

# **SOURIAU**

## 8D Series Range Extension

A Universal Platform



# 8D Series Range Extension



## Introduction

Since the early 80's, Souriau is a major supplier of 38999 Series III, the screw-coupled version of MIL-DTL-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, industrial, marine and offshore).

Always pushing the boundaries in term of innovation, Souriau's teams have continuously improved this range of connectors. 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, ...)

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and Series.



## 8D Series

# Standard Series

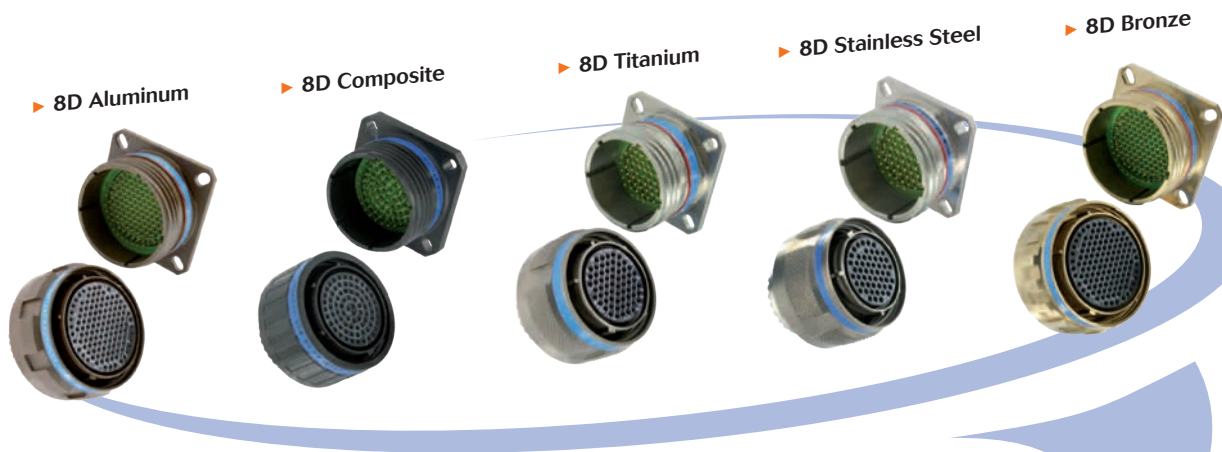
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# 8D Series

## 8D Series - Product overview

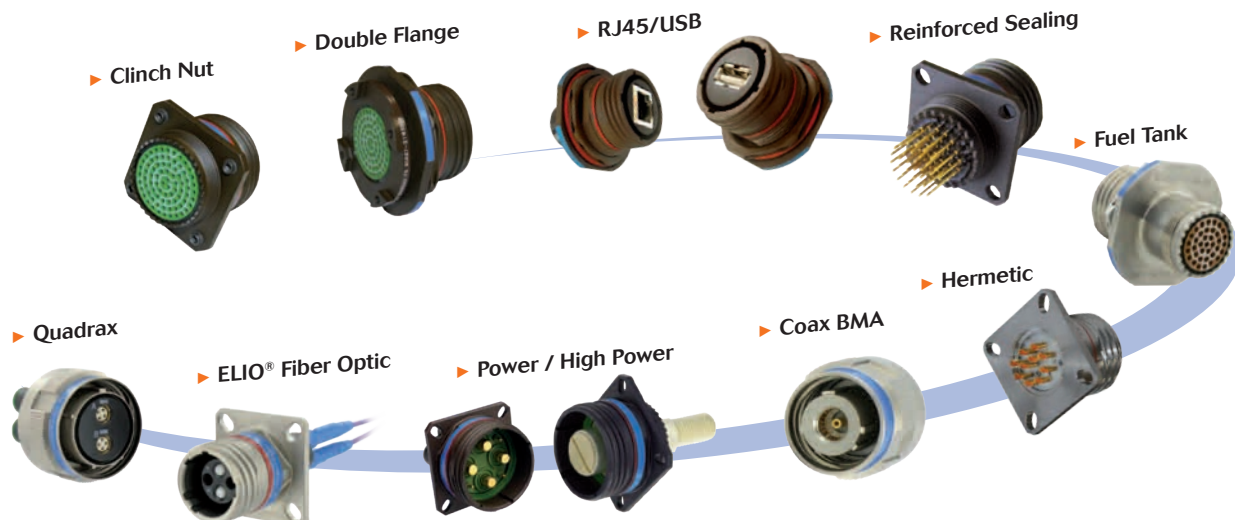
### Standard Series

- ▶ 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 !

