau is a major supplier of 38999 Series III, the screw-coupled version of MIL-C-38999. Present on the main international programs, Souriau has developed a range of products that meet the performance required in extreme environments:

- Civil and military aeronautics
- Ground military
- Industrial
- Marine and offshore

This evolution of MIL-C-38999 allows:

- A high contact density up to 128 contacts #22D
- A quick screw coupling with self locking mechanism
- High resistance to harsh environments (vibration, 200°C)

Always at the cutting edge of innovation, Souriau's teams have continuously improved this range of connectors:

- Composite version in the 90's (Its choice is recommended wherever weight is critical)
- Titanium version for weight saving and very high and mechanical resistance
- Today Souriau remains innovative with cadmium free and RoHS solutions.
In 2009 Souriau was the first to be QPL qualified for Zinc Nickel plating.

This product family is in accordance with MIL-DTL-38999 Series III, EN 3645, CECC (standard for bronze shell), ... and also meets many customers' standards (Rolls Royce, ABS, BACC, ...)

8D Series

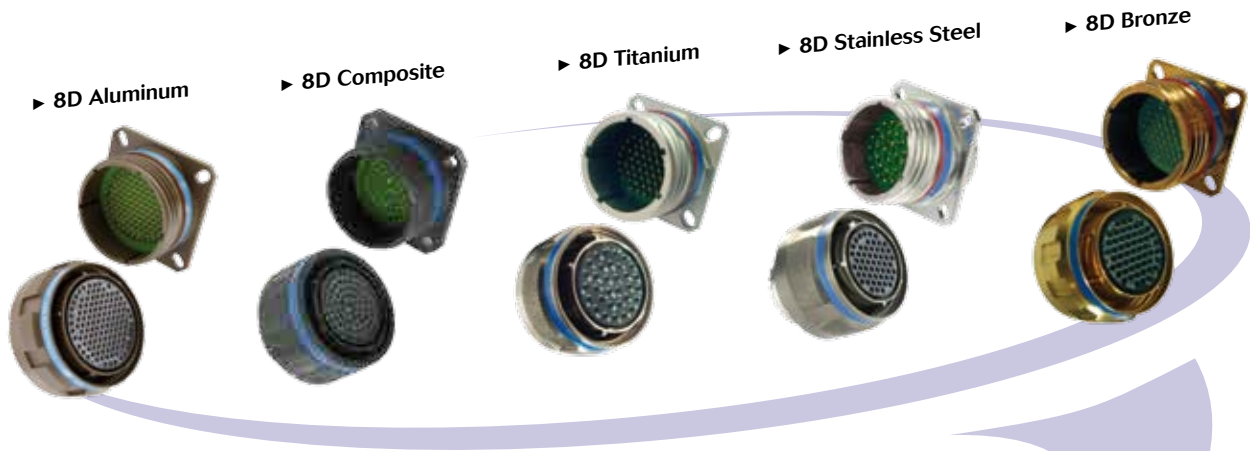
MIL-DTL-38999 Series III



8D Series - Product overview

Standard Series

- ▶ 5 different materials
- ▶ A full platform that matches any environment
- ▶ Different platings (including RoHS & Cadmium free platings)



Derived Series

- ▶ Various possibilities of range extension & shell variant from Standard Series
- ▶ The only limit is your imagination: Consult us !



8D Series

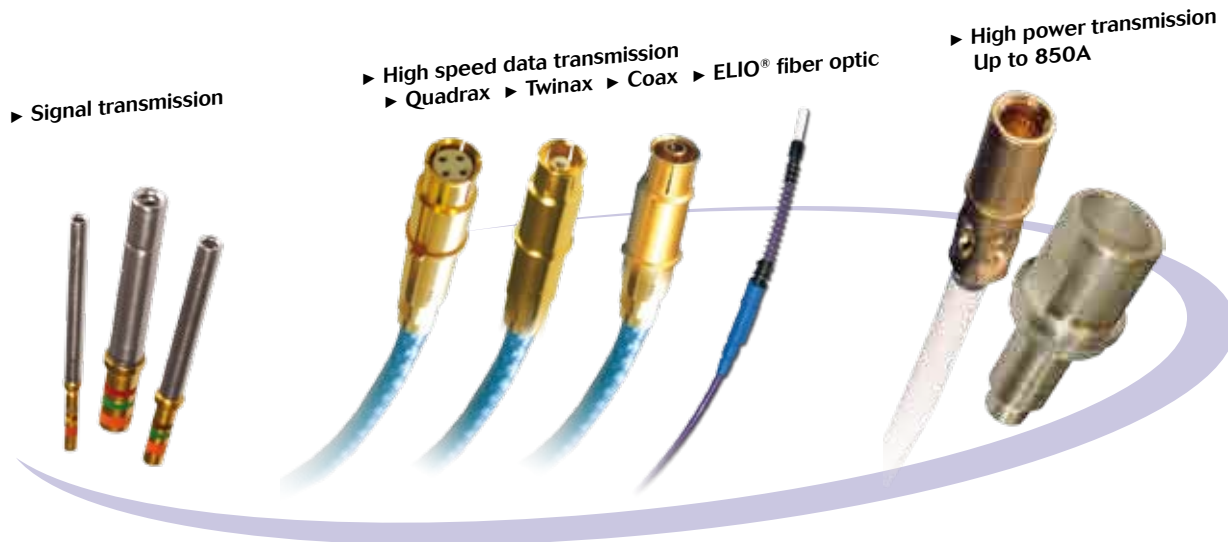
MIL-DTL-38999 Series III



8D Series - A superior concept

A full range of contacts

► Multi-contact technology provides versatile connectors



► Various contact styles

- Crimp
- Solder cup
- PC tails
- Wire wrap
- PCB contacts without shoulder

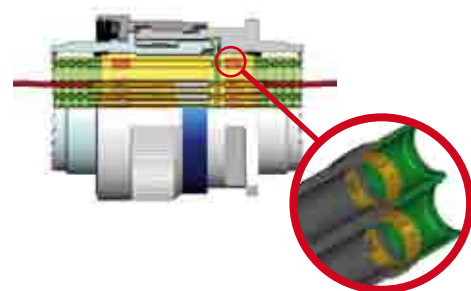
► Common cavity for all #8 contacts

Metallic clips

► Unique clip retention technology

► High performance contact retention system:

- Insure high temperature withstanding
- Provides superior strength in vibrations
- Better retention characteristics than plastic clips



High performance sealing (IP67)

- Each contact cavity is individually sealed

Accessories available

- Protective caps, backshells, tools, ...

8D Series

MIL-DTL-38999 Series III



A performing MIL standard connector design

Scoop proof connector

- ▶ No risk of damaging the contact during the coupling operation

Unique self locking mechanism

Patented by Souriau

- ▶ Connector will never unscrew even under high vibration (44g)

Visual mating indication

- ▶ Red band visible = not correctly mated



- ▶ Red band hidden = correctly mated



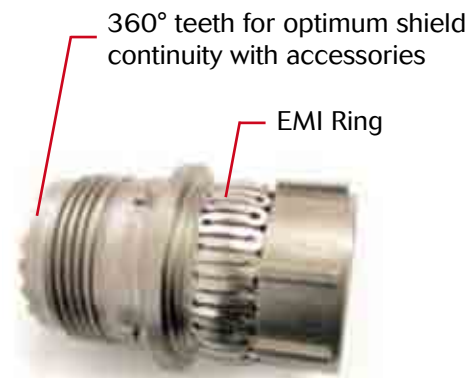
Quick screw coupling

- ▶ 1 1/4 turn to mate



Fully shielded connector

- ▶ 360° shielding



- ▶ Shell to shell bottoming = perfect shield continuity



8D Series

MIL-DTL-38999 Series III



Applications

- Civil and Military Aerospace
- Marine and Offshore Equipment
- Defense and Ground Military
- Industrial

Standards

- MIL-DTL-38999 Series III
- EN3645
- BACC63CT/CU; BACC63DB/DC

Technical features

Mechanical

- **Shell:**
Aluminum, composite, stainless steel, bronze
- **Shell plating:**
 - . Aluminum shell:
 - Cadmium olive drab (W)
 - Nickel (F)
 - Black zinc nickel (Z)
 - Green zinc cobalt (ZO)
 - . Composite shell:
 - Cadmium olive drab (J)
 - Nickel (M)
 - Without plating (X)

- . Stainless steel shell:
 - Passivated (K)
 - Nickel (S)
 - . Titanium shell:
 - Without plating (TT)
 - Nickel (TF)
 - . Bronze shell:
 - Without plating
 - **Insulator:** Thermoplastic
 - **Grommet and interfacial seal:**
Silicone elastomer
 - **Contacts:** Copper alloy
 - **Contacts plating:** Gold over nickel plated
 - **Endurance:**
 - . 500 mating cycles all materials
 - . 1500 mating cycles with composite connectors with specifics contacts
 - **Shock:**
300g, 3 ms according EN 2591-D2 method A
 - **Vibration:**
 - . Sinus:
 - . 10 à 2000 Hz, 3x12 hrs (60g, 140 - 2000 Hz) with T° cycling
 - . Random:
 - . 50 to 2000 Hz, 2x8 Hrs (1g2/ Hz, 100 - 2000Hz) at T° max.
 - . 25 to 2000 Hz, 2x8 Hrs (5g2/ Hz, 100 - 300Hz) at ambient T°
- Test with accessories in acc with EN2591-D3

Description

- High contact density layouts available **HD**
- Screw coupling, Shell size from 9 to 25
- Contact protection: 100% Scoop proof
- Protected by cadmium, nickel, green zinc cobalt or black zinc nickel plating
- RFI - EMI shielding and shell to shell continuity
- Accessories available (protective caps, backshells, etc...)
- Hermetic versions
- High power up to 850A
- Optical layouts
- 230V layouts available (ABS22-19, ABS22-20, ABS22-21 & ABS22-22 qualified)

• Contact retention:

| Contacts size | 22 | 20 | 16 | 12 | 8 | 4 |
|----------------|----|----|-----|-----|-----|-----|
| Min force in N | 44 | 67 | 111 | 111 | 111 | 200 |

Weight comparison

Example for a plug shell size 15

| Materials | Weight | |
|-----------------|---------|-------------|
| Stainless steel | 58.80 g | 42% lighter |
| Titanium | 33.90 g | |
| Aluminum | 20.35 g | 40% lighter |
| Composite | 14.30 g | 30% lighter |



8D Series

MIL-DTL-38999 Series III

Electrical

• Test voltage rating (Vrms)

| Service | sea level | at 21000 m |
|---------|-----------|------------|
| R | 400 | N/A |
| M | 1 300 | 800 |
| N | 1 000 | 600 |
| I | 1 800 | 1 000 |
| II | 2 300 | 1 000 |

• Contact resistance

| Contacts size | 26 | 22 | 20 | 16 | 12 | 8 | 4 |
|---------------|----|------|-----|-----|-----|---|---|
| Resistance mΩ | 16 | 14.6 | 7.3 | 3.8 | 3.5 | 3 | 2 |

• Insulation resistance:

≥ 5 000 MΩ (under 500 Vdc)

• Contact rating:

| Contacts size | 26 | 22 | 20 | 16 | 12 | 8 | 4 |
|---------------|----|----|-----|----|----|----|----|
| Rating (A) | 3 | 5 | 7.5 | 13 | 23 | 45 | 80 |

• Shell continuity

. Aluminum shell:

Cadmium olive drab (W): 2.5 mΩ

Nickel (F): 1 mΩ

Black zinc nickel (Z): 2.5 mΩ

Green zinc cobalt (ZO): 2.5 mΩ

. Composite shell:

Cadmium olive drab (J): 3 mΩ

Nickel (M): 3 mΩ

. Stainless steel shell:

Passivated (K): 10 mΩ

Nickel (S): 1 mΩ

. Titanium shell:

Without plating (TT): 10 mΩ

Nickel (TF): 1 mΩ

. Bronze shell:

Without plating: 5 mΩ

• Shielding:

. Aluminum shell:

F: 65 db at 10 GHz

Z, F & W: 85 db at 1 GHz

Z & W: 50 db at 10 GHz

ZC: Consult us

. Composite shell:

J & M: 85 db at 1 GHz

. Stainless steel shell:

K: 45 db at 10 GHz

S: 65 db at 10 GHz

. Titanium shell:

TT: 45 db at 10 GHz

TF: 65 db at 10 GHz

. Bronze shell:

85 db at 10 GHz

Climatics

• Temperature range:

. Aluminum shell:

W: -65°C +175°C

F: -65°C +200°C

Z: -65°C +200°C

ZC: -65°C +175°C

. Composite shell:

J: -65°C +175°C

M: -65°C +200°C

Without plating (X): -65°C +175°C

. Stainless steel shell:

K: -65°C +200°C

S: -65°C +200°C

. Titanium shell:

TT: -65°C +200°C

TF: -65°C +200°C

. Bronze shell:

Without plating: -65°C +175°C

• Sealing:

Mated connectors meet altitude immersion requirements of MIL-DTL-38999.

• Salt spray:

. Aluminum shell:

W: 500 Hrs

F: 48 Hrs

Z: 500 Hrs

ZC: 250 Hrs

. Composite shell:

J: 2000 Hrs

M: 2000 Hrs

Without plating (X): 2000 Hrs

. Stainless steel shell:

K: 500 Hrs

S: 500 Hrs

. Titanium shell:

TT: 500 Hrs

TF: 48 Hrs

. Bronze shell:

Without plating: 500 Hrs

Resistance to fluids

• According to MIL-DTL-38999 standard

. Gasoline: JP5 (OTAN F44)

. Mineral hydraulic fluid: MIL-H-5606 (OTAN H515)

. Synthetic hydraulic fluid: Skydrol 500 B4

• LD4 (SAE AS 1241)

. Mineral lubricating: MIL-L-7870A (OTAN 0142)

. Synthetic lubricating: MIL-L-23699 (OTAN 0156), MIL-L-7808

. Cleaning fluid: MIL-DTL-25769 diluted

. De-icing fluid: MIL-A-8243

. Extinguishing fluid: Chlorobrométhane











. Cooling fluid: Coolanol

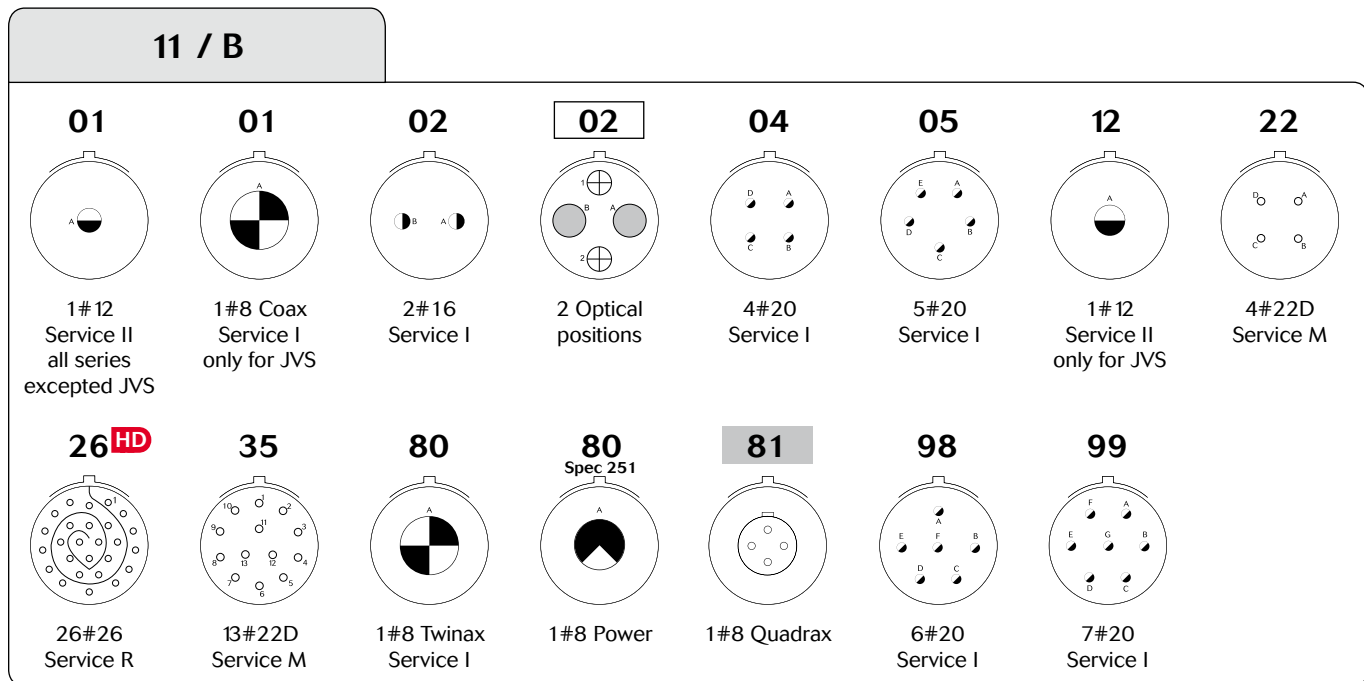
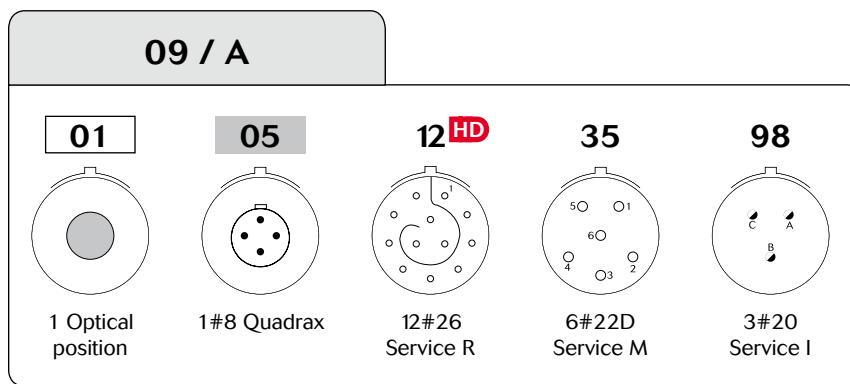
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Contact layouts

-  Contact #26 & #22D
-  Contact #8 Twinax or Coax - consult us
-  Contact #20
-  Contact #8 Power
-  Contact #16
-  Contact #8 Quadrax
-  Contact #12
-  Contact ELIO® (fiber optic)
-  Contact #10
-  Contact #4 Power



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Contact layouts

13 / C

| | | | | | | | |
|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|---|--------------------------------------|--|-------------------------------------|
| 03 3#16 Service I | 04 4#16 Service I | 04 4 Optical positions | 08 8#20 Service I | 26 2#12 6#22D Service M | 35 22#22D Service M | 43^{HD} 43#26 Service R | 98 10#20 Service I |
|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|---|--------------------------------------|--|-------------------------------------|

15 / D

| | | | | | | |
|-------------------------------------|--------------------------------------|---|-------------------------------------|-------------------------------------|--------------------------------------|--|
| 05 5#16 Service II | 06 6 Optical positions | 15 1#16 14#20 Service I | 18 18#20 Service I | 19 19#20 Service I | 35 37#22D Service M | 97 4#16 8#20 Service I |
|-------------------------------------|--------------------------------------|---|-------------------------------------|-------------------------------------|--------------------------------------|--|

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Contact layouts

17 / E

| | | | | | | | |
|---|---|--|--|---|---|---|---|
| <p>02</p> <p>38#22D 1#8 Twinax Service M</p> | <p>02 Spec 251</p> <p>38#22D 1#8 Power</p> | <p>06</p> <p>6#12 Service I</p> | <p>08</p> <p>8#16 Service II</p> | <p>20</p> <p>4#12 16#22D Service M</p> | <p>22</p> <p>2#12 2#8 Twinax Service M</p> | <p>22 Spec 251</p> <p>2#12 2#8 Power</p> | <p>26</p> <p>26#20 Service I</p> |
| <p>35</p> <p>55#22D Service M</p> | <p>75</p> <p>2#8 Twinax Service M</p> | <p>75 Spec 251</p> <p>2#8 Power</p> | <p>80</p> <p>2#12 2#8 Quadrax</p> | <p>81</p> <p>38#22D 1#8 Quadrax</p> | <p>82</p> <p>2#8 Quadrax</p> | <p>99</p> <p>2#16 21#20 Service I</p> | |

19 / F

| | | | | | | | |
|---|--|---|---|--|---|--|--|
| <p>08</p> <p>8 Optical positions</p> | <p>11</p> <p>11#16 Service II</p> | <p>18</p> <p>14#22D 4#8 Twinax Service M</p> | <p>18 Spec 251</p> <p>14#22D 4#8 Power</p> | <p>28</p> <p>26#20 2#16 Service I</p> | <p>32</p> <p>32#20 Service I</p> | <p>35</p> <p>66#22D Service M</p> | <p>84</p> <p>14#22D 4#8 Quadrax</p> |
| <p>H1</p> <p>1#00 High power</p> | | | | | | | |

8D Series

MIL-DTL-38999 Series III



Contact layouts

21 / G

| | | | | | | | | | |
|---|--|--|---|---|--|--|--|--|--|
| 11 11#12 Service I | 12 12 Optical positions | 16 16#16 Service II | 20 18#20 2#8 Twinax Service M | 20 Spec 251 18#20 2#8 Power | 35 79#22D Service M | 39 2#16 37#20 Service I | 41 41#20 Service I | | |
| 42 2#4 Power Service I | 48 4#8 Power Service I | 59 55#22D 4#12 Service M | 72 6#16 2#4 Power Service I | 75 4#8 Twinax Service M | 75 Spec 251 4#8 Power | 77 17#22D 2#8 Twinax Service M | 77 Spec 251 17#22D 2#8 Power | | |
| 78 17#22D 2#8 Quadrax | 80 18#20 2#8 Quadrax | 84 4#8 Quadrax | | | | | | | |

23 / H

| | | | | | | | |
|------------------------------|--|--------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------|--|-------------------------------------|
| 06 6#8 Twinax | 06 Spec 251 6#8 Power | 21 21#16 Service II | 32 32#20 Service I | 35 100#22D Service M | 53 53#20 Service I | 54 4#12, 9#16 40#22D Service M | 55 55#20 Service I |
| 86 6#8 Quadrax | H1 1#000 High power | | | | | | |

ELIO® fiber optic
 Ethernet Quadrax

8D Series

MIL-DTL-38999 Series III



Contact layouts

| 25 / J | | | | | | | |
|---|--|---|--|--|--|---|---|
| <p>04</p> <p>48#20 8#16 Service I</p> | <p>07</p> <p>97#22D 2#8 Twinax Service M</p> | <p>07 Spec 251</p> <p>97#22D 2#8 Power</p> | <p>08</p> <p>8#8 Twinax Service M</p> | <p>08 Spec 251</p> <p>8#8 Power</p> | <p>11</p> <p>2#20 9#10 Service N</p> | <p>17</p> <p>36#22D 6#8 Twinax</p> | <p>17 Spec 251</p> <p>36#22D 6#8 Power</p> |
| <p>19</p> <p>19#12 Service I</p> | <p>20*</p> <p>10#20, 13#16 4#12 Coax 3#8 Twinax Service N</p> | <p>20* Spec 251</p> <p>10#20 13#16, 4#12 3#8 Power</p> | <p>24</p> <p>12#16 12#12 Service I</p> | <p>24</p> <p>24 Optical positions</p> | <p>29</p> <p>29#16 Service I</p> | <p>35</p> <p>128#22D Service M</p> | <p>37</p> <p>37#16 Service I</p> |
| <p>41</p> <p>22#22D, 3#20 11#16, 2#12 3#8 Twinax Service M</p> | <p>41 Spec 251</p> <p>22#22D, 3#20 11#16, 2#12 3#8 Power</p> | <p>43</p> <p>23#20 20#16 Service I</p> | <p>44</p> <p>4#16 4#4 Power Service I</p> | <p>46</p> <p>40#20, 4#16 2#8 Coax Service I</p> | <p>46 Spec 251</p> <p>40#20, 4#16 2#8 Power Service I</p> | <p>61</p> <p>61#20 Service I</p> | <p>80</p> <p>10#20 13#16 4#12 Coax 3#8 Quadrax</p> |
| <p>81</p> <p>22#22D 3#20, 11#16 2#12 3#8 Quadrax</p> | <p>82</p> <p>97#22D 2#8 Quadrax</p> | <p>86</p> <p>40#20 4#16 2#8 Quadrax</p> | <p>87</p> <p>36#22D 6#8 Quadrax</p> | <p>88</p> <p>8#8 Quadrax</p> | <p>90</p> <p>40#20, 4#16 2#8 Twinax Service I</p> | <p>H1</p> <p>1#0000 High power</p> | |

8D Series

MIL-DTL-38999 Series III



Contact layouts (matrix)

| Shell size | Layout | MIL-DTL-38999 (QPL) Aluminum, Stainless steel & Composite | 8D Titanium | JVS-CECC Bronze connector | Hermetics | EN3645 | BACC63 CT/CU DB/DC | Number of contacts | #26 | #22D | #20 | #16 | #12 | #10 | #8 | #4 | Fiber optic or High power |
|------------|-------------------------|---|-------------|---------------------------|-----------|--------|--------------------|--------------------|-----|------|-----|-----|-----|-----|----|-------|---------------------------|
| 09 / A | 09-01 | | | | | | | 1 | | | | | | | | | 1 Optic. |
| | 09-05 ⁽¹⁾ | | | | | | | 1 | | | | | | | | | |
| | 09-12 | | | | | | | 12 | | | | | | | | | 1 Qdx |
| | 09-35 | Q | | Q | | Q | Q | 6 | | 6 | | | | | | | |
| | 09-98 | Q | | Q | | Q | Q | 3 | | | 3 | | | | | | |
| 11 / B | 11-01 | | | | | | | 1 | | | | | 1 | | | | |
| | 11-01 | | | | | | | 1 | | | | | | | | | 1 Coax |
| | 11-02 | Q | | Q | | Q | Q | 2 | | | | 2 | | | | | |
| | 11-02 | | | | | | | 2 | | | | | | | | | 2 Optic. |
| | 11-04 | Q | | | | | Q | 4 | | | 4 | | | | | | |
| | 11-05 | Q | | Q | | Q | Q | 5 | | | 5 | | | | | | |
| | 11-12 | | | | | | | 1 | | | | | 1 | | | | |
| | 11-22 | | | | | | | 4 | | 4 | | | | | | | |
| | 11-26 | | | | | | | 26 | 26 | | | | | | | | |
| | 11-35 | Q | | Q | | Q | Q | 13 | | 13 | | | | | | | |
| | 11-80 | | | | | | | 1 | | | | | | | | | 1 Twx |
| | 11-80 ^{sp 251} | | | | | | | 1 | | | | | | | | | 1 Pow |
| | 11-81 | | | | | | | 1 | | | | | | | | | 1 Qdx |
| 11-98 | Q | | Q | | Q | Q | 6 | | | 6 | | | | | | | |
| 11-99 | Q | | Q | | Q | Q | 7 | | | 7 | | | | | | | |
| 13 / C | 13-03 | | | | | | | 3 | | | | | | | | | |
| | 13-04 | Q | | Q | | Q | Q | 4 | | | | 4 | | | | | |
| | 13-04 | | | | | | | 4 | | | | | | | | | 4 Optic. |
| | 13-08 | Q | | Q | | Q | Q | 8 | | | 8 | | | | | | |
| | 13-26 | | | Q | | Q | | 8 | | 6 | | | 2 | | | | |
| | 13-35 | Q | | Q | | Q | Q | 22 | | 22 | | | | | | | |
| | 13-43 | | | | | | | 43 | 43 | | | | | | | | |
| 13-98 | Q | | Q | | Q | Q | 10 | | | 10 | | | | | | | |
| 15 / D | 15-05 | Q | | Q | | Q | Q | 5 | | | | 5 | | | | | |
| | 15-06 | | | | | | | 6 | | | | | | | | | 6 Optic |
| | 15-15 | Q | | Q | | Q | Q | 15 | | | 14 | 1 | | | | | |
| | 15-18 | Q | | Q | | Q | Q | 18 | | | 18 | | | | | | |
| | 15-19 | Q | | Q | | Q | Q | 19 | | | 19 | | | | | | |
| | 15-35 | Q | | Q | | Q | Q | 37 | | 37 | | | | | | | |
| 15-97 | Q | | Q | | Q | Q | 12 | | | 8 | 4 | | | | | | |
| 17 / E | 17-02 | | | | | Q | Q | 39 | | 38 | | | | | | | 1 Twx |
| | 17-02 ^{sp 251} | | | | | | | 39 | | 38 | | | | | | | 1 Pow |
| | 17-06 | Q | | Q | | Q | Q | 6 | | | | | 6 | | | | |
| | 17-08 | Q | | Q | | Q | Q | 8 | | | | 8 | | | | | |
| | 17-20 | | | | | | | 20 | | 16 | | | 4 | | | | |
| | 17-22 | | | | | | | 4 | | | | | 2 | | | | 2 Twx |
| | 17-22 ^{sp 251} | | | | | | | 4 | | | | | 2 | | | | 2 Pow |
| | 17-26 | Q | | Q | | Q | Q | 26 | | | 26 | | | | | | |
| | 17-35 | Q | | Q | | Q | Q | 55 | | 55 | | | | | | | |
| | 17-75 | | | | | | | 2 | | | | | | | | | 2 Twx |
| | 17-75 ^{sp 251} | | | | | | | 2 | | | | | | | | | 2 Pow |
| | 17-80 | | | | | | | 4 | | | | | | 2 | | | 2 Qdx |
| | 17-81 | | | | | | | 39 | | 38 | | | | | | | 1 Qdx |
| 17-82 | | | | | | | 2 | | | | | | | | | 2 Qdx | |
| 17-99 | Q | | Q | | Q | Q | 23 | | | 21 | 2 | | | | | | |
| 19 / F | 19-08 | | | | | | | 8 | | | | | | | | | 8 Optic. |
| | 19-11 | Q | | Q | | Q | Q | 11 | | | | 11 | | | | | |
| | 19-18 | Q | | | | | | 18 | | 14 | | | | | | | 4 Twx |
| | 19-18 ^{sp 251} | | | | | | | | | | | | | | | | |
| | 19-28 | Q | | Q | | | Q | 28 | | | 26 | 2 | | | | | |
| | 19-32 | Q | | Q | | Q | Q | 32 | | | 32 | | | | | | |
| | 19-35 | Q | | Q | | Q | Q | 66 | | 66 | | | | | | | |
| 19-84 | | | | | | | 18 | | 14 | | | | | | | 4 Qdx | |
| 19-H1 | | | | | | | 1 | | | | | | | | | 1 #00 | |

Souriau's layout

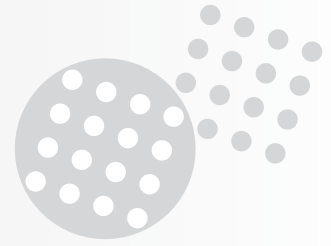
Q Souriau's layout & Layout according to corresponding norm

(1) Grounded insert only - Please consult us

#8 Pow: Power; Qdx: Quadrax; Twx: Twinax

8D Series

MIL-DTL-38999 Series III



Contact layouts (matrix)

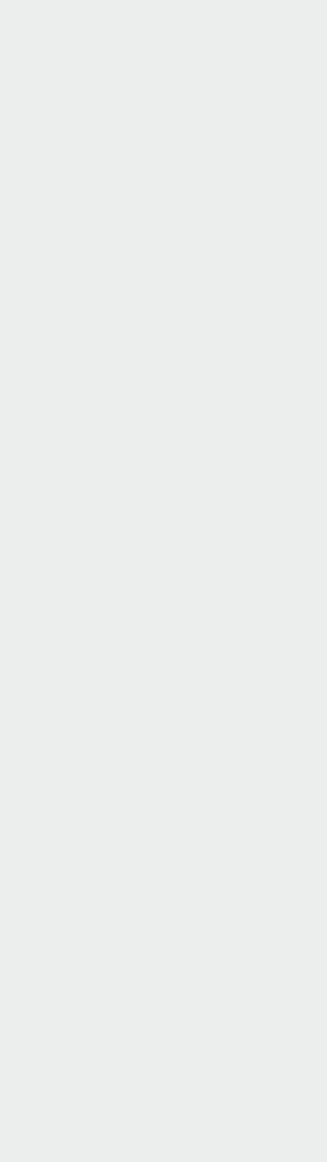
| Shell size | Layout | MIL-DTL-38999 (QPL) Aluminum, Stainless steel & Composite | 8D Titanium | JVS-CECC Bronze connector | Hermetics | EN3645 | BACC63 CT/CU DB/DC | Number of contacts | #26 | #22D | #20 | #16 | #12 | #10 | #8 | #4 | Fiber optic or High power | |
|--------------|--------------|---|-------------|---------------------------|-----------|------------------|--------------------|--------------------|-----|------|-----|-----|------------------|-------|--------|-------|---------------------------|-----------|
| 21 / G | 21-11 | Q | | Q | | Q | Q | 11 | | | | | 11 | | | | | |
| | 21-12 | | | | | | | 12 | | | | | | | | | 12 Optic | |
| | 21-16 | Q | | Q | | Q | Q | 16 | | | | 16 | | | | | | |
| | 21-20 | | | | | Q | | 20 | | | 18 | | | | 2 Twx | | | |
| | 21-20 sp 251 | | | | | | | 20 | | | 18 | | | | 2 Pow | | | |
| | 21-35 | Q | | Q | | Q | Q | 79 | 79 | | | | | | | | | |
| | 21-39 | Q | | Q | | Q | Q | 39 | | | 37 | 2 | | | | | | |
| | 21-41 | Q | | Q | | Q | Q | 41 | | | 41 | | | | | | | |
| | 21-42 | | | | | | | | 2 | | | | | | | | 2 Pow | |
| | 21-48 | | | | Q | | | | 4 | | | | | | | 4 Pow | | |
| | 21-59 | | | | | | | | 59 | 55 | | | | 4 | | | | |
| | 21-72 | | | | | | | | 8 | | | | 6 | | | | 2 Pow | |
| | 21-75 | Q | | | | | Q | Q | 4 | | | | | | | 4 Twx | | |
| | 21-75 sp 251 | | | | | | | | 4 | | | | | | | 4 Pow | | |
| | 21-77 | | | | | | | | 19 | | 17 | | | | | 2 Twx | | |
| 21-77 sp 251 | | | | | | | | 19 | | 17 | | | | | 2 Pow | | | |
| 21-78 | | | | | | | Q | 19 | | 17 | | | | | 2 Qdx | | | |
| 21-80 | | | | | | | | 20 | | | 18 | | | | 2 Qdx | | | |
| 21-84 | | | | | | | Q | 4 | | | | | | | 4 Qdx | | | |
| 23 / H | 23-06 | | | | | | | 6 | | | | | | | 6 Twx | | | |
| | 23-06 sp 251 | | | | | | | 6 | | | | | | | 6 Pow | | | |
| | 23-21 | Q | | Q | | Q | Q | 21 | | | | 21 | | | | | | |
| | 23-32 | Q | | | | | | 32 | | | 32 | | | | | | | |
| | 23-35 | Q | | Q | | Q | Q | 100 | 100 | | | | | | | | | |
| | 23-53 | Q | | Q | | Q | Q | 53 | | | 53 | | | | | | | |
| | 23-54 | | | | | Q | | 53 | 40 | | 9 | 4 | | | | | | |
| | 23-55 | Q | | Q | | Q | Q | 55 | | | 55 | | | | | | | |
| | 23-86 | | | | | | | 6 | | | | | | | | 6 Qdx | | |
| 23-H1 | | | | | | | | 1 | | | | | | | | | 1 #000 | |
| 25 / J | 25-04 | Q | | | | Q | Q | 56 | | | 48 | 8 | | | | | | |
| | 25-07 | Q | | | | Q | Q | 99 | 97 | | | | | | 2 Twx | | | |
| | 25-07 sp 251 | | | | | | | 99 | 97 | | | | | | 2 Pow | | | |
| | 25-08 | Q | | Q ⁽²⁾ | | Q | Q | 8 | | | | | | | 8 Twx | | | |
| | 25-08 sp 251 | | | | | | | 8 | | | | | | | 8 Pow | | | |
| | 25-11 | Q | | | | Q | Q | 11 | | | 2 | | | 9 | | | | |
| | 25-17 | | | | | | | 42 | 36 | | | | | | 6 Twx | | | |
| | 25-17 sp 251 | | | | | | | 42 | 36 | | | | | | 6 Pow | | | |
| | 25-19 | Q | | Q ⁽⁴⁾ | | Q | Q | 19 | | | | | 19 | | | | | |
| | 25-20 | Q ⁽³⁾ | | | | Q ⁽⁵⁾ | Q ⁽⁶⁾ | 30 | | | 10 | 13 | 4 ⁽⁷⁾ | | 3 Twx | | | |
| | 25-20 sp 251 | | | | | | | 30 | | | 10 | 3 | 4 | | 3 Pow | | | |
| | 25-24 | Q | | Q | | Q | Q | 24 | | | | 12 | 12 | | | | | |
| | 25-24 | | | | | | | 24 | | | | | | | | | | 24 Optic. |
| | 25-29 | Q | | Q | | Q | Q | 29 | | | | 29 | | | | | | |
| | 25-35 | Q | | Q | | Q | Q | 128 | | 128 | | | | | | | | |
| | 25-37 | Q | | | | Q | Q | 37 | | | | 37 | | | | | | |
| | 25-41 | | | | | | | 41 | | 22 | 3 | 11 | 2 | | 3 Twx | | | |
| | 25-41 sp 251 | | | | | | | 41 | | 22 | 3 | 11 | 2 | | 3 Pow | | | |
| | 25-43 | Q | | Q | | Q | Q | 43 | | | 23 | 20 | | | | | | |
| | 25-44 | | | | | | | 8 | | | | 4 | | | | 4 Pow | | |
| | 25-46 | Q | | | | Q | Q | 46 | | | 40 | 4 | | | 2 Coax | | | |
| | 25-46 sp 251 | | | | | | | 46 | | | 40 | 4 | | | 2 Pow | | | |
| | 25-61 | Q | | Q | | Q | Q | 61 | | | 61 | | | | | | | |
| 25-80 | | | | | | | 30 | | | 10 | 13 | 4 | | 3 Qdx | | | | |
| 25-81 | | | | | | | 41 | | 22 | 3 | 11 | 2 | | 3 Qdx | | | | |
| 25-82 | | | | | | | 99 | | 97 | | | | | 2 Qdx | | | | |
| 25-86 | | | | | | | 46 | | | 40 | 4 | | | 2 Qdx | | | | |
| 25-87 | | | | | | | 42 | | 36 | | | | | 6 Qdx | | | | |
| 25-88 | | | | | | | 8 | | | | | | | 8 Qdx | | | | |
| 25-90 | | | | | | | 46 | | | 40 | 4 | | | 2 Twx | | | | |
| 25-H1 | | | | | | | | 1 | | | | | | | | | 1 #0000 | |

Souriau's layout
Q Souriau's layout & Layout according to corresponding norm
(2) For CECC, layout 25-08 only delivered without contact

(3) For Aluminum & Stainless steel only
(4) For classes F, W, S, K only
(5) For classes F, W, K only

(6) Qualified BACC63DB/DC only
(7) 4 #12 coax (2+2)
#8 Pow: Power; Qdx: Quadrax; Twx: Twinax

and Series.



8D Series

Standard Series

| | |
|--------------------------------|----|
| ■ Aluminum Series | 22 |
| ■ Composite Series | 36 |
| ■ Stainless Steel Series | 42 |
| ■ Titanium Series | 48 |
| ■ Bronze Series | 54 |





8D Series

D38999 Aluminum Series

Connector part numbers

| | | | | | | | | | | | |
|---|-----------|----------|----------|-----------|----------|-----------|----------|----------|--|--|----------|
| Basic Series | 8D | 0 | - | 11 | W | 35 | P | N | | | L |
| Shell style: | | | | | | | | | | | |
| <ul style="list-style-type: none"> 0: Square flange receptacle 1: In line receptacle 7: Jam nut receptacle 5: Plug with RFI shielding | | | | | | | | | | | |
| <i>Also available:</i> | | | | | | | | | | | |
| <ul style="list-style-type: none"> . Square flange receptacle with clinch nuts (see page 95) . Jam nut receptacle with double flange (see page 98) | | | | | | | | | | | |
| Type: | | | | | | | | | | | |
| <ul style="list-style-type: none"> -: Connectors with standard crimp contacts. L: Receptacle with long PC tail (male and female size #22D, #20). C: Receptacle with short PC tail (male and female #22D, #20, #16). S: Receptacle with specific PC tail (male et female #22D) W: Receptacle with male contacts #22D for wire wrap (3 wraps) T: Receptacle with male contacts #20 for wire wrap (2 wraps) P: Receptacle with solder cup contacts - please consult us <ul style="list-style-type: none"> . see page 86 for Reinforced sealing Series with solder cup contacts . see page 69 for solder cup contacts information | | | | | | | | | | | |
| Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | | | | |
| Plating: | | | | | | | | | | | |
| <ul style="list-style-type: none"> W: Olive drab cadmium F: Nickel ZC: Green zinc cobalt Z: Black zinc nickel | | | | | | | | | | | |
| Contact layout: See pages 13 to 19 | | | | | | | | | | | |
| Contact type: | | | | | | | | | | | |
| <ul style="list-style-type: none"> P: Pin A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) S: Socket B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation) | | | | | | | | | | | |
| Orientation: N, A, B, C, D, E (see page 75) | | | | | | | | | | | |
| Specification: | | | | | | | | | | | |
| <ul style="list-style-type: none"> 046: Tinned straight PC tail 251: Connector provided with power contacts (layouts with contact #8) 022: Fuel tank | | | | | | | | | | | |
| Special custom: | | | | | | | | | | | |
| <ul style="list-style-type: none"> None: Standard plastic cap M: Antistatic plastic cap L: For P or S contact type only, connectors delivered without contacts, connectors marking P or S plus orientation | | | | | | | | | | | |

Note: PC tail contacts without shoulder also available. Please see page 102.



8D Series

D38999 Aluminum Series

MIL-DTL-38999 part numbers*

| | | | | | | | | |
|---|----------------|-----------|----------|----------|-----------|----------|----------|----------|
| Basic Series | D38999/ | 20 | W | B | 35 | P | N | L |
| Shell style: | | | | | | | | |
| 20: Square flange receptacle | | | | | | | | |
| 24: Jam nut receptacle | | | | | | | | |
| 26: Plug with RFI shielding. | | | | | | | | |
| Plating: | | | | | | | | |
| Z: Black zinc nickel | | | | | | | | |
| W: Olive drab cadmium | | | | | | | | |
| F: Nickel | | | | | | | | |
| Shell size: A, B, C, D, E, F, G, H, J | | | | | | | | |
| Contact layout: See page 18 for layout according to MIL-DTL-38999 | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Pin | | | | | | | | |
| A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) | | | | | | | | |
| S: Socket | | | | | | | | |
| B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation) | | | | | | | | |
| Orientation: N, A, B, C, D, E (see page 75) | | | | | | | | |
| L: For P or S contact type only, connector delivered without contacts, connector marking P or S (without L) | | | | | | | | |

* Note: To place an order of MIL connectors delivered without MIL removable crimp contacts and keep P or S plus orientation marking, it must be specify clearly on the order (by adding a suffix L at the end of the P/N or specified in comment).

EN3645 part numbers

| | | | | | | | | |
|--|---------------|----------|----------|----------|----------|-----------|----------|----------|
| Basic Series | EN3645 | W | 6 | G | N | 35 | B | N |
| Plating: | | | | | | | | |
| W: Olive drab cadmium | | | | | | | | |
| F: Nickel | | | | | | | | |
| Shell style: | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | |
| 6: Plug | | | | | | | | |
| 7: Jam nut receptacle | | | | | | | | |
| Shell size: | | | | | | | | |
| 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | | |
| Grounding: | | | | | | | | |
| N: Standard insert not grounded | | | | | | | | |
| Contact layout: | | | | | | | | |
| See page 18 for layout according to EN3645 | | | | | | | | |
| Contact type: | | | | | | | | |
| A: Connector supplied less pin contact | | | | | | | | |
| B: Connector supplied less socket contact | | | | | | | | |
| F: Socket | | | | | | | | |
| M: Pin | | | | | | | | |
| Orientation: | | | | | | | | |
| N, A, B, C, D, E (see page 75) | | | | | | | | |

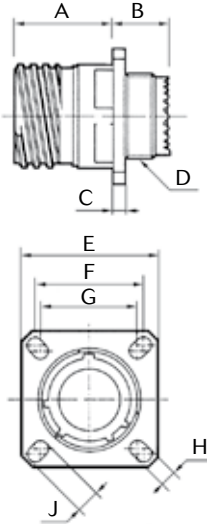
8D Series

D38999 Aluminum Series



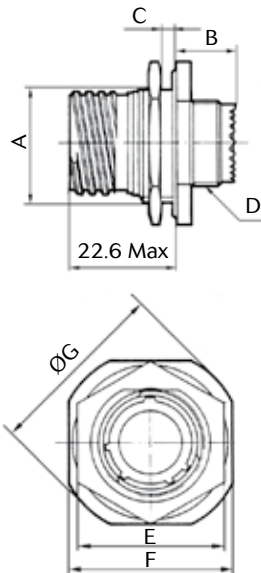
Dimensions

Receptacle type 0



| Shell size | A Max | B Max | C Max | D Thread | E ± 0.3 | F | G | H ± 0.2 | J ± 0.2 |
|------------|------------|-------|-------|------------|-------------|-------|-------|-------------|-------------|
| 09 (A) | 20.9 | 10.72 | 2.5 | M12 x 1-6g | 23.8 | 18.26 | 15.09 | 3.25 | 5.49 |
| 11 (B) | | | | M15 x 1-6g | 26.2 | 20.62 | 18.26 | | 4.93 |
| 13 (C) | | | | M18 x 1-6g | 28.6 | 23.01 | 20.62 | | 4.4 |
| 15 (D) | | | | M22 x 1-6g | 31 | 24.61 | 23.01 | | |
| 17 (E) | | | | M25 x 1-6g | 33.3 | 26.97 | 24.61 | | |
| 19 (F) | | | | M28 x 1-6g | 36.5 | 29.36 | 26.97 | | 4.93 |
| 21 (G) | M31 x 1-6g | 39.7 | 31.75 | 29.36 | | | | | |
| 23 (H) | M34 x 1-6g | 42.9 | 34.93 | 31.75 | 3.91 | 6.15 | | | |
| 25 (J) | M37 x 1-6g | 46 | 38.1 | 34.93 | | | | | |

Receptacle type 7



| Shell size | A ± 0.15 | B Max | C Max | D Thread | E Max | F ± 0.4 | ØG Max |
|------------|--------------|-------|-------|------------|-------|-------------|--------|
| 09 (A) | 16.53 | 9.9 | 3.2 | M12 x 1-6g | 23 | 27 | 30.5 |
| 11 (B) | 19.07 | | | M15 x 1-6g | 26 | 31.8 | 35.2 |
| 13 (C) | 23.82 | | | M18 x 1-6g | 31 | 34.9 | 38.4 |
| 15 (D) | 26.97 | | | M22 x 1-6g | 34 | 38.1 | 41.6 |
| 17 (E) | 30.15 | | | M25 x 1-6g | 37 | 41.3 | 44.8 |
| 19 (F) | 33.32 | | | M28 x 1-6g | 41 | 46 | 49.5 |
| 21 (G) | 36.50 | | | M31 x 1-6g | 46 | 49.2 | 52.7 |
| 23 (H) | 39.67 | | | 55.9 | 47 | 52.4 | 55.9 |
| 25 (J) | 42.85 | | | 59 | 51.23 | 55.6 | 59 |

Recommended coupling torque on panel for jam nut receptacle (type 7)

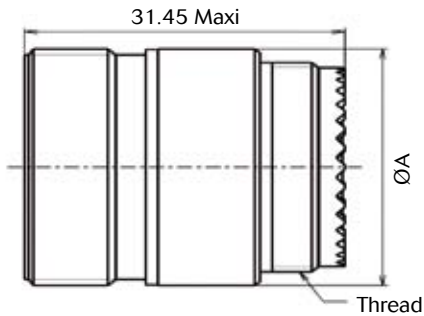
| Shell | 09 (A) | 11 (B) | 13 (C) | 15 (D) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Coupling torque (± 0.5 N.m) | 4 | 5 | 7 | 8 | 9 | 10 | 12 | 13 | 14 |

8D Series

D38999 Aluminum Series

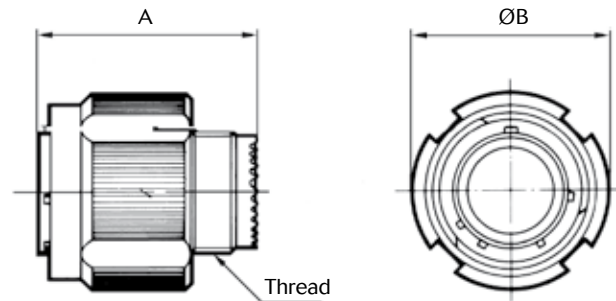


In line receptacle type 1



| Shell size | Thread | ØA |
|------------|------------|-------|
| 09 (A) | M12 x 1-6g | 15.90 |
| 11 (B) | M15 x 1-6g | 19.05 |
| 13 (C) | M18 x 1-6g | 22.25 |
| 15 (D) | M22 x 1-6g | 25.40 |
| 17 (E) | M25 x 1-6g | 30.15 |
| 19 (F) | M28 x 1-6g | 31.75 |
| 21 (G) | M31 x 1-6g | 34.75 |
| 23 (H) | M34 x 1-6g | 37.10 |
| 25 (J) | M37 x 1-6g | 41.30 |

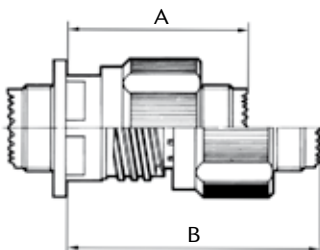
Plug type 5



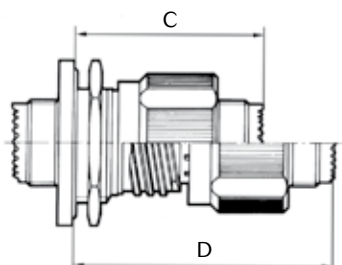
| Shell size | A Max | Thread | ØB Max |
|------------|-------|------------|--------|
| 09 (A) | 31.00 | M12 x 1-6g | 21.80 |
| 11 (B) | | M15 x 1-6g | 25.00 |
| 13 (C) | | M18 x 1-6g | 29.40 |
| 15 (D) | | M22 x 1-6g | 32.50 |
| 17 (E) | | M25 x 1-6g | 35.70 |
| 19 (F) | | M28 x 1-6g | 38.50 |
| 21 (G) | | M31 x 1-6g | 41.70 |
| 23 (H) | | M34 x 1-6g | 44.90 |
| 25 (J) | | M37 x 1-6g | 48.00 |

Mated connectors dimensions

Type 0 with plug



Type 7 with plug



| Shell size | A Max | B Max | C Max | D Max |
|------------|-------|-------|-------|-------|
| 09 (A) | 37.00 | 52.30 | 38.30 | 53.60 |
| 11 (B) | | | 38.50 | 53.80 |
| 13 (C) | | | | |
| 15 (D) | | | | |
| 17 (E) | | | | |
| 19 (F) | | | | |
| 21 (G) | 36.00 | 51.30 | 38.50 | 53.80 |
| 23 (H) | | | | |
| 25 (J) | | | | |

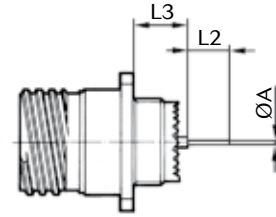
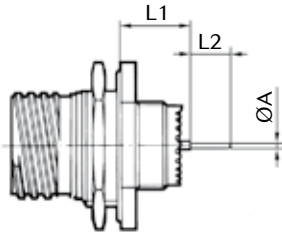
Note: All dimensions are in millimeters (mm)

8D Series

D38999 Aluminum Series



Receptacle with straight PC tail contacts



| | | Shell size | | | 09 (A) | 11 (B) | 13 (C) | 15 (C) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) |
|----|-----|--------------|--------------|--------------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | Contact size | Contact type | PC tail type | | | | | | | | | |
| A | | #22D | M & F | L & C | 0.70 | | | | | | | | |
| | | #22D | M & F | S | 0.50 | | | | | | | | |
| | | #20 | M & F | C | 0.70 | | | | | | | | |
| | | #16 | M & F | C | 1.12 ^{±0.03} | | | | | | | | |
| L1 | Min | #22D | M | L & C | 10.52 | | | | | | | | 10.34 |
| | Max | #22D | M | L & C | 11.46 | | | | | | | | 11.28 |
| | Min | #22D | F | L & C | 10.19 | | | | | | | | 10.01 |
| | Max | #22D | F | L & C | 11.46 | | | | | | | | 11.28 |
| | Min | #22D | M | S | 10.19 | | | | | | | | 10.01 |
| | Max | #22D | M | S | 11.46 | | | | | | | | 11.28 |
| | Min | #22D | F | S | 10.69 | | | | | | | | 10.51 |
| | Max | #22D | F | S | 11.63 | | | | | | | | 11.45 |
| | Min | #20 | M | C | 10.36 | | | | | | | | 10.18 |
| | Max | #20 | M | C | 11.63 | | | | | | | | 11.45 |
| | Min | #20 | F | C | 10.69 | | | | | | | | 10.51 |
| | Max | #20 | F | C | 11.63 | | | | | | | | 11.45 |
| | Min | #16 | M | C | 10.69 | | | | | | | | 10.51 |
| | Max | #16 | M | C | 11.63 | | | | | | | | 11.45 |
| | Min | #16 | F | C | 10.69 | | | | | | | | 10.51 |
| | Max | #16 | F | C | 11.63 | | | | | | | | 11.45 |
| L2 | | #22D | M & F | L | 8.50 | | | | | | | | |
| | | #22D | M & F | C | 4.00 | | | | | | | | |
| | | #22D | M & F | S | 5.10 | | | | | | | | |
| | | #20 | M & F | C | 5.10 | | | | | | | | |
| | | #16 | M & F | C | 5 ^{±0.1} | | | | | | | | |
| L3 | Min | #22D | M | L & C | 9.48 | | | | | | | 9.59 | |
| | Max | #22D | M | L & C | 10.58 | | | | | | | 10.69 | |
| | Min | #22D | F | L & C | 9.15 | | | | | | | 9.26 | |
| | Max | #22D | F | L & C | 10.58 | | | | | | | 10.69 | |
| | Min | #22D | M | S | 9.65 | | | | | | | 9.76 | |
| | Max | #22D | M | S | 10.75 | | | | | | | 10.86 | |
| | Min | #22D | F | S | 9.15 | | | | | | | 9.26 | |
| | Max | #22D | F | S | 10.75 | | | | | | | 10.86 | |
| | Min | #20 | M | C | 9.65 | | | | | | | 9.76 | |
| | Max | #20 | M | C | 10.75 | | | | | | | 10.86 | |
| | Min | #20 | F | C | 9.65 | | | | | | | 9.76 | |
| | Max | #20 | F | C | 10.75 | | | | | | | 10.86 | |
| | Min | #16 | M | C | 9.64 | | | | | | | 9.75 | |
| | Max | #16 | M | C | 10.75 | | | | | | | 10.86 | |
| | Min | #16 | F | C | 9.64 | | | | | | | 9.75 | |
| | Max | #16 | F | C | 10.75 | | | | | | | 10.86 | |

M: Male contact

F: Female contact

L: Long PC tail

C: Short PC tail

S: Specific PC tail

Dimensions in millimeters

8D Series

D38999 Aluminum Series



Souriau aluminum backshells

Ordering information

| | | | | | | | | | |
|---|----------------|----|----|---|----|---|---|----|---|
| Basic Series | 8D | AB | 05 | A | 17 | W | S | 02 | - |
| Accessories type | | | | | | | | | |
| Type: | | | | | | | | | |
| 01: Backnut | 04: Crimp ring | | | | | | | | |
| 02: Cable clamp | 05: Band lock | | | | | | | | |
| 03: Shrink boot | | | | | | | | | |
| Angle: | | | | | | | | | |
| A: Straight | | | | | | | | | |
| B: 90° (Type 02 only) | | | | | | | | | |
| Shell size: | | | | | | | | | |
| 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | | |
| Finish: | | | | | | | | | |
| Z: Black zinc nickel | | | | | | | | | |
| W: Olive green cadmium | | | | | | | | | |
| F: Nickel | | | | | | | | | |
| A: Black anodized | | | | | | | | | |
| Self locking option: | | | | | | | | | |
| None | | | | | | | | | |
| S: Self locking (available for Types 01 & 02 - mandatory for Type 05) | | | | | | | | | |
| Cable entry (Type 05 only): | | | | | | | | | |
| 02, 03 (03 mandatory for shell size 09 & 11) | | | | | | | | | |
| Drain hole option: | | | | | | | | | |
| None | | | | | | | | | |
| D: Drain hole (Type 03 only) | | | | | | | | | |

Dimensions

Aluminum backshell Type 01 - Backnut

| Shell size | ØA Min | ØB Max |
|------------|--------|--------|
| 09 | 6.7 | 17.9 |
| 11 | 9.95 | 20.9 |
| 13 | 12.85 | 24.3 |
| 15 | 17.0 | 27.9 |
| 17 | 19.25 | 31.3 |
| 19 | 21.7 | 35.3 |
| 21 | 24.7 | 38.1 |
| 23 | 27.8 | 41.5 |
| 25 | 32.0 | 44.5 |

Thread: See page 29 for information.

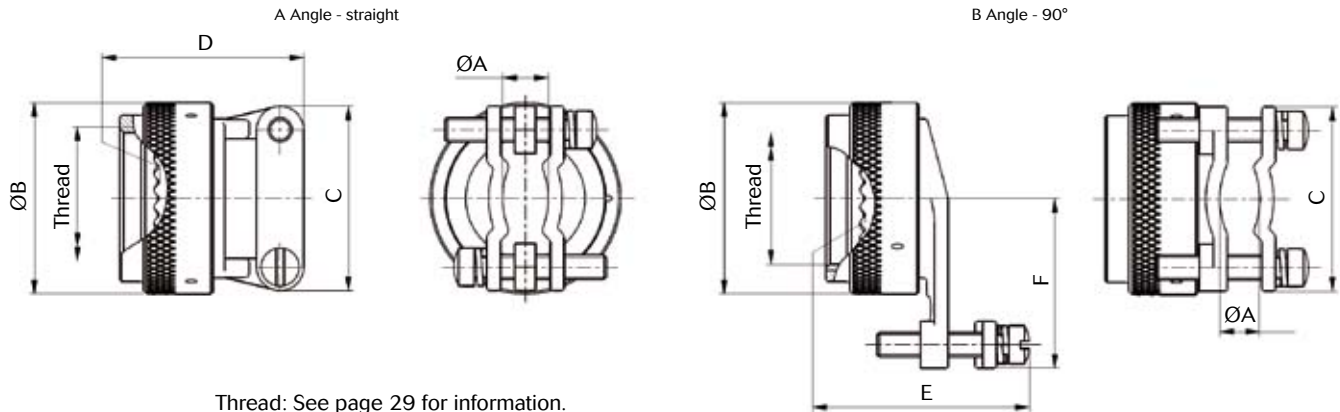
Note: All dimensions are in millimeters (mm)

8D Series

D38999 Aluminum Series



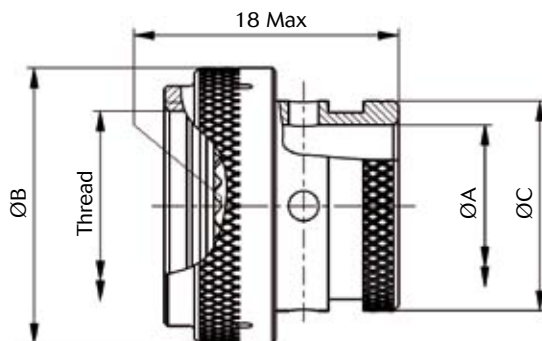
Aluminum backshell Type 02 - Cable clamp



Thread: See page 29 for information.

| Shell size | ØA | | ØB Max | C Max | D Max | E Max | F Max |
|------------|-------|-------|--------|-------|-------|-------|-------|
| | Min | Max | | | | | |
| 09 | 2.49 | 5.94 | 17.9 | 21.5 | 23.1 | 29.5 | 20 |
| 11 | 3.89 | 5.94 | 20.9 | 21.5 | 23.1 | 29.5 | 21.5 |
| 13 | 4.83 | 8.33 | 24.3 | 24.5 | 25.6 | 31.5 | 23.5 |
| 15 | 6.60 | 11.61 | 27.9 | 27.5 | 26.9 | 35.8 | 25.5 |
| 17 | 7.19 | 15.6 | 31.3 | 31.5 | 29.4 | 40.1 | 27.5 |
| 19 | 8.26 | 16.1 | 35.3 | 35.5 | 35.8 | 40.6 | 30.5 |
| 21 | 8.71 | 17.73 | 38.1 | 37 | 38.3 | 42.7 | 31.5 |
| 23 | 9.68 | 20.9 | 41.5 | 40.5 | 42.1 | 46.2 | 34.5 |
| 25 | 10.62 | 21.67 | 44.5 | 45 | 44.7 | 49 | 36.5 |

Aluminum backshell Type 03 - Shrink boot



| Shell size | ØA Min | ØB Max | C Max |
|------------|--------|--------|-------|
| 09 | 6.7 | 19.0 | 11.3 |
| 11 | 9.95 | 21.5 | 14.9 |
| 13 | 12.85 | 25.3 | 17.8 |
| 15 | 16.05 | 29.1 | 21.27 |
| 17 | 19.2 | 31.7 | 24.3 |
| 19 | 21.5 | 35.5 | 26.4 |
| 21 | 24.7 | 39.3 | 30.8 |
| 23 | 27.8 | 41.8 | 34.1 |
| 25 | 31 | 46.9 | 36.6 |

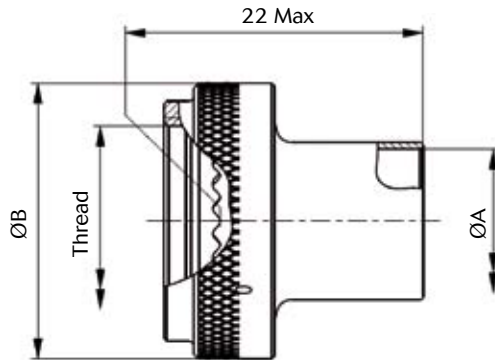
Thread: See page 29 for information.

8D Series

D38999 Aluminum Series



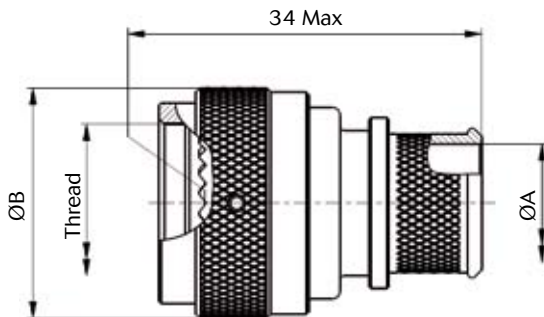
Aluminum backshell Type 04 - Crimp ring



| Shell size | ØA Min | ØB Max |
|------------|--------|--------|
| 09 | 6 | 17.9 |
| 11 | 8.2 | 20.9 |
| 13 | 10.5 | 24.3 |
| 15 | 13.6 | 27.9 |
| 17 | 16.9 | 31.3 |
| 19 | 20 | 34.3 |
| 21 | 23.2 | 38.1 |
| 23 | 26.1 | 41.5 |
| 25 | 28.1 | 44.4 |

Thread: See below for information.

Aluminum backshell Type 05 - Band lock



| Shell size | ØA Max - Entry size | | ØB Max |
|------------|---------------------|------|--------|
| | 02 | 03 | |
| 09 | - | 6.6 | 17.9 |
| 11 | - | 8 | 24.9 |
| 13 | 8 | 11.2 | 29.3 |
| 15 | 11.2 | 14.4 | 32.4 |
| 17 | 12.8 | 16 | 35.6 |
| 19 | 16 | 19.1 | 38.4 |
| 21 | 16 | 20.7 | 41.6 |
| 23 | 17.6 | 23.9 | 44.8 |
| 25 | 19.1 | 25.5 | 47.9 |

Thread: See below for information.

Recommended installation torque

| Shell Size | Installation Torque (Inch-Pounds) |
|-------------------------|-----------------------------------|
| 09, 11, 13, 15, 17 & 19 | 40 |
| 21, 23 & 25 | 80 |

Note: Torque values are based on 80% of the coupling thread strength specified in SAE-AS85049 standard.

Thread information

| Shell size | UNEF Thread |
|------------|------------------|
| 09 | M12x1.0-6H-0.10R |
| 11 | M15x1.0-6H-0.10R |
| 13 | M18x1.0-6H-0.10R |
| 15 | M22x1.0-6H-0.10R |
| 17 | M25x1.0-6H-0.10R |
| 19 | M28x1.0-6H-0.10R |
| 21 | M31x1.0-6H-0.10R |
| 23 | M34x1.0-6H-0.10R |
| 25 | M37x1.0-6H-0.10R |

Note: All dimensions are in millimeters (mm)

8D Series

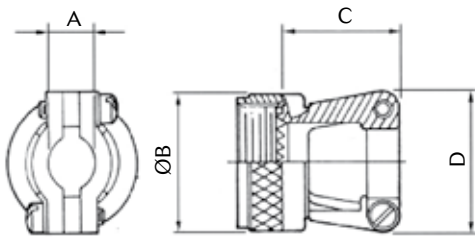
D38999 Aluminum Series



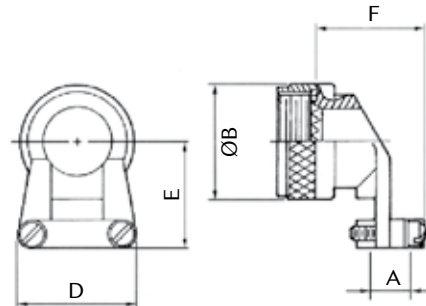
M85049 aluminum backshells

Backshells - Cable clamp

Straight cable clamp (Type 38)



90° cable clamp (Type 39)



| Shell size | A | | ØB Max | C Max | D Max | E | F |
|------------|-------|-------|--------|-------|-------|-------|-------|
| | Min | Max | | | | | |
| 09 | 2.50 | 5.90 | 21.80 | 23.10 | 21.60 | 25.40 | 25.70 |
| 11 | 3.90 | 5.90 | 25.00 | 23.10 | 22.90 | 27.90 | 25.70 |
| 13 | 4.80 | 8.30 | 29.40 | 25.70 | 27.90 | 27.90 | 30.70 |
| 15 | 6.60 | 11.60 | 32.50 | 26.90 | 29.20 | 31.80 | 32.00 |
| 17 | 7.20 | 15.60 | 35.70 | 29.50 | 33.00 | 33.00 | 35.80 |
| 19 | 8.30 | 16.10 | 38.50 | 35.80 | 38.10 | 34.30 | 38.40 |
| 21 | 8.70 | 17.70 | 41.70 | 38.40 | 40.60 | 40.60 | 42.20 |
| 23 | 9.70 | 20.90 | 44.90 | 42.20 | 43.20 | 44.50 | 44.70 |
| 25 | 10.60 | 21.70 | 48.00 | 44.70 | 45.70 | 47.00 | 48.50 |

Basic Series M85049 38 - 11 W

Backshell type:

- 38: Straight cable clamp
- 39: 90° cable clamp

Nut type:

- : Without self-locking
- S: With self-locking

Shell size:

09, 11, 13, 15, 17, 19, 21, 23, 25

Plating:

Type 38 & 39:

- A: Black anodized (500 hours salt spray)
- W: Olive drab cadmium over nickel (500 hours salt spray)

Type 38S & 39S:

- W: Olive drab cadmium over nickel (500 hours salt spray)
- N: Nickel (48 hours salt spray)

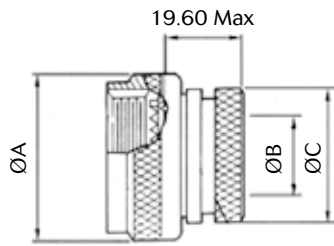
8D Series

D38999 Aluminum Series



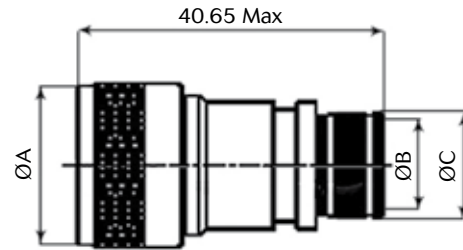
Backshells for heat shrink boots

Backshell for heat shrink boots (Type 69)



| Shell size | ØA Max | ØB Max | ØC Max |
|------------|--------|--------|--------|
| 09 | 19.10 | 6.35 | 13.55 |
| 11 | 21.60 | 9.50 | 15.40 |
| 13 | 25.40 | 12.70 | 19.70 |
| 15 | 29.20 | 15.90 | 21.30 |
| 17 | 31.80 | 19.00 | 24.50 |
| 19 | 35.60 | 20.60 | 26.50 |
| 21 | 39.40 | 23.80 | 30.90 |
| 23 | 41.90 | 27.00 | 34.40 |
| 25 | 47.00 | 30.20 | 36.65 |

Straight backshell for EMI/RFI heat shrink boots (Type 88)



| Shell size | ØA Max | ØB ^{+0.10} Entry size | | ØC | |
|------------|--------|--------------------------------|-------|-------|-------|
| | | 02 | 03 | 02 | 03 |
| 09 | 21.79 | - | 6.35 | - | 10.03 |
| 11 | 24.99 | - | 7.92 | - | 11.61 |
| 13 | 29.39 | 7.92 | 11.13 | 11.61 | 14.81 |
| 15 | 32.49 | 11.13 | 14.27 | 14.81 | 17.96 |
| 17 | 35.71 | 12.70 | 15.88 | 16.38 | 19.56 |
| 19 | 38.51 | 15.88 | 19.05 | 19.56 | 22.73 |
| 21 | 41.71 | 15.88 | 20.62 | 19.56 | 24.30 |
| 23 | 44.91 | 17.47 | 23.83 | 21.06 | 27.51 |
| 25 | 47.98 | 19.05 | 25.40 | 22.73 | 29.08 |

Basic Series M85049 69 11 A D

Backshell type:
69: Backshell for heat shrink boots
88: Straight backshell for EMI/RFI heat shrink boots

Shell size:
09, 11, 13, 15, 17, 19, 21, 23, 25

Plating:
Type 69:
A: Black anodised (500 hours salt spray)
Type 88:
W: Olive drab cadmium
N: Nickel

Option (Type 69 only):
Empty: Without drain hole
D: With drain hole
Entry size (Type 88 only):
02: See table above
03: See table above

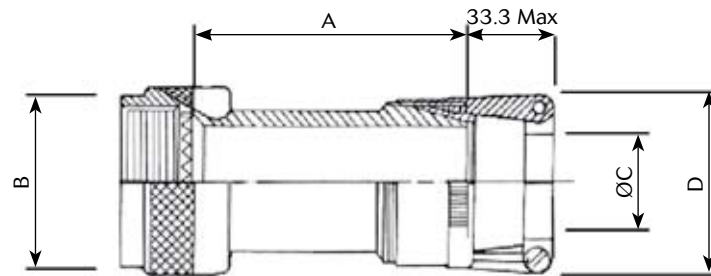
8D Series

D38999 Aluminum Series



Backshell for screen termination and cable clamp

Backshell for screen termination and cable clamp (Type 19)



| Shell size | A Max | B Max | Clamp indicator base on shell size |
|------------|-------|-------|------------------------------------|
| 09 | 38.10 | 19.10 | 01 - 02 |
| 11 | | 21.60 | 01 - 02 - 03 |
| 13 | | 25.40 | 02 - 03 - 04 |
| 15 | | 27.90 | 02 - 03 - 04 - 05 |
| 17 | | 31.80 | 02 - 03 - 04 - 05 - 06 |
| 19 | | 35.60 | 03 - 04 - 05 - 06 - 07 |
| 21 | | 38.10 | 03 - 04 - 05 - 06 - 07 - 08 |
| 23 | | 41.90 | 03 - 04 - 05 - 06 - 07 - 08 |
| 25 | | 44.50 | 04 - 05 - 06 - 07 - 08 - 10 |

| Clamp size indicator | C | | D |
|----------------------|-------|-------|-------|
| | Min | Max | |
| 01 | 1.60 | 3.20 | 20.30 |
| 02 | 3.20 | 6.35 | 25.40 |
| 03 | 6.35 | 9.50 | 27.90 |
| 04 | 7.90 | 12.70 | 30.50 |
| 05 | 11.10 | 15.90 | 31.80 |
| 06 | 14.30 | 19.00 | 35.60 |
| 07 | 17.45 | 22.20 | 38.10 |
| 08 | 20.60 | 24.40 | 41.90 |
| 09 | 23.80 | 28.60 | 44.50 |
| 10 | 27.00 | 31.75 | 48.30 |

Basic Series M85049 19 11 W 03

Shell style:
19: Backshell for screen termination and cable clamp

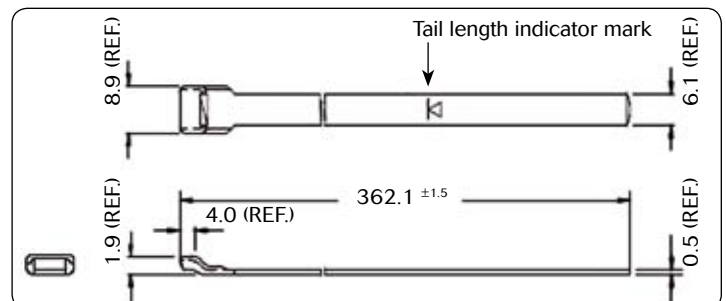
Shell size:
09, 11, 13, 15, 17, 19, 21, 23, 25

Plating:
W: Olive drab cadmium
N: Nickel

Clamp size indicator:
See tables above

Band-it

| Designation | Flat stainless steel standard band | Pre-coiled stainless steel standard band | Hand banding tool |
|-------------|------------------------------------|--|-------------------|
| Part number | 8599-9344 | 8599-9345 | 8599-9346 |



Note: All dimensions are in millimeters (mm)

8D Series

D38999 Aluminum Series



Dummy receptacle

| Dimensions | | | | | | | | | |
|------------|------------|------------------------|-------|-------|--------------------|-------|-------|--------------------|--------------------|
| | Shell size | Souriau Part number * | A Max | B Max | C ^{+0.30} | D | E | F ^{±0.20} | G ^{±0.20} |
| | 09 | 8D0-09GUR 8D0-09FUR | 20.90 | 2.50 | 23.80 | 18.26 | 15.09 | 4.49 | 3.25 |
| | 11 | 8D0-11GUR 8D0-11FUR | 20.90 | 2.50 | 26.20 | 20.62 | 18.26 | 4.93 | 3.25 |
| | 13 | 8D0-13GUR 8D0-13FUR | 20.90 | 2.50 | 28.60 | 23.01 | 20.62 | 4.93 | 3.25 |
| | 15 | 8D0-15GUR 8D0-15FUR | 20.90 | 2.50 | 31.00 | 24.61 | 23.01 | 4.93 | 3.25 |
| | 17 | 8D0-17GUR 8D0-17FUR | 20.90 | 2.50 | 33.30 | 26.97 | 24.61 | 4.93 | 3.25 |
| | 19 | 8D0-19GUR 8D0-19FUR | 20.90 | 2.50 | 36.50 | 26.97 | 24.61 | 4.93 | 3.25 |
| | 21 | 8D0-21GUR 8D0-21FUR | 20.10 | 3.20 | 39.70 | 31.75 | 29.36 | 4.93 | 3.25 |
| | 23 | 8D0-23GUR 8D0-23FUR | 20.10 | 3.20 | 42.90 | 34.93 | 31.75 | 6.15 | 3.91 |
| | 25 | 8D0-25GUR 8D0-25FUR | 20.10 | 3.20 | 46.00 | 38.10 | 34.93 | 6.15 | 3.91 |

* G: Olive green cadmium
F: Nickel

Caps

Souriau part number

| | | | | | | |
|--|----|----|---|---|----|---|
| Basic Series | 8D | AC | 5 | R | 09 | W |
| Accessories style: AC: Aluminum caps | | | | | | |
| Caps style: 5: Plug caps 0: Receptacle caps | | | | | | |
| Accessories: N: With stainless steel rope and ring R: With stainless steel rope and eyelet | | | | | | |
| Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | |
| Finish: W: Olive drab cadmium F: Nickel Z: Black zinc nickel A: Black anodized | | | | | | |

Note: All dimensions are in millimeters (mm)

8D Series

D38999 Aluminum Series



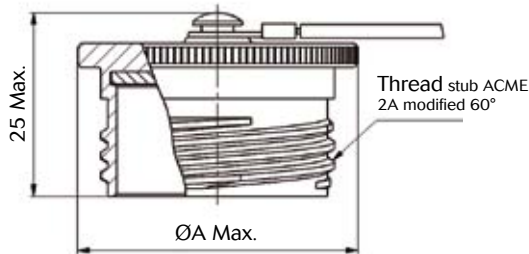
MIL-DTL-38999 part number

| | | | | | |
|---|---------|----|---|----|---|
| Basic Series | D38999/ | 32 | W | 09 | R |
| Caps style: | | | | | |
| 32: Plug caps | | | | | |
| 33: Receptacle caps | | | | | |
| Finish: | | | | | |
| W: Olive drab cadmium | | | | | |
| F: Nickel | | | | | |
| Z: Black zinc nickel | | | | | |
| Shell size: | | | | | |
| 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | |
| Accessories: | | | | | |
| N: With stainless steel rope and ring | | | | | |
| R: With stainless steel rope and eyelet | | | | | |

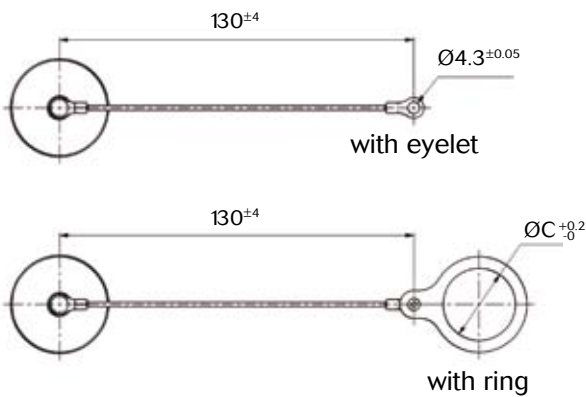
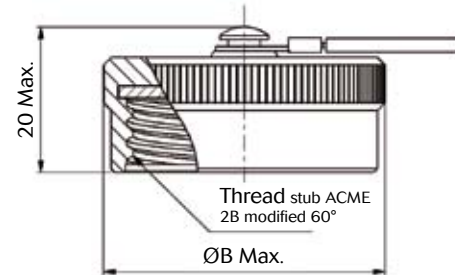
Dimensions

Aluminum caps with stainless steel rope

For plug



For receptacle



| Size | ØA | ØB | ØC for plug | ØC for receptacle | Thread |
|------|------|------|-------------|-------------------|---------------------|
| 09 | 22.6 | 22.8 | 15 | 18.4 | 0.6250-0.1P-0.3L-TS |
| 11 | 25.8 | 26.5 | 18.4 | 23.2 | 0.7500-0.1P-0.3L-TS |
| 13 | 30 | 30 | 23.2 | 26.5 | 0.8750-0.1P-0.3L-TS |
| 15 | 33 | 31.8 | 23.2 | 30.3 | 1.0000-0.1P-0.3L-TS |
| 17 | 36.5 | 36.8 | 26.5 | 32.6 | 1.1875-0.1P-0.3L-TS |
| 19 | 39.2 | 38.8 | 30.3 | 36.5 | 1.2500-0.1P-0.3L-TS |
| 21 | 42.5 | 41.8 | 32.6 | 39.3 | 1.3750-0.1P-0.3L-TS |
| 23 | 45.8 | 44.8 | 36.5 | 42.9 | 1.5000-0.1P-0.3L-TS |
| 25 | 48.9 | 48.8 | 39.3 | 45 | 1.6250-0.1P-0.3L-TS |

Note: All dimensions are in millimeters (mm)

8D Series

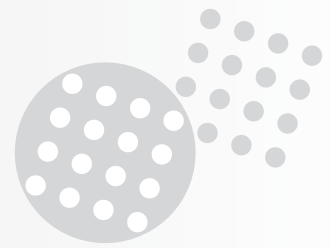
D38999 Aluminum Series



Connectors weight

| | With contacts | | | | | | Without contact | | | | | |
|---------|------------------|--------|------------------------|--------|------------------------|--------|------------------|--------|------------------------|--------|------------------------|--------|
| | Plug (type 5) | | Receptacle (type 0) | | Receptacle (type 7) | | Plug (type 5) | | Receptacle (type 0) | | Receptacle (type 7) | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 09 – 35 | 11.47 | 13.05 | 9.15 | 10.73 | 13.91 | 15.49 | 11.05 | 11.55 | 8.73 | 9.23 | 13.49 | 13.99 |
| 09 – 98 | 11.47 | 12.77 | 9.15 | 10.45 | 13.91 | 15.21 | 11.05 | 11.57 | 8.73 | 9.25 | 13.49 | 14.01 |
| 11 – 01 | 14.98 | 17.92 | 12.01 | 14.95 | 18.17 | 21.11 | 14.32 | 16.32 | 11.35 | 13.35 | 17.51 | 19.51 |
| 11 – 02 | 14.61 | 17.15 | 11.64 | 14.18 | 17.80 | 20.34 | 13.99 | 15.59 | 11.02 | 12.62 | 17.18 | 18.78 |
| 11 – 04 | 14.80 | 17.86 | 11.83 | 14.89 | 17.99 | 21.05 | 14.24 | 16.26 | 11.27 | 13.29 | 17.43 | 19.45 |
| 11 – 05 | 14.83 | 18.04 | 11.86 | 15.07 | 19.48 | 21.23 | 14.13 | 16.04 | 11.16 | 13.07 | 17.32 | 19.23 |
| 11 – 22 | 14.47 | 16.89 | 11.50 | 13.92 | 17.66 | 20.08 | 14.19 | 15.89 | 11.22 | 12.92 | 17.38 | 19.08 |
| 11 – 35 | 14.73 | 18.20 | 11.76 | 15.23 | 17.68 | 21.39 | 13.82 | 14.95 | 10.85 | 11.98 | 17.01 | 18.14 |
| 11 – 80 | 18.30 | 21.90 | 15.30 | 18.90 | 21.50 | 28.39 | 13.80 | 14.90 | 10.80 | 11.90 | 17.00 | 18.10 |
| 11 – 98 | 14.70 | 17.46 | 11.73 | 14.49 | 17.89 | 20.65 | 13.86 | 15.06 | 10.89 | 12.09 | 17.05 | 18.25 |
| 11 – 99 | 14.87 | 18.09 | 11.90 | 15.12 | 18.06 | 21.28 | 13.89 | 15.29 | 10.92 | 12.32 | 17.08 | 18.48 |
| 13 – 04 | 21.04 | 24.82 | 15.71 | 19.49 | 24.14 | 27.92 | 19.80 | 21.70 | 14.47 | 16.37 | 22.90 | 24.80 |
| 13 – 08 | 21.42 | 26.60 | 16.09 | 21.27 | 24.52 | 29.70 | 20.30 | 23.40 | 14.97 | 18.07 | 23.40 | 26.50 |
| 13 – 26 | 21.79 | 27.44 | 16.46 | 22.11 | 24.89 | 30.54 | 20.05 | 22.74 | 14.72 | 17.41 | 23.15 | 25.84 |
| 13 – 35 | 21.22 | 26.99 | 15.89 | 21.66 | 24.32 | 30.09 | 19.68 | 21.49 | 14.35 | 16.16 | 22.78 | 24.59 |
| 13 – 98 | 21.08 | 25.70 | 15.75 | 20.37 | 24.18 | 28.80 | 19.68 | 21.70 | 14.35 | 16.37 | 22.78 | 24.80 |
| 15 – 05 | 26.04 | 31.38 | 19.54 | 24.88 | 29.62 | 34.96 | 24.49 | 27.48 | 17.99 | 20.98 | 28.07 | 31.06 |
| 15 – 15 | 26.84 | 34.00 | 20.34 | 27.50 | 30.42 | 37.58 | 24.57 | 27.62 | 18.07 | 21.12 | 28.15 | 31.20 |
| 15 – 18 | 27.05 | 35.93 | 20.55 | 29.43 | 30.63 | 39.51 | 24.53 | 28.73 | 18.03 | 22.23 | 28.11 | 32.31 |
| 15 – 19 | 26.58 | 34.31 | 20.08 | 27.81 | 30.16 | 37.89 | 23.92 | 26.71 | 17.42 | 20.21 | 27.50 | 30.29 |
| 15 – 35 | 26.68 | 35.92 | 20.18 | 29.42 | 30.26 | 39.50 | 24.09 | 26.67 | 17.59 | 20.17 | 27.67 | 30.25 |
| 15 – 97 | 26.51 | 33.56 | 20.01 | 27.06 | 30.09 | 37.14 | 24.15 | 27.24 | 17.65 | 20.74 | 27.73 | 30.82 |
| 17 – 02 | 32.96 | 46.30 | 31.26 | 44.60 | 42.06 | 55.40 | 25.80 | 29.80 | 24.10 | 28.10 | 34.90 | 38.90 |
| 17 – 06 | 29.90 | 39.50 | 28.21 | 37.81 | 39.00 | 48.60 | 25.94 | 29.90 | 24.25 | 28.21 | 35.04 | 39.00 |
| 17 – 08 | 28.89 | 37.62 | 27.20 | 35.93 | 37.99 | 46.72 | 26.41 | 31.38 | 24.72 | 29.69 | 35.51 | 40.48 |
| 17 – 26 | 29.47 | 40.26 | 27.78 | 38.57 | 38.57 | 49.36 | 25.83 | 29.86 | 24.14 | 28.17 | 34.93 | 38.96 |
| 17 – 35 | 29.71 | 43.26 | 28.02 | 41.57 | 38.81 | 52.36 | 25.86 | 29.51 | 24.17 | 27.82 | 34.96 | 38.61 |
| 17 – 75 | 35.31 | 46.60 | 33.62 | 44.91 | 44.41 | 55.70 | 26.31 | 32.60 | 24.62 | 30.91 | 35.41 | 41.70 |
| 17 – 99 | 29.52 | 40.08 | 27.83 | 38.39 | 38.62 | 49.18 | 25.96 | 30.12 | 24.27 | 28.43 | 35.06 | 39.22 |
| 19 – 11 | 37.77 | 51.36 | 31.07 | 44.66 | 44.62 | 58.21 | 34.36 | 42.78 | 27.66 | 46.43 | 30.86 | 49.63 |
| 19 – 32 | 36.98 | 50.38 | 30.28 | 43.68 | 43.83 | 57.23 | 32.50 | 37.58 | 25.80 | 41.23 | 29.00 | 44.43 |
| 19 – 35 | 37.29 | 53.74 | 30.59 | 47.04 | 44.14 | 44.09 | 32.67 | 37.24 | 25.97 | 40.89 | 29.17 | 44.09 |
| 21 – 11 | 45.51 | 65.35 | 39.31 | 59.15 | 53.19 | 73.03 | 38.25 | 47.75 | 32.05 | 51.93 | 35.55 | 55.43 |
| 21 – 16 | 42.61 | 57.89 | 36.41 | 51.69 | 50.29 | 65.57 | 37.65 | 45.41 | 31.45 | 49.59 | 34.95 | 53.09 |
| 21 – 35 | 42.89 | 63.55 | 36.69 | 57.35 | 50.57 | 71.23 | 37.36 | 43.80 | 31.16 | 47.98 | 34.66 | 51.48 |
| 21 – 39 | 44.27 | 64.60 | 38.07 | 58.40 | 51.95 | 72.28 | 38.47 | 48.24 | 32.27 | 52.42 | 35.77 | 55.92 |
| 21 – 41 | 42.81 | 60.18 | 36.61 | 64.36 | 50.49 | 67.86 | 37.07 | 43.78 | 30.87 | 47.96 | 34.37 | 51.46 |
| 21 – 48 | 49.59 | 49.93 | 43.39 | 43.73 | 55.27 | 57.61 | 36.48 | 43.38 | 30.28 | 37.18 | 44.16 | 51.06 |
| 21 – 75 | 54.48 | 71.38 | 48.28 | 65.18 | 62.16 | 79.06 | 36.48 | 43.38 | 30.28 | 37.18 | 44.16 | 51.06 |
| 23 – 21 | 50.49 | 73.74 | 44.19 | 67.44 | 59.23 | 82.48 | 43.98 | 57.36 | 37.68 | 62.20 | 41.58 | 66.10 |
| 23 – 35 | 48.85 | 75.00 | 42.55 | 68.70 | 57.59 | 83.74 | 41.85 | 50.00 | 35.55 | 54.84 | 39.45 | 58.74 |
| 23 – 53 | 48.91 | 71.10 | 42.61 | 64.80 | 57.65 | 79.84 | 41.49 | 49.90 | 35.19 | 54.74 | 39.09 | 58.64 |
| 23 – 55 | 49.66 | 72.73 | 43.36 | 66.43 | 58.40 | 81.47 | 41.96 | 50.73 | 35.66 | 55.57 | 39.56 | 59.47 |
| 25 – 07 | 61.89 | 90.70 | 55.73 | 85.10 | 71.15 | 99.10 | 46.41 | 56.20 | 40.25 | 61.26 | 44.45 | 65.46 |
| 25 – 11 | 54.48 | 71.38 | 48.28 | 65.18 | 62.16 | 79.06 | 36.48 | 43.38 | 42.94 | 55.94 | 58.36 | 71.36 |
| 25 – 19 | 59.76 | 91.77 | 53.60 | 85.61 | 69.02 | 101.03 | 47.22 | 61.37 | 41.06 | 66.43 | 45.26 | 70.63 |
| 25 – 24 | 59.26 | 90.62 | 53.10 | 84.46 | 68.52 | 99.88 | 47.62 | 62.06 | 41.46 | 67.12 | 45.66 | 71.32 |
| 25 – 29 | 57.58 | 86.55 | 51.42 | 80.39 | 66.84 | 95.81 | 48.59 | 63.93 | 42.43 | 68.99 | 46.63 | 73.19 |
| 25 – 35 | 55.37 | 88.20 | 49.21 | 82.04 | 64.63 | 97.46 | 46.41 | 56.20 | 40.25 | 61.26 | 44.45 | 65.46 |
| 25 – 37 | 57.57 | 89.86 | 51.41 | 59.36 | 66.83 | 90.06 | 46.10 | 61.00 | 39.94 | 60.50 | 55.36 | 61.20 |
| 25 – 44 | 52.80 | 67.61 | 46.53 | 65.39 | 62.05 | 83.39 | 44.40 | 59.22 | 38.14 | 57.00 | 53.66 | 75.00 |
| 25 – 43 | 57.62 | 88.30 | 51.46 | 82.14 | 66.88 | 97.56 | 48.20 | 63.50 | 42.04 | 68.56 | 46.24 | 72.76 |
| 25 – 46 | 59.92 | 83.76 | 53.76 | 77.60 | 69.18 | 93.02 | 45.28 | 55.44 | 39.12 | 60.50 | 43.32 | 64.70 |
| 25 – 61 | 54.67 | 81.42 | 48.51 | 75.26 | 63.93 | 90.68 | 46.13 | 57.02 | 39.97 | 62.08 | 44.17 | 66.28 |
| 25 – 08 | 81.00 | 112.83 | 74.84 | 106.67 | 90.26 | 122.09 | 45.00 | 56.83 | 38.84 | 61.69 | 43.04 | 66.09 |
| 25 – 20 | 66.02 | 96.24 | 59.86 | 90.08 | 75.28 | 105.50 | 44.45 | 54.70 | 38.29 | 59.76 | 42.49 | 63.96 |
| 25 – 04 | 58.42 | 88.27 | 52.26 | 82.11 | 67.68 | 97.53 | 49.22 | 62.83 | 43.06 | 67.89 | 47.26 | 72.09 |

Weight in gram (+/- 15%)



8D Series

D38999 Composite Series

Connector part numbers

| | | | | | | | | | | |
|---|-----------|----------|----------|-----------|----------|-----------|----------|----------|--|----------|
| Basic Series | 8D | 0 | - | 11 | J | 35 | P | N | | L |
| Shell style: | | | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | | | |
| 5: Plug with RFI shielding | | | | | | | | | | |
| Type: | | | | | | | | | | |
| -: Connectors with standard crimp contacts. | | | | | | | | | | |
| L: Receptacle with long PC tail (male and female size #22D, #20). | | | | | | | | | | |
| C: Receptacle with short PC tail (male and female #22D, #20, #16). | | | | | | | | | | |
| S: Receptacle with specific PC tail (male et female #22D) | | | | | | | | | | |
| W: Receptacle with male contacts #22D for wire wrap (3 wraps) | | | | | | | | | | |
| T: Receptacle with male contacts #20 for wire wrap (2 wraps) | | | | | | | | | | |
| P: Receptacle with solder cup contacts - see page 69, please consult us | | | | | | | | | | |
| Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | | | |
| Plating: | | | | | | | | | | |
| J: Olive drab cadmium | | | | | | | | | | |
| M: Nickel | | | | | | | | | | |
| X: Without plating | | | | | | | | | | |
| Contact layout: See pages 13 to 19 | | | | | | | | | | |
| Contact type: | | | | | | | | | | |
| P: Pin (500 mating/unmating) | | | | | | | | | | |
| H: Pin (1500 mating/unmating) | | | | | | | | | | |
| A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) | | | | | | | | | | |
| S: Socket (500 mating/unmating) | | | | | | | | | | |
| J: Socket (1500 mating/unmating) | | | | | | | | | | |
| B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation) | | | | | | | | | | |
| Orientation: N, A, B, C, D, E, T, V (see page 75) | | | | | | | | | | |
| Specification: | | | | | | | | | | |
| 046: Tinned straight PC tail | | | | | | | | | | |
| 251: Connector provided with power contacts (layouts with contact #8) | | | | | | | | | | |
| 022: Fuel tank | | | | | | | | | | |
| 600: 230V qualified connector (T or V orientation mandatory - Consult us for available layouts) | | | | | | | | | | |
| Special custom: | | | | | | | | | | |
| None: Standard plastic cap | | | | | | | | | | |
| M: Antistatic plastic cap | | | | | | | | | | |
| L: For P or S contact type only, connectors delivered without contacts, connectors marking P or S plus orientation. | | | | | | | | | | |

Note: PC tail contacts without shoulder also available. Please see page 102.

MIL-DTL-38999 part numbers*

| | | | | | | | | |
|---|----------------|-----------|----------|----------|-----------|----------|----------|----------|
| Basic Series | D38999/ | 20 | M | B | 35 | P | N | L |
| Shell style: | | | | | | | | |
| 20: Square flange receptacle | | | | | | | | |
| 26: Plug with RFI shielding. | | | | | | | | |
| Plating: | | | | | | | | |
| J: Olive drab cadmium | | | | | | | | |
| M: Nickel | | | | | | | | |
| Shell size: 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | | |
| Contact layout: See page 18 for layout according to MIL-DTL-38999 | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Pin (500 mating/unmating) | | | | | | | | |
| H: Pin (1500 mating/unmating) | | | | | | | | |
| A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) | | | | | | | | |
| S: Socket (500 mating/unmating) | | | | | | | | |
| J: Socket (1500 mating/unmating) | | | | | | | | |
| B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation) | | | | | | | | |
| Orientation: N, A, B, C, D, E (see page 75) | | | | | | | | |
| L: For P or S contact type only, connector delivered without contacts, connector marking P or S (without L) | | | | | | | | |

* Note: To place an order of MIL connectors delivered without MIL removable crimp contacts and keep P or S plus orientation marking, it must be specify clearly on the order (by adding a suffix L at the end of the P/N or specified in comment).



8D Series

D38999 Composite Series

BACC part numbers

| | | | | | | | |
|---|----------|----|---|----|---|---|---|
| Basic Series: BACC63CT: 8D5*M (composite plug) BACC63CU: 8D0*M (composite square flange receptacle) | BACC63CT | 13 | - | 98 | P | N | H |
| Shell size: 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | |
| Plating & grounding: -: Nickel plated, ungrounded G: Nickel plated, grounded D: Cadmium plated, ungrounded C: Cadmium plated, grounded | | | | | | | |
| Contact layout: See page 18 for layout according to BACC | | | | | | | |
| Contact type: P: Pin S: Socket | | | | | | | |
| Orientation: N, A, B, C, D, E (see page 75) | | | | | | | |
| Specification: None: With contacts H: Without contact & without filler plug | | | | | | | |

EN3645 part numbers

| | | | | | | | | |
|--|--------|---|---|---|---|----|---|---|
| Basic Series | EN3645 | J | 6 | G | N | 35 | B | N |
| Plating: J: Olive drab cadmium M: Nickel | | | | | | | | |
| Shell style: 0: Square flange receptacle 6: Plug | | | | | | | | |
| Shell size: 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | | |
| Grounding: N: Standard insert not grounded | | | | | | | | |
| Contact layout: See page 18 for layout according to EN3645 | | | | | | | | |
| Contact type: A: Connector supplied less pin contact B: Connector supplied less socket contact F: Socket M: Pin | | | | | | | | |
| Orientation: N, A, B, C, D, E (see page 75) | | | | | | | | |

8D Series

D38999 Composite Series



Dimensions

| Receptacle type 0 | | | | | | | | | | |
|-------------------|------------|-------|-------|-------|------------|-------------------|-------|-------|-------------------|-------------------|
| | Shell size | A Max | B Max | C Max | D Thread | E ^{±0.3} | F | G | H ^{±0.2} | J ^{±0.2} |
| | 09 (A) | 19.65 | 11.96 | 3.65 | M12 x 1-6g | 23.8 | 18.26 | 15.09 | 3.25 | 5.49 |
| 11 (B) | M15 x 1-6g | | | | 26.2 | 20.62 | 18.26 | 4.93 | | |
| 13 (C) | M18 x 1-6g | | | | 28.6 | 23.01 | 20.62 | 4.39 | | |
| 15 (D) | M22 x 1-6g | | | | 31 | 24.61 | 23.01 | 4.39 | | |
| 17 (E) | M25 x 1-6g | | | | 33.3 | 26.97 | 24.61 | 4.93 | | |
| 19 (F) | 3.7 | 18.85 | 12.76 | 4.35 | M28 x 1-6g | 36.5 | 29.36 | 26.97 | 3.91 | 6.15 |
| 21 (G) | M31 x 1-6g | | | | 39.7 | 31.75 | 29.36 | | | |
| 23 (H) | M34 x 1-6g | | | | 42.9 | 34.93 | 31.75 | | | |
| 25 (J) | 4.4 | | | | M37 x 1-6g | 46 | 38.1 | 34.93 | | |

| Plug type 5 | | | |
|-------------|--------|------------|--------|
| | A | ØB | |
| | Thread | | |
| Shell size | A Max | Thread | ØB Max |
| 09 (A) | 31.00 | M12 x 1-6g | 21.80 |
| 11 (B) | | M15 x 1-6g | 25.00 |
| 13 (C) | | M18 x 1-6g | 29.40 |
| 15 (D) | | M22 x 1-6g | 32.50 |
| 17 (E) | | M25 x 1-6g | 35.70 |
| 19 (F) | | M28 x 1-6g | 38.50 |
| 21 (G) | | M31 x 1-6g | 41.70 |
| 23 (H) | | M34 x 1-6g | 44.90 |
| 25 (J) | | M37 x 1-6g | 48.00 |

| Mated connectors | | |
|------------------|-------|-------|
| Type 0 with plug | | |
| | A | B |
| | | |
| Shell size | A Max | B Max |
| 09 (A) | 37.00 | 52.30 |
| 11 (B) | | |
| 13 (C) | | |
| 15 (D) | | |
| 17 (E) | | |
| 19 (F) | 36.00 | 51.30 |
| 21 (G) | | |
| 23 (H) | | |
| 25 (J) | | |

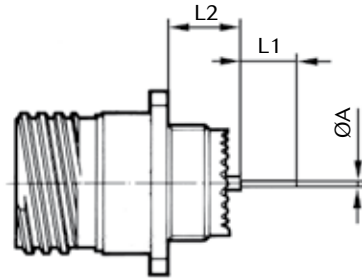
Note: All dimensions are in millimeters (mm)

8D Series

D38999 Composite Series



Receptacle with straight PC tail contacts



| | Shell size | | | 09 (A) | 11 (B) | 13 (C) | 15 (C) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) |
|----|--------------|--------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Contact size | Contact type | PC tail type | | | | | | | | | |
| A | #22D | M & F | L & C | | | | | 0.70 | | | | |
| | #22D | M & F | S | | | | | 0.50 | | | | |
| | #20 | M & F | C | | | | | 0.70 | | | | |
| | #16 | M & F | C | | | | | 1.15 | | | | |
| L1 | #22D | M & F | L | | | | | 8.50 | | | | |
| | #22D | M & F | C | | | | | 4.00 | | | | |
| | #22D | M & F | S | | | | | 5.00 | | | | |
| | #20 | M & F | C | | | | | 5.00 | | | | |
| | #16 | M & F | C | | | | | 5.00 | | | | |
| L2 | Min | #22D | M | L & C | | | 9.48 | | | | 9.59 | |
| | Max | #22D | M | L & C | | | 10.38 | | | | 10.48 | |
| | Min | #22D | F | L & C | | | 9.15 | | | | 9.26 | |
| | Max | #22D | F | L & C | | | 10.38 | | | | 10.48 | |
| | Min | #22D | M | S | | | 9.65 | | | | 9.76 | |
| | Max | #22D | M | S | | | 10.55 | | | | 10.65 | |
| | Min | #22D | F | S | | | 9.32 | | | | 9.42 | |
| | Max | #22D | F | S | | | 10.55 | | | | 10.65 | |
| | Min | #20 | M | C | | | 9.65 | | | | 9.76 | |
| | Max | #20 | M | C | | | 10.55 | | | | 10.65 | |
| | Min | #20 | F | C | | | 9.65 | | | | 9.76 | |
| | Max | #20 | F | C | | | 10.55 | | | | 10.65 | |
| | Min | #16 | M | C | | | 9.65 | | | | 9.76 | |
| | Max | #16 | M | C | | | 10.55 | | | | 10.65 | |
| | Min | #16 | F | C | | | 9.65 | | | | 9.76 | |
| | Max | #16 | F | C | | | 10.55 | | | | 10.65 | |

M: Male contact F: Female contact L: Long PC tail C: Short PC tail S: Specific PC tail

Note: All dimensions are in millimeters (mm)

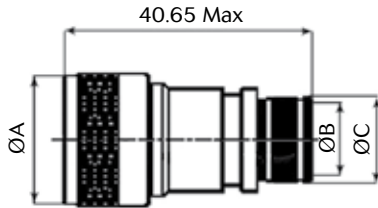
8D Series

D38999 Composite Series

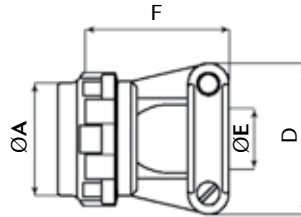


Backshells

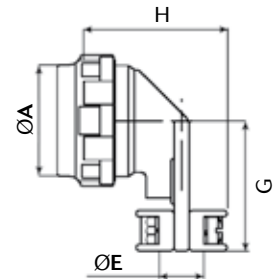
Straight backshell for EMI/RFI heat shrink boots (Type 88)



Straight cable clamp (Type 91)



90° cable clamp (Type 92)



| Shell size | ØA Max | ØB ^{±0.10} Entry size | | ØC Entry size | | D Max | E Max | F Max | G | H |
|------------|--------|--------------------------------|-------|---------------|-------|-------|-------|-------|-------|-------|
| | | 02 | 03 | 02 | 03 | | | | | |
| 09 | 21.80 | N/A | 6.35 | N/A | 10.03 | 24.90 | 5.55 | 21.25 | 22.20 | 26.95 |
| 11 | 25.00 | N/A | 7.92 | N/A | 11.61 | 26.00 | 6.70 | 24.30 | 23.80 | 27.95 |
| 13 | 29.40 | 7.92 | 11.13 | 11.61 | 14.81 | 30.50 | 8.75 | 27.95 | 26.20 | 30.00 |
| 15 | 32.50 | 11.13 | 14.27 | 14.81 | 17.96 | 33.00 | 11.70 | 27.95 | 28.60 | 33.00 |
| 17 | 35.70 | 12.70 | 15.88 | 16.38 | 19.56 | 36.10 | 13.85 | 31.25 | 33.30 | 35.05 |
| 19 | 38.50 | 15.88 | 19.05 | 19.56 | 22.73 | 38.60 | 15.60 | 35.80 | 34.95 | 36.85 |
| 21 | 41.70 | 15.88 | 20.62 | 19.56 | 24.30 | 41.65 | 17.75 | 38.35 | 38.10 | 39.15 |
| 23 | 44.90 | 17.47 | 23.83 | 21.06 | 27.51 | 45.00 | 19.80 | 42.15 | 41.30 | 41.15 |
| 25 | 48.00 | 19.05 | 25.40 | 22.73 | 29.08 | 48.00 | 21.60 | 44.70 | 44.45 | 42.95 |

Basic Series

M85049

91

11

M

Backshell type:

91: Straight cable clamp

92: 90° cable clamp

Shell size:

09, 11, 13, 15, 17, 19, 21, 23, 25

Plating:

J: Olive drab cadmium over electroless nickel

M: Electroless nickel

T: Without plating (Type 91 & 92 only)

Entry size (Type 88 only):

02: See table above

03: See table above

8D Series

D38999 Composite Series



Connectors weight

| | With contacts | | | | Without contact | | | |
|-------|---------------|--------|---------------------|--------|-----------------|--------|---------------------|--------|
| | Plug (type 5) | | Receptacle (type 0) | | Plug (type 5) | | Receptacle (type 0) | |
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 09 35 | 8.5 | 10.1 | 7.8 | 9.4 | 8.1 | 8.6 | 7.4 | 7.9 |
| 09 98 | 8.5 | 9.8 | 7.8 | 9.1 | 8.1 | 8.6 | 7.4 | 7.9 |
| 11 01 | 12.8 | 15.7 | 10.4 | 13.3 | 12.1 | 14.1 | 9.7 | 11.7 |
| 11 02 | 11.5 | 14.1 | 09.3 | 11.8 | 10.9 | 12.5 | 08.7 | 10.3 |
| 11 04 | 12.6 | 15.7 | 10.2 | 13.3 | 12.0 | 14.1 | 9.7 | 11.7 |
| 11 05 | 12.6 | 15.8 | 10.2 | 13.4 | 11.9 | 13.8 | 9.5 | 11.5 |
| 11 22 | 11.4 | 13.8 | 09.1 | 11.6 | 11.1 | 12.8 | 08.8 | 10.6 |
| 11 35 | 12.5 | 16.0 | 10.1 | 13.6 | 11.6 | 12.8 | 9.2 | 10.4 |
| 11 80 | 15.25 | 18.6 | 13.40 | 10.4 | 10.75 | 11.63 | 08.90 | 09.4 |
| 11 98 | 12.5 | 15.3 | 10.1 | 12.9 | 11.7 | 12.8 | 9.3 | 10.5 |
| 11 99 | 11.8 | 15.0 | 09.6 | 12.8 | 10.8 | 12.2 | 08.6 | 10.0 |
| 13 04 | 17.2 | 20.9 | 13.7 | 17.5 | 15.6 | 17.9 | 12.4 | 14.3 |
| 13 08 | 17.6 | 22.8 | 14.1 | 19.2 | 16.5 | 19.6 | 12.9 | 16.1 |
| 13 26 | 17.9 | 23.6 | 14.4 | 20.1 | 16.2 | 18.9 | 12.7 | 15.4 |
| 13 35 | 17.4 | 23.1 | 13.8 | 19.6 | 15.8 | 17.6 | 12.3 | 14.1 |
| 13 98 | 17.2 | 21.8 | 13.7 | 18.3 | 15.8 | 17.9 | 12.3 | 14.3 |
| 15 05 | 21.4 | 26.7 | 16.6 | 21.9 | 19.8 | 22.8 | 15.0 | 18.0 |
| 15 15 | 22.2 | 29.3 | 17.4 | 24.5 | 19.9 | 23.0 | 15.1 | 18.1 |
| 15 18 | 22.4 | 31.3 | 17.6 | 26.5 | 19.9 | 24.0 | 15.0 | 19.2 |
| 15 19 | 22.0 | 29.6 | 17.1 | 24.8 | 19.2 | 22.0 | 14.5 | 17.2 |
| 15 35 | 22.0 | 31.3 | 17.2 | 26.5 | 19.4 | 22.0 | 14.6 | 17.2 |
| 15 97 | 21.8 | 28.9 | 17.1 | 24.1 | 19.4 | 22.6 | 14.7 | 17.8 |
| 17 02 | 26.51 | 38.85 | 25.23 | 37.57 | 19.35 | 22.35 | 18.07 | 21.07 |
| 17 06 | 25.9 | 35.5 | 23.2 | 32.8 | 21.9 | 25.9 | 19.2 | 23.2 |
| 17 08 | 24.9 | 33.6 | 22.2 | 30.1 | 22.4 | 27.4 | 19.7 | 24.7 |
| 17 26 | 25.5 | 36.3 | 22.8 | 33.6 | 21.8 | 25.9 | 19.2 | 23.1 |
| 17 35 | 25.7 | 39.3 | 23.0 | 36.6 | 21.9 | 25.5 | 19.2 | 22.8 |
| 17 75 | 31.3 | 42.6 | 28.6 | 39.9 | 22.3 | 28.6 | 19.6 | 25.9 |
| 17 99 | 25.5 | 36.1 | 22.8 | 33.4 | 22.0 | 26.1 | 19.3 | 23.4 |
| 19 11 | 32.1 | 45.7 | 26.1 | 39.7 | 28.7 | 37.1 | 22.7 | 31.1 |
| 19 32 | 31.3 | 44.7 | 25.3 | 38.7 | 26.8 | 31.9 | 20.8 | 25.9 |
| 19 35 | 31.6 | 48.1 | 25.6 | 42.0 | 27.1 | 31.6 | 21.0 | 25.6 |
| 21 11 | 38.0 | 57.9 | 32.8 | 52.6 | 30.8 | 40.3 | 25.5 | 35.1 |
| 21 16 | 35.1 | 50.4 | 29.9 | 45.2 | 30.2 | 37.9 | 24.9 | 32.7 |
| 21 35 | 35.4 | 56.1 | 30.1 | 50.8 | 29.9 | 36.3 | 24.6 | 31.1 |
| 21 39 | 36.8 | 57.1 | 31.5 | 51.9 | 31.0 | 40.8 | 25.7 | 35.5 |
| 21 41 | 35.3 | 52.7 | 30.1 | 47.5 | 29.6 | 36.3 | 24.3 | 31.0 |
| 21 48 | 42.41 | 62.40 | 37.71 | 57.70 | 29.3 | 36.2 | 24.6 | 31.5 |
| 21 75 | 47.3 | 64.2 | 42.6 | 59.50 | 29.3 | 36.2 | 24.6 | 31.5 |
| 23 21 | 43.1 | 66.3 | 38.0 | 61.2 | 36.5 | 49.9 | 31.5 | 44.8 |
| 23 35 | 41.4 | 67.5 | 36.3 | 62.5 | 34.4 | 42.5 | 29.3 | 37.5 |
| 23 53 | 41.5 | 63.6 | 36.4 | 58.6 | 34.1 | 42.4 | 29.0 | 37.4 |
| 23 55 | 42.2 | 65.3 | 42.2 | 60.2 | 34.5 | 43.3 | 29.4 | 38.2 |
| 25 07 | 53.6 | 90.05 | 49.0 | 84.85 | 37.8 | 51.8 | 33.2 | 46.6 |
| 25 11 | 59.08 | 81.60 | 54.48 | 77.00 | 40.8 | 53.8 | 36.2 | 49.2 |
| 25 19 | 51.7 | 83.7 | 46.6 | 78.6 | 39.2 | 53.3 | 34.0 | 48.2 |
| 25 24 | 51.2 | 82.5 | 46.1 | 77.4 | 39.6 | 54.0 | 34.4 | 48.9 |
| 25 29 | 49.5 | 78.5 | 44.4 | 73.4 | 40.5 | 55.9 | 35.4 | 50.7 |
| 25 35 | 47.3 | 80.1 | 42.2 | 75.0 | 38.4 | 48.1 | 33.2 | 43.0 |
| 25 37 | 49.27 | 80.36 | 45.47 | 76.16 | 37.8 | 51.50 | 34.0 | 47.30 |
| 25 44 | 69.64 | 93.70 | 65.04 | 94.65 | 36.1 | 45.80 | 31.5 | 46.75 |
| 25 43 | 49.6 | 80.2 | 44.4 | 75.1 | 40.1 | 55.4 | 35.0 | 50.3 |
| 25 46 | 51.9 | 75.7 | 46.7 | 70.1 | 37.2 | 47.4 | 32.1 | 42.2 |
| 25 61 | 46.6 | 73.4 | 41.5 | 68.2 | 38.1 | 48.9 | 32.9 | 43.8 |
| 25 08 | 72.9 | 104.8 | 67.8 | 99.6 | 36.9 | 48.8 | 31.8 | 43.6 |
| 25 20 | 57.9 | 88.2 | 52.8 | 83.0 | 36.4 | 46.6 | 31.3 | 41.5 |
| 25 04 | 50.4 | 80.2 | 45.3 | 75.0 | 41.2 | 54.8 | 36.1 | 49.6 |

Weight in gram (+/- 15%)



8D Series

D38999 Stainless Steel Series

Connector part numbers

| | | | | | | | | | | | |
|---|-----------|----------|----------|-----------|----------|-----------|----------|----------|--|--|----------|
| Basic Series | 8D | 0 | - | 11 | K | 35 | P | N | | | L |
| Shell style: | | | | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | | | | |
| 7: Jam nut receptacle | | | | | | | | | | | |
| 5: Plug with RFI shielding | | | | | | | | | | | |
| Type: | | | | | | | | | | | |
| -: Connectors with standard crimp contacts. | | | | | | | | | | | |
| L: Receptacle with long PC tail (male and female size #22D, #20). | | | | | | | | | | | |
| C: Receptacle with short PC tail (male and female #22D, #20, #16). | | | | | | | | | | | |
| S: Receptacle with specific PC tail (male et female #22D) | | | | | | | | | | | |
| W: Receptacle with male contacts #22D for wire wrap (3 wraps) | | | | | | | | | | | |
| T: Receptacle with male contacts #20 for wire wrap (2 wraps) | | | | | | | | | | | |
| P: Receptacle with solder cup contacts - see page 69, please consult us | | | | | | | | | | | |
| Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | | | | |
| Plating: | | | | | | | | | | | |
| K: Passivated | | | | | | | | | | | |
| S: Nickel | | | | | | | | | | | |
| Contact layout: See pages 13 to 19 | | | | | | | | | | | |
| Contact type: | | | | | | | | | | | |
| P: Pin | | | | | | | | | | | |
| A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) | | | | | | | | | | | |
| S: Socket | | | | | | | | | | | |
| B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation) | | | | | | | | | | | |
| Orientation: N, A, B, C, D, E, T, V (see page 75) | | | | | | | | | | | |
| Specification: | | | | | | | | | | | |
| 046: Tinned straight PC tail | | | | | | | | | | | |
| 251: Connector provided with power contacts (layouts with contact #8) | | | | | | | | | | | |
| 022: Fuel tank | | | | | | | | | | | |
| 600: 230V qualified connector (T or V orientation mandatory - Consult us for available layouts) | | | | | | | | | | | |
| Special custom | | | | | | | | | | | |
| None: Standard plastic cap | | | | | | | | | | | |
| M: Antistatic plastic cap | | | | | | | | | | | |
| L: For P or S contact type only, connectors delivered without contacts, connectors marking P or S plus orientation. | | | | | | | | | | | |

Note: PC tail contacts without shoulder also available. Please see page 102.