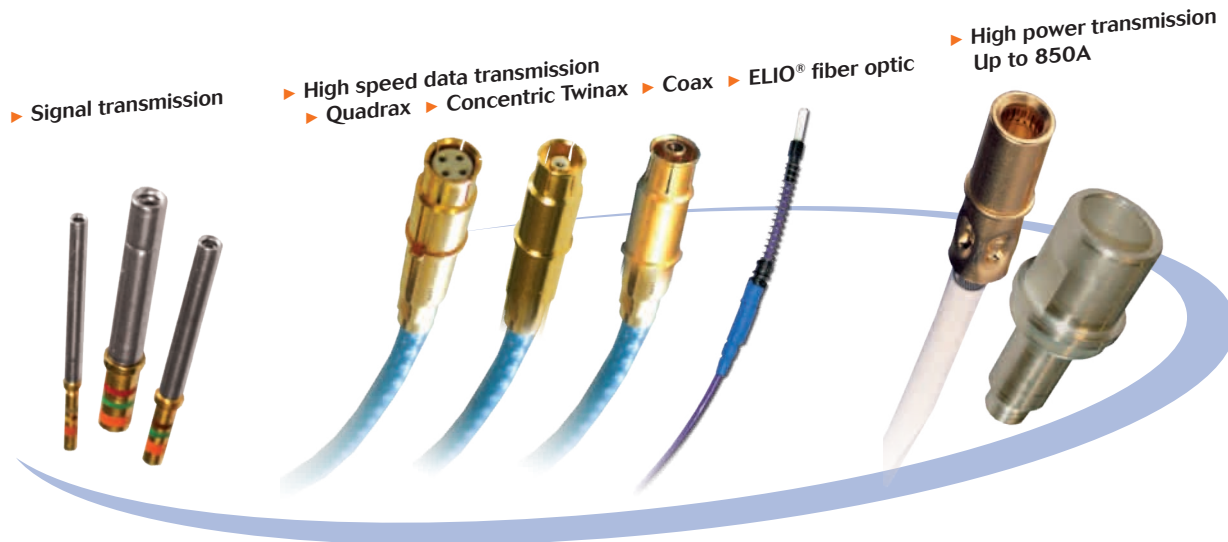


# 8D Series

## 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

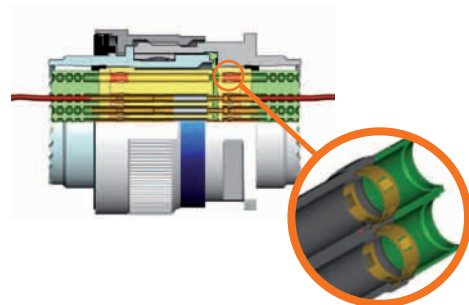
#### ▶ Common cavity for all #8 contacts

### 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



## 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 for 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

## 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: Bromochloromethane

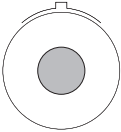
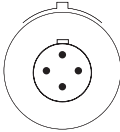
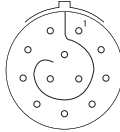
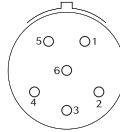
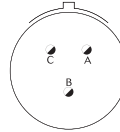
. Cooling fluid: Coolanol