MIL-DTL-38999 part numbers*

| | | | | | | | | |
|---|----------------|-----------|----------|----------|-----------|----------|----------|----------|
| Basic Series | D38999/ | 20 | K | B | 35 | P | N | L |
| Shell style: | | | | | | | | |
| 20: Square flange receptacle | | | | | | | | |
| 24: Jam nut receptacle | | | | | | | | |
| 26: Plug with RFI shielding. | | | | | | | | |
| Plating: | | | | | | | | |
| K: Passivated | | | | | | | | |
| S: Nickel | | | | | | | | |
| Shell size: 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | | |
| Contact layout: See page 18 for layout according to MIL-DTL-38999 | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Pin | | | | | | | | |
| A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) | | | | | | | | |
| S: Socket | | | | | | | | |
| B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation) | | | | | | | | |
| Orientation: N, A, B, C, D, E (see page 75) | | | | | | | | |
| L: For P or S contact type only, connector delivered without contacts, connector marking P or S (without L) | | | | | | | | |

* Note: To place an order of MIL connectors delivered without MIL removable crimp contacts and keep P or S plus orientation marking, it must be specify clearly on the order (by adding a suffix L at the end of the P/N or specified in comment).



8D Series

D38999 Stainless Steel Series

BACC part numbers

| | | | | | | | |
|---|-----------------|-----------|----------|-----------|----------|----------|----------|
| Basic Series: BACC63DB: 8D5*K (stainless steel plug) BACC63DC: 8D0*K (stainless steel square flange receptacle) | BACC63DB | 13 | - | 98 | P | N | H |
| Shell size: 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | |
| Plating & grounding: -: Nickel plated, ungrounded G: Nickel plated, grounded D: Cadmium plated, ungrounded C: Cadmium plated, grounded | | | | | | | |
| Contact layout: See page 18 for layout according to BACC | | | | | | | |
| Contact type: P: Pin S: Socket | | | | | | | |
| Orientation: N, A, B, C, D, E (see page 75) | | | | | | | |
| Specification: None: With contacts H: Without contact & without filler plug | | | | | | | |

EN3645 part numbers

| | | | | | | | | |
|--|---------------|----------|----------|----------|----------|-----------|----------|----------|
| Basic Series | EN3645 | K | 6 | G | N | 35 | B | N |
| Plating: K: Stainless steel passivated | | | | | | | | |
| Shell style: 0: Square flange receptacle 6: Plug 7: Jam nut receptacle | | | | | | | | |
| Shell size: 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | | |
| Grounding: N: Standard insert not grounded | | | | | | | | |
| Contact layout: See page 18 for layout according to EN3645 | | | | | | | | |
| Contact type: A: Connector supplied less pin contact B: Connector supplied less socket contact F: Socket M: Pin | | | | | | | | |
| Orientation: N, A, B, C, D, E (see page 75) | | | | | | | | |

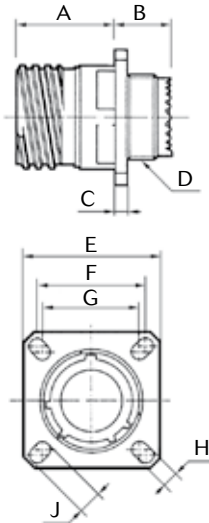
8D Series

D38999 Stainless Steel Series



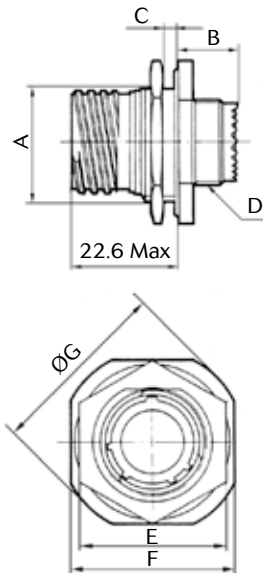
Dimensions

Receptacle type 0 (8D) or type 20 (D38999)



| Shell size | A Max | B Max | C Max | D Thread | E ± 0.3 | F | G | H ± 0.2 | J ± 0.2 |
|------------|------------|------------|-------|------------|-------------|-------|------------|-------------|-------------|
| 09 (A) | 20.2 | 11.4 | 2.5 | M12 x 1-6g | 23.8 | 18.26 | 15.09 | 3.25 | 5.49 |
| 11 (B) | | | | M15 x 1-6g | 26.2 | 20.62 | 18.26 | | 4.93 |
| 13 (C) | | | | M18 x 1-6g | 28.6 | 23.01 | 20.62 | | 4.4 |
| 15 (D) | | | | M22 x 1-6g | 31 | 24.61 | 23.01 | | |
| 17 (E) | | | | M25 x 1-6g | 33.3 | 26.97 | 24.61 | | |
| 19 (F) | | | | 19.8 | 11.8 | 3.2 | M28 x 1-6g | | 36.5 |
| 21 (G) | M31 x 1-6g | 39.7 | 31.75 | | 29.36 | | | | |
| 23 (H) | 11.4 | M34 x 1-6g | 42.9 | | 34.93 | | 31.75 | 3.91 | 6.15 |
| 25 (J) | M37 x 1-6g | 46 | 38.1 | 34.93 | | | | | |

Receptacle type 7 (8D) or type 24 (D38999)



| Shell size | A ± 0.15 | B Max | C Max | D Thread | E Max | F ± 0.4 | ØG Max |
|------------|--------------|-------|-------|------------|-------|-------------|--------|
| 09 (A) | 16.53 | 9.9 | 3.2 | M12 x 1-6g | 23 | 27 | 30.5 |
| 11 (B) | 19.07 | | | M15 x 1-6g | 26 | 31.8 | 35.2 |
| 13 (C) | 23.82 | | | M18 x 1-6g | 31 | 34.9 | 38.4 |
| 15 (D) | 26.97 | | | M22 x 1-6g | 34 | 38.1 | 41.6 |
| 17 (E) | 30.15 | | | M25 x 1-6g | 37 | 41.3 | 44.8 |
| 19 (F) | 33.32 | | | M28 x 1-6g | 41 | 46 | 49.5 |
| 21 (G) | 36.50 | | | M31 x 1-6g | 46 | 49.2 | 52.7 |
| 23 (H) | 39.67 | | | 55.9 | 47 | 52.4 | 55.9 |
| 25 (J) | 42.85 | | | 59 | 51.23 | 55.6 | 59 |

Recommended coupling torque on panel for jam nut receptacle (type 7)

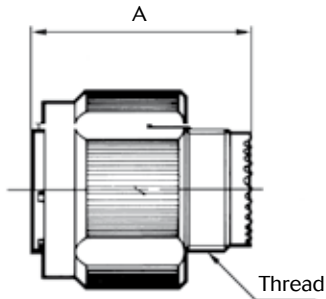
| Shell | 09 (A) | 11 (B) | 13 (C) | 15 (D) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Coupling torque (± 0.5 N.m) | 4 | 5 | 7 | 8 | 9 | 10 | 12 | 13 | 14 |



8D Series

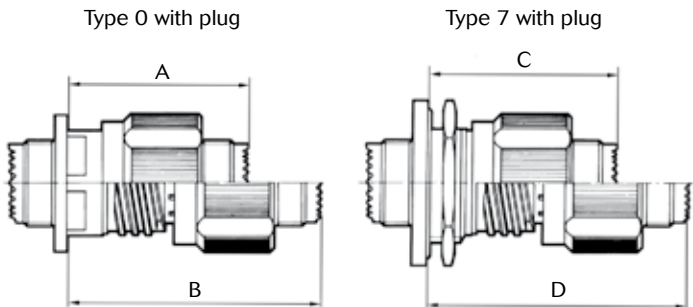
D38999 Stainless Steel Series

Plug type 5 (8D) or type 26 (D38999)



| Shell size | A Max | Thread | ØB Max |
|------------|-------|------------|--------|
| 09 (A) | 31.00 | M12 x 1-6g | 21.80 |
| 11 (B) | | M15 x 1-6g | 25.00 |
| 13 (C) | | M18 x 1-6g | 29.40 |
| 15 (D) | | M22 x 1-6g | 32.50 |
| 17 (E) | | M25 x 1-6g | 35.70 |
| 19 (F) | | M28 x 1-6g | 38.50 |
| 21 (G) | | M31 x 1-6g | 41.70 |
| 23 (H) | | M34 x 1-6g | 44.90 |
| 25 (J) | | M37 x 1-6g | 48.00 |

Mated connectors dimensions



| Shell size | A Max | B Max | C Max | D Max |
|------------|-------|-------|-------|-------|
| 09 (A) | 37.00 | 52.30 | 38.30 | 53.60 |
| 11 (B) | | | | |
| 13 (C) | | | | |
| 15 (D) | | | | |
| 17 (E) | | | | |
| 19 (F) | 36.00 | 51.30 | 38.50 | 53.80 |
| 21 (G) | | | | |
| 23 (H) | | | | |
| 25 (J) | | | | |

Note: All dimensions are in millimeters (mm)

8D Series

D38999 Stainless Steel Series



Receptacle with straight PC tail contacts



| | | Shell size | | | 09 (A) | 11 (B) | 13 (C) | 15 (C) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) |
|----|-----|--------------|--------------|--------------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | Contact size | Contact type | PC tail type | | | | | | | | | |
| A | | #22D | M & F | L & C | 0.70 | | | | | | | | |
| | | #22D | M & F | S | 0.50 | | | | | | | | |
| | | #20 | M & F | C | 0.70 | | | | | | | | |
| | | #16 | M & F | C | 1.12 ^{±0.03} | | | | | | | | |
| L1 | Min | #22D | M | L & C | 10.52 | | 10.34 | | | | | | |
| | Max | #22D | M | L & C | 11.46 | | 11.28 | | | | | | |
| | Min | #22D | F | L & C | 10.19 | | 10.01 | | | | | | |
| | Max | #22D | F | L & C | 11.46 | | 11.28 | | | | | | |
| | Min | #22D | M | S | 10.19 | | 10.01 | | | | | | |
| | Max | #22D | M | S | 11.46 | | 11.28 | | | | | | |
| | Min | #22D | F | S | 10.69 | | 10.51 | | | | | | |
| | Max | #22D | F | S | 11.63 | | 11.45 | | | | | | |
| | Min | #20 | M | C | 10.36 | | 10.18 | | | | | | |
| | Max | #20 | M | C | 11.63 | | 11.45 | | | | | | |
| | Min | #20 | F | C | 10.69 | | 10.51 | | | | | | |
| | Max | #20 | F | C | 11.63 | | 11.45 | | | | | | |
| | Min | #16 | M | C | 10.69 | | 10.51 | | | | | | |
| | Max | #16 | M | C | 11.63 | | 11.45 | | | | | | |
| | Min | #16 | F | C | 10.69 | | 10.51 | | | | | | |
| | Max | #16 | F | C | 11.63 | | 11.45 | | | | | | |
| L2 | | #22D | M & F | L | 8.50 | | | | | | | | |
| | | #22D | M & F | C | 4.00 | | | | | | | | |
| | | #22D | M & F | S | 5.10 | | | | | | | | |
| | | #20 | M & F | C | 5.10 | | | | | | | | |
| | | #16 | M & F | C | 5 ^{±0.1} | | | | | | | | |
| L3 | Min | #22D | M | L & C | 9.48 | | 9.59 | | | | | | |
| | Max | #22D | M | L & C | 10.58 | | 10.69 | | | | | | |
| | Min | #22D | F | L & C | 9.15 | | 9.26 | | | | | | |
| | Max | #22D | F | L & C | 10.58 | | 10.69 | | | | | | |
| | Min | #22D | M | S | 9.65 | | 9.76 | | | | | | |
| | Max | #22D | M | S | 10.75 | | 10.86 | | | | | | |
| | Min | #22D | F | S | 9.15 | | 9.26 | | | | | | |
| | Max | #22D | F | S | 10.75 | | 10.86 | | | | | | |
| | Min | #20 | M | C | 9.65 | | 9.76 | | | | | | |
| | Max | #20 | M | C | 10.75 | | 10.86 | | | | | | |
| | Min | #20 | F | C | 9.65 | | 9.76 | | | | | | |
| | Max | #20 | F | C | 10.75 | | 10.86 | | | | | | |
| | Min | #16 | M | C | 9.64 | | 9.75 | | | | | | |
| | Max | #16 | M | C | 10.75 | | 10.86 | | | | | | |
| | Min | #16 | F | C | 9.64 | | 9.75 | | | | | | |
| | Max | #16 | F | C | 10.75 | | 10.86 | | | | | | |

M: Male contact F: Female contact L: Long PC tail C: Short PC tail S: Specific PC tail *Dimensions in millimeters*

8D Series

D38999 Stainless Steel Series



Connectors weight

| | With contacts | | | | | | Without contact | | | | | |
|-------|------------------|--------|------------------------|--------|------------------------|--------|------------------|--------|------------------------|--------|------------------------|--------|
| | Plug (type 5) | | Receptacle (type 0) | | Receptacle (type 7) | | Plug (type 5) | | Receptacle (type 0) | | Receptacle (type 7) | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 09-35 | 30.63 | 32.21 | 23.93 | 25.51 | 33.93 | 35.51 | 30.21 | 30.71 | 23.51 | 24.01 | 33.51 | 34.01 |
| 09-98 | 30.63 | 31.93 | 23.93 | 25.23 | 33.93 | 35.23 | 30.21 | 30.73 | 23.51 | 24.03 | 33.51 | 34.03 |
| 11-01 | 38.13 | 41.07 | 29.53 | 32.47 | 42.43 | 45.37 | 37.47 | 39.47 | 28.87 | 30.87 | 41.77 | 43.77 |
| 11-02 | 37.76 | 40.30 | 39.36 | 30.12 | 46.98 | 49.52 | 37.14 | 38.74 | 28.56 | 30.16 | 46.36 | 47.96 |
| 11-04 | 37.95 | 41.01 | 29.35 | 32.41 | 42.25 | 45.31 | 37.39 | 39.41 | 28.79 | 30.81 | 41.69 | 43.71 |
| 11-05 | 37.98 | 41.19 | 29.38 | 32.59 | 42.04 | 45.49 | 37.28 | 39.19 | 28.68 | 30.59 | 41.58 | 43.49 |
| 11-22 | 37.48 | 39.54 | 28.90 | 130.86 | 46.70 | 48.76 | 37.34 | 39.04 | 28.76 | 30.36 | 46.56 | 48.26 |
| 11-35 | 37.88 | 41.35 | 29.28 | 32.75 | 41.94 | 45.65 | 36.97 | 38.10 | 28.37 | 29.50 | 41.27 | 42.40 |
| 11-80 | 38.12 | 44.84 | 29.73 | 36.26 | 47.78 | 54.06 | 34.86 | 37.84 | 26.45 | 29.26 | 44.51 | 47.06 |
| 11-98 | 37.85 | 40.61 | 29.25 | 32.01 | 42.15 | 44.91 | 37.01 | 38.21 | 28.41 | 29.61 | 41.31 | 42.51 |
| 11-99 | 38.02 | 41.24 | 29.44 | 32.66 | 47.24 | 50.46 | 37.04 | 38.44 | 28.46 | 29.86 | 46.26 | 47.66 |
| 13-04 | 53.34 | 57.12 | 37.94 | 41.72 | 56.24 | 60.02 | 52.10 | 54.00 | 36.70 | 38.60 | 55.00 | 56.90 |
| 13-08 | 53.72 | 58.90 | 38.32 | 43.50 | 56.62 | 61.80 | 52.60 | 55.70 | 37.20 | 40.30 | 55.50 | 58.60 |
| 13-26 | 54.09 | 59.74 | 38.69 | 44.34 | 56.99 | 62.64 | 52.35 | 55.04 | 36.95 | 39.64 | 55.25 | 57.94 |
| 13-35 | 53.52 | 59.29 | 38.12 | 43.89 | 56.42 | 62.19 | 51.98 | 53.79 | 36.58 | 38.39 | 54.88 | 56.69 |
| 13-98 | 53.38 | 58.00 | 37.98 | 42.60 | 56.28 | 60.90 | 51.98 | 54.00 | 36.58 | 38.60 | 54.88 | 56.90 |
| 15-05 | 64.49 | 69.83 | 45.69 | 51.03 | 67.59 | 72.93 | 62.94 | 65.93 | 44.14 | 47.13 | 66.04 | 69.03 |
| 15-15 | 65.29 | 72.45 | 46.49 | 53.65 | 68.39 | 75.55 | 63.02 | 66.07 | 44.22 | 47.27 | 66.12 | 69.17 |
| 15-18 | 65.50 | 74.38 | 46.70 | 55.58 | 68.60 | 77.48 | 62.98 | 67.18 | 44.18 | 48.38 | 66.08 | 70.28 |
| 15-19 | 65.03 | 72.76 | 46.23 | 53.96 | 68.13 | 75.86 | 62.37 | 65.16 | 43.57 | 46.36 | 65.47 | 68.26 |
| 15-35 | 65.13 | 74.37 | 46.33 | 55.57 | 68.23 | 77.47 | 62.54 | 65.12 | 43.74 | 46.32 | 65.64 | 68.22 |
| 15-97 | 64.96 | 72.01 | 46.16 | 53.21 | 68.06 | 75.11 | 62.60 | 65.69 | 43.80 | 46.89 | 65.70 | 68.79 |
| 17-02 | 77.80 | 92.64 | 72.89 | 87.73 | 104.09 | 118.95 | 74.53 | 86.09 | 69.62 | 81.18 | 100.82 | 112.38 |
| 17-06 | 69.07 | 78.67 | 64.17 | 73.77 | 87.27 | 96.87 | 65.11 | 69.07 | 60.21 | 64.17 | 83.31 | 87.27 |
| 17-08 | 68.06 | 76.79 | 63.16 | 71.89 | 86.26 | 94.99 | 65.58 | 70.55 | 60.68 | 65.65 | 83.78 | 88.75 |
| 17-26 | 68.64 | 79.43 | 63.74 | 74.53 | 86.84 | 97.63 | 65.00 | 69.03 | 60.10 | 64.13 | 83.20 | 87.23 |
| 17-35 | 68.88 | 82.43 | 63.98 | 77.53 | 87.08 | 100.63 | 65.03 | 68.68 | 60.13 | 63.78 | 83.23 | 86.88 |
| 17-75 | 74.48 | 85.77 | 69.58 | 80.87 | 92.68 | 103.97 | 65.48 | 71.77 | 60.58 | 66.87 | 83.68 | 89.97 |
| 17-99 | 68.69 | 79.25 | 63.79 | 74.35 | 86.89 | 97.45 | 65.13 | 69.29 | 60.23 | 64.39 | 83.33 | 87.49 |
| 19-11 | 87.04 | 100.63 | 67.69 | 81.28 | 97.59 | 111.18 | 83.63 | 92.05 | 64.28 | 73.45 | 94.18 | 103.35 |
| 19-32 | 86.25 | 99.65 | 66.90 | 80.30 | 96.80 | 110.20 | 81.77 | 86.85 | 62.42 | 67.50 | 92.32 | 97.40 |
| 19-35 | 86.56 | 103.01 | 67.21 | 83.66 | 97.11 | 113.56 | 81.94 | 86.51 | 62.59 | 67.16 | 92.49 | 97.06 |
| 21-11 | 99.71 | 119.55 | 81.81 | 101.65 | 111.81 | 131.65 | 92.45 | 101.95 | 74.55 | 84.05 | 104.55 | 114.05 |
| 21-16 | 96.81 | 112.09 | 78.91 | 94.19 | 108.91 | 124.19 | 91.85 | 99.61 | 73.95 | 81.71 | 103.95 | 111.71 |
| 21-35 | 97.09 | 117.75 | 79.19 | 99.85 | 109.19 | 129.85 | 91.56 | 98.00 | 73.66 | 80.10 | 103.66 | 110.10 |
| 21-39 | 98.47 | 118.80 | 80.57 | 100.90 | 110.57 | 130.90 | 92.67 | 102.44 | 74.77 | 84.54 | 104.77 | 114.54 |
| 21-41 | 97.01 | 114.38 | 79.11 | 126.48 | 109.11 | 126.48 | 91.27 | 97.98 | 73.37 | 80.08 | 103.37 | 80.08 |
| 21-48 | 103.84 | 123.82 | 85.93 | 105.91 | 126.02 | 146.02 | 90.72 | 97.62 | 72.81 | 79.71 | 112.92 | 119.82 |
| 21-75 | 108.72 | 125.62 | 90.81 | 107.71 | 130.92 | 147.82 | 90.72 | 97.62 | 72.81 | 79.71 | 112.92 | 119.82 |
| 23-21 | 108.81 | 132.06 | 90.61 | 113.86 | 122.81 | 146.06 | 102.30 | 115.68 | 84.10 | 97.48 | 116.30 | 129.68 |
| 23-35 | 107.17 | 133.32 | 88.97 | 115.12 | 121.17 | 147.32 | 100.17 | 108.32 | 81.97 | 90.12 | 114.17 | 122.32 |
| 23-53 | 107.23 | 129.42 | 89.03 | 111.22 | 121.23 | 143.42 | 99.81 | 108.22 | 81.61 | 90.02 | 113.81 | 122.22 |
| 23-55 | 107.98 | 131.05 | 89.78 | 112.85 | 121.98 | 145.05 | 100.28 | 109.05 | 82.08 | 90.85 | 114.28 | 123.05 |
| 25-07 | 133.3 | 157.7 | 115.5 | 172.25 | 160.06 | 172.25 | 108.51 | 119.45 | 90.71 | 101.65 | 135.27 | 101.65 |
| 25-11 | 132.31 | 152.31 | 114.51 | 134.51 | 159.71 | 179.07 | 111.51 | 124.51 | 93.71 | 106.71 | 138.91 | 151.27 |
| 25-19 | 122.14 | 154.15 | 104.34 | 136.35 | 136.74 | 168.75 | 109.60 | 123.75 | 91.80 | 105.95 | 124.20 | 138.35 |
| 25-24 | 121.64 | 153.00 | 103.84 | 135.20 | 136.24 | 167.60 | 110.00 | 124.44 | 92.20 | 106.64 | 124.60 | 139.04 |
| 25-29 | 119.96 | 148.93 | 102.16 | 131.13 | 134.56 | 163.53 | 110.97 | 126.31 | 93.17 | 108.51 | 125.57 | 140.91 |
| 25-35 | 117.75 | 150.58 | 99.95 | 132.78 | 132.35 | 165.18 | 108.79 | 118.58 | 90.99 | 100.78 | 123.39 | 133.18 |
| 25-37 | 119.98 | 148.26 | 102.18 | 162.67 | 146.74 | 162.67 | 108.51 | 119.40 | 90.71 | 101.60 | 135.27 | 101.60 |
| 25-44 | 140.35 | 164.98 | 122.55 | 179.58 | 167.11 | 179.71 | 106.81 | 117.08 | 89.01 | 99.28 | 133.57 | 99.41 |
| 25-43 | 120.00 | 150.68 | 102.20 | 132.88 | 134.60 | 165.28 | 110.58 | 125.88 | 92.78 | 108.08 | 125.18 | 140.48 |
| 25-46 | 122.30 | 146.14 | 104.50 | 128.34 | 136.90 | 160.74 | 107.66 | 117.82 | 89.86 | 100.02 | 122.26 | 132.42 |
| 25-61 | 117.05 | 143.80 | 99.25 | 126.00 | 131.65 | 158.40 | 108.51 | 119.40 | 90.71 | 101.60 | 123.11 | 155.51 |
| 25-08 | 143.38 | 175.21 | 125.58 | 157.41 | 157.98 | 189.81 | 107.38 | 119.21 | 89.58 | 101.41 | 121.98 | 133.81 |
| 25-20 | 128.40 | 158.62 | 110.60 | 140.82 | 143.00 | 173.22 | 106.83 | 117.08 | 89.03 | 99.28 | 121.43 | 131.68 |
| 25-04 | 120.80 | 150.65 | 103.00 | 132.85 | 135.40 | 165.25 | 111.60 | 125.21 | 93.80 | 107.41 | 126.20 | 139.81 |

Weight in gram (+/- 15%)

8D Series

D38999 Titanium Series



Connector part numbers

| | | | | | | | | | | | |
|---|-----------|----------|----------|-----------|-----------|-----------|----------|----------|--|--|----------|
| Basic Series | 8D | 0 | - | 11 | TT | 35 | P | N | | | L |
| Shell style: | | | | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | | | | |
| 7: Jam nut receptacle | | | | | | | | | | | |
| 5: Plug with RFI shielding | | | | | | | | | | | |
| Type: | | | | | | | | | | | |
| -: Connectors with standard crimp contacts. | | | | | | | | | | | |
| L: Receptacle with long PC tail (male and female size #22D, #20). | | | | | | | | | | | |
| C: Receptacle with short PC tail (male and female #22D, #20, #16). | | | | | | | | | | | |
| S: Receptacle with specific PC tail (male et female #22D) | | | | | | | | | | | |
| W: Receptacle with male contacts #22D for wire wrap (3 wraps) | | | | | | | | | | | |
| T: Receptacle with male contacts #20 for wire wrap (2 wraps) | | | | | | | | | | | |
| P: Receptacle with solder cup contacts - see page 69, please consult us | | | | | | | | | | | |
| Shell size: | | | | | | | | | | | |
| 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | | | | |
| Plating: | | | | | | | | | | | |
| TT: Without plating | | | | | | | | | | | |
| TF: Nickel | | | | | | | | | | | |
| Contact layout: | | | | | | | | | | | |
| See pages 13 to 19 | | | | | | | | | | | |
| Contact type: | | | | | | | | | | | |
| P: Pin | | | | | | | | | | | |
| A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) | | | | | | | | | | | |
| S: Socket | | | | | | | | | | | |
| B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation) | | | | | | | | | | | |
| Orientation: | | | | | | | | | | | |
| N, A, B, C, D, E (see page 75) | | | | | | | | | | | |
| Specification: | | | | | | | | | | | |
| 046: Tinned straight PC tail | | | | | | | | | | | |
| 251: Connector provided with power contacts (layouts with contact #8) | | | | | | | | | | | |
| 022: Fuel tank | | | | | | | | | | | |
| Special custom | | | | | | | | | | | |
| None: Standard plastic cap | | | | | | | | | | | |
| M: Antistatic plastic cap | | | | | | | | | | | |
| L: For P or S contact type only, connectors delivered without contacts, connectors marking P or S plus orientation. | | | | | | | | | | | |

Note: PC tail contacts without shoulder also available. Please see page 102.

8D Series

D38999 Titanium Series



Dimensions

| Receptacle type 0 | | | | | | | | | | |
|-------------------|------------|-------|-------|-------|------------|-------------|-------|-------|-------------|-------------|
| | Shell size | A Max | B Max | C Max | D Thread | E ± 0.3 | F | G | H ± 0.2 | J ± 0.2 |
| | 09 (A) | 20.2 | 11.4 | 2.5 | M12 x 1-6g | 23.8 | 18.26 | 15.09 | 3.25 | 5.49 |
| 11 (B) | M15 x 1-6g | | | | 26.2 | 20.62 | 18.26 | 4.93 | | |
| 13 (C) | M18 x 1-6g | | | | 28.6 | 23.01 | 20.62 | 4.4 | | |
| 15 (D) | M22 x 1-6g | | | | 31 | 24.61 | 23.01 | | | |
| 17 (E) | M25 x 1-6g | | | | 33.3 | 26.97 | 24.61 | | | |
| 19 (F) | M28 x 1-6g | | | | 36.5 | 29.36 | 26.97 | 4.93 | | |
| 21 (G) | M31 x 1-6g | 39.7 | 31.75 | 29.36 | | | | | | |
| 23 (H) | M34 x 1-6g | 42.9 | 34.93 | 31.75 | 3.91 | 6.15 | | | | |
| 25 (J) | M37 x 1-6g | 46 | 38.1 | 34.93 | | | | | | |

| Receptacle type 7 | | | | | | | | |
|-------------------|------------|--------------|-------|-------|------------|-------|-------------|---------------------|
| | Shell size | A ± 0.15 | B Max | C Max | D Thread | E Max | F ± 0.4 | $\varnothing G$ Max |
| | 09 (A) | 16.53 | 9.9 | 3.2 | M12 x 1-6g | 23 | 27 | 30.5 |
| 11 (B) | 19.07 | M15 x 1-6g | | | 26 | 31.8 | 35.2 | |
| 13 (C) | 23.82 | M18 x 1-6g | | | 31 | 34.9 | 38.4 | |
| 15 (D) | 26.97 | M22 x 1-6g | | | 34 | 38.1 | 41.6 | |
| 17 (E) | 30.15 | M25 x 1-6g | | | 37 | 41.3 | 44.8 | |
| 19 (F) | 33.32 | M28 x 1-6g | | | 41 | 46 | 49.5 | |
| 21 (G) | 36.50 | M31 x 1-6g | | | 46 | 49.2 | 52.7 | |
| 23 (H) | 39.67 | 55.9 | | | 47 | 52.4 | 55.9 | |
| 25 (J) | 42.85 | 59 | | | 51.23 | 55.6 | 59 | |

Recommended coupling torque on panel for jam nut receptacle (type 7)

| Shell | 09 (A) | 11 (B) | 13 (C) | 15 (D) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Coupling torque (± 0.5 N.m) | 4 | 5 | 7 | 8 | 9 | 10 | 12 | 13 | 14 |

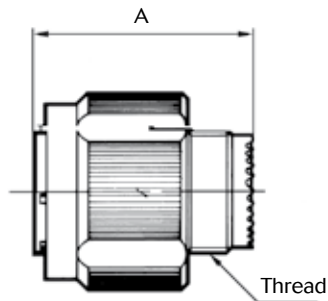
Note: All dimensions are in millimeters (mm)



8D Series

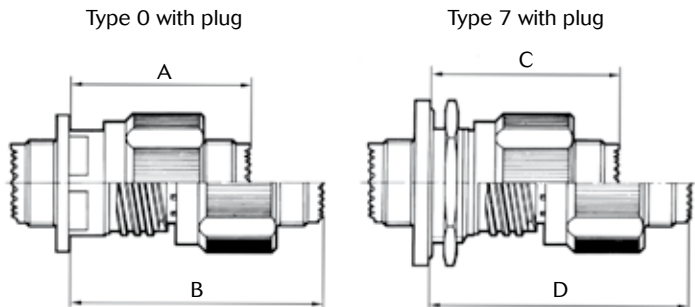
D38999 Titanium Series

Plug type 5



| Shell size | A Max | Thread | ØB Max |
|------------|-------|------------|--------|
| 09 (A) | 31.00 | M12 x 1-6g | 21.80 |
| 11 (B) | | M15 x 1-6g | 25.00 |
| 13 (C) | | M18 x 1-6g | 29.40 |
| 15 (D) | | M22 x 1-6g | 32.50 |
| 17 (E) | | M25 x 1-6g | 35.70 |
| 19 (F) | | M28 x 1-6g | 38.50 |
| 21 (G) | | M31 x 1-6g | 41.70 |
| 23 (H) | | M34 x 1-6g | 44.90 |
| 25 (J) | | M37 x 1-6g | 48.00 |

Mated connectors dimensions



| Shell size | A Max | B Max | C Max | D Max |
|------------|-------|-------|-------|-------|
| 09 (A) | 37.00 | 52.30 | 38.30 | 53.60 |
| 11 (B) | | | 38.50 | 53.80 |
| 13 (C) | | | | |
| 15 (D) | | | | |
| 17 (E) | | | | |
| 19 (F) | | | | |
| 21 (G) | 36.00 | 51.30 | 38.50 | 53.80 |
| 23 (H) | | | | |
| 25 (J) | | | | |

8D Series

D38999 Titanium Series



Receptacle with straight PC tail contacts



| | | Shell size | | | 09 (A) | 11 (B) | 13 (C) | 15 (C) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) |
|----|-----|--------------|--------------|--------------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | Contact size | Contact type | PC tail type | | | | | | | | | |
| A | | #22D | M & F | L & C | 0.70 | | | | | | | | |
| | | #22D | M & F | S | 0.50 | | | | | | | | |
| | | #20 | M & F | C | 0.70 | | | | | | | | |
| | | #16 | M & F | C | 1.12 ^{±0.03} | | | | | | | | |
| L1 | Min | #22D | M | L & C | 10.52 | | | | | | | | 10.34 |
| | Max | #22D | M | L & C | 11.46 | | | | | | | | 11.28 |
| | Min | #22D | F | L & C | 10.19 | | | | | | | | 10.01 |
| | Max | #22D | F | L & C | 11.46 | | | | | | | | 11.28 |
| | Min | #22D | M | S | 10.19 | | | | | | | | 10.01 |
| | Max | #22D | M | S | 11.46 | | | | | | | | 11.28 |
| | Min | #22D | F | S | 10.69 | | | | | | | | 10.51 |
| | Max | #22D | F | S | 11.63 | | | | | | | | 11.45 |
| | Min | #20 | M | C | 10.36 | | | | | | | | 10.18 |
| | Max | #20 | M | C | 11.63 | | | | | | | | 11.45 |
| | Min | #20 | F | C | 10.69 | | | | | | | | 10.51 |
| | Max | #20 | F | C | 11.63 | | | | | | | | 11.45 |
| | Min | #16 | M | C | 10.69 | | | | | | | | 10.51 |
| | Max | #16 | M | C | 11.63 | | | | | | | | 11.45 |
| | Min | #16 | F | C | 10.69 | | | | | | | | 10.51 |
| | Max | #16 | F | C | 11.63 | | | | | | | | 11.45 |
| L2 | | #22D | M & F | L | 8.50 | | | | | | | | |
| | | #22D | M & F | C | 4.00 | | | | | | | | |
| | | #22D | M & F | S | 5.10 | | | | | | | | |
| | | #20 | M & F | C | 5.10 | | | | | | | | |
| | | #16 | M & F | C | 5 ^{±0.1} | | | | | | | | |
| L3 | Min | #22D | M | L & C | 9.48 | | | | | | | 9.59 | |
| | Max | #22D | M | L & C | 10.58 | | | | | | | 10.69 | |
| | Min | #22D | F | L & C | 9.15 | | | | | | | 9.26 | |
| | Max | #22D | F | L & C | 10.58 | | | | | | | 10.69 | |
| | Min | #22D | M | S | 9.65 | | | | | | | 9.76 | |
| | Max | #22D | M | S | 10.75 | | | | | | | 10.86 | |
| | Min | #22D | F | S | 9.15 | | | | | | | 9.26 | |
| | Max | #22D | F | S | 10.75 | | | | | | | 10.86 | |
| | Min | #20 | M | C | 9.65 | | | | | | | 9.76 | |
| | Max | #20 | M | C | 10.75 | | | | | | | 10.86 | |
| | Min | #20 | F | C | 9.65 | | | | | | | 9.76 | |
| | Max | #20 | F | C | 10.75 | | | | | | | 10.86 | |
| | Min | #16 | M | C | 9.64 | | | | | | | 9.75 | |
| | Max | #16 | M | C | 10.75 | | | | | | | 10.86 | |
| | Min | #16 | F | C | 9.64 | | | | | | | 9.75 | |
| | Max | #16 | F | C | 10.75 | | | | | | | 10.86 | |

M: Male contact F: Female contact L: Long PC tail C: Short PC tail S: Specific PC tail *Dimensions in millimeters*

8D Series

D38999 Titanium Series



Connectors weight

| | With contacts | | | | | | Without contact | | | | | |
|-------|---------------|--------|---------------------|--------|---------------------|--------|-----------------|--------|---------------------|--------|---------------------|--------|
| | Plug (type 5) | | Receptacle (type 0) | | Receptacle (type 7) | | Plug (type 5) | | Receptacle (type 0) | | Receptacle (type 7) | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 09 35 | 18.23 | 19.81 | 14.37 | 15.95 | 20.14 | 21.72 | 17.81 | 18.31 | 13.95 | 14.45 | 19.72 | 20.22 |
| 09 98 | 18.23 | 19.53 | 14.37 | 15.67 | 20.14 | 21.44 | 17.81 | 18.33 | 13.95 | 14.47 | 19.72 | 20.24 |
| 11 01 | 23.15 | 26.09 | 18.19 | 21.13 | 25.63 | 28.57 | 22.49 | 24.49 | 17.53 | 19.53 | 24.97 | 26.97 |
| 11 02 | 22.78 | 25.32 | 17.82 | 20.36 | 28.1 | 30.64 | 22.16 | 23.76 | 17.2 | 18.8 | 27.48 | 29.08 |
| 11 04 | 22.97 | 26.03 | 18.01 | 21.07 | 25.45 | 28.51 | 22.41 | 24.43 | 17.45 | 19.47 | 24.89 | 26.91 |
| 11 05 | 23.00 | 26.21 | 18.04 | 21.25 | 25.24 | 28.69 | 22.30 | 24.21 | 17.34 | 19.25 | 24.78 | 26.69 |
| 11 22 | 22.64 | 25.06 | 17.68 | 20.10 | 27.96 | 30.38 | 22.36 | 24.06 | 17.40 | 19.10 | 27.68 | 29.38 |
| 11 35 | 22.90 | 26.37 | 17.94 | 21.41 | 25.14 | 28.85 | 21.99 | 23.12 | 17.03 | 18.16 | 24.47 | 25.60 |
| 11 80 | 25.38 | 29.86 | 20.08 | 24.88 | 30.66 | 35.78 | 22.10 | 22.86 | 16.80 | 17.88 | 27.38 | 28.78 |
| 11 98 | 22.87 | 25.63 | 17.91 | 20.67 | 25.35 | 28.11 | 22.03 | 23.23 | 17.07 | 18.27 | 24.51 | 25.71 |
| 11 99 | 23.04 | 26.26 | 18.06 | 21.28 | 25.53 | 28.75 | 22.06 | 23.46 | 17.08 | 18.48 | 24.55 | 25.95 |
| 13 04 | 32.44 | 36.22 | 23.56 | 27.34 | 34.11 | 37.89 | 31.20 | 33.10 | 22.32 | 24.22 | 32.87 | 34.77 |
| 13 08 | 32.82 | 38.00 | 23.94 | 29.12 | 34.49 | 39.67 | 31.70 | 34.80 | 22.82 | 25.92 | 33.37 | 36.47 |
| 13 26 | 33.19 | 38.84 | 24.31 | 29.96 | 34.86 | 40.51 | 31.45 | 34.14 | 22.57 | 25.26 | 33.12 | 35.81 |
| 13 35 | 32.62 | 38.39 | 23.74 | 29.51 | 34.29 | 40.06 | 31.08 | 32.89 | 22.20 | 24.01 | 32.75 | 34.56 |
| 13 98 | 32.48 | 37.10 | 23.60 | 28.22 | 34.15 | 38.77 | 31.08 | 33.10 | 22.20 | 24.22 | 32.75 | 34.77 |
| 15 05 | 39.61 | 44.95 | 28.77 | 34.11 | 41.40 | 46.74 | 38.06 | 41.05 | 27.22 | 30.21 | 39.85 | 42.84 |
| 15 15 | 40.41 | 47.57 | 29.57 | 36.73 | 42.20 | 49.36 | 38.14 | 41.19 | 27.30 | 30.35 | 39.93 | 42.98 |
| 15 18 | 40.62 | 49.50 | 29.78 | 38.66 | 42.41 | 51.29 | 38.10 | 42.30 | 27.26 | 31.46 | 39.89 | 44.09 |
| 15 19 | 40.15 | 47.88 | 29.31 | 37.04 | 41.94 | 49.67 | 37.49 | 40.28 | 26.65 | 29.44 | 39.28 | 42.07 |
| 15 35 | 40.25 | 49.49 | 29.41 | 38.65 | 42.04 | 51.28 | 37.66 | 40.24 | 26.82 | 29.40 | 39.45 | 42.03 |
| 15 97 | 40.08 | 47.13 | 29.24 | 36.29 | 41.87 | 48.92 | 37.72 | 40.81 | 26.88 | 29.97 | 39.51 | 42.60 |
| 17 02 | 48.16 | 58.40 | 45.20 | 55.44 | 63.99 | 74.23 | 44.89 | 51.85 | 41.93 | 48.89 | 60.72 | 67.68 |
| 17 06 | 43.73 | 53.33 | 40.90 | 50.50 | 54.23 | 63.83 | 39.77 | 43.73 | 36.94 | 40.90 | 50.27 | 54.23 |
| 17 08 | 42.72 | 51.45 | 39.89 | 48.62 | 53.22 | 61.95 | 40.24 | 45.21 | 37.41 | 42.38 | 50.74 | 55.71 |
| 17 26 | 43.30 | 54.09 | 40.47 | 51.26 | 53.80 | 64.59 | 39.66 | 43.69 | 36.83 | 40.86 | 50.16 | 54.19 |
| 17 35 | 43.54 | 57.09 | 40.71 | 54.26 | 54.04 | 67.59 | 39.69 | 43.34 | 36.86 | 40.51 | 50.19 | 53.84 |
| 17 75 | 49.14 | 60.43 | 46.31 | 57.60 | 59.64 | 70.93 | 40.14 | 46.43 | 37.31 | 43.60 | 50.64 | 56.93 |
| 17 99 | 43.35 | 53.91 | 40.52 | 51.08 | 53.85 | 64.41 | 39.79 | 43.95 | 36.96 | 41.12 | 50.29 | 54.45 |
| 19 11 | 55.16 | 68.75 | 44.00 | 57.59 | 61.25 | 74.84 | 51.75 | 60.17 | 40.59 | 66.26 | 40.59 | 66.26 |
| 19 32 | 54.37 | 67.77 | 43.21 | 56.61 | 60.46 | 73.86 | 49.89 | 54.97 | 38.73 | 61.06 | 38.73 | 61.06 |
| 19 35 | 54.68 | 71.13 | 43.52 | 59.97 | 60.77 | 77.22 | 50.06 | 54.63 | 38.90 | 60.72 | 38.90 | 60.72 |
| 21 11 | 64.64 | 84.48 | 54.31 | 74.15 | 71.62 | 91.46 | 57.38 | 66.88 | 47.05 | 73.86 | 47.05 | 73.86 |
| 21 16 | 61.74 | 77.02 | 51.41 | 66.69 | 68.72 | 84.00 | 56.78 | 64.54 | 46.45 | 71.52 | 46.45 | 71.52 |
| 21 35 | 62.02 | 82.68 | 51.69 | 72.35 | 69.00 | 89.66 | 56.49 | 62.93 | 46.16 | 69.91 | 46.16 | 69.91 |
| 21 39 | 63.40 | 83.73 | 53.07 | 73.40 | 70.38 | 90.71 | 57.60 | 67.37 | 47.27 | 74.35 | 47.27 | 74.35 |
| 21 41 | 61.94 | 79.31 | 51.61 | 86.29 | 68.92 | 86.29 | 56.20 | 62.91 | 45.87 | 69.89 | 45.87 | 69.89 |
| 21 48 | 68.73 | 88.71 | 58.4 | 78.38 | 81.56 | 101.54 | 55.61 | 62.51 | 45.28 | 52.18 | 68.44 | 75.34 |
| 21 75 | 73.61 | 90.51 | 63.28 | 80.18 | 86.44 | 103.34 | 55.61 | 62.51 | 45.28 | 52.18 | 68.44 | 75.34 |
| 23 21 | 71.07 | 94.32 | 60.57 | 83.82 | 79.15 | 102.40 | 64.56 | 77.94 | 54.06 | 86.02 | 54.06 | 86.02 |
| 23 35 | 69.43 | 95.58 | 58.93 | 85.08 | 77.51 | 103.66 | 62.43 | 70.58 | 51.93 | 78.66 | 51.93 | 78.66 |
| 23 53 | 69.49 | 91.68 | 58.99 | 81.18 | 77.57 | 99.76 | 62.07 | 70.48 | 51.57 | 78.56 | 51.57 | 78.56 |
| 23 55 | 70.24 | 93.31 | 59.74 | 82.81 | 78.32 | 101.39 | 62.54 | 71.31 | 52.04 | 79.39 | 52.04 | 79.39 |
| 25 07 | 83.91 | 117.09 | 73.64 | 123.58 | 99.34 | 121.8 | 68.12 | 78.84 | 57.85 | 85.33 | 83.55 | 83.55 |
| 25 11 | 91.92 | 111.92 | 81.65 | 101.65 | 94.65 | 127.35 | 71.12 | 84.12 | 60.85 | 73.85 | 86.55 | 99.55 |
| 25 19 | 81.78 | 113.79 | 71.51 | 103.52 | 90.20 | 122.21 | 69.24 | 83.39 | 58.97 | 91.81 | 58.97 | 91.81 |
| 25 24 | 81.28 | 112.64 | 71.01 | 102.37 | 89.70 | 121.06 | 69.64 | 84.08 | 59.37 | 92.50 | 59.37 | 92.50 |
| 25 29 | 79.60 | 108.57 | 69.33 | 98.30 | 88.02 | 116.99 | 70.61 | 85.95 | 60.34 | 94.37 | 60.34 | 94.37 |
| 25 35 | 77.39 | 110.22 | 67.12 | 99.95 | 85.81 | 118.64 | 68.43 | 78.22 | 58.16 | 86.64 | 58.16 | 86.64 |
| 25 37 | 79.59 | 107.09 | 69.32 | 116.12 | 95.02 | 113.36 | 68.12 | 79.04 | 57.85 | 87.26 | 83.55 | 84.50 |
| 25 44 | 99.96 | 127.50 | 89.69 | 134.23 | 115.39 | 134.44 | 66.42 | 77.85 | 56.15 | 86.33 | 81.85 | 84.54 |
| 25 43 | 79.64 | 110.32 | 69.37 | 100.05 | 88.06 | 118.74 | 70.22 | 85.52 | 59.95 | 93.94 | 59.95 | 93.94 |
| 25 46 | 81.94 | 105.78 | 71.67 | 95.51 | 90.36 | 114.20 | 67.30 | 77.46 | 57.03 | 85.88 | 57.03 | 85.88 |
| 25 61 | 76.69 | 103.44 | 66.42 | 93.17 | 85.11 | 111.86 | 68.15 | 79.04 | 57.88 | 87.46 | 57.88 | 87.46 |
| 25 08 | 103.02 | 134.85 | 92.75 | 124.58 | 111.44 | 143.27 | 67.02 | 78.85 | 56.75 | 87.27 | 56.75 | 87.27 |
| 25 20 | 88.04 | 118.26 | 77.77 | 107.99 | 96.46 | 126.68 | 66.47 | 76.72 | 56.20 | 85.14 | 56.20 | 85.14 |
| 25 04 | 80.44 | 110.29 | 70.17 | 100.02 | 88.86 | 118.71 | 71.24 | 84.85 | 60.97 | 93.27 | 60.97 | 93.27 |

Weight in gram (+/- 15%)

* Please, consult us for weight of receptacles type 77.



8D Series

D38999 Bronze Series

Connector part numbers

| | | | | | | | |
|---|-----|----|---|----|----|---|---|
| Basic Series | JVS | 16 | A | 11 | 35 | P | N |
| Shell style: | | | | | | | |
| 00: Square flange receptacle | | | | | | | |
| 07: Jam nut receptacle | | | | | | | |
| 16: Plug with RFI shielding | | | | | | | |
| Material: | | | | | | | |
| A: Bronze housing material | | | | | | | |
| Shell size: | | | | | | | |
| 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | |
| Contact layout: | | | | | | | |
| See pages 13 to 19 | | | | | | | |
| Contact type: | | | | | | | |
| P: Pin A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) | | | | | | | |
| S: Socket B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation) | | | | | | | |
| Orientation: | | | | | | | |
| N, A, B, C, D, E (see page 75) | | | | | | | |
| Specification: | | | | | | | |
| 251: Connector provides with power contacts (layouts with contacts #8) | | | | | | | |
| CI: Printed board mounting contacts | | | | | | | |
| LI: Receptacle with long PC tail (pin or socket #22D) | | | | | | | |
| L: For P or S contact type only, connectors delivered without contacts, connectors marking P or S plus orientation | | | | | | | |

CECC part numbers

| | | | | | | | | | | | |
|--|-----------|---|---|----|---|---|---|---|---|---|---|
| Basic Series | C 752 002 | B | B | 98 | M | C | N | A | 0 | 1 | G |
| Shell style: | | | | | | | | | | | |
| A: Plug | | | | | | | | | | | |
| B: Square flange receptacle | | | | | | | | | | | |
| C: Jam nut receptacle | | | | | | | | | | | |
| Shell size: | | | | | | | | | | | |
| 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | | | | | |
| Contact layout: | | | | | | | | | | | |
| See pages 13 to 19 | | | | | | | | | | | |
| Contact type: | | | | | | | | | | | |
| M: Pin | | | | | | | | | | | |
| F: Socket | | | | | | | | | | | |
| Type of contact termination: | | | | | | | | | | | |
| C: Crimp contact | | | | | | | | | | | |
| Orientation: | | | | | | | | | | | |
| N, A, B, C, D, E (see page 75) | | | | | | | | | | | |
| Shell material: | | | | | | | | | | | |
| A: Aluminum bronze | | | | | | | | | | | |
| Supply code: | | | | | | | | | | | |
| 0: Connectors supplied with contacts | | | | | | | | | | | |
| 1: Connectors supplied without contacts | | | | | | | | | | | |
| Assessment level: | | | | | | | | | | | |
| 1: Level 1 | | | | | | | | | | | |
| Performance level: | | | | | | | | | | | |
| G: Level G | | | | | | | | | | | |

Note: C 752 002 refers to the abbreviated form of the CECC 75 201-002 type designation.

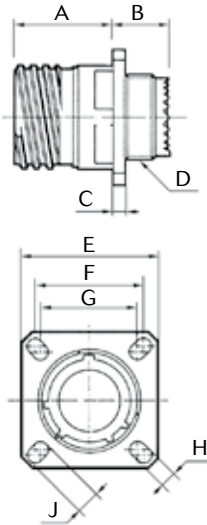
8D Series

D38999 Bronze Series



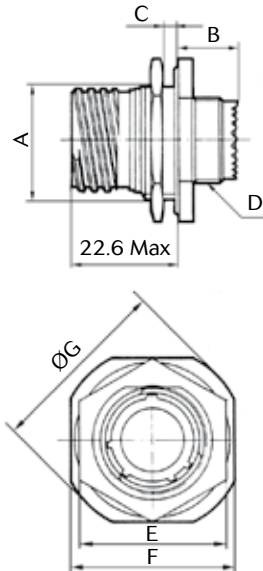
Dimensions

Receptacle type 00 (JVS) or type B (CECC)



| Shell size | A Max | B Max | C Max | D Thread | E ^{±0.3} | F | G | H ^{±0.2} | J ^{±0.2} |
|------------|------------|-------|-------|------------|-------------------|-------|------------|-------------------|-------------------|
| 09 (A) | 20.2 | 11.4 | 2.5 | M12 x 1-6g | 23.8 | 18.26 | 15.09 | 3.25 | 5.49 |
| 11 (B) | | | | M15 x 1-6g | 26.2 | 20.62 | 18.26 | | 4.93 |
| 13 (C) | | | | M18 x 1-6g | 28.6 | 23.01 | 20.62 | | 4.4 |
| 15 (D) | | | | M22 x 1-6g | 31 | 24.61 | 23.01 | | |
| 17 (E) | | | | M25 x 1-6g | 33.3 | 26.97 | 24.61 | | |
| 19 (F) | | | | 19.8 | 11.8 | 3.2 | M28 x 1-6g | | 36.5 |
| 21 (G) | M31 x 1-6g | 39.7 | 31.75 | | 29.36 | | | | |
| 23 (H) | M34 x 1-6g | 42.9 | 34.93 | | 31.75 | | | | |
| 25 (J) | | 11.4 | | M37 x 1-6g | 46 | 38.1 | 34.93 | 3.91 | 6.15 |

Receptacle type 07 (JVS) or type C (CECC)



| Shell size | A ^{±0.15} | B Max | C Max | D Thread | E Max | F ^{±0.4} | ØG Max |
|------------|--------------------|-------|-------|------------|-------|-------------------|--------|
| 09 (A) | 16.53 | 9.9 | 3.2 | M12 x 1-6g | 23 | 27 | 30.5 |
| 11 (B) | 19.07 | | | M15 x 1-6g | 26 | 31.8 | 35.2 |
| 13 (C) | 23.82 | | | M18 x 1-6g | 31 | 34.9 | 38.4 |
| 15 (D) | 26.97 | | | M22 x 1-6g | 34 | 38.1 | 41.6 |
| 17 (E) | 30.15 | | | M25 x 1-6g | 37 | 41.3 | 44.8 |
| 19 (F) | 33.32 | | | M28 x 1-6g | 41 | 46 | 49.5 |
| 21 (G) | 36.50 | | | M31 x 1-6g | 46 | 49.2 | 52.7 |
| 23 (H) | 39.67 | | | 55.9 | 47 | 52.4 | 55.9 |
| 25 (J) | 42.85 | | | 59 | 51.23 | 55.6 | 59 |

Recommended coupling torque on panel for jam nut receptacle (type 7)

| Shell | 09 (A) | 11 (B) | 13 (C) | 15 (D) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Coupling torque (±0.5 N.m) | 4 | 5 | 7 | 8 | 9 | 10 | 12 | 13 | 14 |

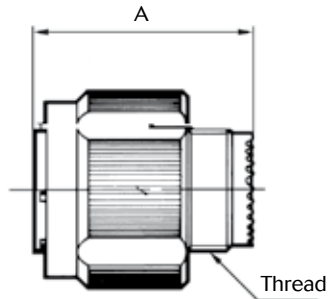
Note: All dimensions are in millimeters (mm)



8D Series

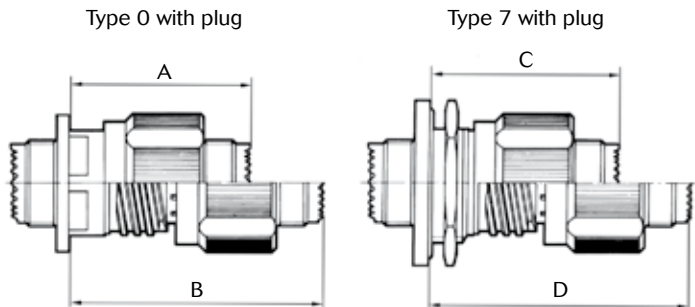
D38999 Bronze Series

Plug type 16 (JVS) or type A (CECC)



| Shell size | A Max | Thread | ØB Max |
|------------|-------|------------|--------|
| 09 (A) | 31.00 | M12 x 1-6g | 21.10 |
| 11 (B) | | M15 x 1-6g | 23.80 |
| 13 (C) | | M18 x 1-6g | 28.20 |
| 15 (D) | | M22 x 1-6g | 31.40 |
| 17 (E) | | M25 x 1-6g | 36.50 |
| 19 (F) | | M28 x 1-6g | 39.30 |
| 21 (G) | | M31 x 1-6g | 42.50 |
| 23 (H) | | M34 x 1-6g | 45.30 |
| 25 (J) | | M37 x 1-6g | 48.40 |

Mated connectors dimensions



| Shell size | A Max | B Max | C Max | D Max |
|------------|-------|-------|-------|-------|
| 09 (A) | 37.00 | 52.30 | 38.30 | 53.60 |
| 11 (B) | | | | |
| 13 (C) | | | | |
| 15 (D) | | | | |
| 17 (E) | | | | |
| 19 (F) | | | | |
| 21 (G) | 36.00 | 51.30 | | |
| 23 (H) | | | | |
| 25 (J) | | | | |

8D Series

D38999 Bronze Series



Receptacle with straight PC tail contacts (CI & LI specification)



| | Shell size | | | 09 (A) | 11 (B) | 13 (C) | 15 (C) | 17 (E) | 19 (F) | 21 (G) | 23 (H) | 25 (J) | |
|-----|--------------|--------------|--------------|--------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--|
| | Contact size | Contact type | PC tail type | | | | | | | | | | |
| A | | #22D | M & F | L | 0.70 | | | | | | | | |
| | | #22D | M & F | C | 0.50 | | | | | | | | |
| | | #20 | M & F | C | 0.70 | | | | | | | | |
| | | #16 | M & F | C | 1.12 ^{±0.03} | | | | | | | | |
| L1 | Min | #22D | M | L | 10.52 | | | | | | 10.34 | | |
| | Max | #22D | M | L | 11.46 | | | | | | 11.28 | | |
| | Min | #22D | F | L | 10.19 | | | | | | 10.01 | | |
| | Max | #22D | F | L | 11.46 | | | | | | 11.28 | | |
| | Min | #22D | M | C | 10.19 | | | | | | 10.01 | | |
| | Max | #22D | M | C | 11.46 | | | | | | 11.28 | | |
| | Min | #22D | F | C | 10.69 | | | | | | 10.51 | | |
| | Max | #22D | F | C | 11.63 | | | | | | 11.45 | | |
| | Min | #20 | M | C | 10.36 | | | | | | 10.18 | | |
| | Max | #20 | M | C | 11.63 | | | | | | 11.45 | | |
| | Min | #20 | F | C | 10.69 | | | | | | 10.51 | | |
| | Max | #20 | F | C | 11.63 | | | | | | 11.45 | | |
| | Min | #16 | M | C | 10.69 | | | | | | 10.51 | | |
| | Max | #16 | M | C | 11.63 | | | | | | 11.45 | | |
| L2 | | #22D | M & F | L | 8.50 | | | | | | | | |
| | | #22D | M & F | C | 5.10 | | | | | | | | |
| | | #20 | M & F | C | 5.10 | | | | | | | | |
| | | #16 | M & F | C | 5 ^{±0.1} | | | | | | | | |
| L3 | Min | #22D | M | L | 9.48 | | | | | 9.59 | | | |
| | Max | #22D | M | L | 10.58 | | | | | 10.69 | | | |
| | Min | #22D | F | L | 9.15 | | | | | 9.26 | | | |
| | Max | #22D | F | L | 10.58 | | | | | 10.69 | | | |
| | Min | #22D | M | C | 9.65 | | | | | 9.76 | | | |
| | Max | #22D | M | C | 10.75 | | | | | 10.86 | | | |
| | Min | #22D | F | C | 9.15 | | | | | 9.26 | | | |
| | Max | #22D | F | C | 10.75 | | | | | 10.86 | | | |
| | Min | #20 | M | C | 9.65 | | | | | 9.76 | | | |
| | Max | #20 | M | C | 10.75 | | | | | 10.86 | | | |
| | Min | #20 | F | C | 9.65 | | | | | 9.76 | | | |
| | Max | #20 | F | C | 10.75 | | | | | 10.86 | | | |
| | Min | #16 | M | C | 9.64 | | | | | 9.75 | | | |
| | Max | #16 | M | C | 10.75 | | | | | 10.86 | | | |
| Min | #16 | F | C | 9.64 | | | | | 9.75 | | | | |
| Max | #16 | F | C | 10.75 | | | | | 10.86 | | | | |