# 8D Series

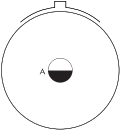
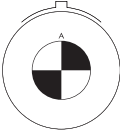
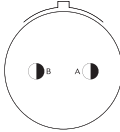
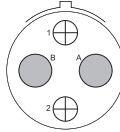
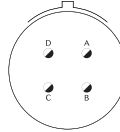
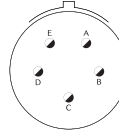
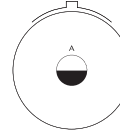
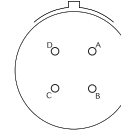
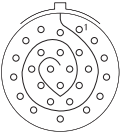
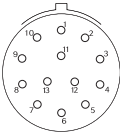
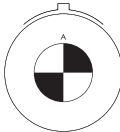
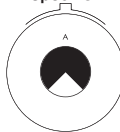
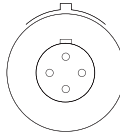
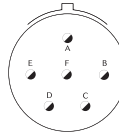
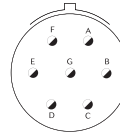
## Contact layouts

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

**09 / A**

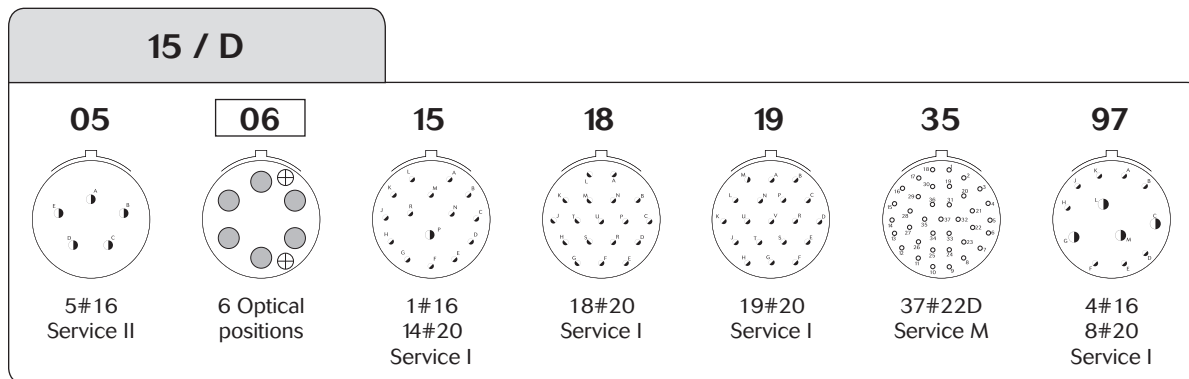
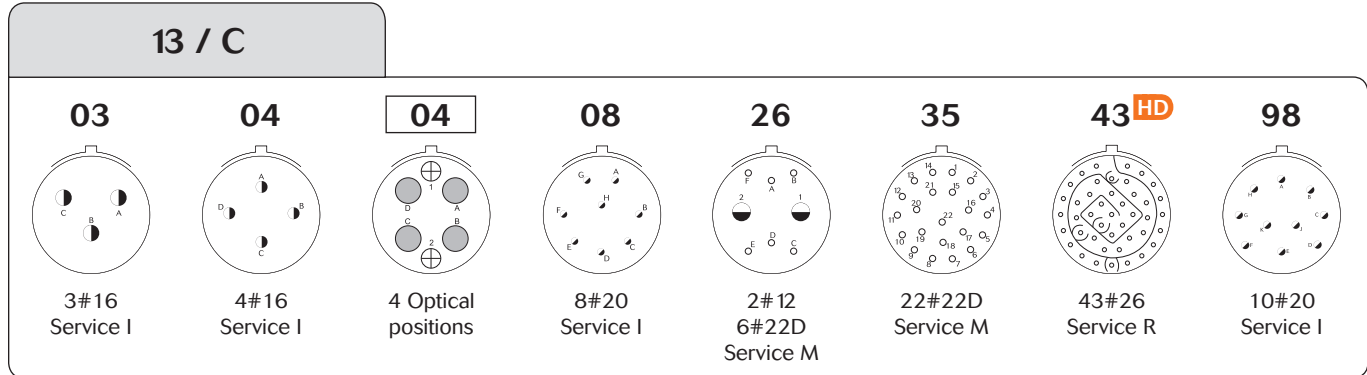
<b>01</b>	<b>05</b>	<b>12<sup>HD</sup></b>	<b>35</b>	<b>98</b>
				