M: Male contact F: Female contact L: Long PC tail C: Short PC tail

Dimensions in millimeters

8D Series

D38999 Bronze Series



Backshell part numbers

| | | | | | | | |
|--|-----|---|----|---|----|---|----|
| Basic Series | JVS | A | 11 | E | 00 | C | CC |
| Accessory style A : Rear accessory (backshell) | | | | | | | |
| Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | |
| Accessory type: A: Screened adaptor for use with compression spring or band strap B: Adaptor with strain relief cable clamp E: Screened adaptor with braid trap G: Environmental cone clamp screened adaptor P: Adaptor for heat shrink boot X: Cone clamp screened adaptor | | | | | | | |
| Cable entry codification (see table below): For B type: 00: Standard, by default choice For other types: 00: Standard, by default choice 03 to 32: Depending on backshell type, please refer to corresponding table | | | | | | | |
| Angle: A: Straight backshell (orientation by default) B: 45° backshell (except for «B Type» accessory) C: 90° right angle backshell | | | | | | | |
| Variant: For all types: None: Supplied without any other accessory For E and X type: CC: Cable clamp variant | | | | | | | |

How to built a backshell reference for types A, E or G

| Backshell type | Shell size | Standard correspondance | | Specific |
|----------------|------------|-------------------------|----------------------|------------------------|
| | | Entry codification | Entry size backshell | Other entry cofication |
| Type A & E | 09 | 00 | 04 | 03 |
| | 11 | 00 | 06 | 05 to 03 |
| | 13 | 00 | 08 | 07 to 04 |
| | 15 | 00 | 10 | 09 to 06 |
| | 17 | 00 | 12 | 11 to 08 |
| | 19 | 00 | 13 | 12 to 09 |
| | 21 | 00 | 16 | 15 to 12 |
| | 23 | 00 | 18 | 17 to 14 |
| | 25 | 00 | 20 | 19 to 16 |

| Backshell type | Shell size | Standard correspondance | | Specific |
|----------------|------------|-------------------------|----------------------|------------------------|
| | | Entry codification | Entry size backshell | Other entry cofication |
| Type G | 09 | 00 | | |
| | 11 | 00 | 04 | |
| | 13 | 00 | 06 | 04 |
| | 15 | 00 | 10 | 08 to 04 |
| | 17 | 00 | 12 | 11 to 04 |
| | 19 | 00 | 12 | 10 to 04 |
| | 21 | 00 | 16 | 12 to 04 |
| | 23 | 00 | 16 | 12 to 04 |
| | 25 | 00 | 16 | 12 to 04 |

Examples:

To order a right angle backshell type "A" size 15 with entry size 10 → placed your order with: JVSA 15G00C

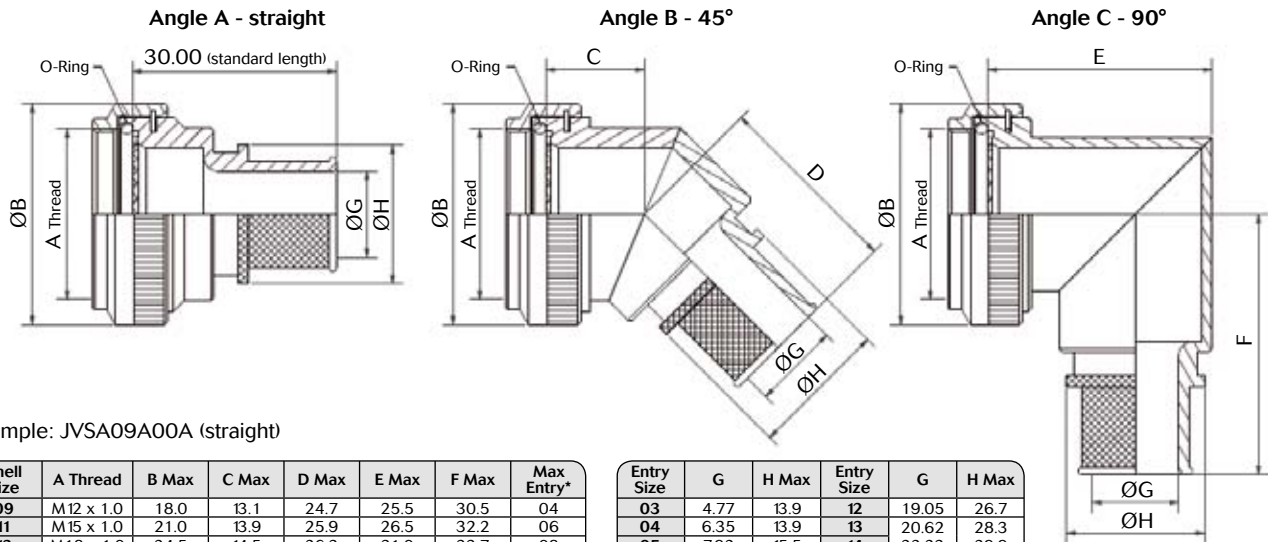
To order a right angle backshell type "A" size 15 with entry size 06 → placed your order with: JVSA 15G06C

8D Series

D38999 Bronze Series



Type A - Screened adaptor for use with compression spring or band strap



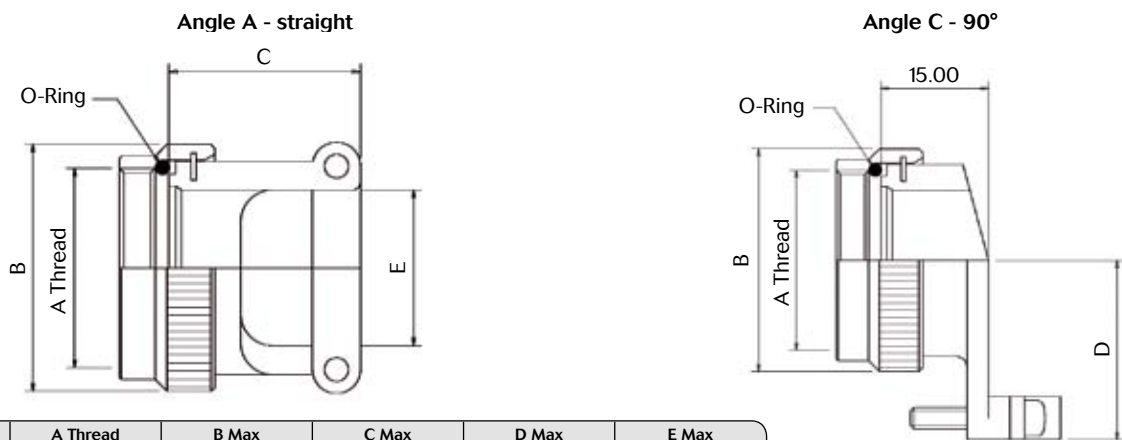
Example: JVSA09A00A (straight)

| Shell Size | A Thread | B Max | C Max | D Max | E Max | F Max | Max Entry* |
|------------|-----------|-------|-------|-------|-------|-------|------------|
| 09 | M12 x 1.0 | 18.0 | 13.1 | 24.7 | 25.5 | 30.5 | 04 |
| 11 | M15 x 1.0 | 21.0 | 13.9 | 25.9 | 26.5 | 32.2 | 06 |
| 13 | M18 x 1.0 | 24.5 | 14.5 | 26.3 | 31.0 | 33.7 | 08 |
| 15 | M22 x 1.0 | 29.0 | 15.5 | 27.2 | 37.0 | 35.2 | 10 |
| 17 | M25 x 1.0 | 32.5 | 16.1 | 28.0 | 40.0 | 36.9 | 12 |
| 19 | M28 x 1.0 | 35.5 | 16.8 | 28.3 | 44.5 | 38.5 | 13 |
| 21 | M31 x 1.0 | 37.0 | 17.1 | 29.1 | 49.0 | 40.1 | 16 |
| 23 | M34 x 1.0 | 40.0 | 17.7 | 29.5 | 51.5 | 41.6 | 18 |
| 25 | M37 x 1.0 | 43.5 | 18.4 | 30.4 | 53.0 | 43.1 | 20 |

| Entry Size | G | H Max | Entry Size | G | H Max |
|------------|-------|-------|------------|-------|-------|
| 03 | 4.77 | 13.9 | 12 | 19.05 | 26.7 |
| 04 | 6.35 | 13.9 | 13 | 20.62 | 28.3 |
| 05 | 7.92 | 15.5 | 14 | 22.23 | 29.9 |
| 06 | 9.52 | 17.2 | 15 | 23.82 | 31.5 |
| 07 | 11.10 | 18.7 | 16 | 25.40 | 33.1 |
| 08 | 12.70 | 20.3 | 17 | 27.00 | 34.7 |
| 09 | 14.27 | 21.9 | 18 | 28.60 | 36.3 |
| 10 | 15.88 | 23.5 | 19 | 30.20 | 37.9 |
| 11 | 17.47 | 25.1 | 20 | 31.80 | 39.5 |

* Recommendation only, please consult us for outside entry size

Type B - Adaptor with strain relief cable clamp



| Shell Size | A Thread | B Max | C Max | D Max | E Max |
|------------|-----------|-------|-------|-------|-------|
| 09 | M12 x 1.0 | 18.0 | 21.5 | 20.0 | 7.0 |
| 11 | M15 x 1.0 | 21.0 | 21.5 | 21.0 | 10.5 |
| 13 | M18 x 1.0 | 24.5 | 23.5 | 22.0 | 13.4 |
| 15 | M22 x 1.0 | 29 | 23.5 | 23.0 | 16.5 |
| 17 | M25 x 1.0 | 32.5 | 24.5 | 25.0 | 19.7 |
| 19 | M28 x 1.0 | 35.5 | 27.5 | 27.5 | 22.2 |
| 21 | M31 x 1.0 | 37.0 | 34.5 | 30.0 | 25.6 |
| 23 | M34 x 1.0 | 40.0 | 37.5 | 31.5 | 28.5 |
| 25 | M37 x 1.0 | 43.5 | 37.5 | 34.5 | 31.7 |

Example: JVSA09B00A (straight)

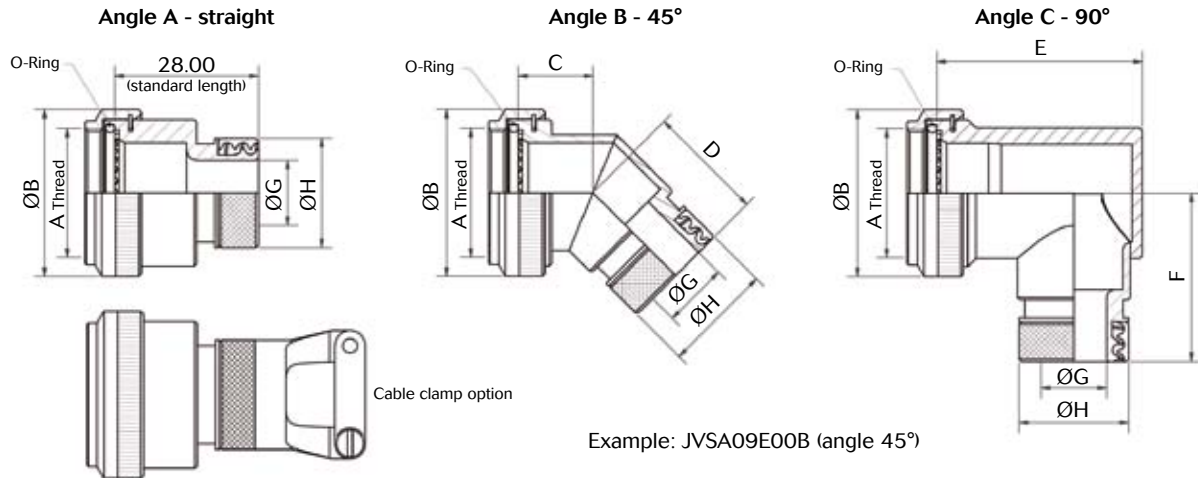
Note: All dimensions are in millimeters (mm)

8D Series

D38999 Bronze Series



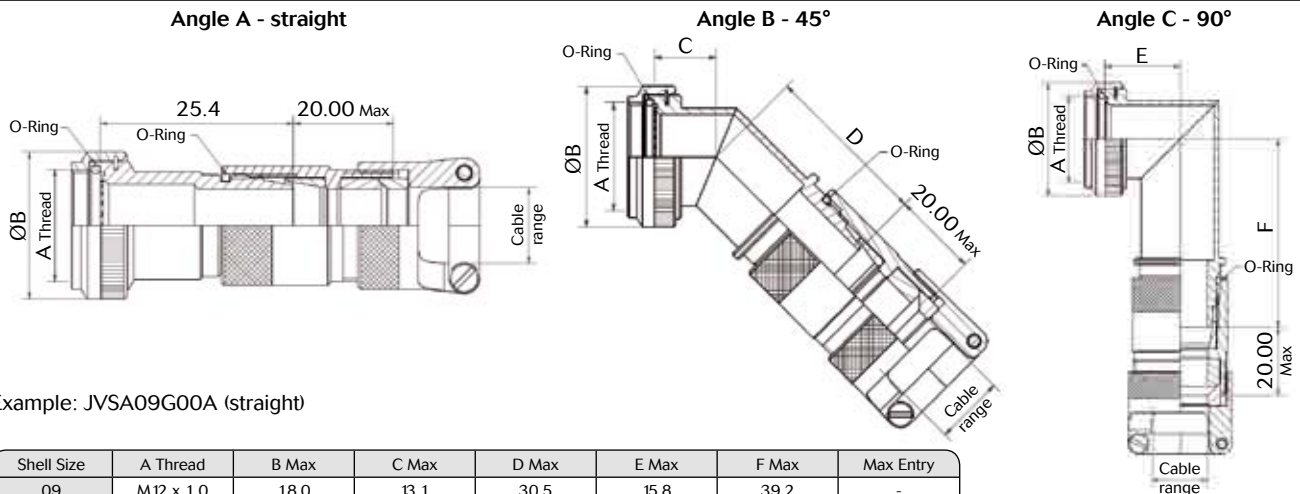
Type E - Screened adaptor with braid trap



| Shell Size | A Thread | B Max | C Max | D Max | E Max | F Max | Max Entry |
|------------|-----------|-------|-------|-------|-------|-------|-----------|
| 09 | M12 x 1.0 | 18.0 | 13.1 | 23.6 | 25.7 | 30.5 | 04 |
| 11 | M15 x 1.0 | 21.0 | 13.9 | 24.4 | 26.7 | 32.2 | 06 |
| 13 | M18 x 1.0 | 24.5 | 14.5 | 24.8 | 31.2 | 33.7 | 08 |
| 15 | M22 x 1.0 | 29.0 | 15.5 | 25.6 | 37.2 | 35.2 | 10 |
| 17 | M25 x 1.0 | 32.5 | 16.1 | 26.4 | 40.2 | 36.9 | 12 |
| 19 | M28 x 1.0 | 35.5 | 16.8 | 26.8 | 44.7 | 38.5 | 13 |
| 21 | M31 x 1.0 | 37.0 | 17.1 | 27.6 | 49.2 | 40.1 | 16 |
| 23 | M34 x 1.0 | 40.0 | 17.7 | 28.0 | 51.7 | 41.6 | 18 |
| 25 | M37 x 1.0 | 43.5 | 18.4 | 29.0 | 53.2 | 43.1 | 20 |

| Entry Size | G | H Max | Entry Size | G | H Max |
|------------|-------|-------|------------|-------|-------|
| 03 | 4.77 | 15.0 | 12 | 19.05 | 27.7 |
| 04 | 6.35 | 15.0 | 13 | 20.62 | 29.3 |
| 05 | 7.92 | 16.6 | 14 | 22.23 | 30.9 |
| 06 | 9.52 | 18.2 | 15 | 23.82 | 32.5 |
| 07 | 11.10 | 19.8 | 16 | 25.40 | 34.1 |
| 08 | 12.70 | 21.4 | 17 | 27.00 | 35.7 |
| 09 | 14.27 | 23.0 | 18 | 28.60 | 37.3 |
| 10 | 15.88 | 24.6 | 19 | 30.20 | 39.1 |
| 11 | 17.47 | 26.2 | 20 | 31.80 | 40.4 |

Type G - Environmental cone clamp screened adaptor



| Shell Size | A Thread | B Max | C Max | D Max | E Max | F Max | Max Entry |
|------------|-----------|-------|-------|-------|-------|-------|-----------|
| 09 | M12 x 1.0 | 18.0 | 13.1 | 30.5 | 15.8 | 39.2 | - |
| 11 | M15 x 1.0 | 21.0 | 13.9 | 30.5 | 17.6 | 42.3 | 04 |
| 13 | M18 x 1.0 | 24.5 | 14.5 | 32.5 | 19.0 | 42.8 | 06 |
| 15 | M22 x 1.0 | 29.0 | 15.5 | 40.3 | 21.5 | 50.5 | 10 |
| 17 | M25 x 1.0 | 32.5 | 16.1 | 43.1 | 23.1 | 52.8 | 12 |
| 19 | M28 x 1.0 | 35.5 | 16.8 | 47.9 | 24.5 | 57.1 | 12 |
| 21 | M31 x 1.0 | 37.0 | 17.1 | 47.9 | 25.3 | 57.1 | 16 |
| 23 | M34 x 1.0 | 40.0 | 17.7 | 56.5 | 27.5 | 64.7 | 16 |
| 25 | M37 x 1.0 | 43.5 | 18.4 | 56.5 | 28.3 | 64.7 | 16 |

| Entry Size | Cable Range |
|------------|-------------|
| 04 | 3.2 - 7.9 |
| 06 | 6.4 - 11.1 |
| 08 | 9.8 - 14.3 |
| 10 | 8.9 - 15.9 |
| 12 | 12.7 - 19.1 |
| 16 | 15.9 - 23.8 |

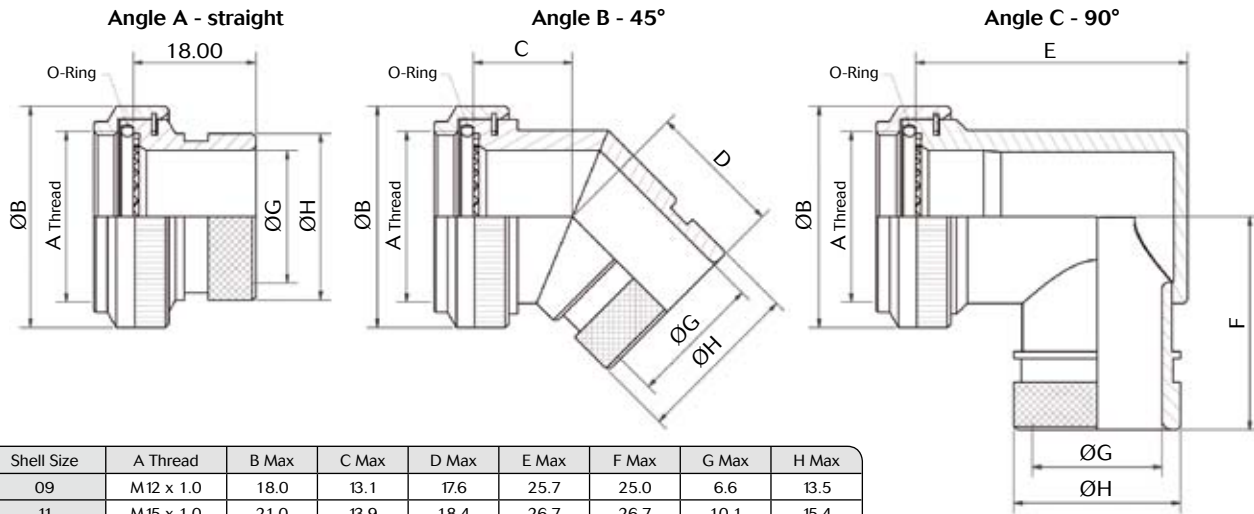
Note: All dimensions are in millimeters (mm)

8D Series

D38999 Bronze Series



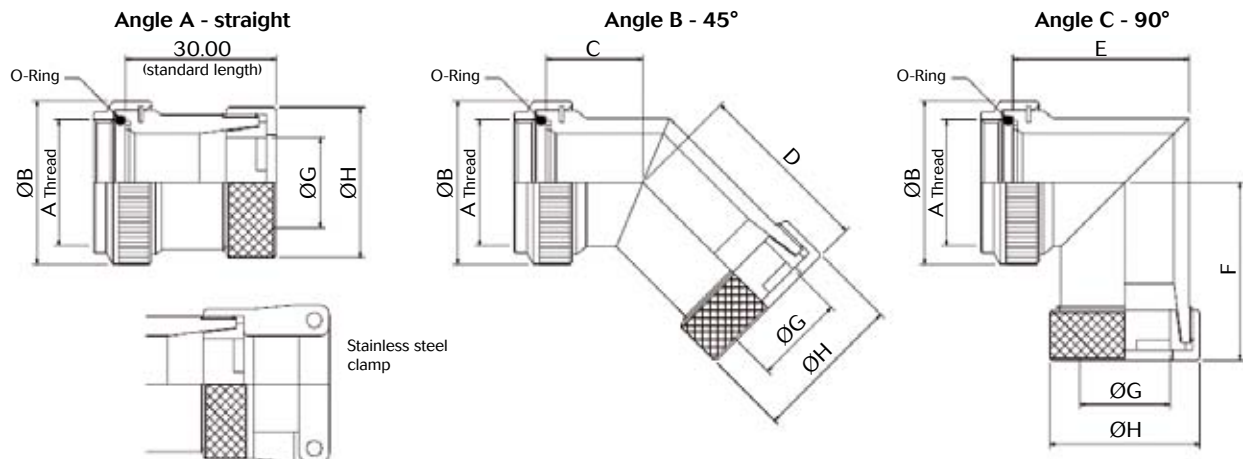
Type P - Adaptor for heat shrink boot



| Shell Size | A Thread | B Max | C Max | D Max | E Max | F Max | G Max | H Max |
|------------|-----------|-------|-------|-------|-------|-------|-------|-------|
| 09 | M12 x 1.0 | 18.0 | 13.1 | 17.6 | 25.7 | 25.0 | 6.6 | 13.5 |
| 11 | M15 x 1.0 | 21.0 | 13.9 | 18.4 | 26.7 | 26.7 | 10.1 | 15.4 |
| 13 | M18 x 1.0 | 24.5 | 14.5 | 19.3 | 31.2 | 28.2 | 13.4 | 19.7 |
| 15 | M22 x 1.0 | 29 | 15.5 | 19.6 | 37.2 | 29.7 | 16.1 | 21.3 |
| 17 | M25 x 1.0 | 32.5 | 16.1 | 20.4 | 40.2 | 31.4 | 19.3 | 24.5 |
| 19 | M28 x 1.0 | 35.5 | 16.8 | 20.8 | 44.7 | 33.0 | 21.7 | 26.5 |
| 21 | M31 x 1.0 | 37.0 | 17.1 | 21.6 | 49.2 | 34.6 | 25 | 31.0 |
| 23 | M34 x 1.0 | 40.0 | 17.7 | 22.5 | 51.7 | 36.1 | 28.1 | 34.4 |
| 25 | M37 x 1.0 | 43.5 | 18.4 | 22.9 | 53.2 | 37.6 | 31.3 | 36.6 |

Example: JVSA09P00C (angle 90°)

Type X - Cone clamp screened adaptor



| Shell Size | A Thread | B Max | C Max | D Max | E Max | F Max | G | H Max |
|------------|-----------|-------|-------|-------|-------|-------|------|-------|
| 09 | M12 x 1.0 | 18.0 | 13.1 | 24.6 | 22.7 | 26.5 | 6.8 | 16.0 |
| 11 | M15 x 1.0 | 21.0 | 13.9 | 25.4 | 26.2 | 28.2 | 9.5 | 19.0 |
| 13 | M18 x 1.0 | 24.5 | 14.5 | 26.3 | 29.2 | 29.7 | 12.8 | 22.0 |
| 15 | M22 x 1.0 | 27.5 | 15.5 | 26.7 | 32.2 | 31.2 | 14.8 | 25.4 |
| 17 | M25 x 1.0 | 31.0 | 16.1 | 27.5 | 35.7 | 32.9 | 17.9 | 28.5 |
| 19 | M28 x 1.0 | 34.0 | 16.8 | 27.8 | 39.7 | 34.5 | 20.0 | 32.0 |
| 21 | M31 x 1.0 | 37.0 | 17.1 | 28.6 | 42.2 | 36.1 | 23.0 | 35.0 |
| 23 | M34 x 1.0 | 40.0 | 17.7 | 29.5 | 45.2 | 37.6 | 26.4 | 38.0 |
| 25 | M37 x 1.0 | 43.5 | 18.4 | 29.9 | 48.2 | 39.1 | 29.3 | 41.0 |

Example: JVSA09X00B (angle 45°)

Note: All dimensions are in millimeters (mm)

8D Series

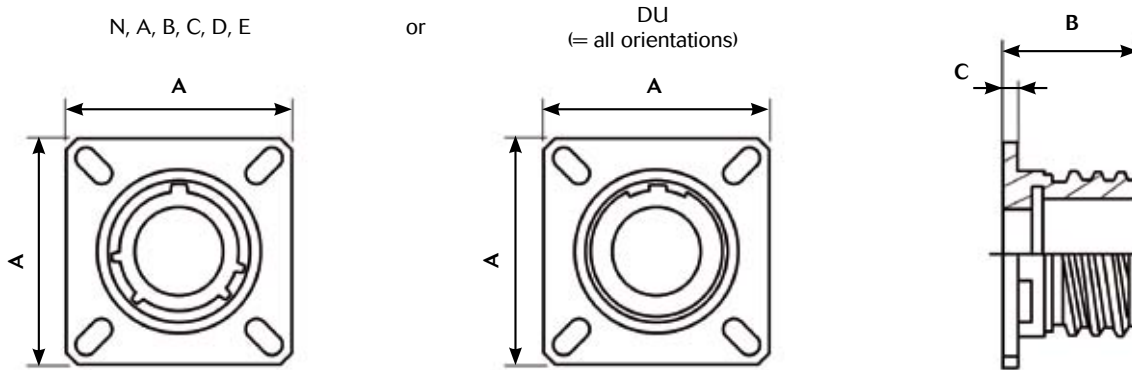
D38999 Bronze Series



Dummy receptacle

Orientations & dimensions

Orientations:

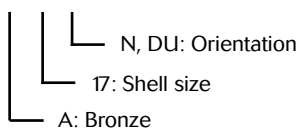


| Shell size | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 |
|-----------------------------------|------|------|------|------|------|------|------|------|------|
| A ^{+0.3} _{-0.3} | 23.8 | 26.2 | 28.6 | 31 | 33.3 | 36.5 | 39.7 | 42.9 | 46 |
| B maxi | 24.2 | 24.2 | 24.2 | 24.2 | 24.2 | 24.2 | 24.1 | 24.1 | 24.1 |
| C maxi | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 3.2 | 3.2 | 3.2 |

Examples of Part Number:

. JVS BN 02 A 17 N

. JVS BN 02 A 17 DU



Equivalent to CECC blind hole. For information only: CECC75201002AxA00A (x = shell size A, B, C, D, ...)
 CECC75201002EA00A (blind hole) = JVSBN02A17DU (through hole)
 (no correspondance CECC with N, A, B, C, D, E orientations)

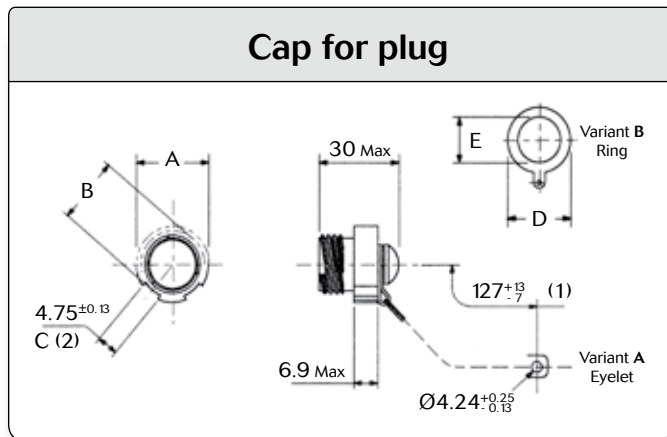
8D Series

D38999 Bronze Series

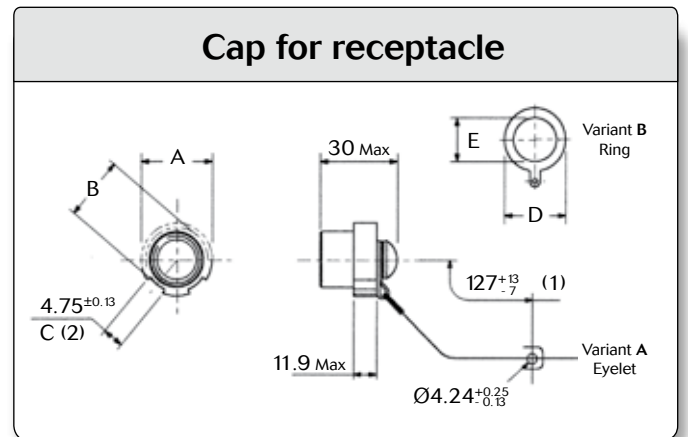


Caps

| | | | | | | |
|------------------|--|---|----|---|----|---|
| Basic Series | JVS | B | 09 | B | 00 | A |
| Accessory style: | B: Protective cap | | | | | |
| Shell size: | 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | |
| Variant: | A: Cap for plug with eyelet (see drawing below) B: Cap for plug with ring (see drawing below) C: Cap for receptacle with eyelet (see drawing below) D: Cap for receptacle with ring (see drawing below) | | | | | |
| Sub variant: | Not applicable | | | | | |
| Material: | A: Bronze | | | | | |



(1) Flexible metal link - (2) Number of notch on A diameter



(1) Flexible metal link - (2) Number of notch on A diameter

| Shell size | A Max | B Max | C | Cap for Plug | | Cap for Receptacle | |
|------------|-------|-------|----|--------------|-------|--------------------|-------|
| | | | | D Max | E Min | D Max | E Min |
| 09 (A) | 21.1 | 19.20 | 8 | 24.20 | 13.50 | 26.80 | 18.40 |
| 11 (B) | 23.8 | 21.80 | | 26.80 | 18.40 | 31.60 | 23.00 |
| 13 (C) | 28.2 | 26.10 | 10 | 30.50 | 19.80 | 36.90 | 26.20 |
| 15 (D) | 31.4 | 29.30 | | 31.60 | 23.00 | 40.10 | 29.40 |
| 17 (E) | 36.5 | 34.40 | 12 | 36.90 | 26.20 | 43.20 | 32.50 |
| 19 (F) | 39.3 | 37.20 | | 40.10 | 29.40 | 46.40 | 35.70 |
| 21 (G) | 42.5 | 40.50 | 16 | 43.20 | 32.50 | 49.20 | 39.10 |
| 23 (H) | 45.3 | 43.10 | | 46.40 | 35.70 | 52.80 | 42.10 |
| 25 (J) | 48.4 | 46.10 | | 49.20 | 39.10 | 55.50 | 45.30 |

Equivalent to CECC, for information CECC75201002Bxy00A (x = shell size, y = variant)

Example: CECC75201002BAC00A = JVS B09 C00A

Note: All dimensions are in millimeters (mm)

and Series.

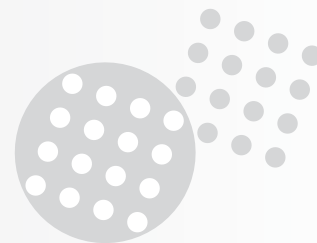


Common Section





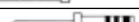



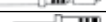

| | | |
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8D Series

Common Section



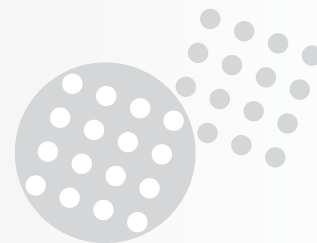
Crimp contacts

| Contact size | Contact type | Souriau Part number (without color code) | MIL-DTL-38999 contacts | | |
|-----------------------------------|--------------|---|------------------------|---|--------------|
| | | | Part number | Profile and color code | |
| #26 | Pin | 8599-0297 | - | | |
| | Socket | 8599-0298 | - | | |
| #22D | Pin | 8599-0702 JJ | M39029/58 360 |  Black / Blue / Orange | |
| | Socket | 8599-0706 900 | M39029/56 348 |  Grey / Yellow / Orange | |
| #20 | Pin | 8599-0703 SA | M39029/58 363 |  Orange / Blue / Orange | |
| | Socket | 8599-0707 900 | M39029/56 351 |  Brown / Green / Orange | |
| #16 | Pin | 8599-0704 MJ | M39029/58 364 |  Yellow / Blue / Orange | |
| | Socket | 8599-0708 900 | M39029/56 352 |  Red / Green / Orange | |
| #16 Coaxial | Pin | - | M39029/76 424 |  Yellow / Red / Yellow | |
| | Socket | - | M39029/77 428 |  Grey / Red / Yellow | |
| #12 | Pin | 8599-0705 MJ | M39029/58 365 |  Green / Blue / Orange | |
| | Socket | 8599-0709 900 | M39029/56 353 |  Orange / Green / Orange | |
| #12 Coaxial | Pin | - | M39029/102 558 | | |
| | Socket | - | M39029/103 559 | | |
| | Pin | - | M39029/28 211 | | |
| | Socket | - | M39029/75 416 | | |
| #10 Power | Pin | - | M39029/58 528 | | |
| | Socket | - | M39029/56 527 | | |
| #8 Power | Pin | 8599-7544 * | - | | |
| | Socket | 8599-7541 * | - | | |
| | Pin | 8599-7580 | - | | |
| | Socket | 8599-7581 | - | | |
| | Boot | | 8599-4542 | - | For wire #8 |
| | | | 8599-4547 | - | For wire #10 |
| Reductor | | 8599-7645 | - | | |
| #8 Coaxial | Pin | - | M39029/60 367 | | |
| | Socket | - | M39029/59 366 | | |
| | Boot | 8590-4571 | - | | |
| #8 Concentric Twinax | Pin | - | M39029/90 529 | | |
| | Socket | - | M39029/91 530 | | |
| | Boot | 8590-4571 | - | | |
| #4 Power | Pin | 8599-7598 900 ** | - | For wire 25 mm ² | |
| | Socket | 8599-7599 900 ** | - | | |
| | Pin | 8599-7534 | - | For wire 21.15 mm ² | |
| | Socket | 8599-7535 | - | | |
| | Boot | for cable 16 mm ² | 8599-4594 | - | |
| | | for cable 10 mm ² | 8599-4593 | - | |
| Reductor cable 10 mm ² | | 8400-2351A | - | | |
| #4 Power with reduced barrel | Pin | 8599-7528 900 | - | Mating part #4 / Barrel #6 | |
| | Socket | 8599-7529 900 | - | | |
| | Boot | 8599-4593 | - | | |

* JVS only. ** Not included in connector Part number. Must be ordered separately.

8D Series

Common Section



Crimp contacts



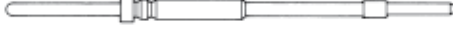








| Contact size | Contact type | Contact Ø | Conductor section AWG | | Conductor section mm ² | | External Ø over insulator | |
|------------------------------|-----------------------------------|-----------|--|-----|-----------------------------------|-------|---------------------------|------|
| | | | Min | Max | Min | Max | Min | Max |
| #26 | Pin | 0.50 | 30 | 24 | 0.055 | 0.215 | 0.60 | 0.83 |
| | Socket | | | | | | | |
| #22D | Pin | 0.76 | 28 | 22 | 0.095 | 0.34 | 0.76 | 1.37 |
| | Socket | | | | | | | |
| #20 | Pin | 1.00 | 24 | 20 | 0.21 | 0.60 | 1.02 | 2.11 |
| | Socket | | | | | | | |
| #16 | Pin | 1.60 | 20 | 16 | 0.60 | 1.34 | 1.65 | 2.77 |
| | Socket | | | | | | | |
| #16 Coaxial | Pin | 1.60 | RG 174 | | | | 1.65 | 2.60 |
| | Socket | | RG 179 RG 316 | | | | | |
| #12 | Pin | 2.40 | 14 | 12 | 1.91 | 3.18 | 2.46 | 3.61 |
| | Socket | | | | | | | |
| #12 Coaxial | Pin | 2.40 | RG 174 | | | | 2.40 | 2.60 |
| | Socket | | RG 179 | | | | | |
| | Pin | | RG 316 | | | | | |
| | Socket | | | | | | | |
| #10 Power | Pin | 3.20 | Please consult us | | | | - | 2.95 |
| | Socket | | | | | | | |
| #8 Power | Pin | 3.64 | - | 8 | - | 8.98 | - | - |
| | Socket | | - | - | - | - | 4.50 | 6.50 |
| | Boot | | - | - | - | - | 2.50 | 4 |
| | Reductor | | - | - | - | - | - | - |
| #8 Coaxial | Pin | 3.64 | RG 180 A/U | | | | - | 2.80 |
| | Socket | | | | | | | |
| | Boot | | | | | | | |
| #8 Concentric Twinax | Pin | 5.50 | 0,76MIL-C17/176 00002 | | | | 3.15 | 3.40 |
| | Socket | | FILECA F.2703/14 | | | | | |
| | Boot | | RAYCHEM CHEMINAX 10612 FILOTEX M 17/176 00002 | | | | | |
| #4 Power | Pin | 5.74 | - | 3 | - | 25 | - | - |
| | Socket | | 5 | 4 | 16 | 21.15 | - | - |
| | Pin | | - | - | - | - | 6.35 | 7.50 |
| | Socket | | - | - | - | - | 4 | 5.80 |
| | Boot | | - | - | - | - | - | - |
| | Reductor cable 10 mm ² | | - | - | - | - | - | - |
| #4 Power with reduced barrel | Pin | 5.74 | 6 | | 13.3 | | - | - |
| | Socket | | | | | | - | - |
| | Boot | | - | - | - | - | 4 | 5.80 |

8D Series

Common Section



Straight PC tail contacts

| Contact size | Contact type | PC tail type | Part number | Profile |
|--------------|--------------|--------------|----------------|--|
| #26 | Pin | | F1P1P3E0020ALY | - |
| | Socket | | F1P1ES32001A00 | - |
| #22D | Pin | L | 8599-0720 900 |  |
| | Pin | M | 8599-8028 900 | - |
| | Pin | C | 8599-0730 900 |  |
| | Pin | S | 8599-0796 900 |  |
| | Socket | L | 8599-0721 900 |  |
| | Socket | C | 8599-0731 900 |  |
| | Socket | S | 8599-0797 900 |  |
| #20 | Pin | M | 8599-0658 JJ | - |
| | Socket | M | 8599-0759 900 | - |
| | Pin | C | 8599-0724 900 |  |
| | Socket | C | 8599-0725 900 |  |
| | Pin | L | 8599-0771 900 | - |
| | Socket | L | 8599-0772 900 | - |
| #16 | Pin | C | 8599-0726 900 |  |
| | Socket | C | 8599-0727 900 |  |
| Coaxial #16 | Pin | C | 8599-1000 900 |  |
| #12 | Pin | C | 8599-7929 900 | - |
| | Socket | C | 8599-7932 900 | - |

S: Specific PC tail
 L: Long PC tail
 M: Medium PC tail
 C: Short PC tail

Note: PC tail contacts without shoulder also available. Please see page 102.

8D Series

Common Section



Coaxial contacts #12

| Designation | Part number |
|-------------------------------|-------------|
| Coaxial socket solder #12 | THA1-0151A |
| Coaxial pin solder #12 | THA1-0152A |
| Coaxial pin crimp contact #12 | THA1-0155A |
| Coaxial crimp contact #12 | THA1-0156A |

Solder cup

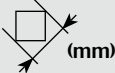


| Contact size | Contact type | Part number |
|--------------|--------------|----------------|
| #22D | Pin | 8599-0750 900 |
| #20 | Pin | 8599-0077A 900 |
| #16 | Pin | 8599-7482A 900 |
| #12 | Socket | 8599-7485A 900 |

For other contacts type please consult us.

Crimp contacts: 1500 mating

| Contact size | MIL-DTL-38999 contacts | | |
|--------------|------------------------|----------------|-----------------------|
| | Contact type | Part number | Color code |
| #22D | Pin (H) | M39029/107 620 | Blue / Red / Black |
| | Socket (J) | M39029/106 614 | Blue / Brown / Yellow |
| #20 | Pin (H) | M39029/107 621 | Blue / Red / Brown |
| | Socket (J) | M39029/106 615 | Blue / Brown / Green |
| #16 | Pin (H) | M39029/107 622 | Blue / Red / Red |
| | Socket (J) | M39029/106 616 | Blue / Brown / Blue |
| #12 | Pin (H) | M39029/107 623 | Blue / Red / Orange |
| | Socket (J) | M39029/106 617 | Blue / Brown / Gray |

Wire wrap contacts

| Contact size | Contact type | Part number | Contact Ø (mm) | Profile |  (mm) |
|--------------|--------------|---------------|----------------|--|--|
| #22D | Pin | 8599-0790 JJ | 0.76 |  | 0.86 |
| #20 | Pin | 8599-0791 900 | 1 |  | 0.86 |

Quadrax #8 contacts

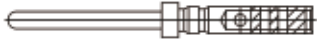

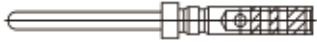





| Contact type | Version | Souriau Part Number | Cross Norm | T° | Impedance | Sealing | Release |
|--------------|-----------|---------------------|------------|-------|-----------|---------|---------|
| Pin | PCB mount | ETH1-1237A | - | 125°C | 100Ω | Sealed | Rear |
| | | ETH1-1501A | - | | 150Ω | | |
| | Crimp | ETH1-1345A | EN3155-074 | 200°C | 100Ω | | |
| | | ETH1-1503A | - | | 150Ω | | |
| Socket | PCB mount | ETH1-1238A | - | 125°C | 100Ω | | |
| | | ETH1-1502A | - | | 150Ω | | |
| | Crimp | ETH1-1346A | EN3155-075 | 200°C | 100Ω | | |
| | | ETH1-1504A | - | | 150Ω | | |

8D Series

Common Section

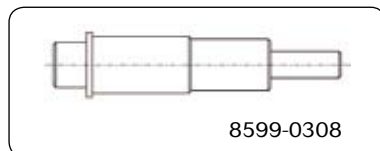


Thermocouple contacts

| Contact size | Contact type | Souriau part numbers (without color code) | MIL-DTL-38999 contacts | | Ø Contact (mm) | Wire section | | | | Ø Over insulation (mm) | |
|--------------|--------------|---|------------------------|--|----------------|--------------|-----|-----------------|------|------------------------|------|
| | | | Part numbers | Profile and color code | | Awg | | mm ² | | min | max |
| | | | | | | min | max | min | max | | |
| #22D Chromel | Pin | - | M39029/87-472 |  Red / Violet / Yellow | 0.75 | 28 | 22 | 0.095 | 0.34 | 0.76 | 1.37 |
| | Socket | - | M39029/88-484 |  Yellow / Grey / Yellow | | | | | | | |
| #22D Alumel | Pin | - | M39029/87-471 |  Brown / Violet / Yellow | 0.75 | 28 | 22 | 0.095 | 0.34 | 0.76 | 1.37 |
| | Socket | - | M39029/88-483 |  Orange / Grey / Yellow | | | | | | | |
| #20 Chromel | Pin | 8599-0749 900 | 8599-0949 900 |  Blue / Violet / Yellow | 1 | 24 | 20 | 0.21 | 0.6 | 1.02 | 2.11 |
| | Socket | 8599-0753 900 | 8599-0953 900 |  Grey / Grey / Yellow | | | | | | | |
| #20 Alumel | Pin | 8599-0761 900 | 8599-0961 900 |  Green / Violet / Yellow | 1 | 24 | 20 | 0.21 | 0.6 | 1.02 | 2.11 |
| | Socket | 8599-0765 900 | 8599-0965 900 |  Violet / Grey / Yellow | | | | | | | |

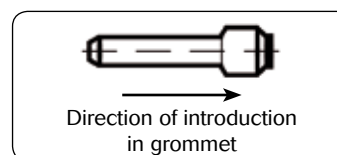
Dummy contacts

| Size | Part number |
|------|----------------|
| #16 | 8599-6A016001A |
| #8 | 8599-0308 |
| #4 | 8599-0310 |



Filler plugs

| Contact size | Filler plugs | | |
|--------------|-------------------------|---------------------|--------|
| | MS Part number (Rev. N) | Souriau Part number | Color |
| #22D | MS27488-22-2 | 8660-212 | Black |
| #20 | MS27488-20-2 | 8522-389A | Red |
| #16 | MS27488-16-2 | 8522-390A | Blue |
| #12 | MS27488-12-2 | 8522-391A | Yellow |



These filler plugs are installed at the rear of unwired contact to maintain connector sealing.



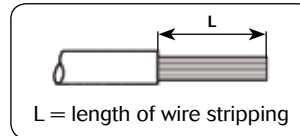
8D Series

Common Section

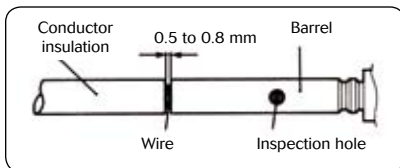
Wiring instruction

Cable preparation and wire stripping

| Contact size | #26 | #22D | #20 | #16 | #12 | #8 | #4 |
|--------------|-----|------|-----|-----|-----|----|----|
| L | 4 | | 6 | | | 12 | |



Insertion of wire in contact barrel



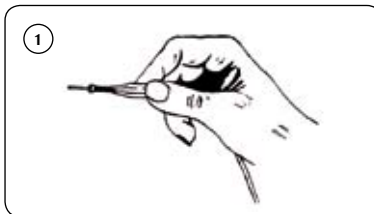
When inserting the stripped wire into the contact barrel check that no strands are left outside and that the wire is visible through the wire inspection hole in the barrel.

Important:

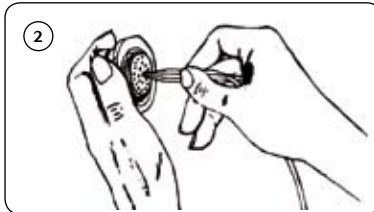
- Slide any accessories over wire strands before carrying out the following operations.
- Contacts are inserted and extracted from the rear of the connector.

Insertion of the contacts

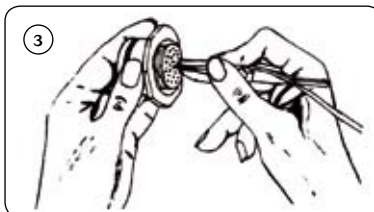
1 - Engage the crimp cable / contact assembly into the longitudinal slot of the plastic tool (coloured tip). Slide the tool down the cable until the tip of the tool abuts the contact retention shoulder.



2 - Introduce the contact into the required contact cavity in the insulator, pushing tool axially, until the contact snaps into position in clip.

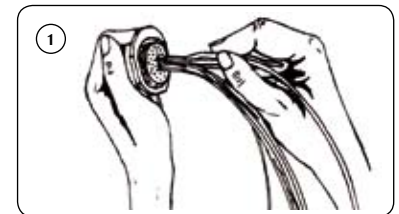


3 - Withdraw the tool (from rear). Check that contact is firmly locked by pulling wire gently. When connector is fully loaded, check the position of contact tips. They should all be in the same plane. Nota: For larger sizes of cable which are stiff enough manual insertion without tool is preferable.

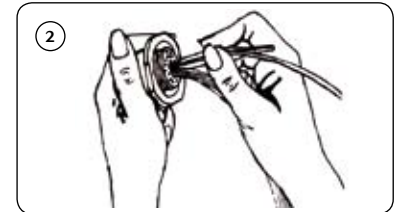


Extraction of the contacts

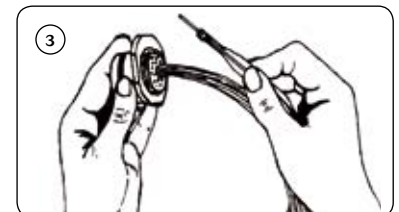
1 - Engage the appropriate cable into the longitudinal slot of the tool with the white tip towards connector.



2 - Slide the tool down towards the contact. Insert the tool in the insulator until it abuts the contact shoulder.



3 - Holding the tool-contact and cable assembly together, remove them simultaneously.



8D Series

Common Section



Tooling

Crimping tools

| Contact size | Contact type | Plier M22520/1-01 | | Plier M22520/2-01 (Souriau 8476-01) | | Plier M300BT | Plier * M22520/23-01 | |
|--------------|--------------|--------------------|---------|-------------------------------------|-----------|---------------------|----------------------|---------------------|
| | | Turret Part number | | Locator Part number | | Locator Part number | Turret Part number | Locator Part number |
| | | Norm | Souriau | Norm | Souriau | | | |
| #26 | Pin | - | - | - | 8599-0397 | - | - | - |
| | Socket | - | - | - | 8599-0398 | - | - | - |
| #22D | Pin | - | - | M22520/2-09 | 8476-09 | - | - | - |
| | Socket | - | - | M22520/2-07 | 8476-07 | - | - | - |
| #20 | Pin | M22520/1-04 | 8365-04 | M22520/2-10 | 8476-10 | - | - | - |
| | Socket | | | | | - | - | - |
| #16 | Pin | M22520/1-04 | 8365-04 | - | - | - | - | - |
| | Socket | | | - | - | - | - | |
| #12 | Pin | M22520/1-04 | 8365-04 | - | - | - | - | - |
| | Socket | | | - | - | - | - | |
| #8 Power | Pin | - | - | - | - | SP 593 | M22520/23-02 | 8599-9601 |
| | Socket | - | - | - | - | | | |
| #4 Power | pin | - | - | - | - | - | M22520/23-04 | M22520/23-11 |
| | Socket | - | - | - | - | - | | |

| Contact size | Contact type | Plier M22520/2-01 (Souriau 8476-01) | Plier M22520/31-01 | Plier M22520/4-01 | Plier M22520/5-01 |
|---|--------------|-------------------------------------|---------------------|---------------------|-----------------------|
| | | Locator Part Number | Locator Part number | Locator Part Number | Die set Part Number |
| #12 Coaxial M39029/102-558 M39029/103-559 | Inner | - | - | - | M22520/5-03 |
| | Outer | - | - | - | |
| #12 Coaxial M39029/28-211 M39029/75-416 | Inner | M22520/2-34 | - | - | - |
| | Outer | - | M22520/31-02 | - | - |
| #16 Coaxial | Inner | M22520/2-35 | - | - | - |
| | Outer | - | - | M22520/4-02 | - |
| #8 Coaxial | Inner | M22520/2-31 | - | - | - |
| | Outer | - | - | - | M22520/5-05 closure B |
| #8 Triaxial | Inner | K709 | - | - | - |
| | Middle | - | - | - | Y631 closure B |
| | Ferrule | - | - | - | Y631 closure A |

* Pneumatic plier

Note: for the #10 contact's plier and locator, please consult us.

8D Series

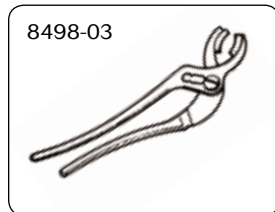
Common Section



Insertion & extraction tools

| Contact size | Material | Part number | | Color | |
|--------------|----------|--------------|---------------|-----------|------------|
| | | MIL standard | Souriau | Insertion | Extraction |
| #26 | Plastic | - | 8599-0399 900 | Black | White |
| #22D | Plastic | M81969/14-01 | - | Green | White |
| #20 | Plastic | M81969/14-10 | - | Red | Orange |
| #16 | Plastic | M81969/14-03 | - | Blue | White |
| #12 | Plastic | M81969/14-04 | - | Yellow | White |
| #10 | Plastic | M81969/14-05 | - | Grey | - |
| #8 | Plastic | M81969/14-12 | - | - | Green |
| | Metalic | - | 8660-197 | - | - |
| #4 | Plastic | M81969/14-07 | - | - | Blue |
| | Metalic | - | 8533-8175 | - | - |

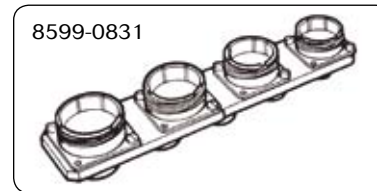
Backshell tightening tools



8498-03

Backshell tightening pliers,
part number: **8498-03**
Square jaws (order 2 jaws),
part number: **8500-1015**

Tightening support



8599-0831

Part number: **8599-0831**
This tool is made up of dummy receptacles housings of all 9 sizes for all key polarisation, and secures free connectors during wiring and fitting of rear accessories.

Tightening of rear accessories:

| Shell size | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 |
|---------------------|------|----|----|----|----|----|------|----|----|
| Max torque in m/daN | 0.62 | | | | | | 1.24 | | |

Slackening tools



8498-04

Strap clamp,
part number: **8498-04**
Spare strap,
part number: **8498-103**

8D Series

Common Section



Accessories

Gaskets

| Shell size | Gasket for receptacles Type 0* (ordered separately) | O ring for receptacle Type 7 |
|------------|--|------------------------------|
| 9 (A) | 8599-5541 | AS3582-019 |
| 11 (B) | 8599-5542 | AS3582-022 |
| 13 (C) | 8599-5543 | AS3582-024 |
| 15 (D) | 8599-5544 | AS3582-026 |
| 17 (E) | 8599-5545 | AS3582-028 |
| 19 (F) | 8599-5546 | AS3582-128 |
| 21 (G) | 8599-5547 | AS3582-130 |
| 23 (H) | 8599-5548 | AS3582-132 |
| 25 (J) | 8599-5549 | AS3582-134 |

*For front mounting

Plastic protective caps*

| Shell size | Caps for receptacles | Caps for plugs | Caps for composite plugs only (J & M) | Antistatic caps for receptacles | Antistatic caps for plugs |
|------------|----------------------|----------------|---------------------------------------|---------------------------------|---------------------------|
| 9 (A) | 70777 | 8500-5587 A | MS90376-12R | 70777N | 8500-5587N |
| 11 (B) | MS90376-12R | 70198 | 8500-5598 | MS9037612RF | 8500-5588N |
| 13 (C) | MS90376-14R | 8500-5600 | 8500-5600 | MS9037614RF | 8500-5600N |
| 15 (D) | MS90376-16R | 8500-5601 | 8500-5601 | MS9037616RF | 8500-5601N |
| 17 (E) | 70201 | 8500-5602 | 8500-5602 | 70201N | 8500-5602N |
| 19 (F) | 70209 | 8500-5592 A | 8500-5592 A | 8500-5590N | 8500-5592N |
| 21 (G) | MS90376-22R | 8500-5593 A | 8500-5593 A | 8500-5591N | 8500-5593N |
| 23 (H) | MS90376-24R | 8500-5593 A | 70472 | 8500-5592N | 8500-5591N |
| 25 (J) | 8500-5593 A | J599ABC6009A00 | J599ABC6009A00 | 8500-5593N | 8500-5592N |

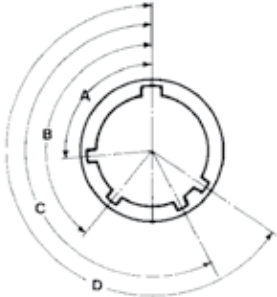
*Excepted 8D composite version (X): supplied without cap

8D Series

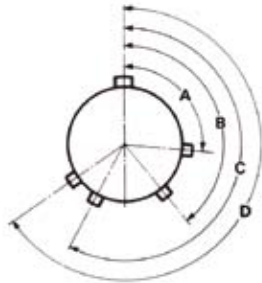
Common Section



Orientations



Viewed from front face of receptacle

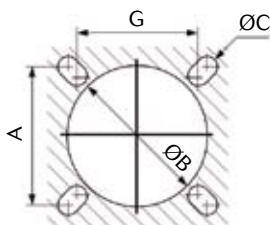


Viewed from front face of plug

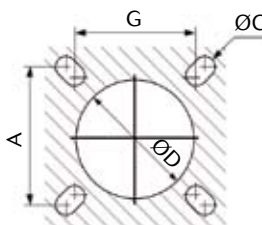
| Shell size | Angles | N | A | B | C | D | E | T | V |
|----------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| 9 (A) | A° | 105 | 102 | 80 | 35 | 64 | 91 | - | - |
| | B° | 140 | 132 | 118 | 140 | 155 | 131 | - | - |
| | C° | 215 | 248 | 230 | 205 | 234 | 197 | - | - |
| | D° | 265 | 320 | 312 | 275 | 304 | 240 | - | - |
| 11 (B) 15 (D) | A° | 95 | 113 | 90 | 53 | 119 | 51 | - | - |
| | B° | 141 | 156 | 145 | 156 | 146 | 141 | - | - |
| | C° | 208 | 182 | 195 | 220 | 176 | 184 | - | - |
| | D° | 236 | 292 | 252 | 255 | 298 | 242 | - | - |
| 13 (C) | A° | 95 | 113 | 90 | 53 | 119 | 51 | 70 | 75 |
| | B° | 141 | 156 | 145 | 156 | 146 | 141 | 136 | 138 |
| | C° | 208 | 182 | 195 | 220 | 176 | 184 | 218 | 224 |
| | D° | 236 | 292 | 252 | 255 | 298 | 242 | 261 | 268 |
| 17 (E) 21 (G) | A° | 80 | 135 | 49 | 66 | 62 | 79 | 58 | 85 |
| | B° | 142 | 170 | 169 | 140 | 145 | 153 | 162 | 150 |
| | C° | 196 | 200 | 200 | 200 | 180 | 197 | 188 | 191 |
| | D° | 293 | 310 | 244 | 257 | 280 | 272 | 316 | 307 |
| 19 (F) 23 (H) 25 (J) | A° | 80 | 135 | 49 | 66 | 62 | 79 | - | - |
| | B° | 142 | 170 | 169 | 140 | 145 | 153 | - | - |
| | C° | 196 | 200 | 200 | 200 | 180 | 197 | - | - |
| | D° | 293 | 310 | 244 | 257 | 280 | 272 | - | - |

Panel cut-out

Square flange receptacle (Type 0)

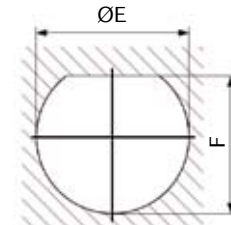


Rear mounting*



Front mounting

Jam nut receptacle (Type 7)



| Shell size | A | G | B min. | C ±0.13 | D min. | E ±0.25 | F |
|------------|-------|-------|--------|---------|--------|---------|-------|
| 9 (A) | 18.26 | 15.09 | 16.66 | 3.25 | 13.11 | 17.78 | 17.02 |
| 11 (B) | 20.62 | 18.26 | 20.22 | | 15.88 | 20.96 | 19.59 |
| 13 (C) | 23.01 | 20.62 | 23.42 | | 19.05 | 25.65 | 24.26 |
| 15 (D) | 24.61 | 23.01 | 26.59 | | 23.01 | 28.83 | 27.56 |
| 17 (E) | 26.97 | 24.61 | 30.96 | | 25.81 | 32.01 | 30.73 |
| 19 (F) | 29.36 | 26.97 | 32.94 | | 28.98 | 35.18 | 33.91 |
| 21 (G) | 31.75 | 29.36 | 36.12 | 3.91 | 32.16 | 38.35 | 37.08 |
| 23 (H) | 34.93 | 31.75 | 39.29 | | 34.93 | 41.53 | 40.26 |
| 25 (J) | 38.10 | 34.94 | 42.47* | | 37.69 | 44.70 | 43.43 |

* For Type 0 composite shell rear mounting: 43.77 mm.

Max. thickness panel for receptacle: Type 0: front mounting = 3.2 mm, rear mounting = 2.5 mm
Type 7: 3.2 mm

8D Series

Common Section



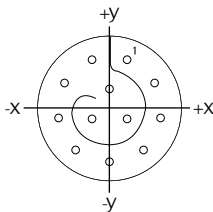
Coordinates for straight PC tail terminations

Viewed from front face of male insulator

Hole sizes: 1mm min. (#22 and #20 contacts) and 1.3mm min. (#16 contact) coordinates in mm.

09 / A

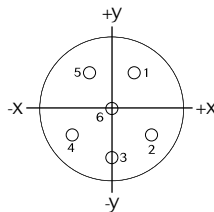
12



| Ctc | X | y |
|-----|-------|-------|
| 1 | +0.92 | +2.54 |
| 2 | +2.34 | +1.35 |
| 3 | +2.66 | -0.47 |
| 4 | +1.74 | -2.07 |
| 5 | 0.00 | -2.70 |
| 6 | -1.74 | -2.07 |

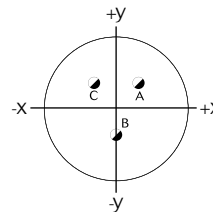
| Ctc | X | y |
|-----|-------|-------|
| 7 | -2.66 | -0.47 |
| 8 | -2.34 | +1.35 |
| 9 | -0.92 | +2.54 |
| 10 | 0.00 | +1.03 |
| 11 | +0.89 | -0.51 |
| 12 | -0.89 | -0.51 |

35



| Ctc | X | y |
|-----|-------|-------|
| 1 | +1.14 | +1.98 |
| 2 | +1.98 | -1.14 |
| 3 | 0.00 | -2.29 |
| 4 | +1.98 | -1.14 |
| 5 | +1.14 | +1.98 |
| 6 | 0.00 | 0.00 |

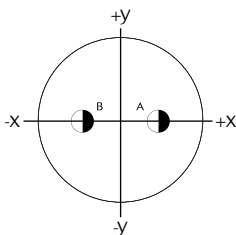
98



| Ctc | X | y |
|-----|-------|-------|
| A | +1.65 | +0.97 |
| B | 0.00 | -1.90 |
| C | -1.65 | +0.97 |

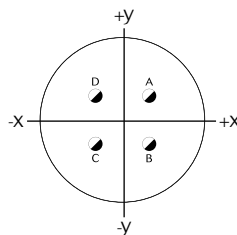
11 / B

02



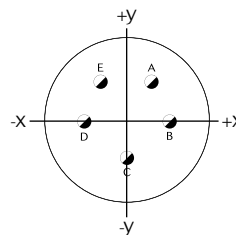
| Ctc | X | y |
|-----|------|-------|
| A | 0.00 | +2.41 |
| B | 0.00 | -2.41 |

04



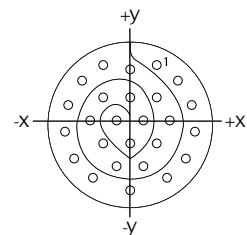
| Ctc | X | y |
|-----|-------|-------|
| A | +1.65 | +1.65 |
| B | +1.65 | -1.65 |
| C | -1.65 | -1.65 |
| D | -1.65 | +1.65 |

05



| Ctc | X | y |
|-----|-------|-------|
| A | +1.65 | +1.42 |
| B | +2.86 | -1.65 |
| C | 0.00 | -3.30 |
| D | -2.86 | -1.65 |
| E | -1.65 | +1.42 |

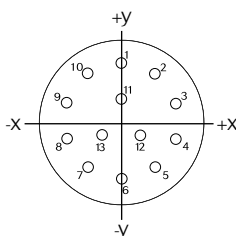
26



| Ctc | X | y |
|-----|-------|-------|
| 1 | +1.69 | +3.79 |
| 2 | +3.09 | +2.77 |
| 3 | +3.95 | +1.28 |
| 4 | +4.13 | -0.44 |
| 5 | +3.58 | -2.10 |
| 6 | +2.40 | -3.37 |
| 7 | 0.00 | -4.13 |
| 8 | -2.40 | -3.37 |
| 9 | -3.58 | -2.10 |
| 10 | -4.13 | -0.44 |
| 11 | -3.95 | +1.28 |
| 12 | -3.09 | +2.77 |
| 13 | -1.69 | +3.79 |

| Ctc | X | y |
|-----|-------|-------|
| 14 | 0.00 | +3.50 |
| 15 | +1.70 | +1.76 |
| 16 | +2.55 | +0.29 |
| 17 | +1.70 | -1.18 |
| 18 | +0.85 | -2.65 |
| 19 | -0.85 | -2.65 |
| 20 | -1.70 | -1.18 |
| 21 | -2.55 | +0.29 |
| 22 | -1.70 | +1.76 |
| 23 | 0.00 | +1.76 |
| 24 | +0.85 | +0.29 |
| 25 | 0.00 | -1.18 |
| 26 | -0.85 | +0.29 |

35



| Ctc | X | y |
|-----|-------|-------|
| 1 | 0.00 | +3.71 |
| 2 | +2.16 | +3.00 |
| 3 | +3.51 | +1.14 |
| 4 | +3.51 | -1.14 |
| 5 | +2.16 | -3.00 |

| Ctc | X | y |
|-----|-------|-------|
| 6 | 0.00 | -3.71 |
| 7 | -2.16 | -3.00 |
| 8 | -3.51 | -1.14 |
| 9 | -3.51 | +1.14 |

| Ctc | X | y |
|-----|-------|-------|
| 10 | -2.16 | +3.00 |
| 11 | 0 | +1.42 |
| 12 | +1.24 | -0.89 |
| 13 | -1.24 | -0.89 |

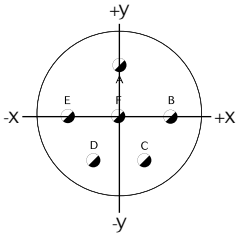
8D Series

Common Section



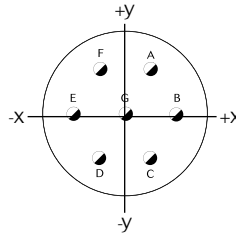
11 / B

98



| Ctc | X | y |
|-----|-------|-------|
| A | 0.00 | +3.30 |
| B | +3.30 | 0.00 |
| C | +1.65 | -2.87 |
| D | -1.65 | -2.87 |
| E | -3.30 | 0.00 |
| F | 0.00 | 0.00 |

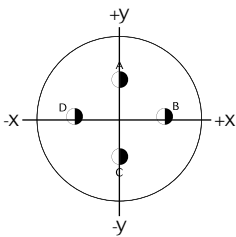
99



| Ctc | X | y |
|-----|-------|-------|
| A | +1.65 | +2.85 |
| B | +3.30 | 0.00 |
| C | +1.65 | -2.87 |
| D | -1.65 | -2.87 |
| E | -3.30 | 0.00 |
| F | -1.65 | +2.87 |
| G | 0.00 | 0.00 |

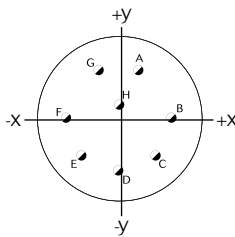
13 / C

04



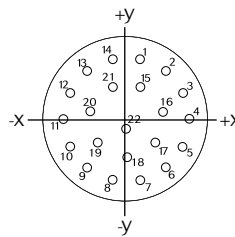
| Ctc | X | y |
|-----|-------|-------|
| A | 0.00 | +3.81 |
| B | +3.71 | +0.89 |
| C | 0.00 | -2.11 |
| D | -3.71 | +0.89 |

08



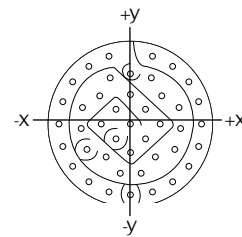
| Ctc | X | y |
|-----|-------|-------|
| A | +1.65 | +3.99 |
| B | +4.32 | 0.00 |
| C | +3.05 | -3.05 |
| D | 0.00 | -4.32 |
| E | -3.05 | -3.05 |
| F | -4.32 | 0.00 |
| G | -1.65 | +3.99 |
| H | 0.00 | +1.12 |

35



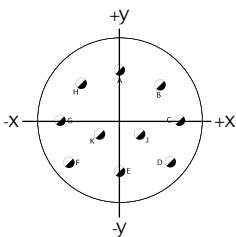
| Ctc | X | y |
|-----|-------|-------|
| 1 | +1.14 | +5.00 |
| 2 | +3.20 | +4.01 |
| 3 | +4.62 | +2.24 |
| 4 | +5.16 | 0.00 |
| 5 | +4.62 | -2.24 |
| 6 | +3.20 | -4.01 |
| 7 | +1.14 | -5.00 |
| 8 | -1.14 | -5.00 |
| 9 | -3.20 | -4.01 |
| 10 | -4.62 | -2.24 |
| 11 | -5.16 | 0.00 |
| 12 | -4.62 | +2.24 |
| 13 | -3.20 | +4.01 |
| 14 | -1.14 | +5.00 |
| 15 | +1.14 | +2.72 |
| 16 | +2.97 | +0.66 |
| 17 | +2.36 | -1.91 |
| 18 | 0.00 | -3.05 |
| 19 | -2.36 | -1.91 |
| 20 | -2.97 | +0.66 |
| 21 | -1.14 | +2.72 |
| 22 | 0.00 | -0.76 |

43



| Ctc | X | y |
|-----|-------|-------|
| 1 | +1.80 | +5.54 |
| 2 | -1.80 | +5.54 |
| 3 | +3.42 | +4.71 |
| 4 | +4.71 | +3.42 |
| 5 | +5.54 | +1.80 |
| 6 | +5.82 | 0.00 |
| 7 | +5.54 | -1.80 |
| 8 | +4.71 | -3.42 |
| 9 | +3.42 | -4.71 |
| 10 | +1.80 | -5.54 |
| 11 | 0.00 | -5.82 |
| 12 | -1.80 | -5.54 |
| 13 | -3.42 | -4.71 |
| 14 | -4.71 | -3.42 |
| 15 | -5.54 | -1.80 |
| 16 | -5.82 | 0.00 |
| 17 | -5.54 | +1.80 |
| 18 | -4.71 | +3.42 |
| 19 | -3.42 | +4.71 |
| 20 | 0.00 | +4.12 |
| 21 | +1.68 | +3.76 |
| 22 | +2.54 | +2.28 |
| 23 | +3.92 | +1.27 |
| 24 | +4.10 | -0.43 |
| 25 | +3.57 | -2.06 |
| 26 | +1.99 | -2.74 |
| 27 | +0.86 | -4.03 |
| 28 | -0.86 | -4.03 |
| 29 | -1.99 | -2.74 |
| 30 | -3.57 | -2.06 |
| 31 | -4.10 | -0.43 |
| 32 | -3.92 | +1.27 |
| 33 | -2.54 | +2.28 |
| 34 | -1.68 | +3.76 |
| 35 | 0.00 | +2.42 |
| 36 | +1.21 | +1.21 |
| 37 | +2.42 | 0.00 |
| 38 | +1.21 | -1.21 |
| 39 | 0.00 | -2.42 |
| 40 | -1.21 | -1.21 |
| 41 | -2.42 | 0.00 |
| 42 | -1.21 | +1.21 |
| 43 | 0.00 | 0.00 |

98



| Ctc | X | y |
|-----|-------|-------|
| A | 0.00 | +4.95 |
| B | +3.18 | +3.81 |
| C | +4.90 | +0.76 |
| D | +4.17 | -2.67 |
| E | 0.00 | -3.43 |
| F | -4.17 | -2.67 |
| G | -4.90 | +0.76 |
| H | -3.18 | +3.81 |
| J | +1.65 | -0.38 |
| K | -1.65 | -0.38 |

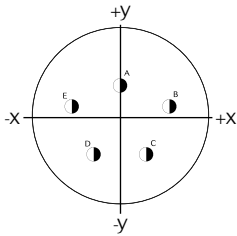
8D Series

Common Section



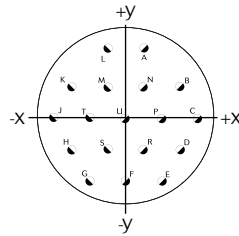
15 / D

05



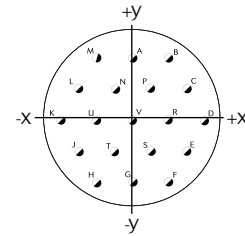
| Ctc | X | y |
|-----|-------|-------|
| A | 0 | +2.54 |
| B | +4.42 | +0.61 |
| C | +2.39 | +3.76 |
| D | -2.39 | -3.76 |
| E | -4.42 | +0.61 |

18



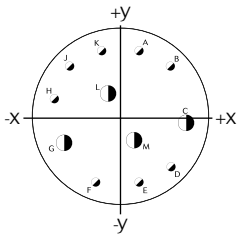
| Ctc | X | y |
|-----|-------|-------|
| A | +1.65 | +6.40 |
| B | +4.95 | +2.87 |
| C | +6.60 | 0.00 |
| D | +4.95 | -2.87 |
| E | +3.30 | -5.72 |
| F | 0.00 | -5.72 |
| G | -3.30 | -5.72 |
| H | -4.95 | -2.87 |
| J | -6.60 | 0.00 |
| K | -4.95 | +2.87 |
| L | -1.65 | +6.40 |
| M | -1.65 | +2.87 |
| N | +1.65 | +2.87 |
| P | +3.30 | 0.00 |
| R | +1.65 | -2.87 |
| S | -1.65 | -2.87 |
| T | -3.30 | 0.00 |
| U | 0.00 | 0.00 |

19



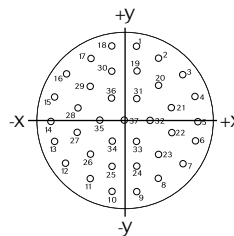
| Ctc | X | y |
|-----|-------|-------|
| A | 0.00 | +5.72 |
| B | +3.30 | +5.72 |
| C | +4.95 | +2.87 |
| D | +6.60 | 0.00 |
| E | +4.95 | -2.87 |
| F | +3.30 | -5.72 |
| G | 0.00 | -5.72 |
| H | -3.30 | -5.72 |
| J | -4.95 | -2.87 |
| K | -6.60 | 0.00 |
| L | -4.95 | +2.87 |
| M | -3.30 | +5.72 |
| N | -1.65 | +2.87 |
| P | +1.65 | +2.87 |
| R | +3.30 | 0.00 |
| S | +1.65 | -2.87 |
| T | -1.65 | -2.87 |
| U | -3.30 | 0.00 |
| V | 0.00 | 0.00 |

97



| Ctc | X | y |
|-----|-------|-------|
| A | +1.65 | +5.94 |
| B | +4.52 | +4.52 |
| C | +5.84 | -0.58 |
| D | +4.52 | -4.52 |
| E | +1.65 | -5.94 |
| F | -2.26 | -5.97 |
| G | -5.26 | -2.41 |
| H | -5.94 | +1.65 |
| J | -4.52 | +4.52 |
| K | -1.65 | +5.94 |
| L | -1.19 | +2.06 |
| M | +1.19 | -2.06 |

35



| Ctc | X | y |
|-----|-------|-------|
| 1 | +1.14 | +6.65 |
| 2 | +3.12 | +5.51 |
| 3 | +5.36 | +4.06 |
| 4 | +6.45 | +2.03 |
| 5 | +6.75 | -0.25 |
| 6 | +6.27 | -2.49 |
| 7 | +5.08 | -4.45 |
| 8 | +3.30 | -5.89 |
| 9 | +1.14 | -6.65 |
| 10 | -1.14 | -6.65 |
| 11 | -3.30 | -5.89 |
| 12 | -5.08 | -4.45 |
| 13 | -6.27 | -2.49 |
| 14 | -6.76 | -0.25 |
| 15 | -6.45 | +2.03 |
| 16 | -5.36 | +4.06 |
| 17 | -3.12 | +5.51 |
| 18 | -1.14 | +6.65 |
| 19 | +1.14 | +4.37 |
| 20 | +3.12 | +3.02 |
| 21 | +4.32 | +1.02 |
| 22 | +4.32 | -1.27 |
| 23 | +3.12 | -3.23 |
| 24 | +1.14 | -4.37 |
| 25 | -1.14 | -4.37 |
| 26 | -3.12 | -3.23 |
| 27 | -4.32 | -1.27 |
| 28 | -4.32 | +1.02 |
| 29 | -3.12 | +3.02 |
| 30 | -1.14 | +4.37 |
| 31 | +1.14 | +1.88 |
| 32 | +2.29 | -0.10 |
| 33 | +1.14 | -2.08 |
| 34 | -1.14 | -2.08 |
| 35 | -2.29 | -0.10 |
| 36 | -1.14 | +1.88 |
| 37 | 0.00 | -0.10 |

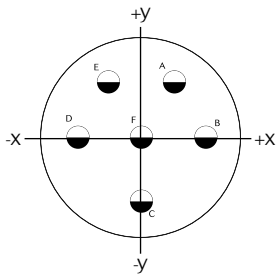
8D Series

Common Section



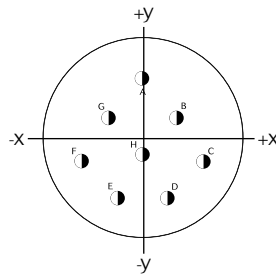
17 / E

06



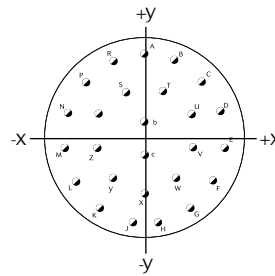
| Ctc | X | y |
|-----|-------|-------|
| A | +3.07 | +5.31 |
| B | +6.12 | 0.00 |
| C | 0.00 | -6.12 |
| D | -6.12 | 0.00 |
| E | -3.07 | +5.31 |
| F | 0.00 | 0.00 |

08



| Ctc | X | y |
|-----|-------|-------|
| A | 0.00 | +5.99 |
| B | +3.25 | +2.18 |
| C | +5.84 | -1.98 |
| D | +2.39 | -5.49 |
| E | -2.39 | -5.49 |
| F | -5.84 | -1.98 |
| G | -3.25 | +2.18 |
| H | 0.00 | -1.32 |

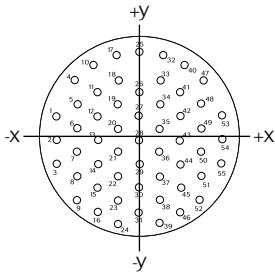
26



| Ctc | X | y |
|-----|-------|-------|
| A | 0.00 | +8.15 |
| B | +3.33 | +7.44 |
| C | +6.07 | +5.44 |
| D | +7.75 | +2.51 |
| E | +8.10 | -0.86 |
| F | +7.06 | -4.09 |
| G | +4.80 | -6.60 |
| H | +1.70 | -7.98 |

| Ctc | X | y |
|-----|-------|-------|
| J | -1.70 | -7.98 |
| K | -4.80 | -6.60 |
| L | -7.06 | -4.09 |
| M | -8.10 | -0.86 |
| N | -7.75 | +2.51 |
| P | -6.07 | +5.44 |
| R | -3.33 | +7.44 |
| S | -1.78 | +4.50 |
| T | +1.78 | +4.50 |
| U | +4.45 | +2.39 |
| V | +4.53 | -0.91 |
| W | +3.02 | -3.84 |
| X | 0.00 | -5.16 |
| Y | -3.02 | -3.84 |
| Z | -4.53 | -0.91 |
| a | -4.45 | +2.39 |
| b | 0.00 | +1.65 |
| c | 0.00 | -1.65 |

35



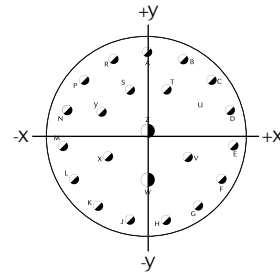
| Ctc | X | y |
|-----|-------|-------|
| 1 | -7.92 | +2.18 |
| 2 | -7.92 | -0.10 |
| 3 | -7.92 | -2.39 |
| 4 | -6.15 | +5.61 |
| 5 | -5.94 | +3.33 |
| 6 | -5.94 | +1.04 |
| 7 | -5.94 | -1.24 |
| 8 | -5.94 | -3.53 |
| 9 | -5.94 | -5.82 |
| 10 | -4.37 | +7.09 |
| 11 | -3.96 | +4.47 |
| 12 | -3.96 | +2.18 |

| Ctc | X | y |
|-----|-------|-------|
| 13 | -3.96 | -0.10 |
| 14 | -3.96 | -2.39 |
| 15 | -3.96 | -4.67 |
| 16 | -3.96 | -6.96 |
| 17 | -2.26 | +8.03 |
| 18 | -1.98 | +5.61 |
| 19 | -1.98 | +3.33 |
| 20 | -1.98 | +1.04 |
| 21 | -1.98 | -1.24 |
| 22 | -1.98 | -3.53 |
| 23 | -1.98 | -5.82 |
| 24 | -1.98 | -8.10 |

| Ctc | X | y |
|-----|-------|-------|
| 25 | 0.00 | +8.36 |
| 26 | 0.00 | +4.47 |
| 27 | 0.00 | +2.18 |
| 28 | 0.00 | -0.10 |
| 29 | 0.00 | -2.39 |
| 30 | 0.00 | +4.67 |
| 31 | 0.00 | -6.96 |
| 32 | +2.26 | +8.03 |
| 33 | +1.98 | +5.61 |
| 34 | +1.98 | +3.33 |
| 35 | +1.98 | +1.04 |
| 36 | +1.98 | -1.24 |
| 37 | +1.98 | -3.53 |
| 38 | +1.98 | -5.82 |
| 39 | +1.98 | -8.10 |
| 40 | +4.37 | +7.09 |

| Ctc | X | y |
|-----|-------|-------|
| 41 | +3.96 | +4.47 |
| 42 | +3.96 | +2.18 |
| 43 | +3.96 | -0.10 |
| 44 | +3.96 | -2.39 |
| 45 | +3.96 | -4.67 |
| 46 | +3.96 | -6.96 |
| 47 | +6.15 | +5.61 |
| 48 | +5.94 | +3.33 |
| 49 | +5.94 | +1.04 |
| 50 | +5.94 | -1.24 |
| 51 | +5.94 | -3.53 |
| 52 | +5.94 | -5.82 |
| 53 | +7.92 | +2.18 |
| 54 | +7.92 | -0.10 |
| 55 | +7.92 | -2.39 |

99



| Ctc | X | y |
|-----|-------|-------|
| A | 0.00 | +8.15 |
| B | +3.33 | +7.44 |
| C | +6.07 | +5.44 |
| D | +7.75 | +2.51 |
| E | +8.10 | -0.86 |
| F | +7.06 | -4.09 |
| G | +4.80 | -6.60 |
| H | +1.70 | -7.98 |
| J | -1.70 | -7.98 |
| K | -4.80 | -6.60 |
| L | -7.06 | -4.09 |
| M | -8.10 | -0.86 |

| Ctc | X | y |
|-----|-------|-------|
| N | -7.75 | +2.51 |
| P | -6.07 | +5.44 |
| R | -3.33 | +7.44 |
| S | -1.78 | +4.50 |
| T | +1.78 | +4.50 |
| U | +4.45 | +2.39 |
| V | +3.81 | -1.91 |
| W | 0.00 | -4.09 |
| X | -3.81 | -1.91 |
| Y | -4.45 | +2.39 |
| Z | 0.00 | +0.64 |

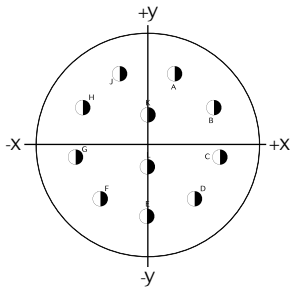
8D Series

Common Section



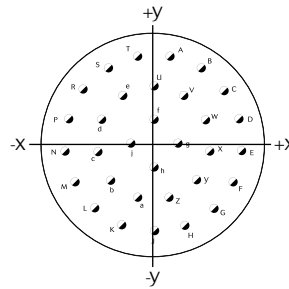
19 / F

11



| Ctc | X | y |
|-----|-------|-------|
| A | +2.67 | +6.60 |
| B | +6.35 | +3.35 |
| C | +6.99 | -1.35 |
| D | +4.55 | -5.46 |
| E | 0.00 | -7.14 |
| F | -4.55 | -5.46 |
| G | -6.99 | -1.35 |
| H | -6.35 | +3.35 |
| J | -2.67 | +6.60 |
| K | 0.00 | +2.67 |
| L | 0.00 | -2.34 |

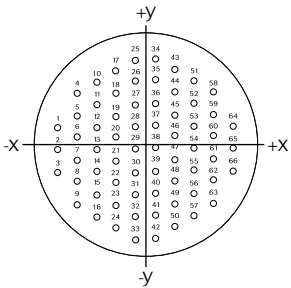
32



| Ctc | X | y |
|-----|-------|-------|
| A | +1.68 | +8.97 |
| B | +4.80 | +7.75 |
| C | +7.26 | +5.51 |
| D | +8.76 | +2.49 |
| E | +9.07 | -0.84 |
| F | +8.15 | -4.06 |
| G | +6.15 | -6.73 |
| H | +3.30 | -8.51 |
| J | 0.00 | -9.12 |
| K | -3.30 | -8.51 |
| L | -6.15 | -6.73 |
| M | -8.15 | -4.06 |
| N | -9.07 | -0.84 |
| P | -8.76 | +2.49 |
| R | -7.26 | +5.51 |
| S | -4.80 | +7.75 |

| Ctc | X | y |
|-----|-------|-------|
| T | -1.68 | +8.97 |
| U | 0.00 | +5.84 |
| V | +3.15 | +4.90 |
| W | +5.31 | +2.41 |
| X | +5.79 | -0.84 |
| Y | +4.42 | -3.84 |
| Z | +1.65 | -5.61 |
| a | -1.65 | -5.61 |
| b | -4.42 | -3.84 |
| c | -5.79 | -0.84 |
| d | -5.31 | +2.41 |
| e | -3.15 | +4.90 |
| f | 0.00 | +2.44 |
| g | +2.44 | 0.00 |
| h | 0.00 | -2.44 |
| j | -2.44 | 0.00 |

35



| Ctc | X | y |
|-----|-------|-------|
| 1 | -9.07 | +2.29 |
| 2 | -9.07 | +0.08 |
| 3 | -9.07 | -2.29 |
| 4 | -7.09 | +5.72 |
| 5 | -7.09 | +3.43 |
| 6 | -7.09 | +1.14 |
| 7 | -7.09 | -1.14 |
| 8 | -7.09 | -3.43 |
| 9 | -7.09 | -5.72 |
| 10 | -5.11 | +6.86 |
| 11 | -5.11 | +4.57 |
| 12 | -5.11 | +2.29 |
| 13 | -5.11 | 0.00 |
| 14 | -5.11 | -2.29 |

| Ctc | X | y |
|-----|-------|-------|
| 15 | -5.11 | -4.57 |
| 16 | -5.11 | -6.86 |
| 17 | -3.12 | +8.00 |
| 18 | +3.12 | +5.72 |
| 19 | -3.12 | +3.43 |
| 20 | -3.12 | +1.14 |
| 21 | -3.12 | -1.14 |
| 22 | -3.12 | -3.43 |
| 23 | -3.12 | -5.72 |
| 24 | -3.12 | -8.00 |
| 25 | -1.14 | +9.14 |
| 26 | -1.14 | +6.86 |
| 27 | -1.14 | +4.57 |

| Ctc | X | y |
|-----|-------|-------|
| 28 | -1.14 | +2.29 |
| 29 | -1.14 | 0.00 |
| 30 | -1.14 | -2.29 |
| 31 | -1.14 | -4.57 |
| 32 | -1.14 | -6.86 |
| 33 | -1.14 | -9.14 |
| 34 | +1.14 | +9.14 |
| 35 | +1.14 | +6.86 |
| 36 | +1.14 | +4.57 |
| 37 | +1.14 | +2.29 |
| 38 | +1.14 | 0.00 |
| 39 | +1.14 | -2.29 |
| 40 | +1.14 | -4.57 |

| Ctc | X | y |
|-----|-------|-------|
| 41 | +1.14 | -6.86 |
| 42 | +1.14 | -9.14 |
| 43 | +3.12 | +8.00 |
| 44 | +3.12 | +5.72 |
| 45 | +3.12 | +3.43 |
| 46 | +3.12 | +1.14 |
| 47 | +3.12 | -1.14 |
| 48 | +3.12 | -3.43 |
| 49 | +3.12 | -5.72 |
| 50 | +3.12 | -8.00 |
| 51 | +5.11 | +6.86 |
| 52 | +5.11 | +4.57 |
| 53 | +5.11 | +2.29 |

| Ctc | X | y |
|-----|-------|-------|
| 54 | +5.11 | 0.00 |
| 55 | +5.11 | -2.29 |
| 56 | +5.11 | -4.57 |
| 57 | +5.11 | -6.86 |
| 58 | +7.09 | +5.72 |
| 59 | +7.09 | +3.43 |
| 60 | +7.09 | +1.14 |
| 61 | +7.09 | -1.14 |
| 62 | +7.09 | -3.43 |
| 63 | +7.09 | -5.72 |
| 64 | +9.07 | +2.29 |
| 65 | +9.07 | 0.00 |
| 66 | +9.07 | -2.29 |

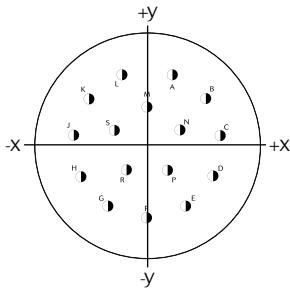
8D Series

Common Section



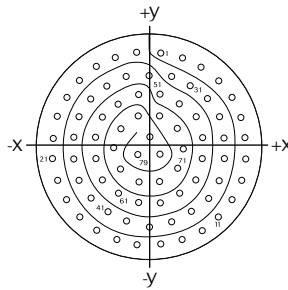
21 / G

16



| Ctc | X | y | Ctc | X | y |
|-----|-------|-------|-----|-------|-------|
| A | +3.00 | +8.18 | J | -8.66 | +0.91 |
| B | +6.88 | +5.36 | K | -6.88 | +5.36 |
| C | +8.66 | +0.91 | L | -3.00 | +8.18 |
| D | +7.82 | -3.81 | M | 0.00 | +4.45 |
| E | +4.62 | -7.37 | N | +3.91 | +1.57 |
| F | 0.00 | -8.71 | P | +2.39 | -3.10 |
| G | -4.62 | -7.37 | R | -2.39 | -3.10 |
| H | -7.82 | -3.81 | S | -3.91 | +1.57 |

35



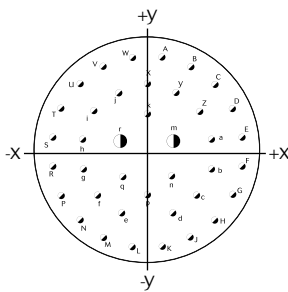
| Ctc | X | y |
|-----|--------|--------|
| 1 | +1.35 | +10.82 |
| 2 | +3.71 | +10.26 |
| 3 | +5.89 | +9.19 |
| 4 | +7.77 | +7.67 |
| 5 | +9.27 | +5.77 |
| 6 | +10.31 | +3.58 |
| 7 | +10.85 | +1.22 |
| 8 | +10.85 | -1.22 |
| 9 | +10.31 | -3.58 |
| 10 | +9.27 | -5.77 |
| 11 | +7.77 | -7.67 |
| 12 | +5.89 | -9.19 |
| 13 | +3.71 | -10.26 |

| Ctc | X | y |
|-----|--------|--------|
| 14 | +1.35 | -10.82 |
| 15 | -1.35 | -10.82 |
| 16 | -3.71 | -10.26 |
| 17 | -5.89 | -9.19 |
| 18 | -7.77 | -7.67 |
| 19 | -9.27 | -5.77 |
| 20 | -10.31 | -3.58 |
| 21 | -10.85 | -1.22 |
| 22 | -10.85 | +1.22 |
| 23 | -10.31 | +3.58 |
| 24 | -9.27 | +5.77 |
| 25 | -7.77 | +7.67 |
| 26 | -5.89 | +9.19 |
| 27 | -3.71 | +10.26 |
| 28 | -1.35 | +10.82 |
| 29 | 0.00 | +8.20 |
| 30 | +2.49 | +8.18 |
| 31 | +4.67 | +7.11 |
| 32 | +6.55 | +5.59 |
| 33 | +7.90 | +3.58 |
| 34 | +8.43 | +1.22 |
| 35 | +8.43 | -1.22 |

| Ctc | X | y |
|-----|-------|-------|
| 36 | +7.90 | -3.58 |
| 37 | +6.55 | -5.59 |
| 38 | +4.67 | -7.11 |
| 39 | +2.49 | -8.18 |
| 40 | 0.00 | -8.81 |
| 41 | -2.49 | -8.18 |
| 42 | -4.67 | -7.11 |
| 43 | -6.55 | -5.59 |
| 44 | -7.90 | -3.58 |
| 45 | -8.43 | -1.22 |
| 46 | -8.43 | +1.22 |
| 47 | -7.90 | +3.58 |
| 48 | -6.55 | +5.59 |
| 49 | -4.67 | +7.11 |
| 50 | -2.49 | +8.18 |
| 51 | -1.22 | +6.12 |
| 52 | +1.22 | +6.12 |
| 53 | +3.40 | +5.05 |
| 54 | +5.28 | +3.53 |
| 55 | +6.02 | +1.22 |
| 56 | +6.02 | -1.22 |
| 57 | +5.28 | -3.53 |

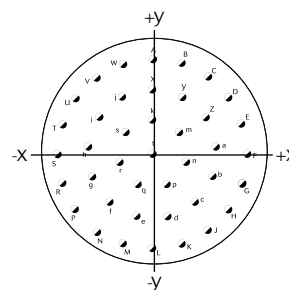
| Ctc | X | y |
|-----|-------|-------|
| 58 | +3.40 | -5.05 |
| 59 | +1.22 | -6.12 |
| 60 | -1.22 | -6.12 |
| 61 | -3.40 | -5.05 |
| 62 | -5.28 | -3.53 |
| 63 | -6.02 | -1.22 |
| 64 | -6.02 | +1.22 |
| 65 | -5.28 | +3.53 |
| 66 | -3.40 | +5.05 |
| 67 | -1.22 | +3.71 |
| 68 | +1.22 | +3.71 |
| 69 | +3.18 | +2.29 |
| 70 | +3.94 | 0.00 |
| 71 | +3.18 | -2.29 |
| 72 | +1.22 | -3.71 |
| 73 | -1.22 | -3.71 |
| 74 | -3.18 | -2.29 |
| 75 | -3.94 | 0.00 |
| 76 | -3.18 | +2.29 |
| 77 | 0.00 | +1.35 |
| 78 | +1.22 | -0.74 |
| 79 | -1.22 | -0.74 |

39



| Ctc | X | y | Ctc | X | y | Ctc | X | y |
|-----|--------|--------|-----|--------|--------|-----|-------|-------|
| A | +1.65 | +10.44 | P | -9.42 | -4.80 | d | +2.84 | -6.73 |
| B | +4.80 | +9.42 | R | -10.44 | -1.65 | e | -2.84 | -6.73 |
| C | +7.47 | +7.47 | S | -10.44 | +1.65 | f | -5.51 | -4.80 |
| D | +9.42 | +4.80 | T | -9.42 | +4.80 | g | -7.11 | -1.88 |
| E | +10.44 | +1.65 | U | -7.47 | +7.47 | h | -7.11 | +1.45 |
| F | +10.44 | -1.65 | V | -4.80 | +9.42 | i | -5.89 | +4.55 |
| G | +9.42 | -4.80 | W | -1.65 | +10.44 | j | -3.20 | +6.50 |
| H | +7.47 | -7.47 | X | 0.00 | +7.49 | k | 0.00 | +4.17 |
| J | +4.80 | -9.42 | Y | +3.20 | +6.50 | m | +2.90 | +1.22 |
| K | +1.65 | -10.44 | Z | +5.89 | +4.55 | n | +2.69 | -2.72 |
| L | -1.65 | -10.44 | a | +7.11 | +1.45 | p | 0.00 | -4.80 |
| M | -4.80 | -9.42 | b | +7.11 | -1.88 | q | -2.69 | -2.72 |
| N | -7.47 | -7.47 | c | +5.51 | -4.80 | r | -2.90 | +1.22 |

41



| Ctc | X | y |
|-----|--------|--------|
| A | 0.00 | +10.60 |
| B | +3.28 | +10.09 |
| C | +6.23 | +8.58 |
| D | +8.58 | +6.23 |
| E | +10.09 | +3.28 |
| F | +10.60 | 0.00 |
| G | +10.09 | -3.28 |
| H | +8.58 | -6.23 |
| J | +6.23 | -8.58 |
| K | +3.28 | -10.09 |
| L | 0.00 | -10.60 |

| Ctc | X | y |
|-----|--------|--------|
| M | -3.26 | -10.09 |
| N | -6.23 | -8.58 |
| P | -8.58 | -6.23 |
| R | -10.09 | -3.28 |
| S | -10.60 | 0.00 |
| T | -10.09 | +3.28 |
| U | -8.58 | +6.23 |
| V | -6.23 | +8.58 |
| W | -3.28 | +10.09 |
| X | 0.00 | +7.20 |
| Y | +3.35 | +6.38 |

| Ctc | X | y |
|-----|-------|-------|
| Z | +5.92 | +4.09 |
| a | +7.15 | +0.87 |
| b | +6.73 | -2.55 |
| c | +4.78 | -5.39 |
| d | +1.73 | -6.99 |
| e | -1.73 | -6.99 |
| f | -4.78 | -5.39 |
| g | -6.73 | -2.55 |
| h | -7.15 | +0.87 |
| i | -5.92 | +4.09 |
| j | -3.35 | +6.38 |
| k | 0.00 | +3.81 |
| m | +2.98 | +2.38 |
| n | +3.71 | -0.85 |
| p | -1.66 | -3.43 |
| q | +1.66 | -3.43 |
| r | -3.71 | -0.85 |
| s | -2.98 | +2.38 |
| t | 0.00 | 0.00 |

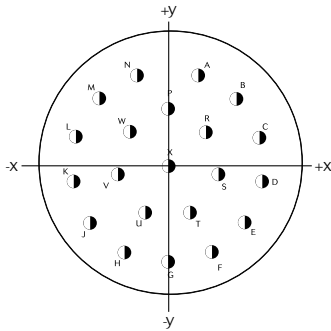
8D Series

Common Section



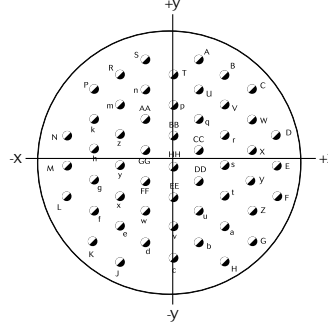
23 / H

21



| Ctc | X | y |
|-----|--------|--------|
| A | +3.25 | +9.78 |
| B | +7.34 | +7.24 |
| C | +9.80 | +3.12 |
| D | +10.16 | -1.65 |
| E | +8.33 | -6.07 |
| F | +4.65 | -9.19 |
| G | 0.00 | -10.31 |
| H | -4.65 | -9.19 |
| J | -8.33 | -6.07 |
| K | -10.16 | -1.65 |
| L | -9.80 | +3.12 |
| M | -7.34 | +7.24 |
| N | -3.25 | +9.78 |
| P | 0.00 | +6.22 |
| R | +4.06 | +3.71 |
| S | +5.44 | -0.89 |
| T | +2.39 | -4.93 |
| U | -2.39 | -4.93 |
| V | -5.44 | -0.89 |
| W | -4.06 | +3.71 |
| X | 0.00 | 0.00 |

53



| Ctc | X | y |
|-----|--------|--------|
| N | -11.43 | +3.30 |
| P | -8.53 | +8.26 |
| R | -5.72 | +9.91 |
| S | -2.84 | +11.56 |
| T | 0.00 | +9.91 |
| U | +2.84 | +8.26 |
| V | +5.72 | +6.60 |
| W | +8.53 | +4.95 |
| X | +8.53 | +1.65 |
| Y | +8.53 | -1.65 |
| Z | +8.53 | -4.95 |
| a | +5.72 | -6.60 |
| b | +2.84 | -8.26 |
| c | 0.00 | -9.91 |
| d | -2.84 | -8.26 |
| e | -5.72 | -6.60 |
| f | -8.53 | -4.95 |
| g | -8.53 | -1.65 |
| h | -8.53 | +1.65 |
| k | -8.53 | +4.95 |

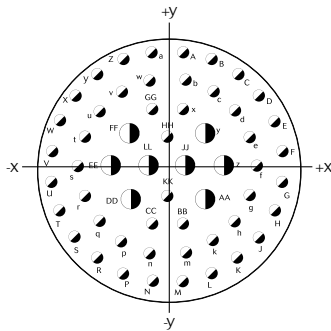
| Ctc | X | y |
|-----|-------|-------|
| m | -5.72 | +6.60 |
| n | -2.84 | +8.26 |
| p | 0.00 | +6.60 |
| q | +2.84 | +4.95 |
| r | +5.72 | +3.30 |
| s | +5.72 | 0.00 |
| t | +5.72 | -3.30 |
| u | +2.84 | -4.95 |
| v | 0.00 | -6.60 |
| w | -2.84 | -4.95 |
| x | -5.72 | -3.30 |
| y | -5.72 | 0.00 |
| z | -5.72 | +3.30 |
| AA | -2.84 | +4.95 |
| BB | 0.00 | +3.30 |
| CC | +2.84 | +1.65 |
| DD | +2.84 | -1.65 |
| EE | 0.00 | -3.30 |
| FF | -2.84 | -1.65 |
| GG | -2.84 | +1.65 |
| HH | 0.00 | 0.00 |

| Ctc | X | y |
|-----|--------|--------|
| A | +2.84 | +11.56 |
| B | +5.72 | +9.91 |
| C | +8.53 | +8.26 |
| D | +11.43 | +3.30 |
| E | +11.43 | 0.00 |
| F | +11.43 | -3.30 |

| Ctc | X | y |
|-----|--------|--------|
| G | +8.53 | -8.26 |
| H | +5.72 | -10.41 |
| J | -5.72 | -10.41 |
| K | -8.53 | -8.26 |
| L | -11.43 | -3.30 |
| M | -11.43 | 0.00 |

25 / J

04



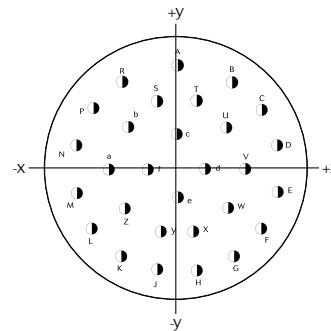
| Ctc | X | y |
|-----|--------|--------|
| A | +1.75 | +13.49 |
| B | +5.16 | +12.57 |
| C | +8.23 | +10.80 |
| D | +10.77 | +8.28 |
| E | +12.52 | +5.21 |
| F | +13.49 | +1.75 |
| G | +13.49 | -1.75 |

| Ctc | X | y |
|-----|--------|--------|
| H | +12.52 | -5.21 |
| J | +10.77 | -8.28 |
| K | +8.23 | -10.80 |
| L | +5.16 | -12.57 |
| M | +1.75 | -13.49 |
| N | -1.75 | -13.49 |
| P | -5.16 | -12.57 |

| Ctc | X | y |
|-----|--------|--------|
| R | -8.23 | -10.80 |
| S | -10.77 | -8.28 |
| T | -12.52 | -5.21 |
| U | -13.49 | -1.75 |
| V | -13.49 | +1.75 |
| W | -12.52 | +5.21 |
| X | -10.77 | +8.28 |
| Y | -8.23 | +10.80 |
| Z | -5.16 | +12.57 |
| a | -1.75 | +13.49 |
| b | +2.18 | +10.08 |
| c | +5.38 | +8.78 |
| d | +7.90 | +6.38 |
| e | +9.58 | +3.35 |
| f | +10.46 | 0.00 |
| g | +9.58 | -3.35 |
| h | +7.90 | -6.38 |
| k | +5.38 | -8.78 |
| m | +2.18 | -10.08 |
| n | -2.18 | -10.08 |
| p | -5.38 | -8.78 |

| Ctc | X | y |
|-----|--------|--------|
| q | -7.90 | -6.38 |
| r | -9.58 | -3.35 |
| s | -10.46 | 0.00 |
| t | -9.58 | +3.35 |
| u | -7.90 | +6.38 |
| v | -5.38 | +8.78 |
| w | -2.18 | +10.08 |
| x | +1.75 | +6.66 |
| y | +4.37 | +3.78 |
| z | +6.55 | 0.00 |
| AA | +4.37 | -3.78 |
| BB | +1.75 | -6.66 |
| CC | -1.75 | -6.66 |
| DD | -4.37 | -3.78 |
| EE | -6.55 | 0.00 |
| FF | -4.37 | -3.78 |
| GG | -1.75 | -6.66 |
| HH | 0.00 | +3.35 |
| JJ | +2.18 | 0.00 |
| KK | 0.00 | -3.35 |
| LL | -2.18 | 0.00 |

29



| Ctc | X | y |
|-----|--------|--------|
| A | 0.00 | +12.22 |
| B | +6.55 | +10.31 |
| C | +10.03 | +7.04 |
| D | +11.91 | +2.77 |
| E | +11.91 | -2.77 |
| F | +10.03 | -7.04 |
| G | +6.68 | -10.31 |
| H | +2.31 | -11.99 |

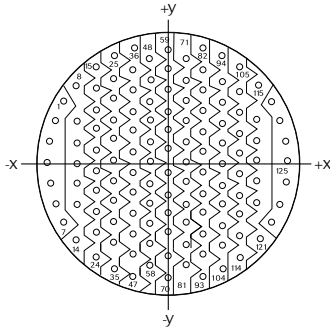
| Ctc | X | y |
|-----|--------|--------|
| J | -2.31 | -11.99 |
| K | -6.68 | -10.31 |
| L | -10.03 | -7.04 |
| M | -11.91 | -2.77 |
| N | -11.91 | +2.77 |
| P | -10.03 | +7.04 |
| R | -6.55 | +10.31 |
| S | -2.31 | +8.15 |
| T | +2.31 | +8.15 |
| U | +5.79 | +4.93 |
| V | +8.10 | 0.00 |
| W | +6.10 | -4.60 |
| X | +2.31 | -7.37 |
| Y | -2.31 | -7.37 |
| Z | -6.10 | -4.60 |
| a | -8.10 | 0.00 |
| b | -5.79 | +4.93 |
| c | 0.00 | +4.09 |
| d | +3.40 | 0.00 |
| e | 0.00 | -3.30 |
| f | -3.40 | 0.00 |

8D Series Common Section



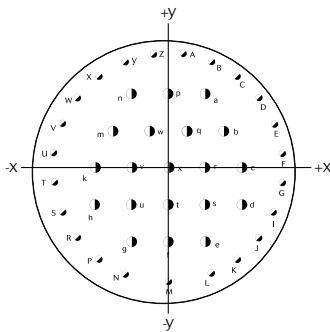
25 / J

35



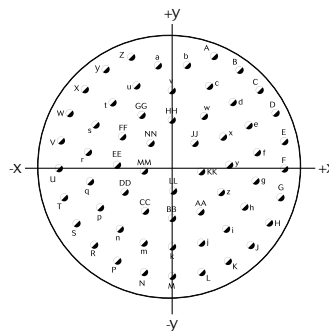
| Ctc | X | y | Ctc | X | y | Ctc | X | y | Ctc | X | y | Ctc | X | y |
|-----|--------|--------|-----|-------|--------|-----|-------|--------|-----|-------|--------|-----|--------|--------|
| 1 | -12.17 | +7.09 | 27 | -6.32 | +7.24 | 53 | -2.11 | 0.00 | 79 | +2.11 | -7.24 | 104 | +6.32 | -12.07 |
| 2 | -13.21 | +4.83 | 28 | -6.32 | +4.83 | 54 | -2.11 | -2.41 | 80 | +2.11 | -9.65 | 105 | +8.43 | +11.28 |
| 3 | -13.87 | +2.41 | 29 | -6.32 | +2.41 | 55 | -2.11 | -4.83 | 81 | +2.11 | -12.07 | 106 | +8.43 | +8.43 |
| 4 | -14.10 | 0.00 | 30 | -6.32 | 0.00 | 56 | -2.11 | -7.24 | 82 | +4.06 | +13.49 | 107 | +8.43 | +6.02 |
| 5 | -13.87 | -2.41 | 31 | -6.32 | -2.41 | 57 | -2.11 | -9.65 | 83 | +4.22 | +10.85 | 108 | +8.43 | +3.61 |
| 6 | -13.21 | -4.83 | 32 | -6.32 | -4.83 | 58 | -2.11 | -12.07 | 84 | +4.22 | +8.43 | 109 | +8.43 | +1.19 |
| 7 | -12.17 | -7.09 | 33 | -6.32 | -7.24 | 59 | 0.00 | +13.26 | 85 | +4.22 | +6.02 | 110 | +8.43 | -1.19 |
| 8 | -10.77 | +9.07 | 34 | -6.32 | -9.65 | 60 | 0.00 | +10.85 | 86 | +4.22 | +3.61 | 111 | +8.43 | -3.61 |
| 9 | -10.54 | +4.83 | 35 | -6.32 | -12.07 | 61 | 0.00 | +8.43 | 87 | +4.22 | +1.19 | 112 | +8.43 | -6.02 |
| 10 | -10.54 | +2.41 | 36 | -4.06 | +13.49 | 62 | 0.00 | +6.02 | 88 | +4.22 | -1.19 | 113 | +8.43 | -8.43 |
| 11 | -10.54 | 0.00 | 37 | -4.22 | +10.85 | 63 | 0.00 | +3.61 | 89 | +4.22 | -3.61 | 114 | +8.43 | -10.85 |
| 12 | -10.54 | -2.41 | 38 | -4.22 | +8.43 | 64 | 0.00 | +1.19 | 90 | +4.22 | -6.02 | 115 | +10.77 | +9.07 |
| 13 | -10.54 | -4.83 | 39 | -4.22 | +6.02 | 65 | 0.00 | -1.19 | 91 | +4.22 | -8.43 | 116 | +10.54 | +4.83 |
| 14 | -10.77 | -9.07 | 40 | -4.22 | +3.61 | 66 | 0.00 | -3.61 | 92 | +4.22 | -10.85 | 117 | +10.54 | +2.41 |
| 15 | -8.43 | +11.28 | 41 | -4.22 | +1.19 | 67 | 0.00 | -6.02 | 93 | +4.22 | -13.26 | 118 | +10.54 | 0.00 |
| 16 | -8.43 | +8.43 | 42 | -4.22 | -1.19 | 68 | 0.00 | -8.43 | 94 | +6.32 | +12.60 | 119 | +10.54 | -2.41 |
| 17 | -8.43 | +6.02 | 43 | -4.22 | -3.61 | 69 | 0.00 | -10.85 | 95 | +6.32 | +9.65 | 120 | +10.54 | -4.83 |
| 18 | -8.43 | +3.61 | 44 | -4.22 | -6.02 | 70 | 0.00 | -14.10 | 96 | +6.32 | +7.24 | 121 | +10.77 | -9.07 |
| 19 | -8.43 | +1.19 | 45 | -4.22 | -8.43 | 71 | +2.11 | +12.07 | 97 | +6.32 | +4.83 | 122 | +12.17 | +7.09 |
| 20 | -8.43 | -1.19 | 46 | -4.22 | -10.85 | 72 | +2.11 | +9.65 | 98 | +6.32 | +2.41 | 123 | +13.21 | +4.83 |
| 21 | -8.43 | -3.61 | 47 | -4.22 | -13.26 | 73 | +2.11 | +7.34 | 99 | +6.32 | 0.00 | 124 | +13.87 | +2.41 |
| 22 | -8.43 | -6.02 | 48 | -2.11 | +12.07 | 74 | +2.11 | +4.83 | 100 | +6.32 | -2.41 | 125 | +14.10 | 0.00 |
| 23 | -8.43 | -8.43 | 49 | -2.11 | +9.65 | 75 | +2.11 | +2.41 | 101 | +6.32 | -4.83 | 126 | +13.87 | -2.41 |
| 24 | -8.43 | -10.85 | 50 | -2.11 | +7.24 | 76 | +2.11 | 0.00 | 102 | +6.32 | -7.24 | 127 | +13.21 | -4.83 |
| 25 | -6.32 | +12.60 | 51 | -2.11 | +4.83 | 77 | +2.11 | -2.41 | 103 | +6.32 | -9.65 | 128 | +12.17 | -7.09 |
| 26 | -6.32 | +9.65 | 52 | -2.11 | +2.41 | 78 | +2.11 | -4.83 | | | | | | |

43



| Ctc | X | y | Ctc | X | y |
|-----|--------|--------|-----|-------|-------|
| A | +1.75 | +13.49 | Z | -1.75 | +13.4 |
| B | +5.16 | +12.57 | a | +4.37 | +8.74 |
| C | +8.23 | +10.80 | b | +6.55 | +4.37 |
| D | +10.77 | +8.28 | c | +8.74 | 0.00 |
| E | +12.52 | +5.21 | d | +8.74 | -4.37 |
| F | +13.49 | +1.75 | e | +4.37 | -8.74 |
| G | +13.49 | -1.75 | f | 0.00 | -8.74 |
| H | +12.52 | -5.21 | g | -4.37 | -8.74 |
| J | +10.77 | -8.28 | h | -8.74 | -4.37 |
| K | +8.23 | -10.80 | k | -8.74 | 0.00 |
| L | +5.16 | -12.57 | m | -6.55 | +4.37 |
| M | 0.00 | -13.49 | n | -4.37 | +8.74 |
| N | -5.16 | -12.57 | p | 0.00 | +8.74 |
| P | -8.23 | -10.80 | q | +2.18 | +4.37 |
| R | -10.77 | -8.28 | r | +4.37 | 0.00 |
| S | -12.52 | -5.21 | s | +4.37 | -4.37 |
| T | -13.49 | -1.75 | t | 0.00 | -4.37 |
| U | -13.49 | +1.75 | u | -4.37 | -4.37 |
| V | -12.52 | +5.21 | v | -4.37 | 0.00 |
| W | -10.77 | +8.28 | w | -2.18 | +4.37 |
| X | -8.23 | +10.80 | x | 0.00 | 0.00 |
| Y | -5.16 | +12.57 | | | |

61



| Ctc | X | y | Ctc | X | y |
|-----|--------|--------|-----|--------|--------|
| A | +4.98 | +12.70 | K | +6.58 | -11.94 |
| B | +7.98 | +11.05 | L | +3.40 | -13.18 |
| C | +10.49 | +8.71 | M | 0.00 | -13.64 |
| D | +12.32 | +5.84 | N | -3.40 | -13.18 |
| E | +13.39 | +2.57 | P | -6.58 | -11.94 |
| F | +13.61 | -0.76 | R | -9.35 | -9.93 |
| G | +12.98 | -4.17 | S | -11.53 | -7.29 |
| H | +11.53 | -7.29 | T | -12.98 | -4.17 |
| J | +9.35 | -9.93 | U | -13.61 | -0.76 |

| Ctc | X | y | Ctc | X | y |
|-----|--------|--------|-----|-------|-------|
| V | -13.39 | +2.57 | t | -7.24 | +7.19 |
| W | -12.32 | +5.84 | u | -4.39 | +9.22 |
| X | -10.49 | +8.71 | v | 0.00 | +8.59 |
| Y | -7.98 | -11.05 | w | +3.73 | +5.66 |
| Z | -4.98 | +12.10 | x | +6.02 | +3.10 |
| a | -1.73 | +11.53 | y | +6.78 | -0.25 |
| b | +1.73 | +11.53 | z | +5.79 | -3.53 |
| c | +4.39 | +9.22 | AA | +3.33 | -5.92 |
| d | +7.24 | +7.19 | BB | 0.00 | -6.78 |
| e | +9.19 | +4.45 | CC | -3.33 | -5.92 |
| f | +10.13 | +1.17 | DD | -5.79 | -3.53 |
| g | +9.96 | -2.24 | EE | -6.78 | -0.25 |
| h | +8.66 | -5.41 | FF | -6.02 | +3.10 |
| i | +6.38 | -7.98 | GG | -3.73 | +5.66 |
| j | +3.38 | -9.63 | HH | 0.00 | +5.08 |
| k | 0.00 | -10.21 | JJ | +2.67 | +2.39 |
| m | -3.38 | -9.63 | KK | +3.43 | -1.04 |
| n | -6.38 | -7.98 | LL | 0.00 | -3.35 |
| p | -8.66 | -5.41 | MM | -3.43 | -1.04 |
| q | -9.96 | -2.24 | NN | -2.67 | +2.39 |
| r | -10.13 | +1.17 | PP | 0.00 | 0.00 |
| s | -9.19 | +4.45 | | | |

and Series.