1 Optical position	1#8 Quadrax	12#26 Service R	6#22D Service M	3#20 Service I

**11 / B**

<b>01</b>	<b>01</b>	<b>02</b>	<b>02</b>	<b>04</b>	<b>05</b>	<b>12</b>	<b>22</b>
							
1#12 Service II all series excepted JVS	1#8 Coax Service I only for JVS	2#16 Service I	2 Optical positions	4#20 Service I	5#20 Service I	1#12 Service II only for JVS	4#22D Service M
<b>26<sup>HD</sup></b>	<b>35</b>	<b>80</b>	<b>80<sup>Spec 251</sup></b>	<b>81</b>	<b>98</b>	<b>99</b>	
							
26#26 Service R	13#22D Service M	1#8 Concentric Twinax Service I	1#8 Power	1#8 Quadrax	6#20 Service I	7#20 Service I	

# 8D Series

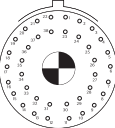
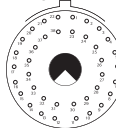
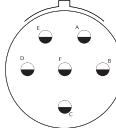
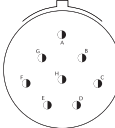
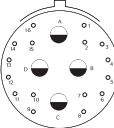
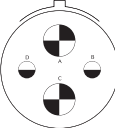

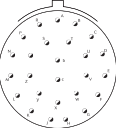
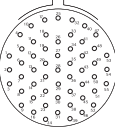
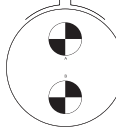
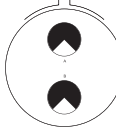
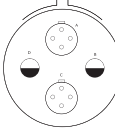
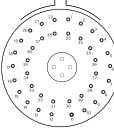
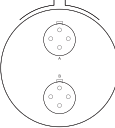

## Contact layouts



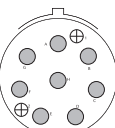
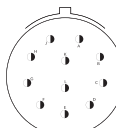
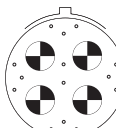
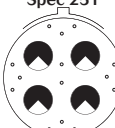


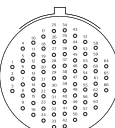
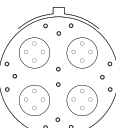
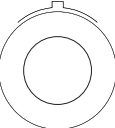
# 8D Series

## Contact layouts

**17 / E**

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


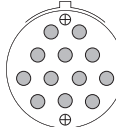
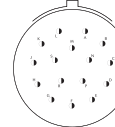
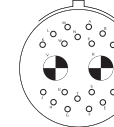

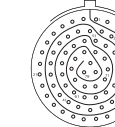
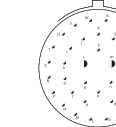
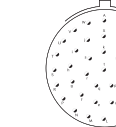
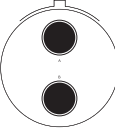
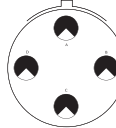
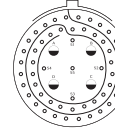
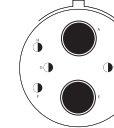
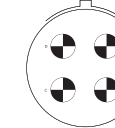

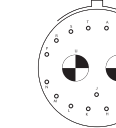

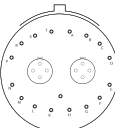
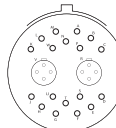
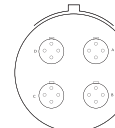
**19 / F**

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



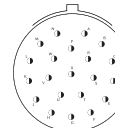
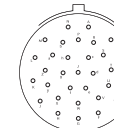
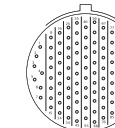
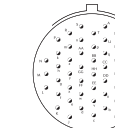
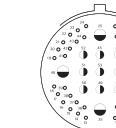
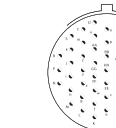
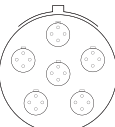
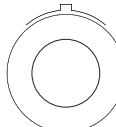
# 8D Series