8D Series

Derived Series

| | |
|---------------------------------------|-----|
| ■ Reinforced sealing Series | 86 |
| ■ Hermetic Series | 88 |
| ■ Integrated clinch nuts | 95 |
| ■ Double flange | 98 |
| ■ PCB contacts without shoulder | 102 |
| ■ High density | 104 |
| ■ Quadrax contacts | 106 |
| ■ Power contacts | 112 |
| ■ High power contacts | 117 |
| ■ Optical ELIO® contacts | 123 |
| ■ BMA coaxial contacts | 130 |
| ■ RJ45/USB Series | 134 |



8D Series

Reinforced Sealing Series



Description

- Reinforced sealed receptacle with male or female straight PC tail contacts
- Strong hermetic performance:
 10^{-7} atm.cm³/s
- 100 % scoop proof
- High density connectors
- Compact, low profile design
- Weight saving compared to hermetic version
- Reinforced sealing for harsh environments

Technical features

Mechanical

- **Shell plating:**
 - . Aluminum shell:
 - . Black zinc nickel (Z)
 - . Green zinc cobalt (ZC)
 - . Olive drab cadmium (W)
 - . Nickel (F)
 - . Composite shell:
 - . Olive drab cadmium (J)
 - . Nickel (M)
 - . Stainless steel shell:
 - . Nickel (S)
 - . Passivated (K)
 - . Titanium shell:
 - . Nickel (TF)
 - . Without plating (TT)
- **Insulator:** Thermoplastic
- **Interfacial seal:** Silicone elastomer
- **Contacts:** Copper alloy
- **Contacts plating:** Gold over nickel plated
- **Endurance:** 500 mating/unmating operations
- **Shock:** 300g, 3 ms
- **Vibration:**
 - . Sinus: 10 to 2000 Hz-30g, 3x12h
 - . Random: 50 to 2000 Hz, 2x8h

Electrical

- **Test voltage rating (Vrms) sea level:**
1300 to 2300Vrms
- **Contact resistance:** From 2 to 14.6m Ω
- **Insulation resistance:** $\geq 5000M\Omega$ at 500Vdc
- **Shielding:**
 - . 65db - 10GHz (F)
 - . 50db - 10GHz (W)
 - . 85db - 1GHz (F & W)
- **Shell continuity:**
 - . F; TF; S: 1m Ω
 - . Z; ZC; W: 2.5m Ω
 - . J; M: 3m Ω
 - . JVS: 5m Ω
 - . TT; K: 10m Ω

Climatics

- **Temperature range:** -65°C +125°C
- **Sealing:** 10^{-7} atm.cm³/s
- **Salt spray:**
 - . F; S; TF: 48h
 - . ZC: 250h
 - . Z; W; JVS; TT; K; S: 500h
 - . X; J; M: 2000h
- **Damp heat:** MIL C: 10x24h
- **Resistance to fluids:**
 - . According to MIL-DTL-38999 standard:
Synthetic hydraulic fluid: Skydrol 500 B4

8D Series

Reinforced Sealing Series



Ordering information

| | | | | | | | | |
|--|------------|----------|----------|-----------|----------|-----------|----------|----------|
| Basic Series: | 8DR | 0 | C | 11 | F | 35 | P | N |
| Shell type: | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | |
| 1: In line receptacle (8D aluminum only) | | | | | | | | |
| 7: Jam nut receptacle (except 8D Composite) | | | | | | | | |
| Contact type: | | | | | | | | |
| C: Receptacle with short PC tail (male and female #22D, #20, #16) | | | | | | | | |
| L: Connector with long PC tail (male and female #22D) | | | | | | | | |
| S: Connector with specific PC Tail (male and female #22D) | | | | | | | | |
| M: Connector with medium PC tail (male #22D) | | | | | | | | |
| P: Connector with solder cup: . Pin: #22D, #20 & #16; Socket: #12 . Socket: #22D, #20 & #16; Pin: #12 - Please consult us | | | | | | | | |
| Shell size: | | | | | | | | |
| 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | |
| Aluminum plating: | | | | | | | | |
| F: Nickel | | | | | | | | |
| Z: Black zinc nickel | | | | | | | | |
| W: Olive drab cadmium | | | | | | | | |
| ZC: Green zinc cobalt | | | | | | | | |
| Composite plating: | | | | | | | | |
| J: Olive drab cadmium | | | | | | | | |
| M: Nickel | | | | | | | | |
| Stainless steel plating: | | | | | | | | |
| K: Passivated | | | | | | | | |
| S: Nickel | | | | | | | | |
| Titanium plating: | | | | | | | | |
| TT: Without plating | | | | | | | | |
| TF: Nickel | | | | | | | | |
| Contact layout: | | | | | | | | |
| See pages 13 to 17 | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Male | | | | | | | | |
| S: Female | | | | | | | | |
| Orientation: | | | | | | | | |
| N, A, B, C, D, E | | | | | | | | |

8D Series

Hermetic Series



Description

- Glass sealed hermetic:
 - . high hermeticity performance
 - . compact low profile
- Quick screw coupling according to EN3645 and MIL-DTL-38999 Series III standards
- Robust stainless steel adapted for any weld/solder operation
- Various mounting styles:
 - . compact solder mount receptacle
 - . easy to fix square flange receptacle
 - . easy to replace jam nut receptacle
- Signal and power contacts
- Various PCB contact versions available
- Special fuel tank versions for long term fuel immersion
- 230V qualified versions where higher voltage is used to reduce cable weight

Applications

Any application where a pressure difference must be insured such as:

- aircraft equipment in unpressurized areas (fuel tanks, actuators, ...)
- Pyrotechnic equipments
- Hightech surveillance, cameras

Technical features

Mechanical

- **Shell:**
 - . Class Y: passivated stainless steel
 - . Class N: nickel plated stainless steel
- **Seals:** silicone elastomer
- **Contact:** gold plated ferrous alloy
- **Endurance:** 500 mating/unmating operations

Electrical

- **Max current rating per contact:**

| Contact size | 22D | 20 | 16 | 12 | 8 | 4 |
|--------------|-----|----|----|----|----|----|
| Rating (A) | 3 | 5 | 10 | 17 | 33 | 60 |

- **Dielectric withstanding voltage:**

| Service | sea level | at 30 000 m |
|---------|-----------|-------------|
| M | 1300 Vrms | 800 Vrms |
| I | 1800 Vrms | 1000 Vrms |
| II | 2300 Vrms | 1000 Vrms |

- **Shielding:**
 - . Class Y: 45 dB min at 10 GHz
 - . Class N: 65 dB min at 10 GHz
- **Insulation resistance:**
5000 MΩ (under 500 Vdc)

Environmental

- **Operating temperature:** -65°C to 200°C
- **Hermeticity:** leak rate $< 10^{-7}$ atm.cm³/s (helium gas test)
- **Salt spray:**
 - . Class Y: 500 hours
 - . Class N: 48 hours
- **Resistance to fluids per MIL-DTL-38999:**
 - . Gasoline JP5 (OTAN 44) - short immersion
 - . Mineral hydraulic fluid MIL-H-5606 (OTAN H515)
 - . Synthetic hydraulic fluid Skydrol 500 B4
- **Fuel immersion version:**
 - . JP5 - long term immersion
 - . 105°C max.

8D Series

Hermetic Series



Contact layouts (matrix)

| Shell size | Layout | F38999 | 8D type 21 Spec. 600* | 8D Spec. 022* | Number of contacts | | | | | |
|------------|--------|--------|--------------------------|------------------|--------------------|-----|-----|-----|-----|-----|
| | | | | | #22D | #20 | #16 | #12 | #08 | #04 |
| 09 | 09-35 | | | | 6 | | | | | |
| | 09-98 | | | | | 3 | | | | |
| 11 | 11-35 | | | | 13 | | | | | |
| | 11-98 | | | | | 6 | | | | |
| 13 | 13-04 | | | | | | 4 | | | |
| | 13-08 | | | | | 8 | | | | |
| | 13-35 | | | | 22 | | | | | |
| | 13-98 | | | | | 10 | | | | |
| 15 | 15-19 | | | | | 19 | | | | |
| | 15-35 | | | | 37 | | | | | |
| | 15-97 | | | | | 8 | 4 | | | |
| 17 | 17-08 | | | | | | 8 | | | |
| | 17-26 | | | | | 26 | | | | |
| | 17-35 | | | | 55 | | | | | |
| 19 | 19-35 | | | | 66 | | | | | |
| 21 | 21-48 | | | | | | | | 4 | |
| 23 | 23-53 | | | | | 53 | | | | |
| 25 | 25-04 | | | | | 48 | 8 | | | |

Souriau's layout

Q Souriau's qualified layout

* Spec. 600 = 230V qualified connector; Spec. 022 = Fuel tank version

Orientation

Orientations

Viewed from front face of receptacle

Viewed from front face of plug

| Shell size | Angles | N | A | B | C | D | E | T | V |
|----------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| 9 (A) | A° | 105 | 102 | 80 | 35 | 64 | 91 | | |
| | B° | 140 | 132 | 118 | 140 | 155 | 131 | | |
| | C° | 215 | 248 | 230 | 205 | 234 | 197 | - | - |
| | D° | 265 | 320 | 312 | 275 | 304 | 240 | | |
| 11 (B) 15 (D) | A° | 95 | 113 | 90 | 53 | 119 | 51 | | |
| | B° | 141 | 156 | 145 | 156 | 146 | 141 | | |
| | C° | 208 | 182 | 195 | 220 | 176 | 184 | - | - |
| | D° | 236 | 292 | 252 | 255 | 298 | 242 | | |
| 13 (C) | A° | 95 | 113 | 90 | 53 | 119 | 51 | 70 | 75 |
| | B° | 141 | 156 | 145 | 156 | 146 | 141 | 136 | 138 |
| | C° | 208 | 182 | 195 | 220 | 176 | 184 | 218 | 224 |
| | D° | 236 | 292 | 252 | 255 | 298 | 242 | 261 | 268 |
| 17 (E) 21 (G) | A° | 80 | 135 | 49 | 66 | 62 | 79 | 58 | 85 |
| | B° | 142 | 170 | 169 | 140 | 145 | 153 | 162 | 150 |
| | C° | 196 | 200 | 200 | 200 | 180 | 197 | 188 | 191 |
| | D° | 293 | 310 | 244 | 257 | 280 | 272 | 316 | 307 |
| 19 (F) 23 (H) 25 (J) | A° | 80 | 135 | 49 | 66 | 62 | 79 | | |
| | B° | 142 | 170 | 169 | 140 | 145 | 153 | | |
| | C° | 196 | 200 | 200 | 200 | 180 | 197 | - | - |
| | D° | 293 | 310 | 244 | 257 | 280 | 272 | | |

8D Series

Hermetic Series



Connector part numbers

Standard configuration

| | | | | | | | | |
|---|---------------|-----------|----------|----------|-----------|----------|----------|-----------|
| Basic Series | F38999 | 21 | y | A | 35 | P | N | WF |
| Shell style: | | | | | | | | |
| 21: Square flange receptacle | | | | | | | | |
| 23: Jam nut receptacle | | | | | | | | |
| 25: Solder mount receptacle | | | | | | | | |
| Class: | | | | | | | | |
| y: Passivated stainless steel | | | | | | | | |
| N: Nickel plated stainless steel | | | | | | | | |
| Shell size: | | | | | | | | |
| 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J | | | | | | | | |
| Contact layout: | | | | | | | | |
| See previous page and pages 13 to 17 | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Male solder cup | | | | | | | | |
| C: Male PC tail contacts | | | | | | | | |
| Orientation: | | | | | | | | |
| N, A, B, C, D, E, T, V | | | | | | | | |
| Specification: | | | | | | | | |
| WF: Standard | | | | | | | | |
| 600: 230V qualified connector (layouts 13-04, 17-08, 21-11 & 21-48 - orientation T & V) | | | | | | | | |

Specific configuration

| | | | | | | | | |
|--------------------------------------|-----------|----------|----------|-----------|-----------|----------|----------|------------|
| Basic Series | 8D | 0 | y | 13 | 35 | P | N | 022 |
| Shell style: | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | |
| 1: Solder mount receptacle | | | | | | | | |
| 7: Jam nut receptacle | | | | | | | | |
| Class: | | | | | | | | |
| y: Passivated stainless steel | | | | | | | | |
| N: Nickel plated stainless steel | | | | | | | | |
| Shell size: | | | | | | | | |
| 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | |
| Contact layout: | | | | | | | | |
| See previous page and pages 13 to 17 | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Male solder cup | | | | | | | | |
| C: Male PC tail contacts | | | | | | | | |
| Orientation: | | | | | | | | |
| N, A, B, C, D, E | | | | | | | | |
| Specification: | | | | | | | | |
| 022: Fuel tank | | | | | | | | |
| 840: Short PC tail contact | | | | | | | | |
| 850: Long PC tail contact | | | | | | | | |

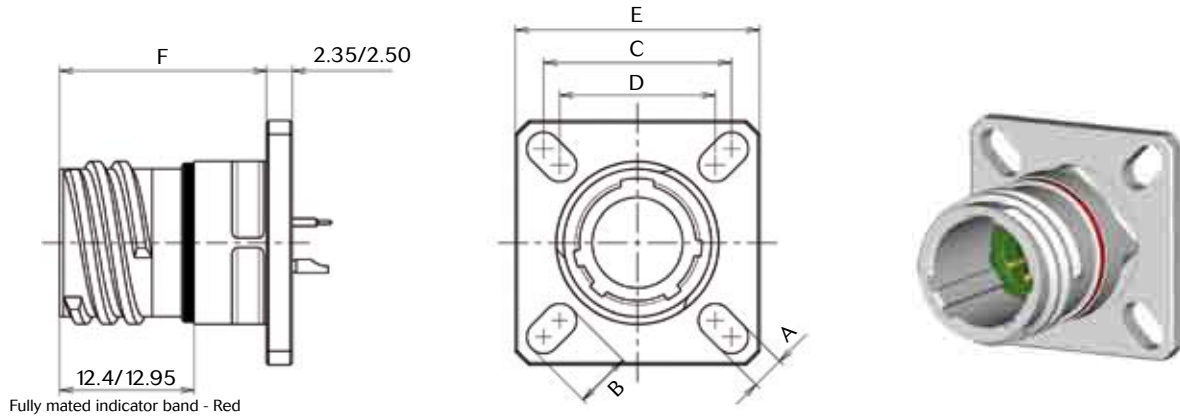
8D Series

Hermetic Series

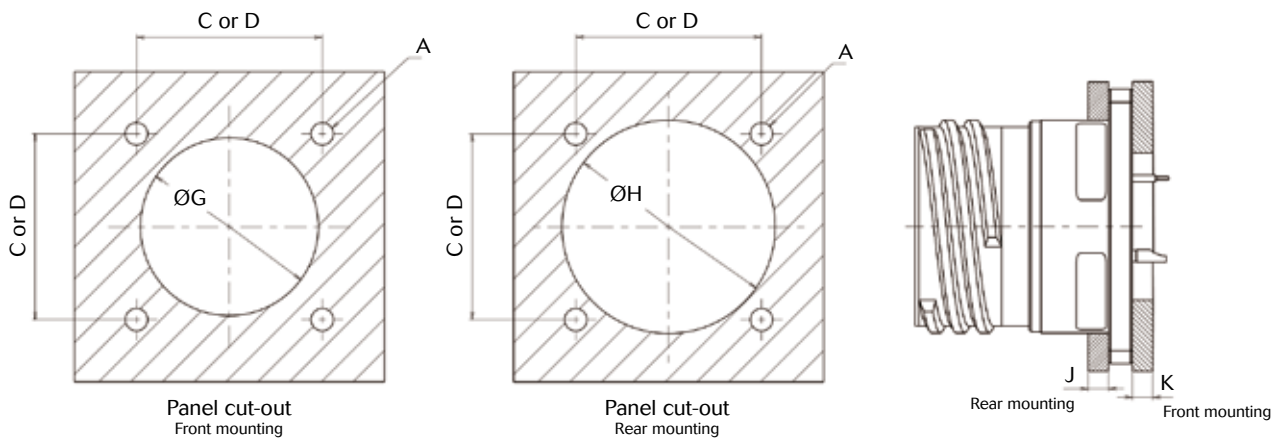


Dimensions

Square flange receptacle (type 21)



| Shell size | A ± 0.20 | B ± 0.20 | C | D | E ± 0.30 | F max | Ø G | Ø H | J max | K max |
|------------|----------|----------|-------|-------|----------|-------|-------|-------|-------|-------|
| A (9) | 3.25 | 5.49 | 18.26 | 15.09 | 23.80 | 20.40 | 13.11 | 16.66 | 2.5 | 3.2 |
| B (11) | | 4.93 | 20.62 | 18.26 | 26.20 | | 15.88 | 20.22 | | |
| C (13) | | 23.01 | 20.62 | 28.60 | 19.05 | | 23.42 | | | |
| D (15) | | 4.39 | 24.61 | 23.01 | 31.00 | | 23.01 | 26.59 | | |
| E (17) | | 26.97 | 24.61 | 33.30 | 25.81 | | 30.96 | | | |
| F (19) | | 4.93 | 29.36 | 26.97 | 36.50 | | 28.98 | 32.94 | | |
| G (21) | 3.91 | 6.15 | 31.75 | 29.36 | 39.70 | 32.16 | 36.12 | | | |
| H (23) | | | 34.93 | 31.75 | 42.90 | 34.93 | 39.29 | | | |
| j (25) | | | 38.10 | 34.93 | 46.00 | 37.69 | 42.47 | | | |



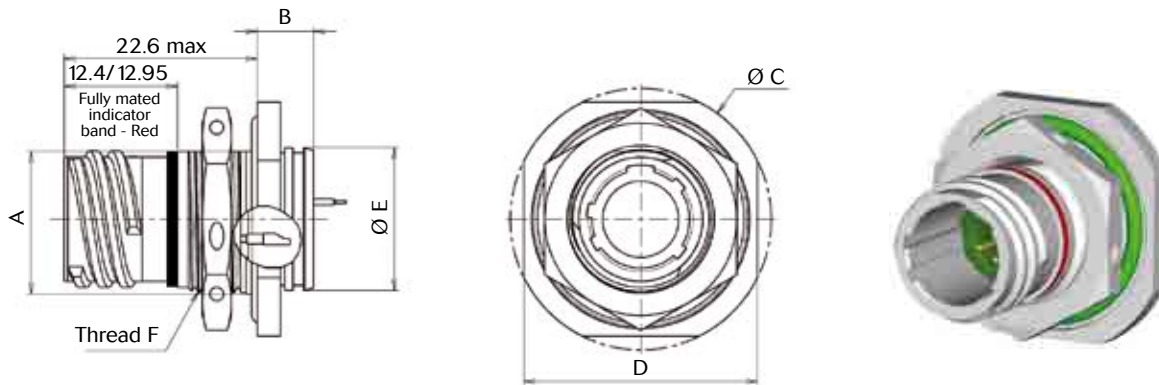
Note: All dimensions are in millimeters (mm)

8D Series

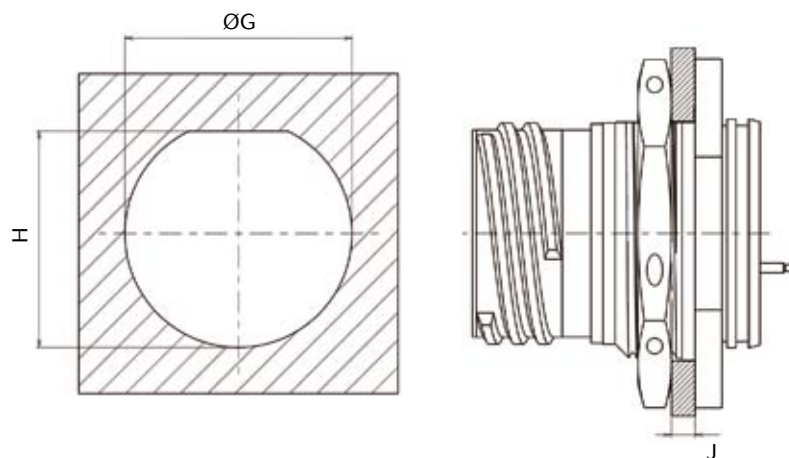
Hermetic Series



Jam nut receptacle (type 23)



| Shell size | A flat $\pm \begin{smallmatrix} 0.10 \\ -0.15 \end{smallmatrix}$ | B max | $\text{Ø C} \pm 0.30$ | $\text{Ø D} \pm 0.40$ | $\text{Ø E} \pm \begin{smallmatrix} 0.30/0 \end{smallmatrix}$ | F thread | $\text{Ø G} \pm 0.25$ | H | J |
|------------|--|-------|-----------------------|-----------------------|---|------------|-----------------------|-------|-----|
| A (9) | 16.53 | 9.10 | 30.20 | 27.00 | 16.30 | M17 x 1-6g | 17.78 | 17.02 | 3.2 |
| B (11) | 19.07 | | 34.90 | 31.80 | 19.40 | M20 x 1-6g | 20.96 | 19.59 | |
| C (13) | 23.82 | | 38.10 | 34.90 | 22.70 | M25 x 1-6g | 25.65 | 24.26 | |
| D (15) | 26.97 | | 41.30 | 38.10 | 25.90 | M28 x 1-6g | 28.83 | 27.56 | |
| E (17) | 30.15 | | 44.50 | 41.30 | 29.00 | M32 x 1-6g | 32.01 | 30.73 | |
| F (19) | 33.32 | 9.70 | 49.20 | 46.00 | 32.20 | M35 x 1-6g | 35.18 | 33.91 | |
| G (21) | 36.50 | | 52.40 | 49.20 | 35.40 | M38 x 1-6g | 38.35 | 37.08 | |
| H (23) | 39.67 | | 55.60 | 52.40 | 38.60 | M41 x 1-6g | 41.53 | 40.26 | |
| J (25) | 42.85 | | 58.70 | 55.60 | 41.70 | M44 x 1-6g | 44.70 | 43.43 | |



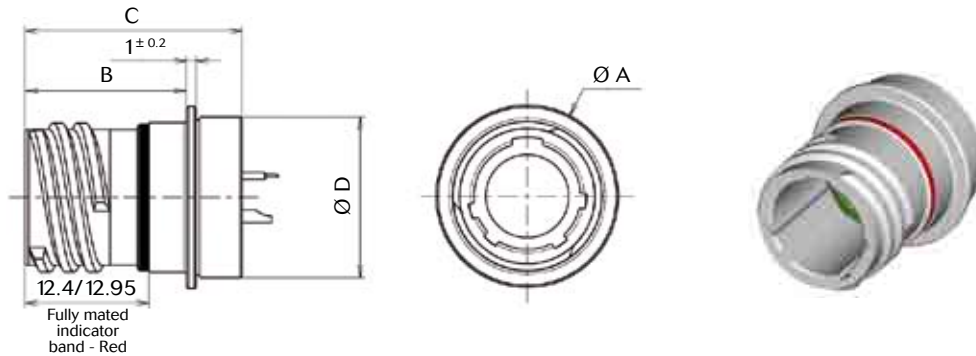
Note: All dimensions are in millimeters (mm)

8D Series

Hermetic Series



Solder mounting receptacle (type 25)



| Shell size | Ø A max | B max | C max | D max |
|------------|---------|-------|-------|-------|
| A (9) | 19.40 | 17.20 | 23.80 | 17.10 |
| B (11) | 21.80 | | | 19.90 |
| C (13) | 24.90 | | | 23.10 |
| D (15) | 28.10 | | | 26.20 |
| E (17) | 31.30 | | | 29.40 |
| F (19) | 33.60 | | | 31.80 |
| G (21) | 36.80 | | | 35.00 |
| H (23) | 40.00 | 24.60 | 38.20 | 38.20 |
| J (25) | 43.20 | | | 41.30 |

Maximum connector weights (in gramms)

| Shell size | Square flange receptacle | Jam nut receptacle | Solder mount receptacle |
|------------|--------------------------|--------------------|-------------------------|
| 09 (A) | 23 | 39 | 21 |
| 11 (B) | 28 | 53 | 25 |
| 13 (C) | 35 | 63 | 31 |
| 15 (D) | 41 | 73 | 38 |
| 17 (E) | 57 | 92 | 53 |
| 19 (F) | 60 | 106 | 55 |
| 21 (G) | 65 | 118 | 57 |
| 23 (H) | 75 | 132 | 68 |
| 25 (J) | 91 | 154 | 83 |

Note: All dimensions are in millimeters (mm)

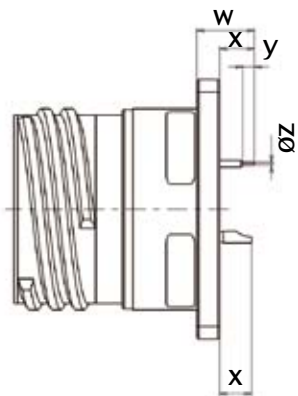
8D Series

Hermetic Series

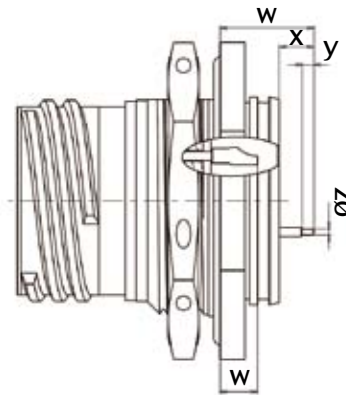


Contact variations

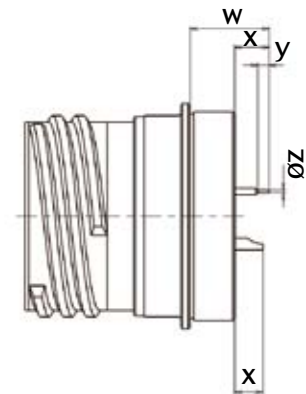
Contact variations summary



Type 21: Square flange receptacle



Type 23: Jam nut receptacle



Type 25: Solder mount receptacle

| Type of contact | Specification | Type of shell | Contact size | W max | X min | Y min | ØZ max | |
|-------------------|---------------|---------------|--------------|-------|-------|-------|--------|------|
| Solder cup (P) | WF | 21 | 20 & 22 | N/A | 3.45 | N/A | N/A | |
| | | 23 | 20 & 22 | 4.5 | N/A | N/A | N/A | |
| | | 25 | 20 & 22 | N/A | 2.3 | N/A | N/A | |
| PC tail (C) | WF | 21 | 16 | 6.65 | 3.45 | N/A | N/A | |
| | | | 20 | | | 0.89 | 0.71 | |
| | | | 22 | | | 0.89 | 0.38 | |
| | | 23 | 16 | 11.5 | 3.3 | N/A | N/A | |
| | | | 20 | | | 0.89 | 0.71 | |
| | | | 22 | | | 0.89 | 0.38 | |
| | | 25 | 16 | 10.75 | 3.4 | N/A | N/A | |
| | | | 20 | 12.15 | | 0.89 | 0.71 | |
| | | | 22 | 13.55 | | 0.89 | 0.38 | |
| | 840 | 21 | 20 | 8.05 | 4.85 | 4.5 | 0.62 | |
| | | | 22 | 7.32 | 4.12 | 3.82 | 0.53 | |
| | | | 23 | 20 | 11.8 | 3.6 | 4.5 | 0.62 |
| | | 23 | 22 | 10.6 | 2.4 | 5.75 | 0.53 | |
| | | | 25 | 20 | 10.15 | 3.7 | 4.5 | 0.62 |
| | | | 22 | 9.42 | 2.97 | 3.82 | 0.53 | |
| | | 850 | 21 | 20 | 13 | 9.8 | 6 | 0.62 |
| | | | | 22 | 10.69 | 7.49 | 7.35 | 0.53 |
| | | | 23 | 20 | 15.3 | 7.1 | 6.25 | 0.62 |
| | 22 | | | 16.2 | 8 | 9.25 | 0.45 | |
| | 25 | | 20 | 15.1 | 8.65 | 6 | 0.62 | |
| | | | 22 | 12.79 | 6.34 | 7.35 | 0.53 | |

Note: All dimensions are in millimeters (mm)



8D Series

Integrated Clinch Nuts



Description

- Square flange receptacle with 4 clinch nuts
- Clinch nut are self-locking
- Rear mounting
- Easy to install
- Time saving
- Equivalent MIL level qualification as 38999 Series III
- Clinch nut tested:
 - Impact test (drop 0.4kg from height of 100mm)
 - Push out test (130N during 15s max)
 - Wrench out test (1N/m)

Technical features

Mechanical

- **Shell:** Aluminum
- **Shells plating:**
Cadmium olive drab (W)
Nickel (F)
- **Insulator:** Thermoplastic
- **Grommet and interfacial seal:**
Silicone elastomer
- **Contact:** Copper alloy
- **Contact plating:** Gold over nickel plated
- **Endurance:**
. 500 mating/unmating operations
- **Shock:**
300g, 3ms according EN2591-D2 method A
- **Vibration:**
 - . Sinus:
 - . 10 à 2000 Hz, 3x12 hrs
(60g, 140 - 2000 Hz) with T° cycling
 - . Random:
 - . 50 to 2000 Hz, 2x8 Hrs
(1g2/ Hz, 100 - 2000Hz) at T° max.
 - . 25 to 2000 Hz, 2x8 Hrs
(5g2/ Hz, 100 - 300Hz) at ambient T°
- **Contact retention:**

| Contact size | 22 | 20 | 16 | 12 | 8 | 4 |
|----------------|----|----|-----|-----|-----|-----|
| Min force in N | 44 | 67 | 111 | 111 | 111 | 200 |

Electrical

- **Test voltage rating (Vrms)**

| Service | sea level | at 21000 m |
|---------|-----------|------------|
| M | 1 300 | 800 |
| N | 1 000 | 600 |
| I | 1 800 | 1 000 |
| II | 2 300 | 1 000 |

- **Contact resistance**

| Contact size | 22 | 20 | 16 | 12 | 8 | 4 |
|---------------|------|-----|-----|-----|---|---|
| Resistance mΩ | 14.6 | 7.3 | 3.8 | 3.5 | 3 | 2 |

- **Insulation resistance:**
≥ 5 000 MΩ (under 500 Vdc)

- **Contact rating:**

| Contact size | 22 | 20 | 16 | 12 | 8 | 4 |
|--------------|----|-----|----|----|----|----|
| Rating (A) | 5 | 7.5 | 13 | 23 | 45 | 80 |

- **Shell continuity**
Cadmium olive drab (W): 2.5 Ωh
Nickel (F): 1 Ωh

- **Shielding:**
F: 65 db at 10 GHz
F: 85 db at 1 GHz
W: 50 db at 10 GHz

Climatics

- **Temperature range:**
W: -65°C +175°C
F: -65°C +200°C
- **Sealing:**
Mated connectors meet altitude immersion requirements of MIL-DTL-38999.
- **Salt spray:**
W: 500 Hours
F: 48 Hours

Resistance to fluids

- **According to MIL-DTL-38999 standard**
 - . Gasoline: JP5 (OTAN F44)
 - . Mineral hydraulic fluid: MIL-H-5606 (OTAN H515)
 - . Synthetic hydraulic fluid: Skydrol 500 B4
- **LD4 (SAE AS 1241)**
 - . Mineral lubricating: MIL-L-7870A (OTAN O142)
 - . Synthetic lubricating: MIL-L-23699 (OTAN O156), MIL-L-7808
 - . Cleaning fluid: MIL-DTL-25769 diluted
 - . De-icing fluid: MIL-A-8243
 - . Extinguishing fluid: Chlorobrométhane
 - . Cooling fluid: Coolanol



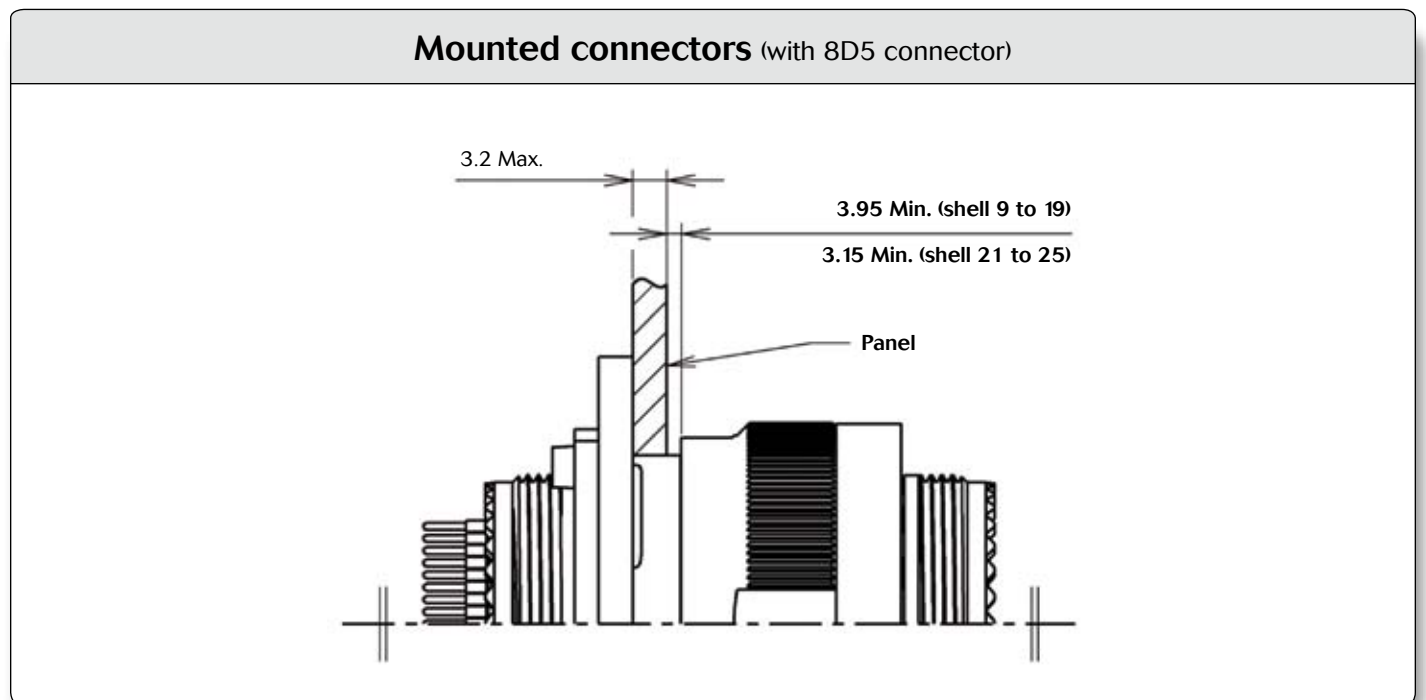
8D Series

Integrated Clinch Nuts

Ordering information

| | | | | | | | | |
|--|-----------|-----------|----------|-----------|----------|-----------|----------|----------|
| Basic Series | 8D | 34 | - | 19 | F | 35 | S | N |
| Shell style: | | | | | | | | |
| 34: Square flange receptacle with M3 clinch nuts | | | | | | | | |
| 39: Square flange receptacle with UNC 4-40 clinch nuts | | | | | | | | |
| Contact length: (consult us) | | | | | | | | |
| -: Connectors with standard crimp contacts | | | | | | | | |
| C: Short PC tail | | | | | | | | |
| L: Long PC tail | | | | | | | | |
| S: Specific PC tail | | | | | | | | |
| Shell size: | | | | | | | | |
| 9 - 11 - 13 - 15 - 17 - 19 - 21 - 23 - 25 | | | | | | | | |
| Plating: | | | | | | | | |
| F: Nickel | | | | | | | | |
| W: Olive green cadmium | | | | | | | | |
| Contact layout: | | | | | | | | |
| See pages 13 to 17 | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Pin | | | | | | | | |
| S: Socket | | | | | | | | |
| Orientation: | | | | | | | | |
| N, A, B, C, D & E | | | | | | | | |

Dimensions



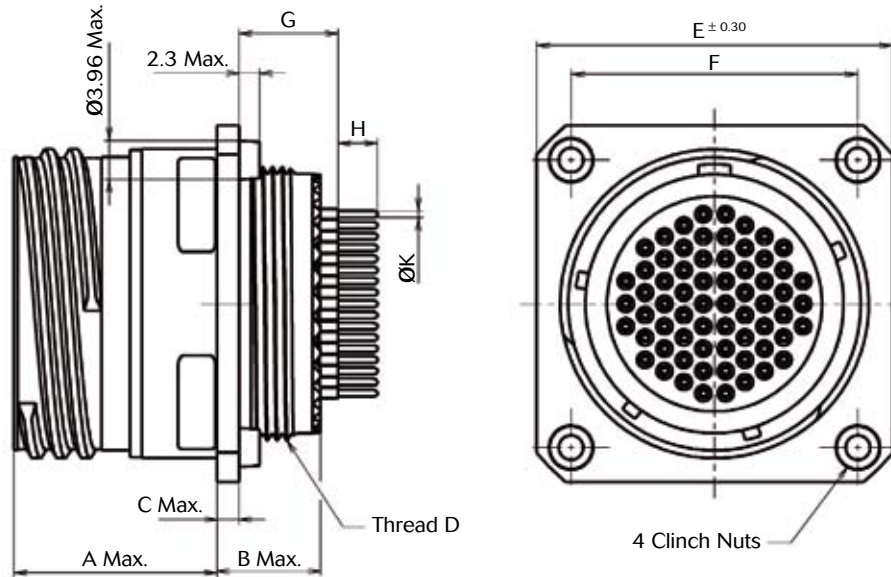
Note: All dimensions are in millimeters (mm)

8D Series

Integrated Clinch Nuts



Square flange receptacle - type 34 & type 39



| Shell Size | A Max | B Max | C Max | D Thread | E ±0.3 | F |
|------------|-------|-------|-------|----------|--------|-------|
| 9 | 20.90 | 10.60 | 2.50 | M12x1-6g | 27.79 | 18.26 |
| 11 | | | | M15x1-6g | 30.15 | 20.62 |
| 13 | | | | M18x1-6g | 32.54 | 23.01 |
| 15 | | | | M22x1-6g | 34.14 | 24.61 |
| 17 | | | | M25x1-6g | 36.5 | 26.97 |
| 19 | 20.10 | 11.40 | 3.20 | M28x1-6g | 38.89 | 29.36 |
| 21 | | | | M31x1-6g | 41.27 | 31.75 |
| 23 | | | | M34x1-6g | 44.45 | 34.93 |
| 25 | | | | M37x1-6g | 47.62 | 38.1 |

Short contact length

For other length please consult us

| Shell size | G | | | | | H | | K | |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|--------------|----------------|----------------|
| | #22D | | #20 | | #16 | #22D | #20 & #16 | #22D & #20 | #16 |
| | P | S | P | S | P & S | P & S | P & S | P & S | P & S |
| 9 | 9.47 / 10.54 | 9.09 / 10.54 | 9.64 / 10.71 | 9.26 / 10.71 | 9.64 / 10.75 | 3.8 / 4.0 | 4.9 / 5.1 | 0.65 / 0.70 | 1.09 / 1.15 |
| 11 | | | | | | | | | |
| 13 | | | | | | | | | |
| 15 | | | | | | | | | |
| 17 | | | | | | | | | |
| 19 | 9.58 / 10.65 | 9.20 / 10.65 | 9.75 / 10.82 | 9.37 / 10.82 | 9.75 / 10.86 | | | | |
| 21 | | | | | | | | | |
| 23 | | | | | | | | | |
| 25 | | | | | | | | | |

8D Series

Double Flange



Description

- High level vibration resistance in harsh environments.
- Offers the same level of performance as the MIL-DTL-38999 Series III connector.
- Jam nut receptacle.
- No risk of breaking contacts.
- No risk of micro-cuts.
- Allow direct grounding from PCB to the flange.
- PC tails contacts without shoulder: #16, #20 and #22.

Technical features

Mechanical

- **Shell:** Aluminum
- **Shell plating:**
 - . Cadmium olive drab (W)
 - . Nickel (F)
 - . Black zinc nickel (Z)
- **Insulator:** Thermoplastic
- **Grommet and interfacial seal:** Silicone elastomer
- **Contacts:** Copper alloy
- **Contacts plating:** Gold over nickel plated
- **Endurance:** 500 mating cycles
- **Shock:** 300g, 3ms according EN2591-D2 method A
- **Vibration:**
 - . Sinus:
 - . 10 à 2000 Hz, 3x12 hrs (60g, 140 - 2000 Hz) with T° cycling
 - . Random:
 - . 50 to 2000 Hz, 2x8 Hrs (1g2/ Hz, 100 - 2000Hz) at T° max.
 - . 25 to 2000 Hz, 2x8 Hrs (5g2/ Hz, 100 - 300Hz) at ambient T°

Contact retention:

| Contact size | 22 | 20 | 16 | 12 | 8 | 4 |
|----------------|----|----|-----|-----|-----|-----|
| Min force in N | 44 | 67 | 111 | 111 | 111 | 200 |

Electrical

Test voltage rating (Vrms)

| Service | sea level | at 2 1000 m |
|---------|-----------|-------------|
| M | 1 300 | 800 |
| N | 1 000 | 600 |
| I | 1 800 | 1 000 |
| II | 2 300 | 1 000 |

Contact resistance

| Contact size | 22 | 20 | 16 | 12 | 8 | 4 |
|---------------|------|-----|-----|-----|---|---|
| Resistance mΩ | 14.6 | 7.3 | 3.8 | 3.5 | 3 | 2 |

Insulation resistance:

≥ 5 000 MΩ (under 500 Vdc)

Contact rating:

| Contact size | 22 | 20 | 16 | 12 | 8 | 4 |
|--------------|----|-----|----|----|----|----|
| Rating (A) | 5 | 7.5 | 13 | 23 | 45 | 80 |

Shell continuity:

- . Cadmium olive drab (W): 2.5 Ωh
- . Nickel (F): 1 Ωh
- . Black zinc nickel (Z): 2.5 Ωh

Shielding:

- . F: 65 db at 10 GHz; 85 db at 1 GHz
- . W: 50 db at 10 GHz
- . Z: Consult us

Climatics

Temperature range:

- . W: -65°C +175°C
- . F: -65°C +200°C
- . Z: -65°C +200°C

Sealing:

Mated connectors meet altitude immersion requirements of MIL-DTL-38999.

Salt spray:

- . W: 500 Hrs
- . F: 48 Hrs
- . Z: 500 Hrs

Resistance to fluids

According to MIL-DTL-38999 standard

- . Gasoline: JP5 (OTAN F44)
- . Mineral hydrolic fluid: MIL-H-5606 (OTAN H515)
- . Synthetic hydraulic fluid: Skydrol 500 B4

LD4 (SAE AS 1241)

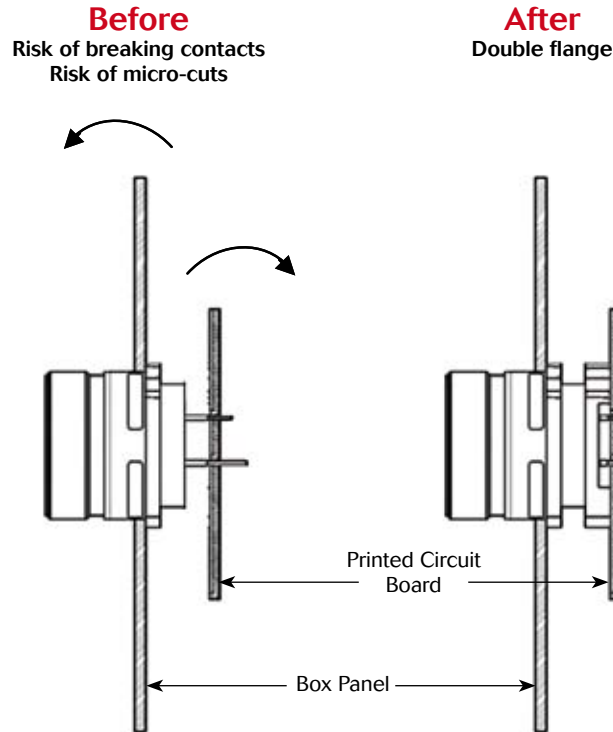
- . Mineral lubricating: MIL-L-7870A (OTAN O142)
- . Synthetic lubricating: MIL-L-23699 (OTAN O156), MIL-L-7808
- . Cleaning fluid: MIL-DTL-25769 diluted
- . De-icing fluid: MIL-A-8243
- . Extinguishing fluid: Chlorobromethane
- . Cooling fluid: Coolanol



8D Series

Double Flange

Comparison



Ordering information

| | | | | | | | | | | |
|--|----|----|----|---|----|---|----|---|---|---|
| Basic Series | 8D | 87 | 11 | C | 17 | W | 35 | P | N | L |
| Shell type: | | | | | | | | | | |
| 87: Jam nut receptacle | | | | | | | | | | |
| Length between panel & PCB * (mm) | | | | | | | | | | |
| Type: | | | | | | | | | | |
| C: Receptacle with short PC tail | | | | | | | | | | |
| L: Receptacle with long PC tail | | | | | | | | | | |
| Shell size: | | | | | | | | | | |
| 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | | | |
| Plating: | | | | | | | | | | |
| W: Olive green cadmium | | | | | | | | | | |
| F: Nickel (ROHS) | | | | | | | | | | |
| Z: Zinc nickel | | | | | | | | | | |
| Contact layout: | | | | | | | | | | |
| See pages 13 to 17 | | | | | | | | | | |
| Contact type: | | | | | | | | | | |
| P: Pin | | | | | | | | | | |
| S: Socket | | | | | | | | | | |
| Orientation: | | | | | | | | | | |
| N, A, B, C, D, E | | | | | | | | | | |
| Specification: | | | | | | | | | | |
| None: Standard | | | | | | | | | | |
| L: Without contacts | | | | | | | | | | |
| For other specification, please contact us | | | | | | | | | | |

* For other length between panel & PCB please consult us.

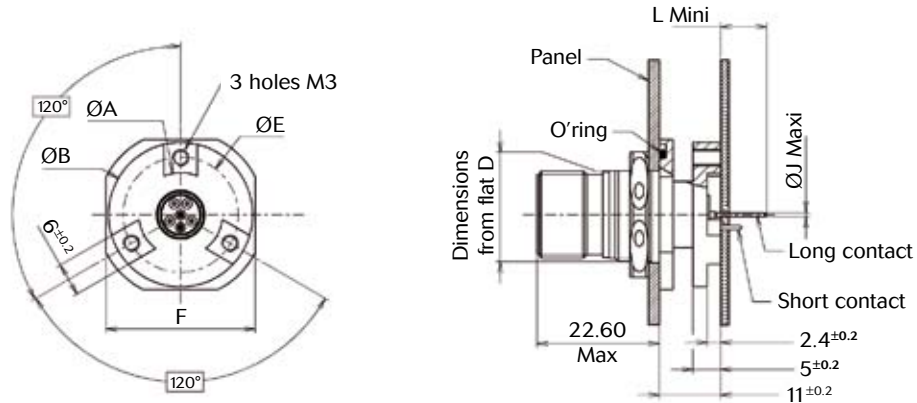
8D Series

Double Flange



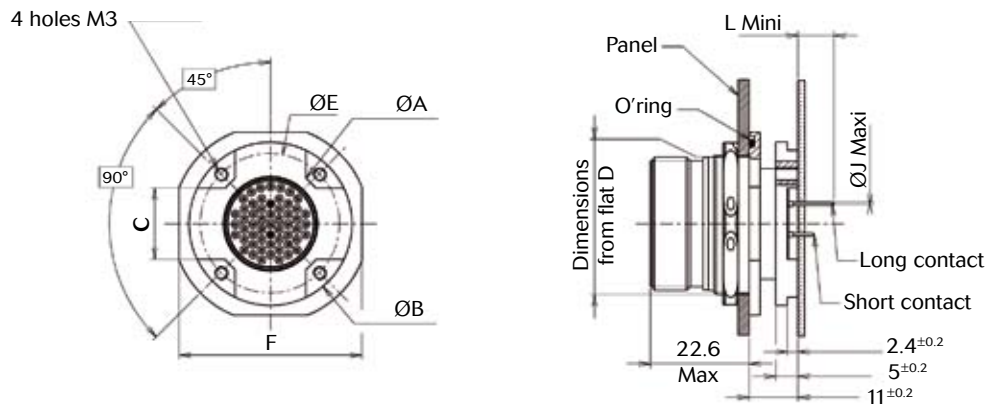
Dimensions

Jam nut receptacle (type 87) - Size 9 & 11



| Shell size | ØA ± 0.15 | ØB ± 0.15 | D ± 0.15 | ØE | F ± 0.4 |
|------------|-----------|-----------|----------|-------|---------|
| 9 | 15.10 | 26.00 | 16.53 | 20.50 | 27.00 |
| 11 | 19.90 | 30.80 | 19.07 | 25.20 | 31.80 |

Jam nut receptacle (type 87) - Size 13 to 25



| Shell size | ØA ± 0.15 | ØB ± 0.15 | C ⁺⁰ _{-0.2} | D ± 0.15 | ØE | F ± 0.4 |
|------------|-----------|-----------|---------------------------------|----------|-------|---------|
| 13 | 19.90 | 30.80 | 12 | 23.82 | 25.25 | 34.90 |
| 15 | 23.00 | 33.90 | 14 | 26.97 | 28.42 | 38.10 |
| 17 | 26.00 | 36.80 | 16 | 30.15 | 31.42 | 41.30 |
| 19 | 29.50 | 40.40 | 18 | 33.32 | 35.03 | 46.00 |
| 21 | 32.50 | 43.20 | 20 | 36.50 | 37.82 | 49.20 |
| 23 | 35.50 | 46.50 | 23 | 39.67 | 41.12 | 52.40 |
| 25 | 38.60 | 49.60 | 25 | 42.85 | 44.30 | 55.60 |

Note: All dimensions are in millimeters (mm)

8D Series

Double Flange



Straight PC tail contacts

| Contact size | Contact type | PC tail length | L min | ØJ max |
|--------------|--------------|----------------|-------|--------|
| 22D | P | L | 7.1 | 0.7 |
| | S | | | |
| | P | C | 3.6 | |
| | S | | | |
| 20 | P | L | 7.1 | 0.9 |
| | S | | | |
| | P | C | 3.6 | |
| | S | | | |
| 16 | P | L | 7.1 | 1.35 |
| | S | | | |
| | P | C | 3.6 | |
| | S | | | |
| 12 | P | L | - | - |
| | S | | | |
| | P | C | 3.6 | 1.7 |
| | S | | | |

8D Series

PCB Contacts without Shoulder



Description

- Pin & socket PCB contacts without shoulder #22D & #20 as per MIL-DTL-38999 Series I, II & III. Contacts without shoulder allows a more flexible mounting on variable PCB thicknesses or depths.
- Ruggedized contacts:
 - . Material: copper alloy
 - . Finish: gold per MIL-G-45204 type I class 1 over nickel plate
 - . Sleeve: stainless steel
- Flexible mounting:
 - . Various PCB thicknesses
 - . Multiple PCB positioning

Ordering information

8D Series connector with PCB contacts without shoulder

| | | | | | | | | | | |
|--|-----------|----------|----------|-----------|----------|-----------|----------|----------|----------|------------|
| Basic Series: | 8D | 0 | C | 11 | F | 35 | P | N | M | 900 |
| Shell type: | | | | | | | | | | |
| 0: Square flange wall mounting receptacle | | | | | | | | | | |
| 7: Jam nut receptacle | | | | | | | | | | |
| 34: Square flange wall mounting receptacle with M3 clinch nuts | | | | | | | | | | |
| 39: Square flange wall mounting receptacle with UNC 4-40 clinch nuts | | | | | | | | | | |
| 8711: Jam nut double flange receptacle | | | | | | | | | | |
| PCB contact without shoulder type: (see next page for information & dimensions) | | | | | | | | | | |
| C: Short PC tail | | | | | | | | | | |
| M: Medium PC tail | | | | | | | | | | |
| L: Long PC tail | | | | | | | | | | |
| shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25 | | | | | | | | | | |
| 8D aluminum plating: | | | | | | | | | | |
| F: Nickel | | | | | | | | | | |
| Z: Black zinc nickel | | | | | | | | | | |
| W: Olive green cadmium | | | | | | | | | | |
| ZC: Green zinc cobalt | | | | | | | | | | |
| 8D composite plating: | | | | | | | | | | |
| J: Olive green cadmium | | | | | | | | | | |
| M: Nickel | | | | | | | | | | |
| X: Without plating | | | | | | | | | | |
| 8D stainless steel plating: | | | | | | | | | | |
| K: Passivated | | | | | | | | | | |
| S: Nickel | | | | | | | | | | |
| 8D titanium plating: | | | | | | | | | | |
| TT: Without plating | | | | | | | | | | |
| TF: Nickel | | | | | | | | | | |
| Contact layout: See pages 13 to 17 | | | | | | | | | | |
| Contact type: | | | | | | | | | | |
| P: Male | | | | | | | | | | |
| S: Female | | | | | | | | | | |
| Orientation: N, A, B, C, D, E | | | | | | | | | | |
| Special custom: | | | | | | | | | | |
| None: Standard plastic cap | | | | | | | | | | |
| M: Antistatic plastic cap | | | | | | | | | | |
| 8D0, 8D7, 8D34 & 8D39 contact plating: | | | | | | | | | | |
| 900: Contact without shoulder with gold plated barrel (termination area) | | | | | | | | | | |
| 901: Contact without shoulder with tin plated barrel (termination area) | | | | | | | | | | |
| 8D8711 contact plating: | | | | | | | | | | |
| None: Contact without shoulder with gold plated barrel (termination area) | | | | | | | | | | |
| 580: Contact without shoulder with tin plated barrel (termination area) | | | | | | | | | | |

Note: For JVS (8D Bronze Series, please consult us)

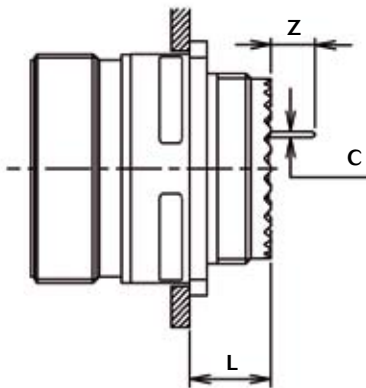
8D Series

PCB Contacts without Shoulder

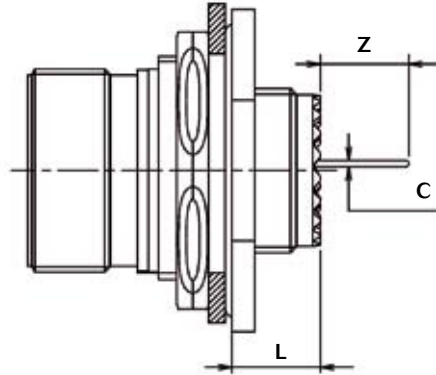


8D Series

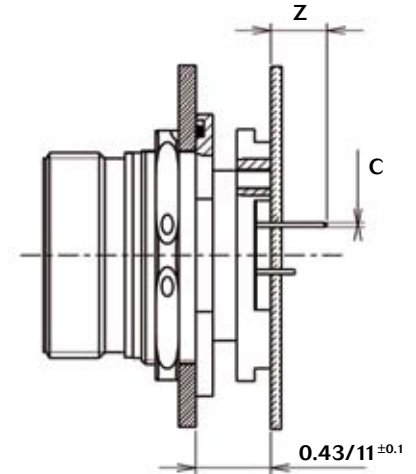
Square flange receptacle
8D0
8D34 (with M3 clinch nuts)
8D39 (with UNC 4-40 clinch nuts)



Jam nut receptacle
8D7



Jam nut double flange receptacle
8D8711



| Contact size | Contact Type | | Ø C Max | Square flange receptacle 8D0 / 8D34 | | Jam nut receptacle 8D7 | |
|--------------|--------------|-------------------|---------|--|-------|---------------------------|-------|
| | | | | Z Min | Z Max | Z Min | Z Max |
| #22D & #20 | Pin | C: Short PC tail | 0.50 | 3.96 | 4.88 | 3.56 | 4.63 |
| | | M: Medium PC tail | 0.50 | 5.99 | 6.91 | 5.59 | 6.66 |
| | | L: Long PC tail | 0.50 | 7.51 | 8.43 | 7.11 | 8.18 |
| #22D & #20 | Socket | C: Short PC tail | 0.50 | 3.96 | 5.21 | 3.56 | 4.81 |
| | | M: Medium PC tail | 0.50 | 5.99 | 7.24 | 5.59 | 6.84 |
| | | L: Long PC tail | 0.50 | 7.51 | 8.76 | 7.11 | 8.36 |

| Contact size | Contact Type | | Ø C Max | Double flange receptacle 8D8711 |
|--------------|--------------|------------------|---------|------------------------------------|
| | | | | Z Min |
| #22D | Pin & Socket | C: Short PC tail | 0.70 | 3.60 |
| | | L: Long PC tail | 0.70 | 7.10 |
| #20 | Pin & Socket | C: Short PC tail | 0.90 | 3.60 |
| | | L: Long PC tail | 0.90 | 7.10 |

| Shell type | Square flange receptacle 8D0 / 8D34 | | Jam nut receptacle 8D7 |
|------------|--|----------|---------------------------|
| Shell size | 9 to 19 | 21 to 25 | 9 to 25 |
| L Max | 10.7 | 11.5 | 9.90 |

Note: All dimensions are in millimeters (mm)

8D Series

High Density



Description

- Derived from standards:
 - MIL-DTL-38999 Series III (8D)
- 100% scoop proof
- Available in 3 shell sizes
- Contacts #26 for cable AWG 26 to 30 (24 to 30 under request)
- Double flange & clinch nut version available

Technical features

Mechanical

- **Shell:**
 - . Aluminium, Composite, Stainless steel
- **Shell plating:**
 - . 8D Aluminum:
 - Cadmium olive drab (W)
 - Nickel (F)
 - Black zinc nickel (Z)
 - . 8D Composite:
 - Cadmium olive drab (J)
 - Nickel (M)
- **Insulator:** Thermoplastic
- **Seal:** Liquid Silicone rubber
- **Contact:** Copper alloy
- **Contact plating:** Gold
- **Endurance:** 500 matings/unmatings
- **Shock & Vibration:**
 - According to 38999 specification

Electrical

- **Contact resistance:**
 - Size 26: 16 m Ω
- **Insulation resistance:**
 - $\geq 5000\text{m}\Omega$ (at 500Vdc)
- **Contact rating:**
 - Size 26: 3Amp
- **Shell continuity:**
 - . Aluminum shell:
 - Cadmium olive drab (W): 2.5 m Ω
 - Nickel (F): 1 m Ω
 - Black zinc nickel (Z): 2.5 m Ω
 - . Composite shell:
 - Cadmium olive drab (J): 3 m Ω
 - Nickel (M): 3 m Ω
 - . Stainless steel shell:
 - Passivated (K): 10 m Ω
 - Nickel (S): 1 m Ω

Environmental

- **Temperature range:**
 - 55 $^{\circ}$ c to +175 $^{\circ}$ C
 - 55 $^{\circ}$ c to +200 $^{\circ}$ C (Nickel version)
- **Sealing mated connectors:**
 - IP 67 (1 metre for 30 min minimum)
- **Salt spray:**
 - . Aluminum shell:
 - W: 500 Hrs
 - F: 48 Hrs
 - Z: 500 Hrs
 - . Composite shell: 2000 Hrs
 - . Stainless steel shell: 500 Hrs

Resistance to fluids

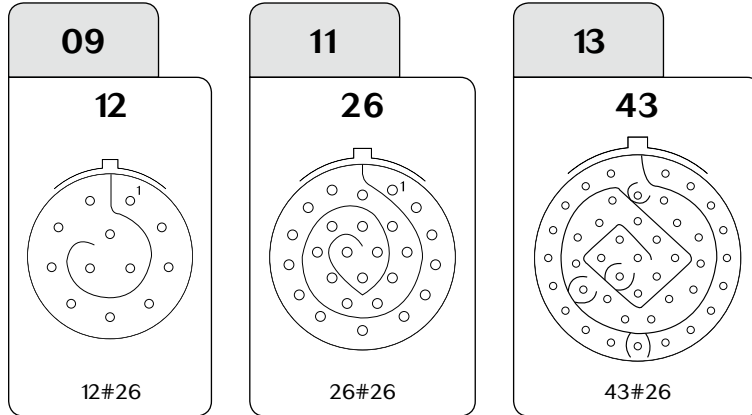
- **According to MIL-DTL-38999 standard**
 - . Gasoline: JP5 (OTAN F44)
 - . Mineral hydraulic fluid: MIL-H-5606 (OTAN H515)
 - . Synthetic hydraulic fluid: Skydrol 500 B4
- **LD4 (SAE AS 1241)**
 - . Mineral lubricating: MIL-L-7870A (OTAN 0142)
 - . Synthetic lubricating: MIL-L-23699 (OTAN 0156), MIL-L-7808
 - . Cleaning fluid: MIL-DTL-25769 diluted
 - . De-icing fluid: MIL-A-8243
 - . Extinguishing fluid: Chlorobrométhane
 - . Cooling fluid: Coolanol

8D Series

High Density



Contact layouts



PCB hole drilling and position information
See pages 76 & 77.