## Contact layouts

**21 / G**

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

**23 / H**

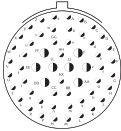
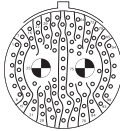
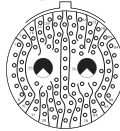
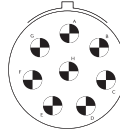
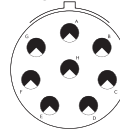
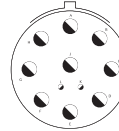
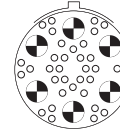
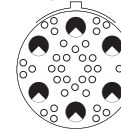
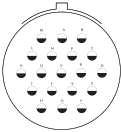


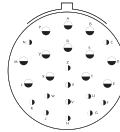
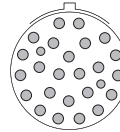
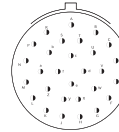
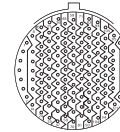
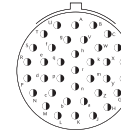
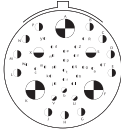

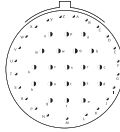



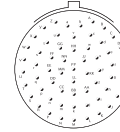

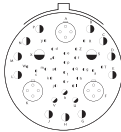
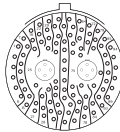
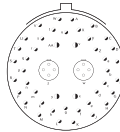
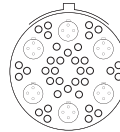
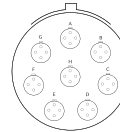
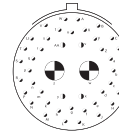
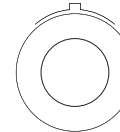
<b>06</b>  6#8 Concentric Twinax Service M	<b>06</b> Spec 251  6#8 Power Service M	<b>21</b>  21#16 Service II	<b>32</b>  32#20 Service I	<b>35</b>  100#22D Service M	<b>53</b>  53#20 Service I	<b>54</b>  4#12, 9#16 40#22D Service M	<b>55</b>  55#20 Service I
<b>86</b>  6#8 Quadrax	<b>H1</b>  1#000 High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

 ELIO® fiber optic  Ethernet Quadrax

Note: Concentric Twinax = Triax

# 8D Series

## Contact layouts

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

# 8D Series

## 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 <sup>(1)</sup>							1							1 Qdx		
	09-12							12	12								
	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 <sup>sp 251</sup>							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 <sup>sp 251</sup>							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 <sup>sp 251</sup>							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 <sup>sp 251</sup>							2							2 Pow		
	17-80							4					2		2 Qdx		
	17-81							39		38					1 Qdx		
17-82						Q	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 <sup>sp 251</sup>																
	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: Concentric Twinax

# 8D Series

## 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 <sup>(2)</sup>		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 <sup>(3)</sup>		Q	Q	19					19					
	25-20	Q				Q <sup>(4)</sup>	Q <sup>(5)</sup>	30			10	13	4 <sup>(6)</sup>		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 classes F, W, S, K only

(4) For classes F, W, K only

(5) Qualified BACC63DB/DC only

(6) 4 #12 coax (2+2)

#8 Pow: Power; Qdx: Quadrx; Twx: Concentric Twinax



# 8D Series

## Souriau part numbers

Basic Series	8D	0		11	W	35	P	N			L
<b>Shell style:</b> 0: Square flange receptacle 1: In line receptacle (Aluminum only) 7: Jam nut receptacle (Aluminum, Stainless steel & Titanium only) 5: Plug with RFI shielding											
<b>Type:</b> 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 - only available for Reinforced sealing Series (see page 75) - male and female size #22D; male #16 & #12; female #16 & #12 and male female #20 please consult us											
<b>Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25</b>											
<b>Plating:</b> W: Olive drab cadmium (Aluminum only) F: Nickel (Aluminum only) ZC: Green zinc cobalt (Aluminum only) Z: Black zinc nickel (Aluminum only) J: Olive drab cadmium (Composite only) M: Nickel (Composite only) X: Without plating (Composite only) K: Passivated (Stainless steel only) S: Nickel (Stainless steel only) TT: Without plating (Titanium only) TF: Nickel (Titanium only)											
<b>Contact layout:</b> See pages 10 to 13											
<b>Contact type:</b> P: Pin (500 mating/unmating) S: Socket (500 mating/unmating) H: Pin (1500 mating/unmating - Composite only) J: Socket (1500 mating/unmating - Composite only) A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation)											
<b>Orientation: N, A, B, C, D, E, T, V</b>											
<b>Specification:</b> 046: Tinned straight PC tail 251: Connector provided with power contacts (layouts with contact #8) 022: Fuel tank 600: 230V qualified connector (stainless steel & composite, T or V orientation mandatory - Consult us for available layouts)											
<b>Special custom:</b> None: Standard plastic cap M: Antistatic plastic cap											
<b>L:</b> For P or S contact type only, connectors delivered without contacts, connectors marking P or S plus orientation											

Note: Stainless steel plug with reinforced locking available, please consult us.

# 8D Series

## MIL-DTL-38999 Series III part numbers

Basic Series	D38999	20	W	B	35	P	N	L
<b>Shell style:</b> 20: Square flange receptacle 24: Jam nut receptacle (Aluminum & Stainless steel only) 26: Plug with RFI shielding								
<b>Plating:</b> Z: Black zinc nickel (Aluminum) W: Olive drab cadmium (Aluminum) F: Nickel (Aluminum) J: Olive drab cadmium (Composite) M: Nickel (Composite) K: Passivated (Stainless steel) S: Nickel (Stainless steel)								
<b>Shell size:</b> 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J								
<b>Contact layout:</b> See pages 15 & 16 for layout according to MIL-DTL-38999								
<b>Contact type:</b> P: Pin S: Socket A: Connector supplied less pin contact or with specific contacts (connector marking: A + orientation) B: Connector supplied less socket contact or with specific contacts (connector marking: B + orientation)								
<b>Orientation:</b> N, A, B, C, D, E								
<b>L:</b> For P or S contact type only, connector delivered without contacts, connector marking P or S (without L)								

Note: To place a MIL connectors order 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

## EN3645 part numbers

Basic Series	EN3645	W	6	G	N	35	B	N
<b>Plating:</b> W: Olive drab cadmium (Aluminum) F: Nickel (Aluminum) J: Olive drab cadmium (Composite) M: Nickel (Composite) K: Stainless steel passivated (Stainless steel)								
<b>Shell style:</b> 0: Square flange receptacle 6: Plug 7: Jam nut receptacle (Aluminum & Stainless steel only)								
Shell size: 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J								
<b>Grounding:</b> N: Standard insert not grounded								
<b>Contact layout:</b> See pages 15 & 16 for layout according to EN3645								
<b>Contact type:</b> M: Pin F: Socket A: Connector supplied less pin contact B: Connector supplied less socket contact								
Orientation: N, A, B, C, D, E								

# 8D Series

## BACC part numbers

<b>Basic Series:</b> BACC63CT: 8D5*M (composite plug) BACC63CU: 8D0*M (composite square flange receptacle) BACC63DB: 8D5*K (stainless steel plug) BACC63DC: 8D0*K (stainless steel square flange receptacle)	BACC63CT	13	-	98	P	N	H
<b>Shell size:</b> 09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J							
<b>Plating &amp; grounding:</b> -: Nickel plated, ungrounded G: Nickel plated, grounded D: Cadmium plated, ungrounded C: Cadmium plated, grounded							
<b>Contact layout:</b> See pages 15 & 16 for layout according to BACC							
<b>Contact type:</b> P: Pin S: Socket							
<b>Orientation:</b> N, A, B, C, D, E							
<b>Specification:</b> None: With contacts H: Without contact & without filler plug							