Ordering information

8D Series

| | | | | | | | | |
|---|----|---|---|----|---|----|---|---|
| Basic Series | 8D | 0 | - | 11 | W | 35 | P | N |
| Shell style: | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | |
| 1: In line receptacle (Aluminum only) | | | | | | | | |
| 7: Jam nut receptacle (Aluminum, Stainless steel & Titanium only) | | | | | | | | |
| 5: Plug with RFI shielding | | | | | | | | |
| Type: | | | | | | | | |
| -: Connectors with standard crimp contacts | | | | | | | | |
| L: Receptacle with PC tail (available with Pin contact only) | | | | | | | | |
| Shell size: 09, 11, 13 | | | | | | | | |
| Plating: | | | | | | | | |
| W: Olive drab cadmium (Aluminum only) | | | | | | | | |
| F: Nickel (Aluminum only) | | | | | | | | |
| Z: Black zinc nickel (Aluminum only) | | | | | | | | |
| J: Olive drab cadmium (Composite only) | | | | | | | | |
| M: Nickel (Composite only) | | | | | | | | |
| Contact layout: See previous page | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Pin | | | | | | | | |
| S: Socket | | | | | | | | |
| Orientation: N, A, B, C, D, E | | | | | | | | |
| Specifications: | | | | | | | | |
| L: Delivered without contact | | | | | | | | |
| 900 (mandatory for PC tail version): PC tail contacts without shoulder | | | | | | | | |
| 901 (mandatory for PC tail version): Tin plated PC tail contacts without shoulder | | | | | | | | |

Contact, tooling & accessories

See «Common Section» page 65.

Recommended cable

Standard military cable as M22759 or EN2267 and derived.

8D Series Quadrax Contacts



Description

- Front and rear removable versions available.
- Crimp and PC tail versions available.
- Standard #8 cavity insertion and removal tools.
- Ground connection of the cable braid to the shell possible through the external shell of the # 8 contact.
- Compatible with star quad cable.
- Characteristic impedance of 100 Ohms.

Technical features

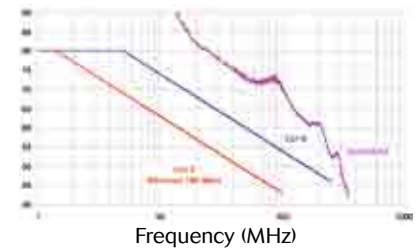
Mechanical

- **Operating temperature:**
-65°C up to 150°C
- **Inner contact:**
copper alloy
- **Contact body:**
copper alloy
- **Contact insulator:**
thermoplastic resin
- **Contact plating:**
gold over nickel
- **Shell plating:**
Aluminum shell:
Cadmium olive drab (W)
Nickel (F)
Black zinc nickel (Z)
Green zinc cobalt (ZO)
Composite shell:
Cadmium olive drab (J)
Nickel (M)
Without plating (X)
Stainless steel shell:
Passivated (K)
Nickel (S)
Titanium shell:
Without plating (TT)
Nickel (TF)
Bronze shell:
Without plating

Electrical

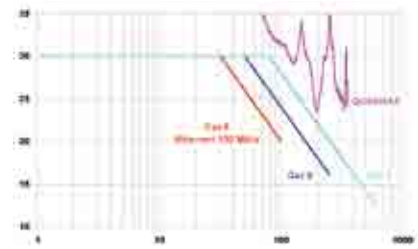
- **ISO/IEC 11801 category 6 compliant:**
next (cross talk): > 46 db at 250 MHz
return loss: > 16 db at 250 MHz
shield effectiveness: > 36 db at 80 MHz
 - **Contact to shell continuity:**
< 10 mΩ
 - **Contact resistance (low level):**
initial 15 mΩ
after tests 30 mΩ
 - **Dielectric withstanding voltage:**
- | Altitude | Service I |
|-----------|-----------|
| sea level | 500 Vrms |
| 21 000 m | 125 Vrms |
- **Insulation resistance:**
at ambient temperature: > 5000 MΩ
at high temperature: > 1000 MΩ
 - **#24 contact cable size acceptance:**
AWG 22 to AWG 26

Next (dB)



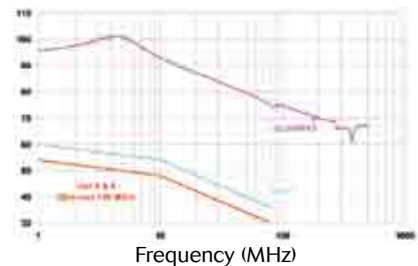
Frequency (MHz)

Return loss (dB)



Frequency (MHz)

Shield effectiveness (dB)



Frequency (MHz)

8D Series

Quadrax Contacts



Ordering information

Aluminum, Composite, Stainless steel & Titanium connector

| | | | | | | | | | |
|---|----|---|---|----|--|----|---|---|-----|
| Basic Series | 8D | 0 | Q | 11 | W | 81 | P | N | 621 |
| Shell style: | | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | | |
| 5: Plug | | | | | | | | | |
| 7: Jam nut receptacle | | | | | | | | | |
| Type: | | | | | | | | | |
| C: Quadrax PC tail contacts* | | | | | | | | | |
| Q: Quadrax crimp contacts | | | | | | | | | |
| Shell size: 9 - 11 - 17 - 19 - 21 - 23 - 25 | | | | | | | | | |
| Plating: | | | | | | | | | |
| Aluminum shell: | | | | | | | | | |
| W: Olive green cadmium | | | | | | | | | |
| F: Nickel | | | | | | | | | |
| Z: Black zinc nickel | | | | | | | | | |
| ZC: Green zinc cobalt | | | | | | | | | |
| Composite shell: | | | | | | | | | |
| J: Olive green cadmium | | | | | | | | | |
| M: Nickel | | | | | | | | | |
| X: Without plating | | | | | | | | | |
| Stainless steel shell: | | | | | | | | | |
| K: Passivated | | | | | | | | | |
| S: Nickel | | | | | | | | | |
| Titanium shell: | | | | | | | | | |
| TF: Nickel | | | | | | | | | |
| TT: Without plating | | | | | | | | | |
| Contact layout: See next page | | | | | | | | | |
| Contact type: | | | | | | | | | |
| P: Pin A: Connector supplied without quadrax pin contact | | | | | | | | | |
| S: Socket B: Connector supplied without quadrax socket contact | | | | | | | | | |
| Orientation: N, A, B, C, D & E | | | | | | | | | |
| Specification: | | | | | | | | | |
| 284: Quadrax grounded PC tail contact (100Ω)* | | | | | 408: Quadrax not grounded crimp contact (150Ω) | | | | |
| 308: Quadrax not grounded PC tail contact (100Ω) | | | | | 620: Quadrax grounded crimp contact (100Ω)* | | | | |
| 384: Quadrax grounded crimp contact (150Ω)* | | | | | 621: Quadrax not grounded crimp contact (100Ω) | | | | |

Bronze connector

| | | | | | | | | |
|---|-----|---|-----|--|----|---|---|-----|
| Basic Series | JVS | C | 00A | 09 | 35 | P | N | 284 |
| Type: | | | | | | | | |
| C: Quadrax PC tail contacts* | | | | | | | | |
| Q: Quadrax crimp contacts | | | | | | | | |
| Shell style: | | | | | | | | |
| 00A: Square flange receptacle | | | | | | | | |
| 16A: Plug | | | | | | | | |
| 07A: Jam nut receptacle | | | | | | | | |
| Shell size: 9 - 11 - 17 - 19 - 21 - 23 - 25 | | | | | | | | |
| Contact layout: See next page | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Pin A: Connector supplied without quadrax pin contact | | | | | | | | |
| S: Socket B: Connector supplied without quadrax socket contact | | | | | | | | |
| Orientation: N, A, B, C, D & E | | | | | | | | |
| Specification: | | | | | | | | |
| 284: Quadrax grounded contact (100Ω)* | | | | 408: Quadrax not grounded crimp contact (150Ω) | | | | |
| 308: Quadrax not grounded contact (100Ω) | | | | 620: Quadrax grounded crimp contact (100Ω)* | | | | |
| 384: Quadrax grounded contact (150Ω)* | | | | 621: Quadrax not grounded crimp contact (100Ω) | | | | |

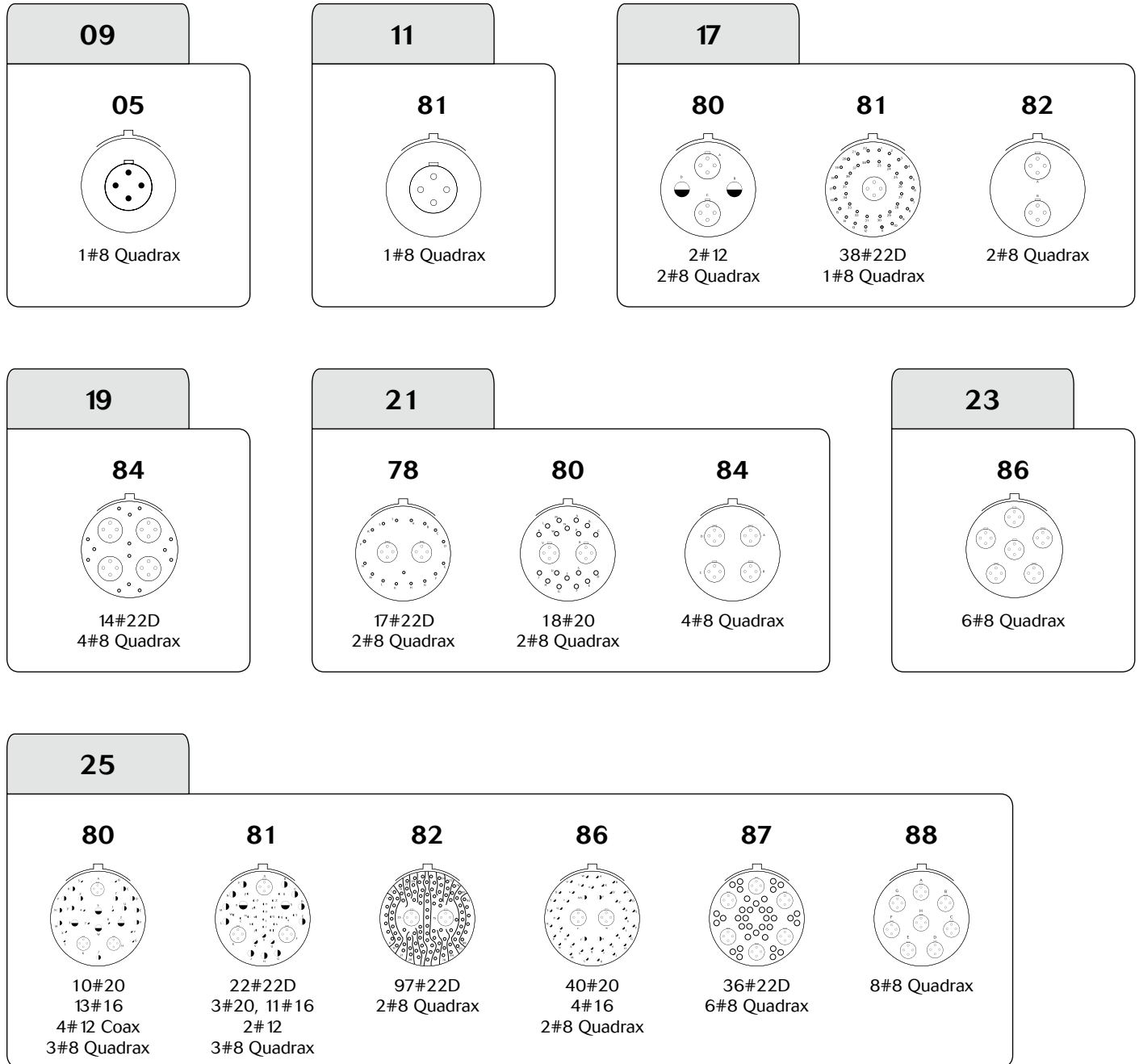
* For PC tail contacts or grounded versions please consult us.

8D Series

Quadrax Contacts



Contact layouts



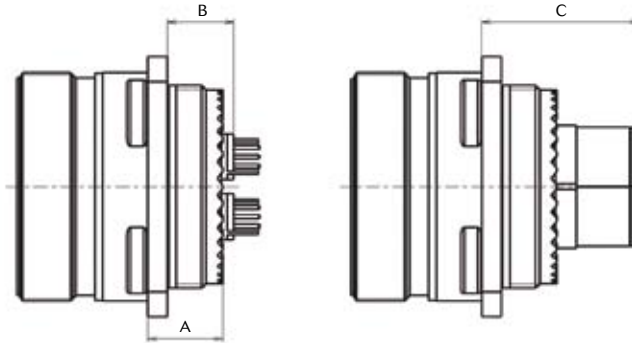
8D Series

Quadrax Contacts



Dimensions

Square flange receptacle - Type 0

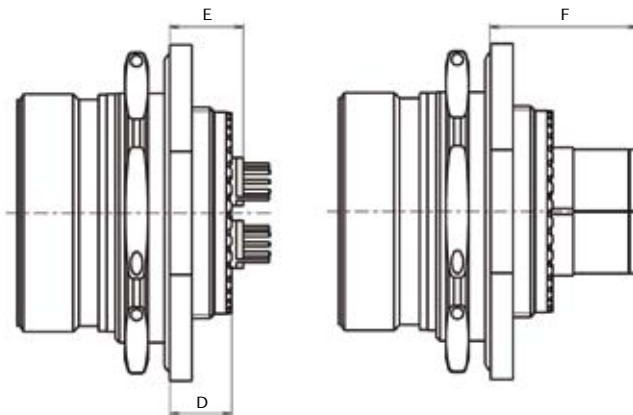


PC Tail contacts

Crimp contacts

| Shell size | A Max | | | B Min | | | B Max | | | C Max |
|------------|----------|-----------|------------------------------------|----------|-----------|------------------------------------|----------|-----------|------------------------------------|---------------|
| | Aluminum | Composite | Stainless steel, Titanium & Bronze | Aluminum | Composite | Stainless steel, Titanium & Bronze | Aluminum | Composite | Stainless steel, Titanium & Bronze | All materials |
| 11 to 19 | 10.72 | 11.96 | 11.4 | 11.5 | 12.5 | 12 | 13.5 | 13.5 | 14 | 29 |
| 21 to 25 | 11.54 | 12.76 | 11.8 | 12 | 14.5 | 12.5 | 14 | 15.5 | 14.5 | 30 |

Jam nut receptacle - Type 7

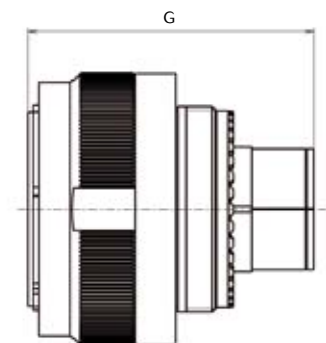


PC Tail contacts

Crimp contacts

| Material | Aluminum, Stainless steel, Titanium & Bronze | | | |
|------------|--|-------|-------|-------|
| Shell size | D Max | E Min | E Max | F Max |
| 11 to 25 | 9.9 | 9.5 | 12 | 27 |

Plug - Type 5



All materials

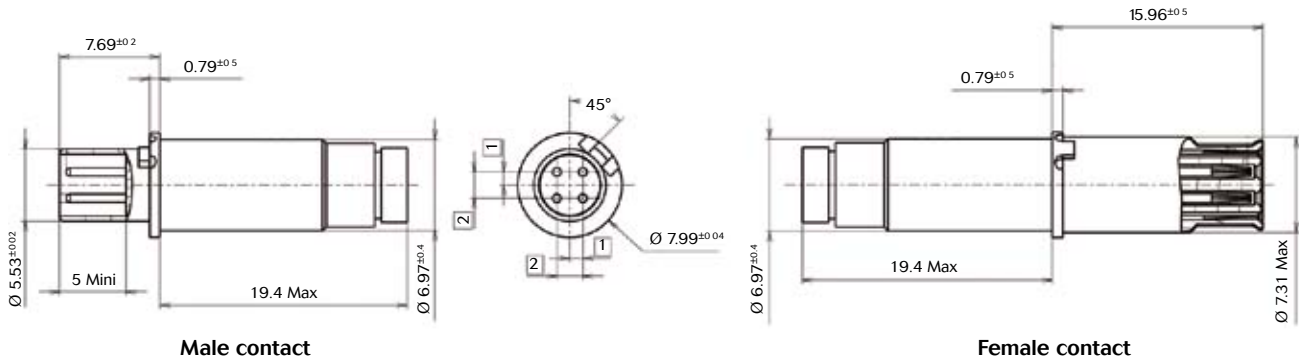
| Shell size | G Max |
|------------|-------|
| 11 to 25 | 48 |

Note: All dimensions are in millimeters (mm)

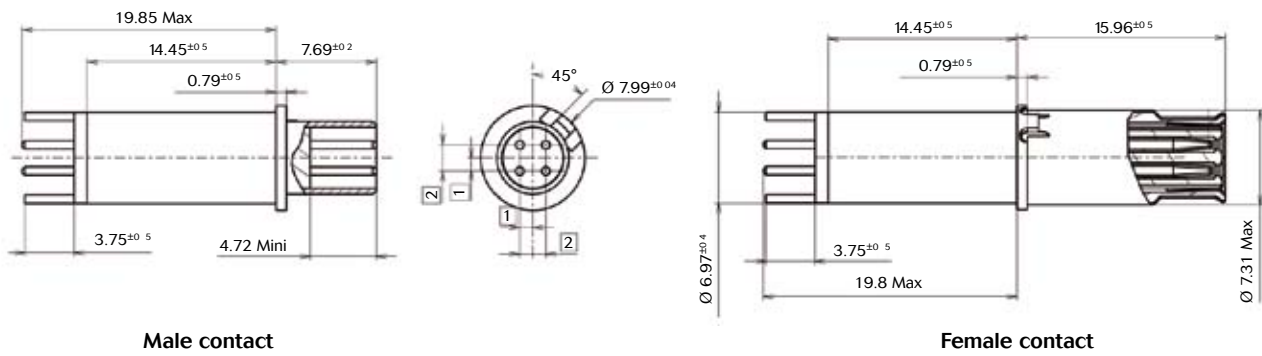
8D Series Quadrax Contacts



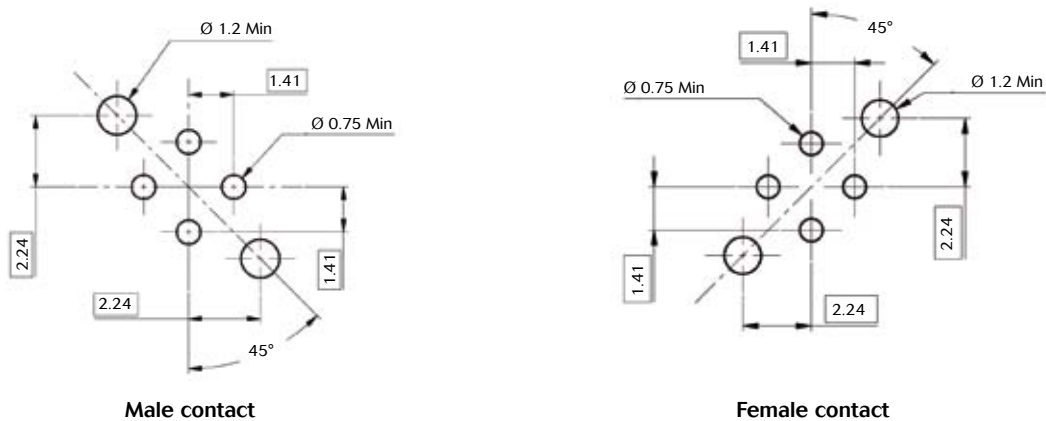
Quadrax crimp contact



Quadrax PCB contact



Drill dimensions for PCB mount



Note: All dimensions are in millimeters (mm)



8D Series

Quadrax Contacts

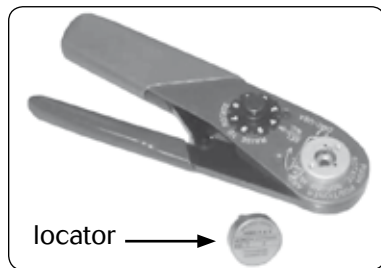
Contact ordering information

In-line alignment key. All crimp contacts are sealed thru a sealing boot. Crimp contacts ordered separately are delivered with sealing boot.

| Contact type | | SOURIAU part number | Cross Norm | Impedance | Release | T° Max |
|-----------------------------------|--------|---------------------|-------------|-----------|---------|--------|
| PC tail L= 4 ⁺⁰ 1mm | Pin | ETH1-1237A | - | 100Ω | Rear | 125°C |
| | | ETH1-1501A | - | 150Ω | Rear | 125°C |
| | Socket | ETH1-1238A | - | 100Ω | Rear | 125°C |
| | | ETH1-1502A | - | 150Ω | Rear | 125°C |
| Crimp | Pin | ETH1-1345A | EN 3155-074 | 100Ω | Rear | 150°C |
| | | ETH1-1503A | - | 150Ω | Rear | 150°C |
| | Socket | ETH1-1346A | EN 3155-075 | 100Ω | Rear | 150°C |
| | | ETH1-1504A | - | 150Ω | Rear | 150°C |

Quadrax tools

- Inner contacts: M22520/2-01 crimping tool and K709 locator
- Outer body: M22520/5-01 crimping tool and M22520/5-45 die set



- Insertion/extraction tool (standard size 8 cavity tools): 8660-197 (metallic) or M81969/14-06 (plastic)



Recommended cable

| impedance | Reference | Cable type | Number of pairs |
|-----------|---------------|------------|-----------------|
| 100Ω | ABS 1503 KD24 | Star quad | 2 |

8D Series Power Contacts



Description

- Quick screw coupling connector with removable crimp contact.
- Shell available in aluminum, composite, Stainless steel, Titanium & Bronze.
- Six layouts with different current rating.
- Consult us for power hermetic version.
- High Power offer available on demand.

Technical features

Mechanical

- **Shell:** Aluminum alloy, Composite, Bronze, Stainless steel, Titanium.
- **Plating:**
 - Olive green cadmium (W/J),
 - Nickel (F/M/TF/S),
 - Without plating (X for composite, TT for titanium and JVS for Bronze),
 - Passivated (K).
- **Grommet and seal:** Silicon elastomer.
- **Insulator:** Thermoset.
- **Contact body:** Copper Alloy.
- **Contact retention:**
 - #4 = 200N
 - #8 = 111N.
- **Shock:** 300g during 3ms.
- **Endurance:** 500 mating / unmating operations.
- **Vibration:** As per MIL DTL 38999.

Electrical

- **Dielectric withstanding:**
Test voltage rating (Vrms).

| Service | Sea level | at 21 000 m |
|---------|-----------|-------------|
| M | 1 300 | 800 |
| I | 1 800 | 1 000 |

- **Insulation Resistance:**
5000 MΩ under 500 Vdc.
- **Max current rating per contact:**
 - #4 = 80A
 - #8 = 45A.
- **Contact resistance:**
 - #4 = 2mΩ
 - #8 = 3MΩ.
- **Shielding:** As per MIL DTL 38999.
- **Shell continuity:**
 - W = 2.5 mΩ,
 - F = 1mΩ,
 - J, M = 3 mΩ,
 - JVS = 5 mΩ.

Environmental

- **Temperature range:**
W, J, X, JVS = - 65°C +175°C,
F, M, K, S, TT, TF = - 65°C +200°C.
- **Sealing:** As per MIL DTL 38999.
- **Damp Heat:** As per MIL DTL 38999.
- **Salt Spray:**
W, TT, TF, K, JVS = 500 hours,
F, S = 48 hours,
J,M,X = 2000 hours.
- **Fire resistance:**
As per EN 2591 - c 17 method A.
- **Resistance to fluid:**
As per MIL DTL 38999.



8D Series

Power Contacts

Connector part numbers

Aluminum, Composite, Stainless steel & Titanium connector

| | | | | | | | | | |
|--|----|---|---|----|---|----|---|---|-----|
| Basic Series | 8D | 0 | - | 11 | W | 80 | P | N | 251 |
| Style: | | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | | |
| 5: Plug with RFI shielding | | | | | | | | | |
| 7: Jam nut receptacle | | | | | | | | | |
| Type: Crimp contact | | | | | | | | | |
| Shell size: 11 - 17 - 19 - 21 - 23 - 25 | | | | | | | | | |
| Plating: | | | | | | | | | |
| Aluminum shell: | | | | | | | | | |
| W: Olive drab cadmium | | | | | | | | | |
| F: Nickel | | | | | | | | | |
| ZC: Green zinc cobalt | | | | | | | | | |
| Z: Black zinc nickel | | | | | | | | | |
| Composite shell: | | | | | | | | | |
| J: Olive green cadmium | | | | | | | | | |
| M: Nickel | | | | | | | | | |
| X: Without plating | | | | | | | | | |
| Stainless steel shell: | | | | | | | | | |
| K: Corrosion resistant | | | | | | | | | |
| S: Nickel | | | | | | | | | |
| Titanium shell: | | | | | | | | | |
| TT: Without plating | | | | | | | | | |
| TF: Nickel | | | | | | | | | |
| Contact layouts: See next page | | | | | | | | | |
| Contact style: | | | | | | | | | |
| P: Pin contact A: Male connector supplied without contact | | | | | | | | | |
| S: Socket contact B: Female connector supplied without contact | | | | | | | | | |
| Orientation: N - A - B - C - D - E | | | | | | | | | |
| Specification: | | | | | | | | | |
| 251: To be added for some layouts to be supplied with power contacts (see next page) | | | | | | | | | |

Bronze connector







| | | | | | | | | |
|--|-----|----|---|----|----|---|---|-----|
| Basic Series | JVS | 16 | A | 11 | 80 | P | N | 251 |
| Style: | | | | | | | | |
| 00: Square flange receptacle | | | | | | | | |
| 07: Jam nut receptacle | | | | | | | | |
| 16: Plug | | | | | | | | |
| Material: | | | | | | | | |
| A: Bronze shell material | | | | | | | | |
| Shell size: 11 - 17 - 19 - 21 - 23 - 25 | | | | | | | | |
| Contact layouts: See next page | | | | | | | | |
| Contact style: | | | | | | | | |
| P: Pin contact A: Male connector supplied without contact | | | | | | | | |
| S: Socket contact B: Female connector supplied without contact | | | | | | | | |
| Orientation: N - A - B - C - D - E | | | | | | | | |
| Specification: | | | | | | | | |
| 251: To be added for some layouts to be supplied with power contacts (see next page) | | | | | | | | |

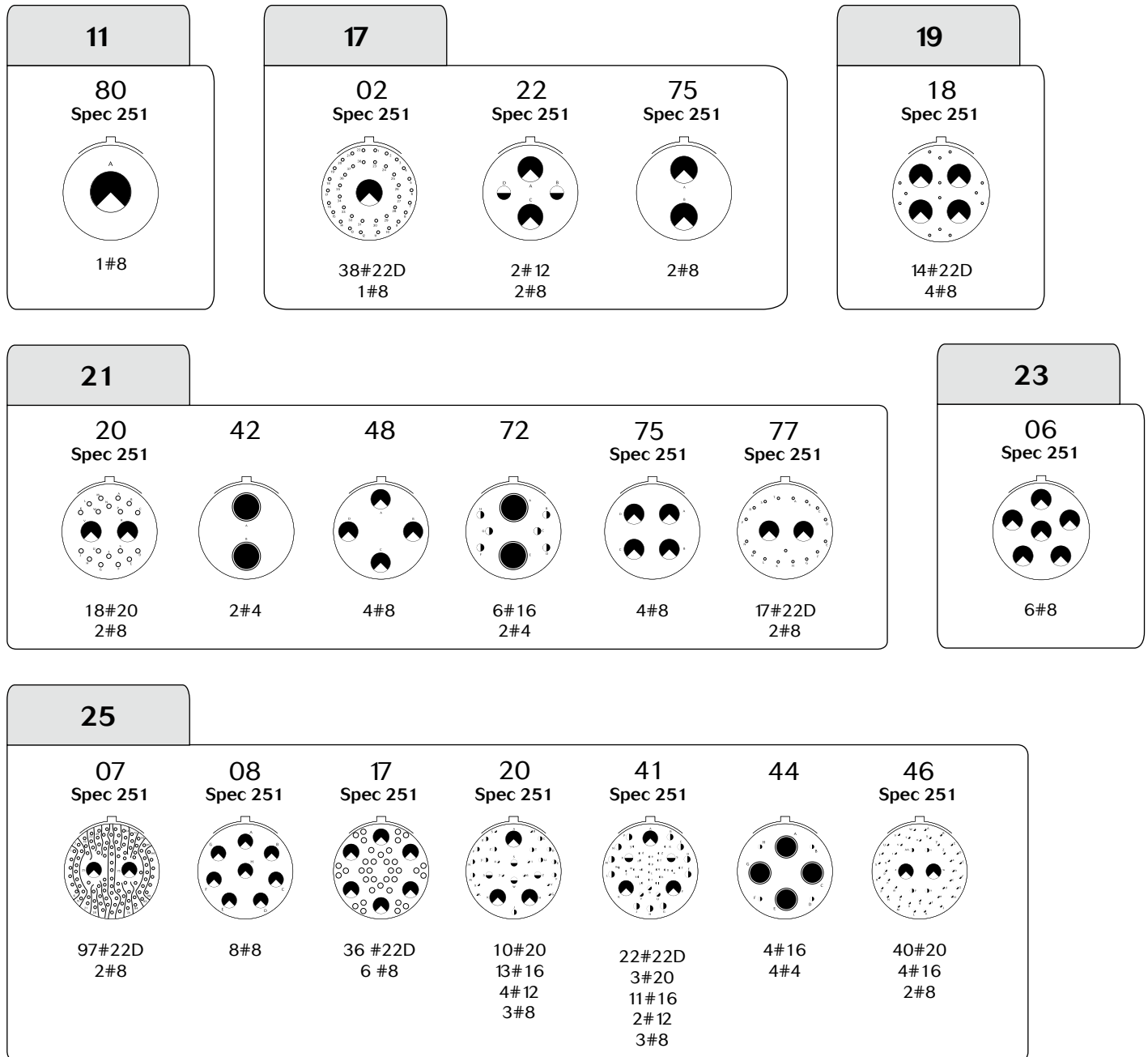
8D Series

Power Contacts



Contact layouts

-  Contact #22D
-  Contact #12
-  Contact #20
-  Contact #8 Power
-  Contact #16
-  Contact #4 Power

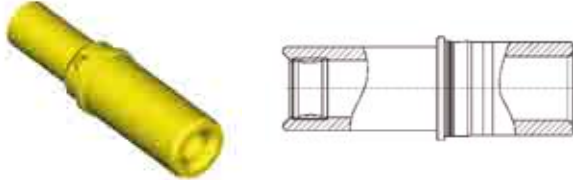


8D Series Power Contacts

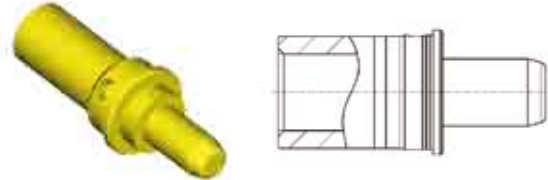


Contacts

Socket contact



Pin contact



| Contact size | Contact type | Contact reference | Cable | | Protection | Dimensions | |
|------------------------|--------------|-------------------|----------------------------------|----------------|------------|------------|------|
| | | | Cable size | Cable material | | L | D |
| #4 | Male | 8599-7534 | #4-5 or 10-16mm ² ** | Copper | Au | 9.70 | 5.74 |
| | Female | 8599-7535 | | | | 16.58 | 8.50 |
| | Male | 8599-7598 900 * | for cable 25mm ² (#3) | Copper | Au | 9.70 | 5.74 |
| | Female | 8599-7599 900 * | | | | 16.58 | 8.50 |
| #4 with reduced barrel | Male | 8599-7528 900 | #6 or 10mm ² ** | Copper | Au | 9.70 | 5.74 |
| | Female | 8599-7529 900 | | | | 16.58 | 8.50 |
| #8 JVS only | Male | 8599-7544 | #8 or 10 ** | Copper | Au | 9.60 | 3.64 |
| | Female | 8599-7541 | | | | 16.00 | 7.30 |
| #8 | Male | 8599-7580 | #8 or 10 ** | Copper | Au | 9.60 | 3.64 |
| | Female | 8599-7581 | | | | 16.00 | 7.30 |

* Not included in connector P/N. Must be ordered separately.

** To be used with crimping bucket reducer.

Sealing boot and crimping bucket reducer



| Contact size | Cable size | Cable material | Sealing boot reference |
|--------------|-------------------|----------------|------------------------|
| #4 | 16mm ² | Copper | 8599-4594 |
| | 10mm ² | | 8599-4593 |
| #8 | #8 | Copper | 8599-4542 |
| | #10 | | 8599-4547 |



| Contact size | Cable size | Reducing sleeve reference |
|--------------|-------------------|---------------------------|
| #4 | 10mm ² | 8400-2352A |
| #8 | #10 | 8599-7545 |

8D Series Power Contacts



Power tools

| Contact size | Contact type | Contact reference | Cable AWG | Crimping tool | Die set | Locator | Contact extraction tool (metallic) | Contact extraction tool (plastic) |
|----------------|--------------|-------------------|--------------------------------|---------------|--------------|--------------|------------------------------------|-----------------------------------|
| #4 | Male | 8599-7534 | #4-5 or 10-16mm ² * | M22520/23-01 | M22520/23-04 | M22520/23-11 | 8533-8175 | M81969/14-07 |
| | Female | 8599-7535 | #4-5 or 10-16mm ² * | M22520/23-01 | M22520/23-04 | M22520/23-11 | 8533-8175 | M81969/14-07 |
| #8 JVS only | Male | 8599-7544 | #8 or 10 * | M22520/23-01 | M22520/23-02 | 8599-9601 | 8660-197 | M81969/14-12 |
| | Female | 8599-7541 | #8 or 10 * | M22520/23-01 | M22520/23-02 | 8599-9601 | 8660-197 | M81969/14-12 |
| #8 | Male | 8599-7580 | #8 or 10 * | M22520/23-01 | M22520/23-02 | 8599-9601 | 8660-197 | M81969/14-12 |
| | Female | 8599-7581 | #8 or 10 * | M22520/23-01 | M22520/23-02 | 8599-9601 | 8660-197 | M81969/14-12 |

Manual hand tool also existing for power contacts #8.
* To be used with crimping bucket reductor.

Automatic tool for contacts #4 & #8



Crimping tool (M22520/23-01)



Die set (M22520/23-02)



Locator (M22520/23-11)

Manual hand tool for contacts #8



Crimping tool (M300 BT)



Locator (SP 593)

Metallic extraction tool



For #4: 8533-8175
For #8: 8660-197

8D Series

High Power Contacts



Description

- Threaded coupling connector with single power contact.
- Aluminum shell.
- 3 shell sizes available:
 - size 19: Up to 450 A at 40°C
 - size 23: Up to 650 A at 40°C
 - size 25: Up to 850 A at 40°C
- Silver plated contact.
- Pin contact is equipped with a plastic cap to prevent electrical shock.
- Modular design:
 - . Removable backshell: straight, right angle or threaded contact.
 - . Backshell termination: shrink boot.

Technical features

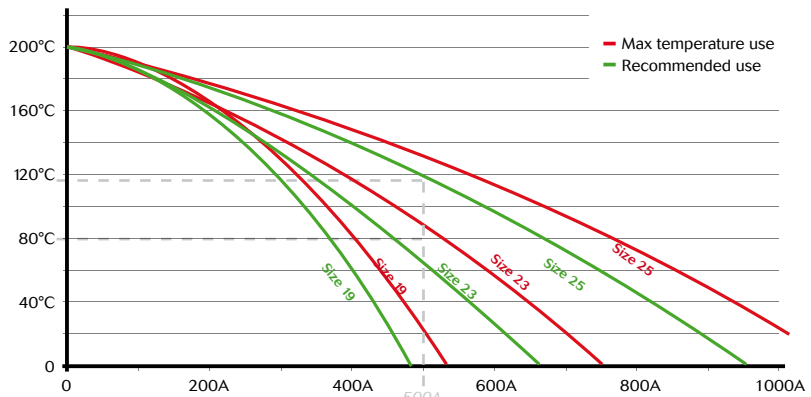
Mechanical

- **Shell:** Aluminum alloy
- **Shell plating:**
 - Black zinc nickel (Z)
 - Cadmium olive drab (W)
- **Insulator:** Thermoplastic
- **Grommet and interfacial seal:** Silicone elastomer
- **Contact body:** Copper alloy
- **Endurance:** 500 mating/unmating operations
- **Vibration:**
 - According Def Stan 00-35
 - 4.2 g rms vert - 6h/3 axes

Electrical

- **Test voltage** > 1500 V
- **Shell to shell continuity** (no backshell) < 2.5 mΩ
- **EMI** 85 dB @ 1GHz (F)

Connector rating



Example for 500A:
 Shell size 25 with contact diameter 20: max temperature 135°C; recommended 120°C
 Shell size 23 with contact diameter 18: max temperature 90°C; recommended 80°C
 Shell size 19 with contact diameter 14: not recommended
 Wire must be compatible with current and temperature used for the connector.

Climatics

- **Temperature range:** -65°C +175°C
- **Sealing:** IP67 on mated connector (1 meter/30 min)
- **Salt spray:** 500 hours

Resistance to fluids

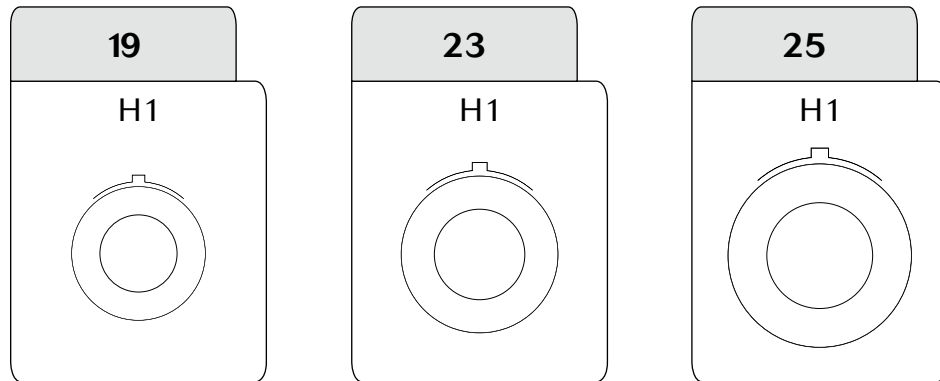
- **According to MIL-DTL-38999 standard**
 - . Gasoline: JP5 (OTAN F44)
 - . Mineral hydrolic fluid: MIL-H-5606 (OTAN H515)
 - . Synthetic hydraulic fluid: Skydrol 500 B4
- **LD4 (SAE AS 1241)**
 - . Mineral Lubricating: MIL-L-7870A (OTAN 0142)
 - . Synthetic Lubricating: MIL-L-23699 (OTAN 0156), MIL-L-7808
 - . Cleaning fluid: MIL-DTL-25769 diluted
 - . De-icing fluid: MIL-A-8243
 - . Extinguishing fluid: Chlorobrométhane
 - . Cooling fluid: Coolanol



8D Series

High Power Contacts

Contact layouts



Other size: Please consult us.

Backshell type

| Description | |
|---|--|
| | |
| D1: Straight backshell shrink boot & EMI (crimp version) | G0: Backshell low profile (threaded termination) |
| | |
| W0: Without backshell (threaded termination) | R1: Right angle backshell shrink boot & EMI (crimp version) |



8D Series

High Power Contacts

Ordering information

| | | | | | | | | | |
|--------------|----|---|----|---|----|---|---|----|---|
| Basic Series | 8D | 0 | 25 | W | H1 | P | N | R1 | A |
|--------------|----|---|----|---|----|---|---|----|---|

Style:
0: Square flange receptacle
5: Plug (available with backshell D1, R1, G0 & W0 Types)
7: Jam nut receptacle

Shell size:
19, 23, 25

Plating:
Z: Zinc Nickel
W: Olive green cadmium

H1: Single power

Contact style:
P: Pin contact
S: Socket contact

Orientation:
N, A, B, C, D, E

Backshell type:
D1: Straight backshell shrink boot & EMI (crimp version)
R1: Right angle backshell shrink boot & EMI (crimp version)
G0: Backshell low profile (threaded termination)
W0: Without backshell (threaded termination)

Specification for backshells D1 & R1 Types (crimp version):

| Specification | Shell size | Admissible cable (mm) | | Barrel diameter (mm ±0.05) |
|---------------|------------|-----------------------|----------------|----------------------------|
| | | Outer Ø max | Nominal core Ø | |
| A | 19 | 17 | 10.15 | 10.8 |
| B | 19 | 17 | 11.1 | 11.8 |
| C | 19 | 17 | 12 | 12.5 |
| D | 23 | 22 | 14.05 | 15 |
| E | 23 | 22 | 16.3 | 17 |
| | 25 | 26.5 | | |
| F | 25 | 26.5 | 19 | 20.5 |

Specification for backshells G0 & W0 Types (only threaded termination):

| Specification | Shell size | Thread |
|---------------|-------------|--------|
| C | 19, 23 & 25 | M12 |

Note: Plug not available with backshell W0 Type. Other thread, please consult us.

Note: For other configuration, please consult us.

8D Series

High Power Contacts



Dimensions

| Plug & receptacles | | | | | | | | | |
|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------------|--------|--------------------|---------------------|
| 8D0 Square flange receptacle | | | 8D5 Plug | | | 8D7 Jam nut receptacle | | | |
| | | | | | | | | | |
| Shell size | A ^{±0.1} | B ^{±0.1} | C ^{±0.1} | D ^{±0.1} | E ^{±0.1} | F Max | ØG Max | H ^{±0.25} | ØJ ^{±0.25} |
| 19 | 36.5 | 26.97 | 29.36 | 3.29 | 4.98 | 41 | 38.5 | 45.95 | 49.15 |
| 23 | 42.9 | 31.75 | 34.93 | 3.96 | 6.2 | 47 | 44.9 | 52.35 | 55.55 |
| 25 | 46 | 34.93 | 38.1 | | | 52 | 48 | 55.55 | 58.65 |

| Backshell D1 type | | | | | | | | | | | | |
|--|-------|-------|--------------------|--------------------|-------------------|-------------------|-------------------|----------------------------------|-------|--------------------|-------|-------|
| With 8D0 (square flange receptacle) | | | | With 8D5 (plug) | | | | With 8D7 (jam nut receptacle) | | | | |
| | | | | | | | | | | | | |
| Shell size | A Max | B Max | ØC ^{±0.1} | ØD ^{±0.1} | E ^{±0.1} | F ^{±0.2} | G ^{±0.2} | H Max | K Max | M ^{±0.25} | N Max | P Max |
| 19 | 2.65 | 20.9 | 25.6 | 31.6 | 2.26 | 12 | 4 | 62.5 | 62 | 3.25 | 22.8 | 63 |
| 23 | | 20.1 | 32.4 | 38.6 | 2.97 | | | | | | | |
| 25 | | 35.6 | 42.1 | | | | | | | | | |

Note: All dimensions are in millimeters (mm)

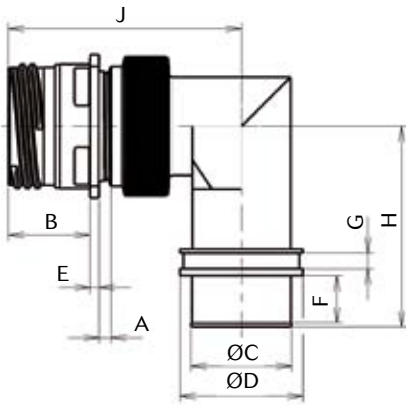
8D Series

High Power Contacts

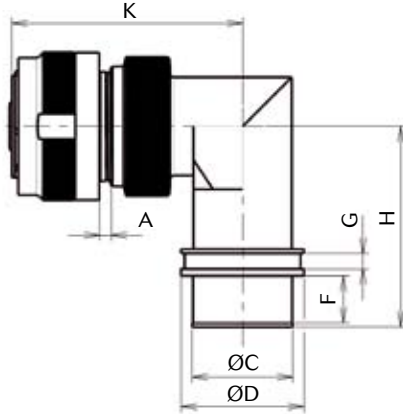


Backshell R1 type

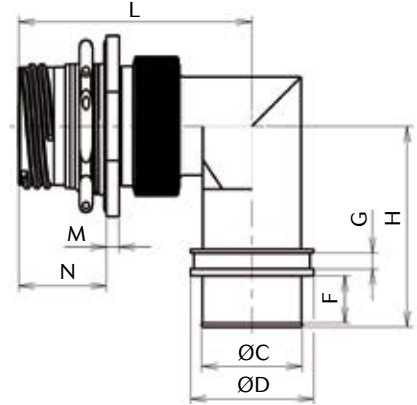
With 8D0
(square flange receptacle)



With 8D5
(plug)



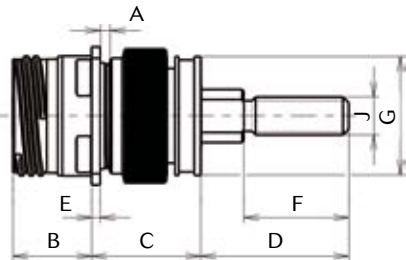
With 8D7
(jam nut receptacle)



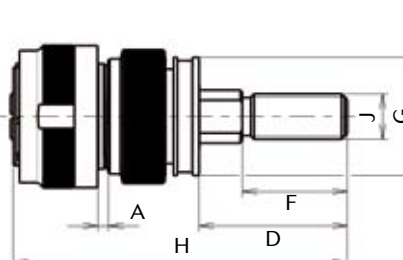
| Shell size | A Max | B Max | $\text{ØC}^{\pm 0.1}$ | $\text{ØD}^{\pm 0.1}$ | $E^{\pm 0.1}$ | $F^{\pm 0.2}$ | $G^{\pm 0.2}$ | H Max | J Max | K Max | L Max | $M^{\pm 0.25}$ | N Max |
|------------|-------|-------|-----------------------|-----------------------|---------------|---------------|---------------|-------|-------|-------|-------|----------------|-------|
| 19 | 2.85 | 20.9 | 25.6 | 31.3 | 2.26 | 12 | 4 | 51.1 | 59.3 | 58.7 | 59.6 | 3.25 | 22.8 |
| 23 | | 20.1 | 32.4 | 38.1 | 2.97 | | | 54.4 | 62.7 | 62.1 | 63 | | |
| 25 | | 35.6 | 41.3 | 2.97 | 56.1 | | | 64.3 | 63.7 | 64.6 | | | |

Backshell G0 type

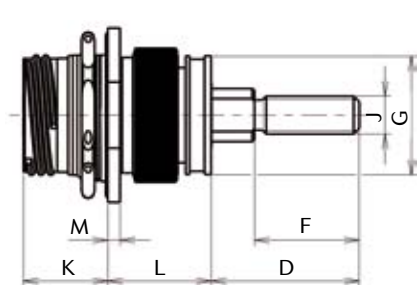
With 8D0
(square flange receptacle)



With 8D5
(plug)



With 8D7
(jam nut receptacle)



| Shell size | A Max | B Max | C Max | D Max | $E^{\pm 0.1}$ | $F^{\pm 0.2}$ | $\text{ØG}^{\pm 0.1}$ | H Max | J Max | K Max | L Max | $M^{\pm 0.25}$ |
|------------|-------|-------|-------|-------|---------------|---------------|-----------------------|-------|------------|-------|-------|----------------|
| 19 | 2.65 | 20.9 | 29 | 39.4 | 2.26 | 25 | 31.3 | 88.1 | M12 x 1.75 | 22.6 | 27.6 | 3.25 |
| 23 | | 20.1 | 29.8 | | 2.97 | | 38.1 | | | | 28.4 | |
| 25 | | 41.3 | 2.97 | | 41.3 | | 28.4 | | | | | |

Note: All dimensions are in millimeters (mm)

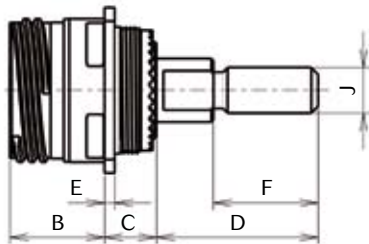
8D Series

High Power Contacts

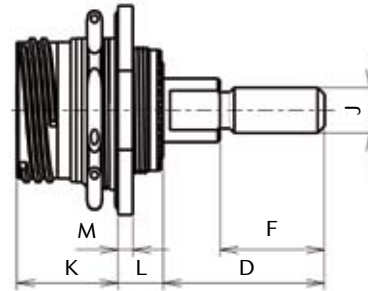


Backshell W0 type

With 8D0
(square flange receptacle)



With 8D7
(jam nut receptacle)



| Shell size | B Max | C Max | D Max | $E^{\pm 0.1}$ | $F^{\pm 0.2}$ | J Max | K Max | L Max | $M^{\pm 0.25}$ |
|------------|-------|-------|-------|---------------|---------------|------------|-------|-------|----------------|
| 19 | 20.9 | 14 | 40 | 2.26 | 25 | M12 x 1.75 | 22.6 | 12 | 3.25 |
| 23 | 20.1 | | | 2.97 | | | | | |
| 25 | | | | | | | | | |

Note: All dimensions are in millimeters (mm)

8D Series Optical ELIO® Contacts



ELIO® contact

- Robust spring-loaded butt-joint optical contact using ST style ferrule (diameter 2.5mm)
- Contact size equivalent to a #16 contact
- Anti-rotation of the contact for better vibration withstanding and optical performance
- Boot-grommet for rear sealing and protection of the cable against excessive bending
- Compatibility with loose and tight structure cables
- High level optical performance even after aging
- Bayonet locking system: no tool needed for mounting/dismounting
- Compatible with singlemode, multimode and POF cable

Technical features

Mechanical

- **Endurance:**
Minimum 500 mating / unmating operations
- **Shock:**
300 g, 3 ms as per EN 2591-6402 method A
- **Vibration:**
In MIL-DTL-38999 Series III/EN3645 connectors:
- Sine 5Hz to 3000Hz as per EN2591-6403 method A
- Random as per EN2591-6403 method B
- **Cable cyclic flexing*:**
100 cycles, load 40N as per EN2591-609
- **Cable pulling*:** 111N
- **Cable torsion*:**
100 cycles, load 40N as per EN2591-611

Environmental

- **Salt spray:**
See the connector standard
- **Temperature range*:**
- 65°C to +125°C (1000 hours)

- **Rapid temperature change:**
10 cycles - 65°C / +150°C (30min/30min)
- **Air leakage:**
Max leakage 16 cm³/h, 2 hours, 40kPa differential pressure
- **Damp heat and low temperature:**
5 cycles of 48h -65°C/+70°C with stage at 40°C with 95% of humidity as per EN2591- 6303 method A

Optical

- **Multimode contact - Insertion Loss (IL):**
0.1dB typical
< 0.3dB over 95% of the samples as per EN2591-601,
< 0.7dB maximum on 100% of the samples after tests
- **Multimode contact - Return Loss (RL):**
> 21dB before and after tests as per EN2591-605
- **Singlemode contact - Insertion Loss (IL):**
0.3dB typical
< 0.5dB over 95% of the samples as per EN2591-601,
< 0.9dB maximum on 100% of the samples after tests
- **Singlemode contact - Return Loss (RL):**
> 55dB typical and > 50dB minimum

Resistance to fluids as per MIL-DTL-38999/EN3645 standard

- **Fuel:** JP5
- **Mineral Hydraulic fluid:**
MIL-PRF-5606 (NATO H-515)
- **Synthetic hydraulic fluid:**
AS1241 (Skydrol 500B4, LD4)
- **Mineral lubricant:**
MIL-PRF-7870 (NATO O-142)
- **Synthetic lubricant:**
MIL-PRF-23699 (NATO O-156),
MIL-PRF-7808 (NATO O-148)
- **Cleaning fluid:**
MIL-PRF-87937 diluted, Propanol, white spirit, Azeotrope R113 + Methanol
- **De-icing fluid:**
AMS 1424 (NATO S-742)
- **Extinguishing fluid:**
Chlorobromethane
- **Cooling fluid:**
Coolanol



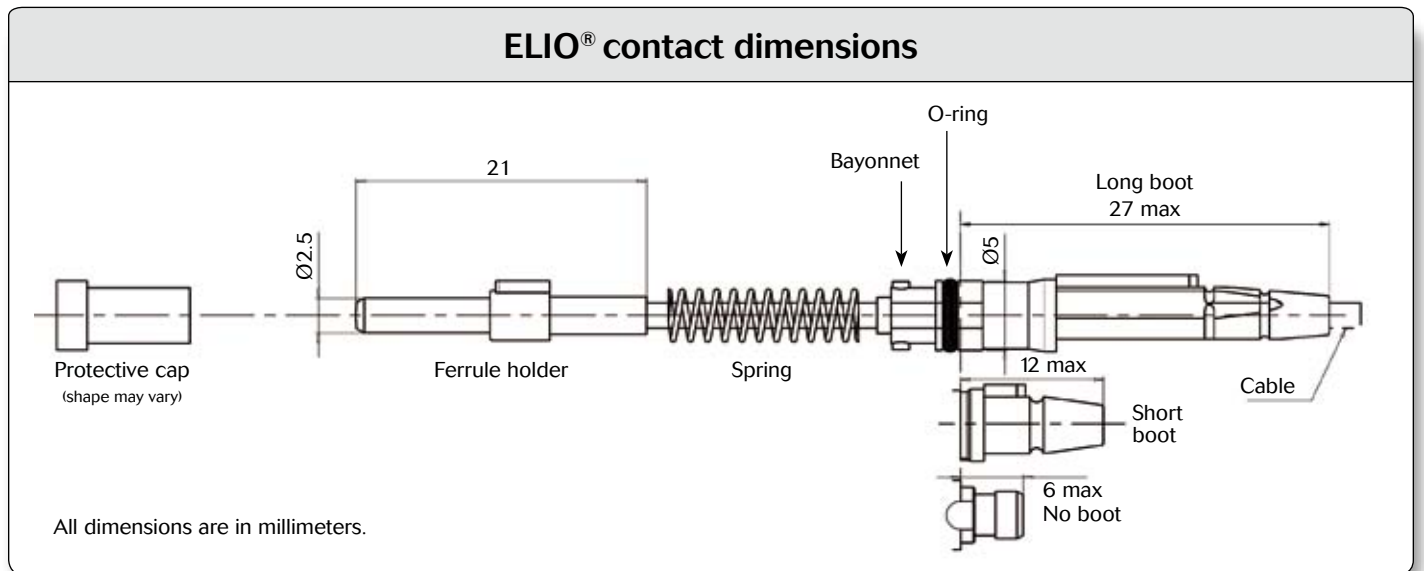
8D Series

Optical ELIO® Contacts

Ordering information

| | ELIO | 09 | N | G | L | A |
|--|------|----|---|---|---|---|
| Cable external diameter: | | | | | | |
| 09: 0.9 mm or cable wider than 1.9mm with 0.9mm jacket inside | | | | | | |
| 18: from 1.5mm to 1.9mm | | | | | | |
| Contact sealing: | | | | | | |
| W: waterproof (1.8mm +/- 0.1mm cable only) | | | | | | |
| N: non waterproof | | | | | | |
| Fibre type: | | | | | | |
| G: 50 or 62,5/125 µm | | | | | | |
| D: 100/140 µm | | | | | | |
| E: 9/125 PC | | | | | | |
| <i>For POF cable please consult us.</i> | | | | | | |
| Boot type: | | | | | | |
| L: Long boot | | | | | | |
| S: Short boot | | | | | | |
| N: No boot (non waterproof version only) | | | | | | |
| Contact version index | | | | | | |

Note: For ABS 1379/EN4531 cross reference, please consult us.



Recommended cables

SOURIAU can offer a wide range of cables in its assemblies, from low cost to high performance aeronautical cables. ELIO® contact is compatible with singlemode and multimode cable, with tactical and breakout cable. ELIO® contact is suitable with loose and tight structure cable.

See Souriau "ELIO® Fiber Optic Technology» catalog.

Accessories & Tooling

See Souriau "ELIO® Fiber Optic Technology» catalog.

Note: All dimensions are in millimeters (mm)



8D Series

Optical ELIO® Contacts



MIL-DTL-38999 Series III/EN3645 with ELIO® high density insert

- Standard MIL-DTL-38999/EN3645 shells without shielding ring (aluminum, composite, stainless steel, bronze)
- Environmental performance as per EN4531 based on MIL-DTL-38999/EN3645
- Temperature range: - 65°C to +125°C (cable limitation)

Ordering information

Composite, Aluminum & Stainless Steel

| | | | | | | | | |
|--|-----------|----------|----------|-----------|----------|-----------|----------|----------|
| | 8D | 5 | E | 11 | W | 02 | A | N |
|--|-----------|----------|----------|-----------|----------|-----------|----------|----------|

Shell type:
5: Plug
0: Receptacle with 4-hole square flange fixing
7: Receptacle with single hole jam nut fixing (*aluminum & stainless steel*)

Designation:
E: ELIO® optical connector

Shell size:
09 - 11 - 13 - 15 - 19 - 21
25 (*for aluminum & stainless steel plug only*)

Plating:

| | | |
|-------------------------------|-------------------------------|-------------------------|
| Aluminum: | Composite: | Stainless steel: |
| Z: Zinc nickel | J: Olive green cadmium | K: Passivated |
| ZC: Zinc cobalt | M: Nickel | S: Nickel |
| W: Olive green cadmium | X: Without plating | |
| F: Nickel | | |

Layouts: See page 127

Insert type:
A: Male insert
B: Female insert with ceramic alignment sleeves

Polarization:
N, A, B, C, D, E,
U (universal connector for testing - mates with any other polarization)

Specification:
None or **674:** See table beside

| Multimode Fiber | | Singlemode Fiber | |
|-----------------|--|------------------|-------------------|
| Male Insert (A) | Female insert (B) | Male Insert (A) | Female insert (B) |
| None | None | None | None |
| None | 674 (for recessed contact position) | None | 674 |

JVS Bronze Part Number: Please see Souriau "ELIO® Fiber Optic Technology» catalog.

Note: For ABS/EN4531 cross reference, please consult us.



8D Series Optical ELIO® Contacts



ELIO® AQ Adaptor for Quadrax #8 cavities

- ELIO® AQ is an adaptor to enable the ELIO® contact to fit in any #8 Quadrax cavities in several types of connectors. Therefore, any layout containing #8 cavities can be implemented with the ELIO® fiber optic contact
- Multiple possibilities to mix optical and electrical signals in the same insert
- Temperature range: -65°C to +125°C (cable limitation)
- 100% compliant with ELIO® contact optical performance
- Before use, please ask for "Technical Bulletin N°160 Mounting Instructions ELIO® AQ adaptor"

Ordering information

| | | | | |
|--|---|--------------|---|---|
| Male Insert | Multimode, Singlemode or recessed multimode contact | ELIOAQ6PB |  | MIL-DTL-38999 Series III EN3645 |
| | Female Insert | Multimode | ELIOAQ6SB |  |
| Singlemode or recessed multimode contact | | ELIOAQ6SB674 | | |

Note: Delivered with alignment boot.

MIL-DTL-38999 Series III/EN3645 with ELIO® AQ Adaptor for Quadrax #8 cavities

- Compatible with standard MIL-DTL-38999 Series III/EN3645 Souriau connectors (aluminum, composite, stainless steel, bronze)
- Design ensures ELIO® optical performance
- Environmental performance as per MIL-DTL-38999 and EN3645 standard
- Temperature range: - 65°C to +125°C (cable limitation)



Contact layouts

See next page

Ordering information

Aluminum Series: see page 22
Composite Series: see page 36
Stainless steel Series: see page 42
Bronze Series: see page 54

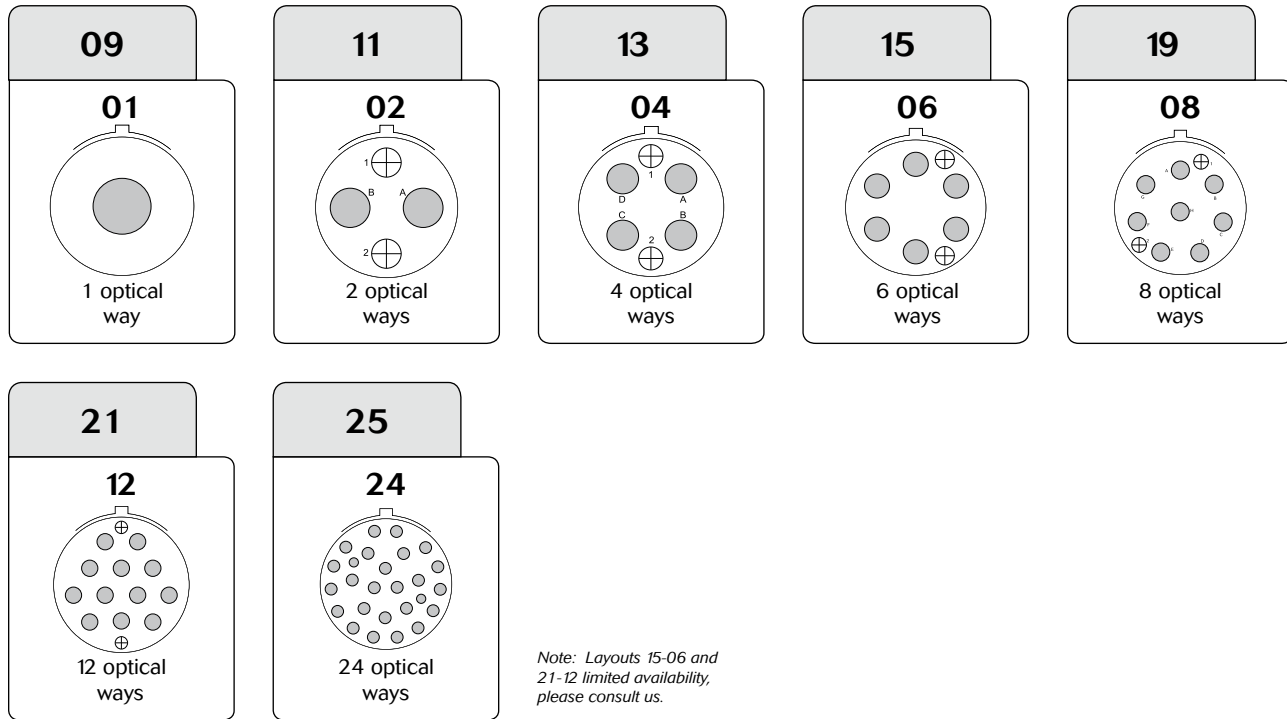


8D Series

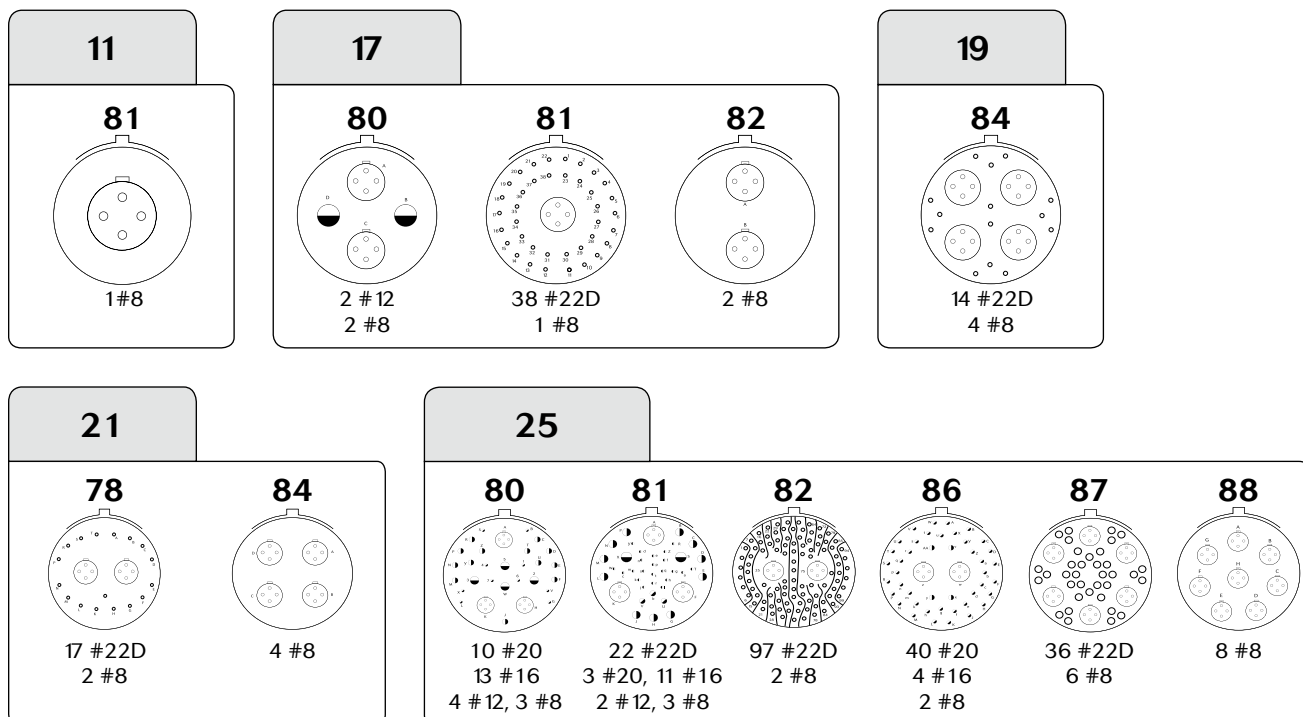
Optical ELIO® Contacts

Contact layouts

MIL-DTL-38999 Series III/EN3645 with ELIO® high density insert



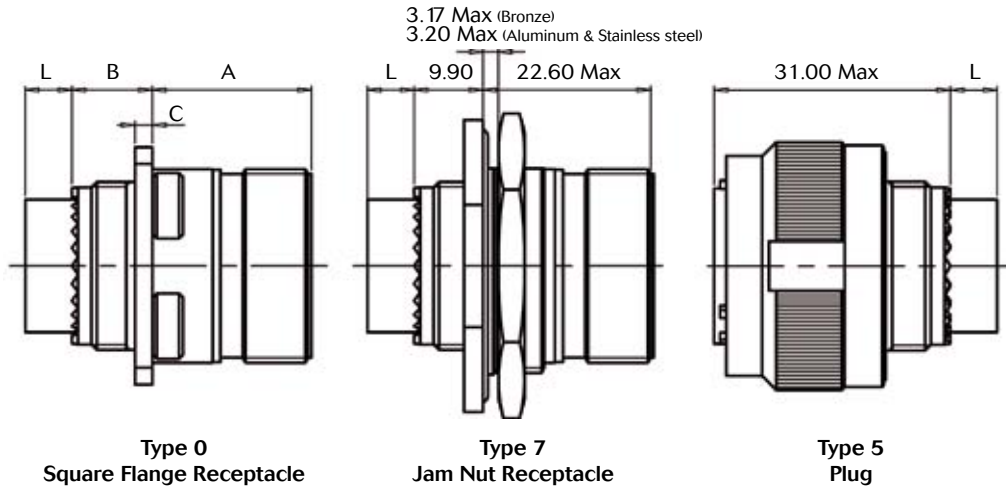
MIL-DTL-38999 Series III/EN3645 with ELIO® AQ



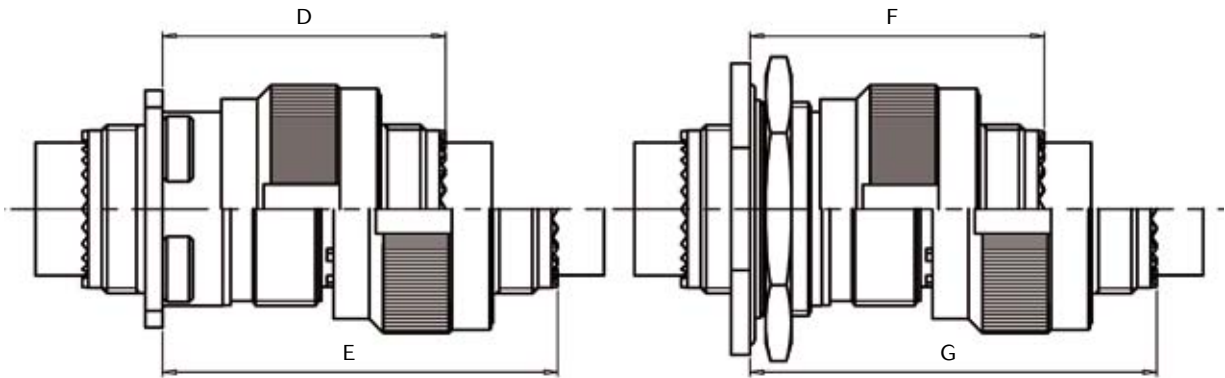
8D Series Optical ELIO® Contacts



Dimensions



| | A | | B | | C | | L | |
|-----------------------------|---------------------|---------------|---------------------|---------------|---------------------|---------------|----------------|------------------|
| | Shell size 09 to 19 | Shell size 25 | Shell size 09 to 19 | Shell size 25 | Shell size 09 to 19 | Shell size 25 | Male insulator | Female insulator |
| Receptacle Type 0 & 7 Metal | 20.90 Max | 20.10 Max | 12.50 Max | 13.00 Max | 2.50 Max | 3.20 Max | 4 Max | 6.60 Max |
| Receptacle Type 0 Composite | 20.90 Max | 20.10 Max | 12.50 Max | 13.00 Max | 3.65 Max | 4.35 Max | | |



| | D | | E | | F | | G | |
|------------------------------------|---------------------|---------------|---------------------|---------------|---------------------|---------------------|---------------------|---------------------|
| | Shell size 09 to 19 | Shell size 25 | Shell size 09 to 19 | Shell size 25 | Shell size 09 to 11 | Shell size 13 to 25 | Shell size 09 to 11 | Shell size 13 to 25 |
| Plug + Receptacle Type 0 & 7 Metal | 37.00 Max | 36.50 Max | 52.30 Max | 51.50 Max | 39.00 Max | 39.00 Max | 54.00 Max | 54.00 Max |
| Plug + Receptacle Type 0 Composite | 37.00 Max | 36.50 Max | 52.30 Max | 51.50 Max | N/A | N/A | N/A | N/A |

Note: All dimensions are in millimeters (mm)

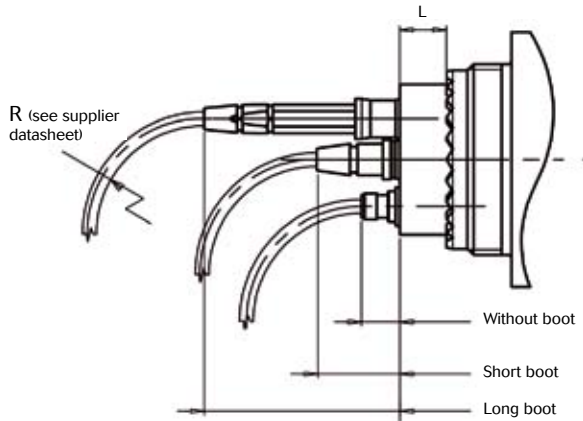
8D Series

Optical ELIO® Contacts

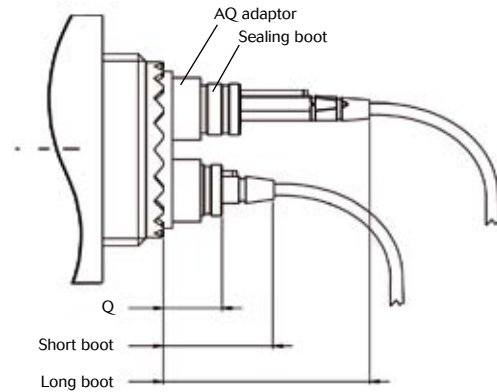


Dimensions

38999 Series III/EN3645 with ELIO® contacts in ELIO® high-density insert



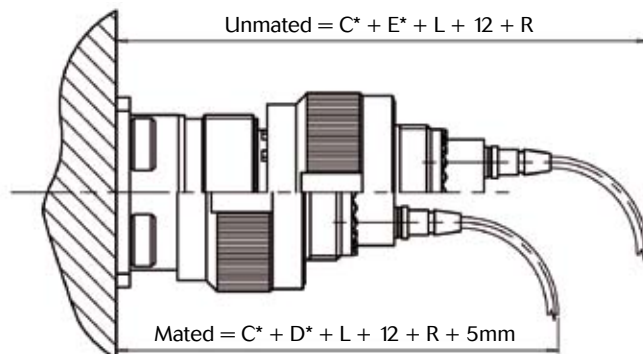
38999 Series III/EN3645 with ELIO® contacts in ELIO® AQ adaptors



| | ELIO® high density insert | | | | | ELIO® AQ adaptors | | | |
|--------------------------|---------------------------|------------------|----------------|------------|-----------|-------------------|------------------|----------------|--------------|
| | L | | Contact length | | | Q | | Contact length | |
| | Male insulator | Female insulator | Without boot | Short boot | Long boot | Male insulator | Female insulator | Short boot | Long boot |
| Plug | | | | | | 11.80 Max | 9.10 Max | | |
| Square flange receptacle | 4 Max | 6.60 Max | 6 Max | 12 Max | 27 Max | 12 Max | 9.30 Max | 17.60 Max | 32.60 Max |
| Jam nut receptacle | | | | | | 11.60 Max | 8.90 Max | | |

Total length example

Square flange receptacle + plug + ELIO® contacts in ELIO® high-density insert



* See previous page

8D Series BMA Coaxial Contacts



BMA contact features For .086" flexible cable



Electrical

- **Impedance:** 50 Ω
- **Frequency range:** DC 18GHz
- **Dielectric withstanding voltage:** 1.5 kVrms, 50Hz (at sea level)
- **Insulation resistance:** ≥ 5 000 MΩ
- **Contact resistance:**
 - . center contact: ≤ 2 mΩ
 - . outer contact: ≤ 2 mΩ
- **Return loss (DC-18GHz):** < -17dB (mated connector)
- **RF leakage interface only (fully mated):** ≥ 90 dB f (GHz) measured at interface with reference planes being in true alignment.
- **RF testing voltage:** 1.0 kVrms, 5 MHz (at sea level)
- **Admissible power:** ≤ 300 W at 3 GHz (at sea level & room T°)

Climatics

- **Temperature range:** -65°C +125°C
- **Thermal shock:** MIL-STD-202, method 107, condition B
- **Moisture resistance:** MIL-STD-202, method 106

- **Corrosion:** Saltspray test according to MIL-STD-202, method 101, condition B
- **Vibration:** MIL-STD-202, method 204, condition D
- **Shock:** MIL-STD-202, method 213, condition I

!/\ Caution: be careful that your application doesn't exceed contact specification.

Connector features

Mechanical

- **Shell material & plating:**
 - . Aluminum: Cadmium olive drab (W)
Nickel (F)
Black zinc nickel (Z)
Green zinc cobalt (ZC)
 - . Composite: Cadmium olive drab (J)
Nickel (M)
Without plating (X)
 - . Stainless steel: Passivated (K)
Nickel (S)
 - . Titanium: Without plating (TT)
Nickel (TF)
 - . Bronze: Without plating
- **Insulator:** Thermoplastic
- **Grommet and interfacial seal:** Silicone elastomer
- **Contact endurance:** 1000 mating cycles
- **Connector endurance:** 500 mating cycles
- **Shock:** 300g, 3 ms (EN 2591-D2 method A)

Description

- Quick screw coupling connector
- Shell available in aluminum, composite, Stainless steel, Titanium & Bronze.
- 16 layouts available with coaxial contact.
- D38999 with High Frequency coaxial contact: DC 18GHz.
- Qualified coaxial contact according to MIL-STD-348A/321.
- Removable coaxial contact.
- Contacts delivered with boots.

Vibration:

- . Sinus:
 - . 10 à 2000 Hz, 3x12 hrs
(60g, 140 - 2000 Hz) with T° cycling
 - . Random:
 - . 50 to 2000 Hz, 2x8 Hrs
(1g2/ Hz, 100 - 2000Hz) at T° max.
 - . 25 to 2000 Hz, 2x8 Hrs
(5g2/ Hz, 100 - 300Hz) at ambient T°
- Test with accessories in acc with EN2591-D3

Electrical

- **Shell continuity:**
 - . F, S & TF: 1 mΩ . J & M: 3 mΩ
 - . W, Z & ZC: 2.5 mΩ . Bronze: 5 mΩ
 - . K & TT: 10 mΩ
- **Shielding:**
 - . F & M: 85 db at 1 GHz
 - . K & TT: 45 db at 10 Ghz
 - . W & Z: 50 db at 10 GHz
 - . F, S & TF: 65 db at 10 GHz
 - . Bronze: 85 db at 10 GHz
 - . J: 90 db at 10 GHz
 - . ZC: Consult us

Climatics

- **Temperature range:**
 - . W, ZC, J, X & bronze: -65°C +175°C
 - . F, Z, M, K, S, TT & TF: -65°C +200°C
- **Salt spray:**
 - . F, S & TF: 48 Hours
 - . ZC: 250 Hours
 - . W, Z, K, TT & bronze: 500 Hours
 - . J, M & X: 2000 Hours

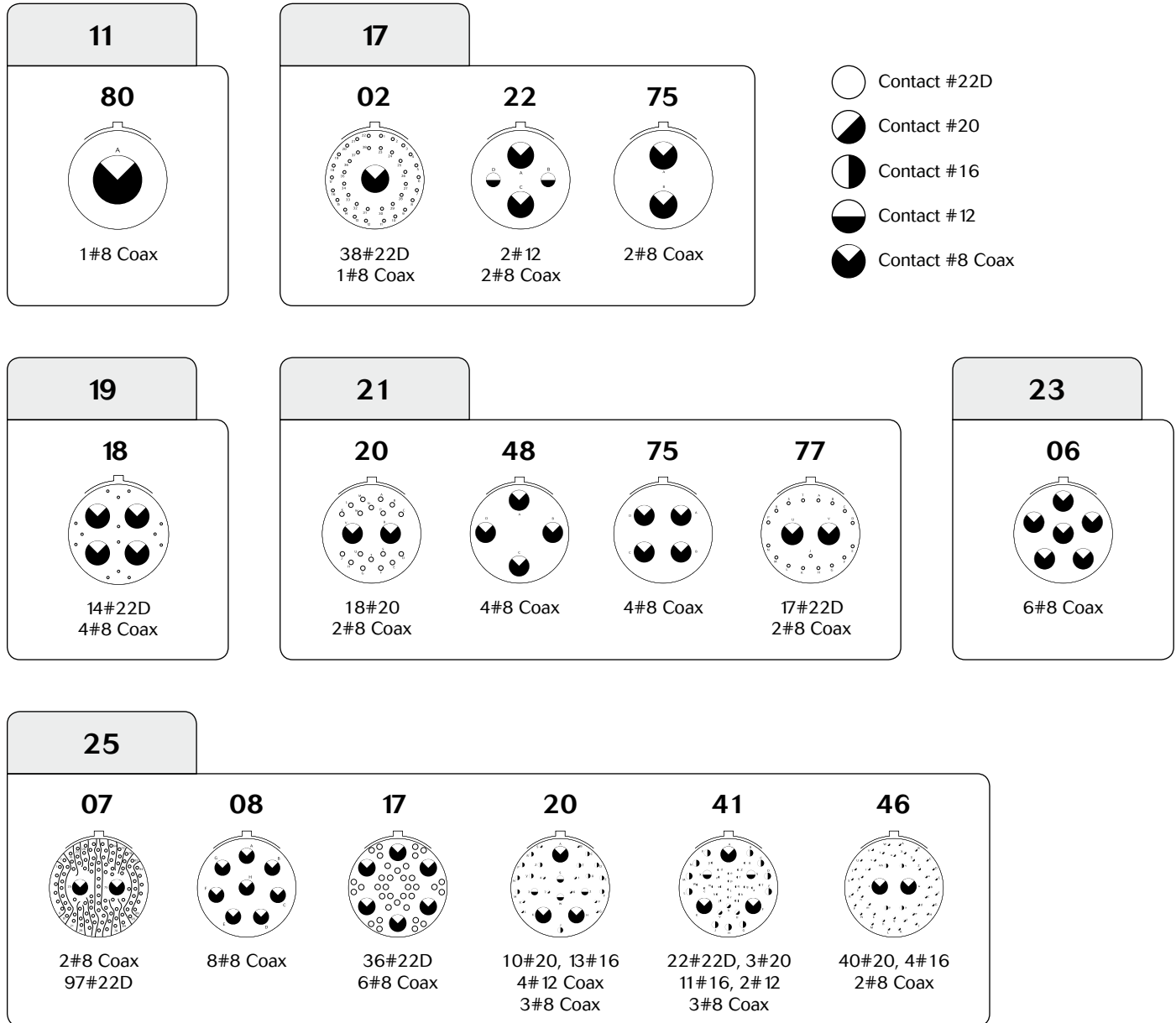
8D Series

BMA Coaxial Contacts



Contact layouts

Specification 737 mandatory





8D Series

BMA Coaxial Contacts

Ordering information

| | | | | | | | | |
|--|-----------|----------|-----------|----------|-----------|----------|----------|------------|
| Basic Series | 8D | 0 | 25 | W | 46 | P | N | 737 |
| Shell style: | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | |
| 1: In line receptacle | | | | | | | | |
| 7: Jam nut receptacle | | | | | | | | |
| 5: Plug with RFI shielding | | | | | | | | |
| Shell size: | | | | | | | | |
| 11, 17, 19, 21, 23, 25 | | | | | | | | |
| Aluminum plating: | | | | | | | | |
| W: Olive drab cadmium | | | | | | | | |
| F: Nickel | | | | | | | | |
| Z: Black zinc nickel | | | | | | | | |
| Contact layout: | | | | | | | | |
| See previous page | | | | | | | | |
| Contact type: | | | | | | | | |
| P: Pin | | | | | | | | |
| S: Socket | | | | | | | | |
| Orientation: | | | | | | | | |
| N, A, B, C, D, E | | | | | | | | |
| Specification (mandatory): | | | | | | | | |
| 737: Coaxial contacts - for .086" flexible cable | | | | | | | | |
| 747: Coaxial contacts - for .141" flexible cable | | | | | | | | |

For other material and configuration (integrated clinch nuts, double flange, other cables, ...) please consult us.

Recommended cables

| Designation | Part number | Description | |
|----------------------|---------------|-------------------------|----------|
| .086" flexible cable | Multiflex 86 | Outer conductor contact | Soldered |
| .141" flexible cable | Multiflex 141 | | |

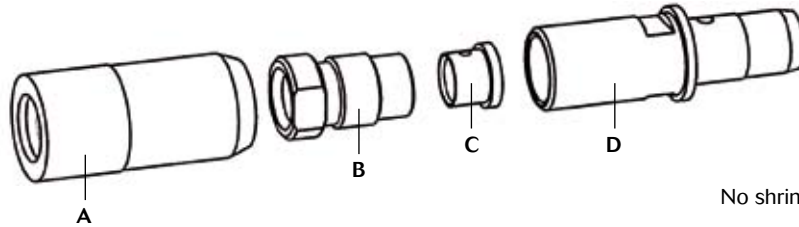
For other cables please consult us.

8D Series

BMA Coaxial Contacts



Assembly Instruction



No shrinking sleeve allowed.

| Picture | Process | Feature / Check | Tools required |
|---------|---|---|---|
| | <p>Dip the cut length of cable in flux and tin.</p> <p>Cut the jacket to the braid. Remove jacket.</p> | <p>The solder must flow at rear for min. 7 mm.</p> | <p>Stanley blade</p> |
| | <p>Remove cable dielectric and tinned braid according to diagram.</p> <p>Form tip of centre contact to a 90° cone.</p> <p>Slide Taper sleeve A and nipple B over cable.</p> | <p>Do not damage inner conductor, dielectric and braid of cable.</p> | <p>Stanley blade Tip trimmer</p> |
| | <p>Slide ferrule C over cable, flush to dielectric.</p> <p>Solder at X.</p> <p>Avoid excessive heat, immediately cool down and clean with alcohol.</p> | <p>If the cable does not fit into the cable entry, use a flat-nose plier to calibrate the braid.</p> <p>Center conductor of cable must be exactly centered.</p> | <p>Soldering iron Solder Flat-nose pliers</p> |
| | <p>Push prepared cable into connector body D and tighten nipple B.</p> <p>Taper sleeve A will be used for MIL-connector.</p> | <p>Torque: 3 Nm.</p> | <p>Male contact: Torque wrench AF.6 (3 Nm) Spanner AF.5.5</p> <p>Female contact: Torque wrench AF.6 (3 Nm) Spanner AF.6</p> |



8D Series

RJ45/USB Series



Description

- Derived from MIL-DTL-38999 Series III
- True ruggedized RJ45 & USB A solution
- High vibration resistance
- Shock resistant
- IP67
- Shielded
- Available in feed through, solder out and pig tail version
- No tools for cabling
- RoHS version

Applications

- Data transmission using standard interface
- Flight data transmissions

Technical features

Mechanical

- **Shell material:**
 - Aluminum alloy
 - Composite
- **Shell plating:**
 - Olive drab cadmium
 - Nickel
 - Black zinc nickel
 - Zinc cobalt

- **Insert:**
 - Thermoplastic
- **Contacts:**
 - Copper alloy
- **Contacts plating:**
 - Gold
- **Endurance:**
 - Per MIL-DTL-38999, 500 mating cycles
- **Vibration:**
 - 10-500 Hz 20 g

Electrical

- **RJ45:**
 - 10 BaseT, 100 BaseTX and 1000 BaseT
 - Cat 5e per TIA/EIA 568A/B
- **USB:**
 - 10 BaseT and 100 BaseTX
 - Cat 5e per TIA/EIA 568A/B

Climatic

- **Sealing:**
 - IP67 with protective cap
- **Temperature range:**
 - 40°C to +85°C
- **Fluid resistance:**
 - Per MIL-DTL-38999 with protective cap



8D Series

RJ45/USB Series

Connector part numbers

| | | | | | | | | |
|---|-----------|----------|----------|-----------|----------|-----------|----------|----------|
| Basic Series | 8D | 0 | F | 17 | W | UA | S | N |
| Shell type: | | | | | | | | |
| 0: Square flange receptacle | | | | | | | | |
| 7: Jam nut receptacle (aluminum only) | | | | | | | | |
| Designator: | | | | | | | | |
| F: Feedthrough | | | | | | | | |
| S: Solder out | | | | | | | | |
| C: Pig tail cable receptacle | | | | | | | | |
| Shell size: | | | | | | | | |
| 17: USB | | | | | | | | |
| 19: RJ45 | | | | | | | | |
| Plating: | | | | | | | | |
| W: Olive drab cadmium (aluminum) - 500 hours salt spray | | | | | | | | |
| F: Nickel (aluminum) - 48 hours salt spray | | | | | | | | |
| J: Olive drab cadmium (composite) - 500 hours salt spray | | | | | | | | |
| M: Nickel (composite) - 500 hours salt spray | | | | | | | | |
| Z: Black zinc nickel (aluminum) - 500 hours salt spray | | | | | | | | |
| ZC: Zinc cobalt - 250 hours salt spray | | | | | | | | |
| X: No finish (composite) | | | | | | | | |
| Insert: | | | | | | | | |
| UA: USB type A | | | | | | | | |
| RJ: RJ45 | | | | | | | | |
| Contact style: | | | | | | | | |
| S: Socket | | | | | | | | |
| Orientation: | | | | | | | | |
| N, A, B, C, D, E | | | | | | | | |
| Specification code: | | | | | | | | |
| Consult us for custom configuration (cable type, length, termination style) | | | | | | | | |

8D RJ45 Series



Square flange receptacle

Jam nut receptacle

8D USB Series



Square flange receptacle

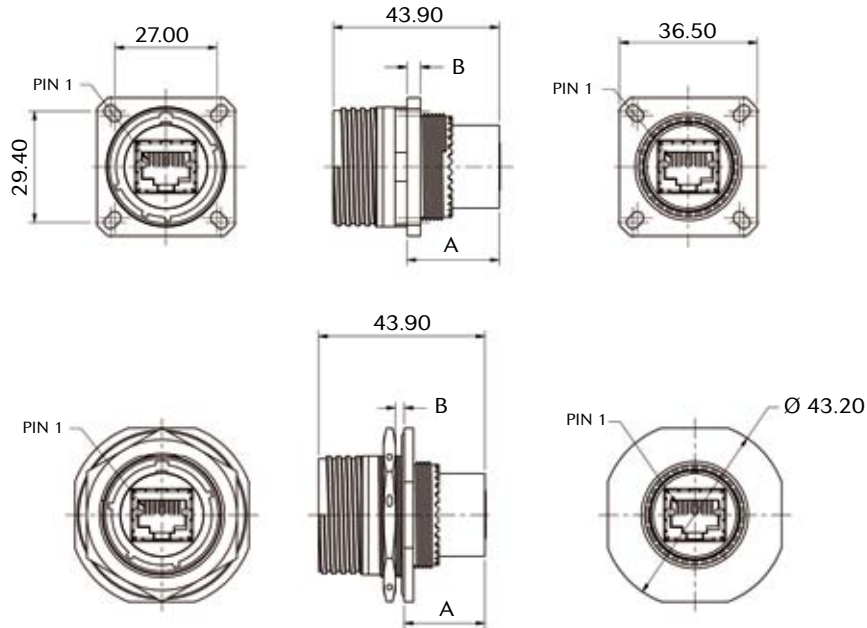
Jam nut receptacle



8D Series

RJ45/USB Series

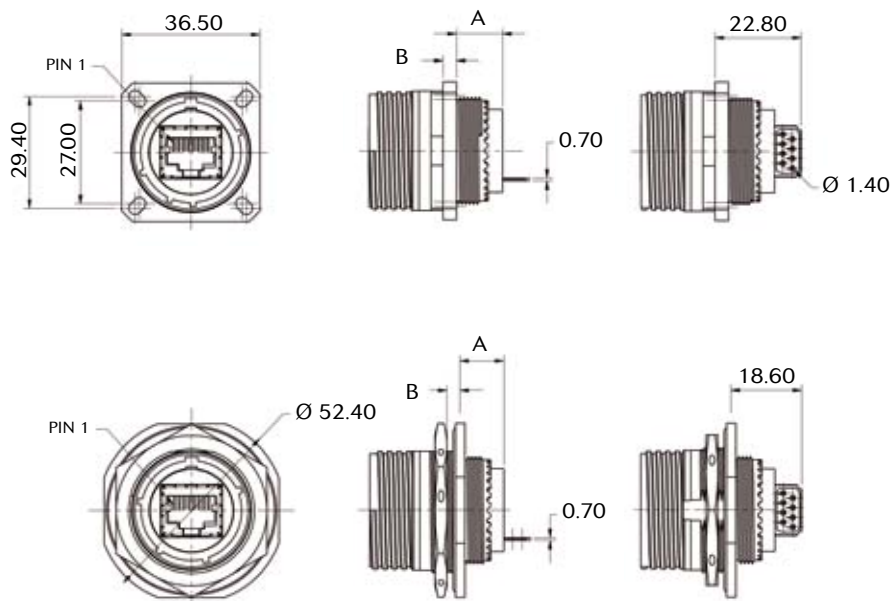
RJ45 interface - receptacle feedthrough series



| Square flange receptacle | | |
|--------------------------|---------|---------|
| Material | A (max) | B (max) |
| Aluminum | 20.55 | 2.50 |
| Composite | 20.78 | 3.65 |

| Jam nut receptacle | | |
|--------------------|---------|---------|
| Material | A (max) | B (max) |
| Aluminum | 21.34 | 3.20 |

RJ45 interface - receptacle solder out series



| Square flange receptacle | | |
|--------------------------|---------|---------|
| Material | A (max) | B (max) |
| Aluminum | 11.91 | 2.50 |
| Composite | 12.14 | 3.65 |

| Jam nut receptacle | | |
|--------------------|---------|---------|
| Material | A (max) | B (max) |
| Aluminum | 12.70 | 3.20 |

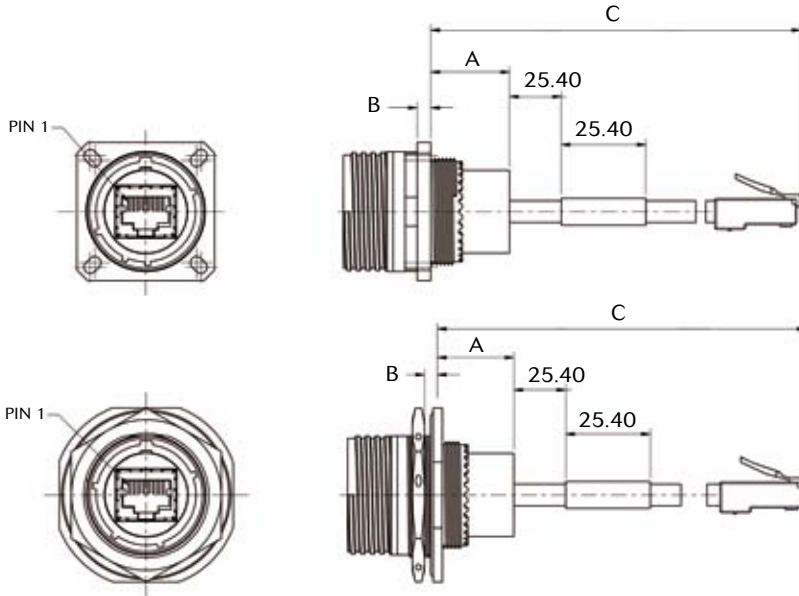
Note: All dimensions are in millimeters (mm)

8D Series

RJ45/USB Series



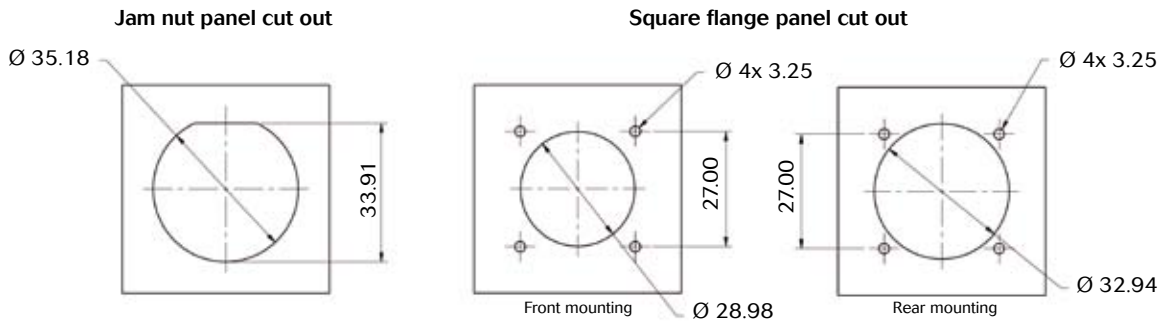
RJ45 interface - receptacle pigtail series



| Square flange receptacle | | | |
|--------------------------|---------|---------|-------------|
| Material | A (max) | B (max) | C (max) |
| Aluminum | 20.78 | 2.50 | 304.8 ±25.4 |
| Composite | 20.78 | 3.65 | 304.8 ±25.4 |

| Jam nut receptacle | | | |
|--------------------|---------|---------|-------------|
| Material | A (max) | B (max) | C (max) |
| Aluminum | 21.34 | 3.20 | 304.8 ±25.4 |

RJ45 interface - receptacle panel cut out



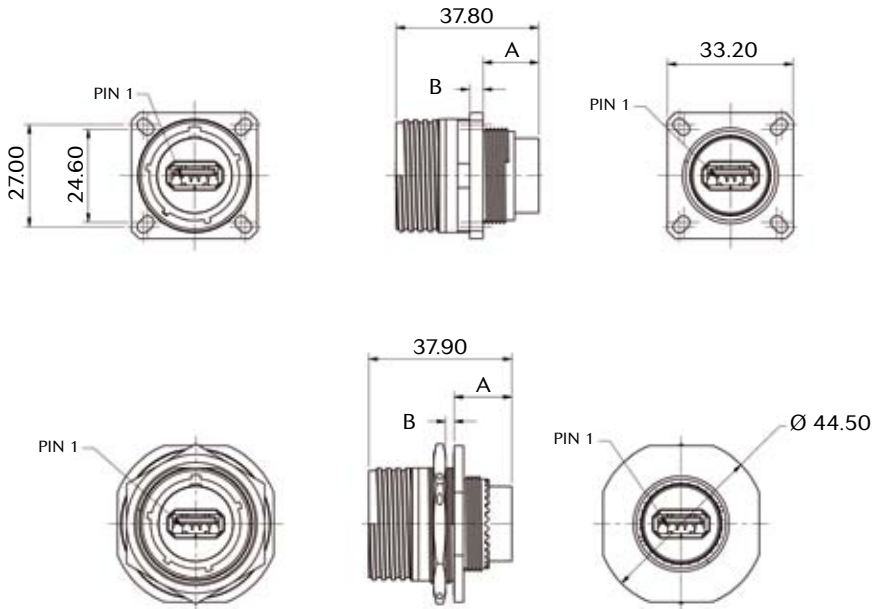
Note: All dimensions are in millimeters (mm)

8D Series

RJ45/USB Series



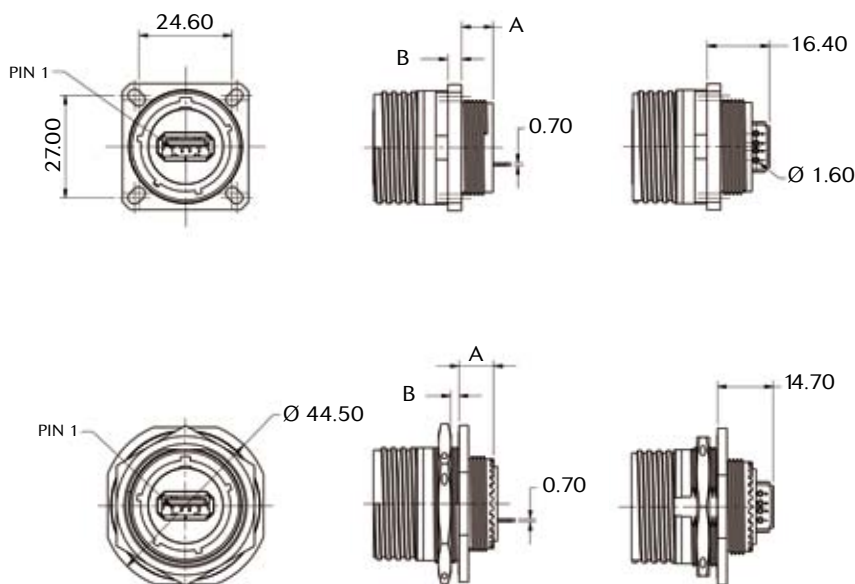
USB interface - receptacle feedthrough series



| Square flange receptacle | | |
|--------------------------|---------|---------|
| Material | A (max) | B (max) |
| Aluminum | 14.45 | 2.50 |
| Composite | 14.68 | 3.65 |

| Jam nut receptacle | | |
|--------------------|---------|---------|
| Material | A (max) | B (max) |
| Aluminum | 15.24 | 3.20 |

USB interface - receptacle solder out series



| Square flange receptacle | | |
|--------------------------|---------|---------|
| Material | A (max) | B (max) |
| Aluminum | 8.10 | 2.50 |
| Composite | 8.33 | 3.65 |

| Jam nut receptacle | | |
|--------------------|---------|---------|
| Material | A (max) | B (max) |
| Aluminum | 11.94 | 3.20 |

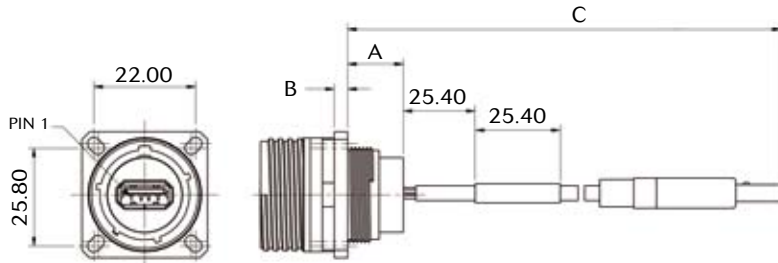
Note: All dimensions are in millimeters (mm)

8D Series

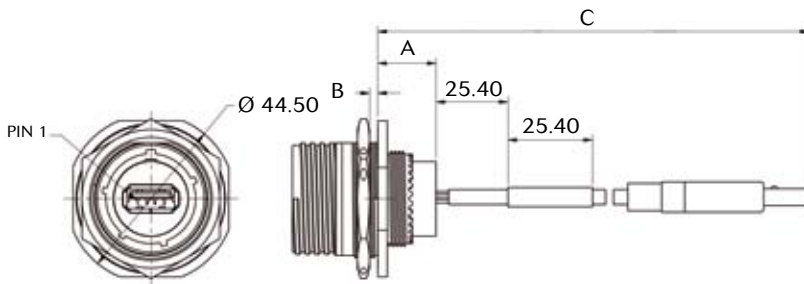
RJ45/USB Series



USB interface - receptacle pigtail series

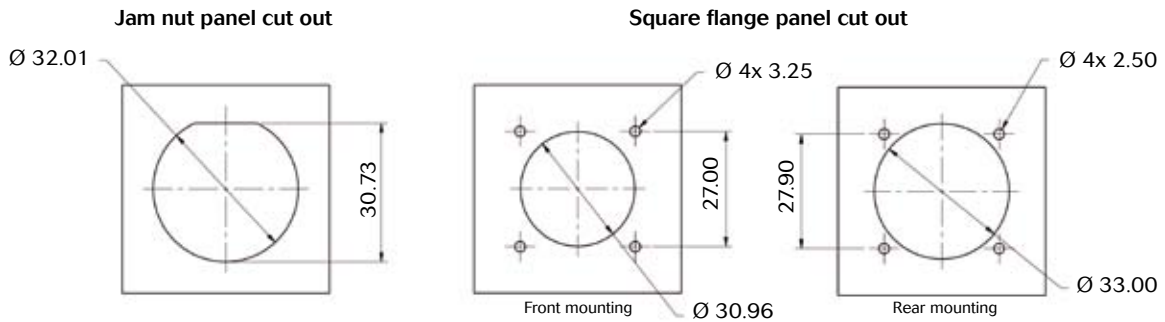


| Square flange receptacle | | | |
|--------------------------|---------|---------|-------------|
| Material | A (max) | B (max) | C (max) |
| Aluminum | 14.45 | 2.50 | 304.8 ±25.4 |
| Composite | 14.68 | 3.65 | 304.8 ±25.4 |



| Jam nut receptacle | | | |
|--------------------|---------|---------|-------------|
| Material | A (max) | B (max) | C (max) |
| Aluminum | 15.24 | 3.20 | 304.8 ±25.4 |

USB interface - receptacle panel cut out



Note: All dimensions are in millimeters (mm)

and Series.



8D Series

Range Extension

| | |
|---|-----|
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8D Series

MIL-DTL-38999 Series III

Product range extension

micr 38999

A complete miniature range: threaded (8DA), break away (8BA) & bayonet (8LTA). Space saving with scoop proof connector for harsh applications.

A compact solution:

- . Diameter up to 45% smaller than size 9 (D38999).
- . Up to 50% shorter.
- . Integrated backshell: Cost and space saving.

A high density solution:

- . With #26 contacts (according to 39029).
- . 5 layouts (size 3, 5 and 7 with #22 & #26).

Excellent features:

- . Designed for D38999 requirements.
- . IP67 sealing when mated.
- . Stainless steel shell (1500 matings) & aluminum shell (500 matings).

RoHS and Cadmium free:

- . Available in zinc nickel (RoHS) plating, as well as nickel and olive drab cadmium.



8D Hermetic ELIO® Feedthrough

The first truly hermetic aluminum 38999 fiber optic feedthrough.

Truly hermetic:

- . Leak rate $<10^{-9}$ atm.cm³/s.

Weight saving:

- . Aluminum shell save 30 to 40% of weight vs stainless steel.

Single and multi way:

- . Unique multiway hermetic fiber optic feedthrough in the world.

Intermateable with Souriau's ELIO® connectors:

- . Airbus A380 spec ABS1379 qualified
- . Intermateable with ARINC 801 and EN4531 standards





8D Series

MIL-DTL-38999 Series III

Product range extension

Rack & Panel

Sealed rack & panel for blind connection. A 100% scoop proof connector with quick connection in hard-to-reach areas.

Blind connection:

- . Easy & fast connection without any coupling/uncoupling between a float-mounting unit & a fixed unit

Float-mounting unit - rack:

- . Female crimp contacts.
- . Mounting on the cabinet side.
- . Angular orientation with a key.
- . Possibility to supply rear accessories.

Misalignment catching:

- . Longitudinal, axial and angular.



See «38999 Series I - Rack & Panel 8LT» product news on www.souriau.com

230V Connector

The use of higher voltage to reduce cable weight has led to the development of double voltage connectors.

Robust design and materials:

- . In high altitude un-pressurized areas, higher voltages increase electrical partial discharges → Risk of contact short circuits. Our 230V connector avoids this risk !

No possible mismatch:

- . Specific T and V clocking to avoid mating with a non 230V qualified counterpart.

Flexible offering:

- . Available in standard watertight and hermetic connectors with the same performance.
- . Available in composite and stainless steel shells.



See «230 Volt EN3645 Derived Connectors» product news on www.souriau.com



8D Series

MIL-DTL-38999 Series III

Product range extension

8D8/8D9 Series

8D8: high vibration performance push-pull connector.
8D9: lanyard release, high performance 38999 quick release.

A wide range with excellent performances:

- . MIL-DTL-38999 layouts and contacts
- . MIL-DTL-38999 Series electric performances
- . Scoop proof
- . Compatible with standard backshells 38999 Series III
- . Very high performance coupling with ball locking concept, check of locking by free ring when mated.

Easy to connect-disconnect:

- . 8D8: ideal for restricted space mating.
- . 8D9: simple push to connect - pull to disconnect.

High vibration performance:

- . Up to 44g
- . 8D8: ideal for mil-aero and space applications.
- . 8D9: ideal for missiles, inter-stage separation, space probes, UAVs.



See «8D8/8D9 Series - 38999 Push pull/Quick release» catalog on www.souriau.com

8DB: Bulkhead

“Double Receptacle” mounted on panel allows cable plug connection on both sides of the bulkhead.
Create a permanent sealed barrier on your panel suitable for pressurized or depressurized areas.

Easy integration:

- . Standard 38999 mounting interface (square flange, jam nut)..
- . Easy modular assembly and connection.
- . Time saving for maintenance.
- . The ideal interconnect solution for aircraft pressurized/non pressurized panels.

Reinforced sealing:

- . Feedthrough sealing even when unmated (10^{-6} atm.cm³/s).
- . Permanent sealing barrier on panel (O rings).
- . Glass fused hermetic version available ($<10^{-8}$ atm.cm³/s) for fuel tanks/space systems.

A large platform available:

- . All 38999 Series III layouts (signal and power contacts).



See «38999 Series III - Bulkhead Feedthrough» catalog on www.souriau.com



8D Series

MIL-DTL-38999 Series III

Product range extension

8PS Series

Sealed cable feedthrough. Allows a bundle of cables to cross through the bulkhead without any contact junctions.

All cables are individually sealed inside the feedthrough:

- . For maximum MTBF by eliminating cable termination & contact junction.
- . When maximum continuity is required for copper cables.
- . To suppress contact attenuation with Fiber optic cables.

Easy and safe installation.

Reinforced sealing.



8D Hermetic Aluminum 38999 Power and Signal Connector

The unique connecting solution offering hermeticity, great conductivity and mass saving all at once: ideal for power applications.

Truly hermetic:

- . Leak rate $<10^{-9}$ atm.cm³/s.

Weight saving:

- . Save 30 to 40% of weight vs stainless steel.

Outstanding conductivity:

- . Conductivity 5 times better than regular Fe/Ni contacts.





8D Series

MIL-DTL-38999 Series III

Product range extension

8D36 Lanyard Release

Field repairable / MIL-STD-1760 umbilical.
Self-alignment, blind connector mating & safe operational solution to weapon releases.

Safe quick disconnect at high speed:

- . Robust unlocking system : 9.15m/s \pm 10%.

Field repairable:

- . Damaged coupling mechanism can be removed and fully replaced without need to disassemble the electric harness or cable backshell.

High vibration performances:

- . Random: 44 G RMS, Sine: 60G with angular separation up to 20° (maximum)



8TFD Filter Connector

EMI-RFI filters and lightning protection in composite light-weight shell.

Space saving:

- . Complete filter solution in standard shell.
- . No need for filter PCB inside equipment.
- . Smaller equipment envelope required.

Excellent filter performance:

- . Excellent performance, comparable to aluminum shell EMI-RFI filter connectors.

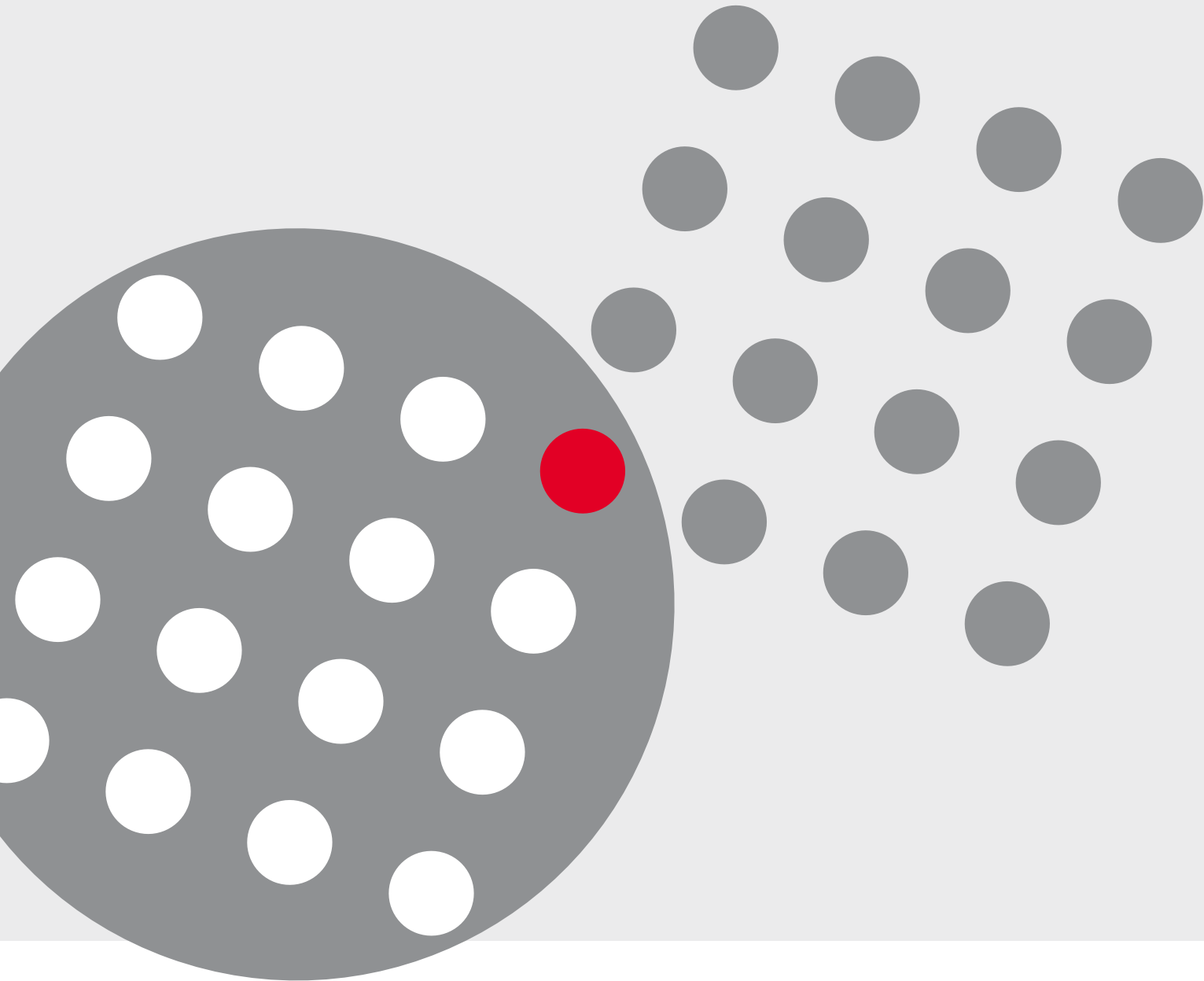
Highly corrosion resistant:

- . 2000 hours salt spray in either nickel or olive drab finish.

Wide range of layouts available:

- . SOURIAU EMI-RFI Filter 38999 Series III connectors are available in aluminum, marine bronze, and stainless steel shells.





SOURIAU

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