# 8D Series

## Souriau JVS (bronze) part numbers

<b>Basic Series</b>	JVS	16	A	11	35	P	N	-
<b>Shell style:</b>								
00: Square flange receptacle								
07: Jam nut receptacle								
16: Plug with RFI shielding								
<b>Material:</b>								
A: Bronze housing material								
<b>Shell size:</b>								
09, 11, 13, 15, 17, 19, 21, 23, 25								
<b>Contact layout:</b>								
See pages 10 to 14								
<b>Contact type:</b>								
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)							
<b>Orientation:</b>								
N, A, B, C, D, E								
<b>Specification:</b>								
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

<b>Basic Series</b>	C 752 002	B	B	98	M	C	N	A	0	1	G
<b>Shell style:</b>											
A: Plug											
B: Square flange receptacle											
C: Jam nut receptacle											
<b>Shell size:</b>											
09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J											
<b>Contact layout:</b>											
See pages 15 & 16 for layout according to CECC											
<b>Contact type:</b>											
M: Pin											
F: Socket											
<b>Type of contact termination:</b>											
C: Crimp contact											
<b>Orientation:</b>											
N, A, B, C, D, E											
<b>Shell material:</b>											
A: Aluminum bronze											
<b>Supply code:</b>											
0: Connectors supplied with contacts											
1: Connectors supplied without contacts											
<b>Assessment level:</b>											
1: Level 1											
<b>Performance level:</b>											
G: Level G											

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

and Series.



## 8D Series

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# 8D Series Range Extension

## 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.



## RoHS Solution

**The RoHS alternative to cadmium !  
SOURIAU Zinc Nickel: the best in terms of price and performance for aerospace & defense equipment.**

**SOURIAU Black Zinc Nickel:**

- . A unique alternative plating process to cadmium.

**RoHS compliant:**

- . A unique SOURIAU plating process compliant with RoHS regulations for cadmium and Cr6+.

**The first QPL qualified:**

- . SOURIAU Zn Ni is the first product which has been qualified by US Defense standards organization (DLA Land and Maritime).

**High corrosion resistance:**

- . 500 hours salt spray.

**Available in mass production:**

- . Available for 38999 Series I, II and III aluminum range.





# 8D Series Range Extension

## Product range extension

### Double Flange

**Double flange solution for PCB mount.**  
Specially designed for PCB applications in harsh environments, decoupling vibration from the board.

**Excellent mechanical performance:**

- . Standoffs integrated into the connector.
- . No risk of breaking contacts and no risk of micro-cuts.

**Design flexibility:**

- . Square flange or Jam nut versions available.
- . Versatile contact length options.

**A wide range:**

- . Available in aluminum with a range of layouts from shell size 9 to 25.

**User friendly:**

- . Easy to assemble & time saving.



See «38999 Series III - Double Flange» product news on [www.souriau.com](http://www.souriau.com)

### Integrated Clinch Nut

**Integrated clinch nut solution for box mount.**  
Equivalent mounting retention of the receptacle ensured with only 4 clinch nuts. Designed for severe applications.

**User friendly:**

- . Easy to install.

**Selflocking:**

- . Fast and secure.

**Reduced mounting hardware:**

- . Elimination of nuts and washers.



See «38999 Series III - Clinch Nut» product news on [www.souriau.com](http://www.souriau.com)

# 8D Series Range Extension

## Product range extension

### High Density

**SOURIAU offers a robust & reliable High Density solution derived from 38999 Series I, Series III & VG96912.**

**3 shell sizes available:**

- . Provides flexibility according to your application.

**A reliable & robust solution:**

- . Same well proven design as standard 38999 & VG96912.

**Significant space saving:**

- . Twice the number of contacts compared to size 13-35 with 22 contacts.
- . Two shell sizes smaller than a partially populated size 17-35 with 55 cavities.



See «High Density Connectors» product news on [www.souriau.com](http://www.souriau.com)

### PCB Contact without Shoulder

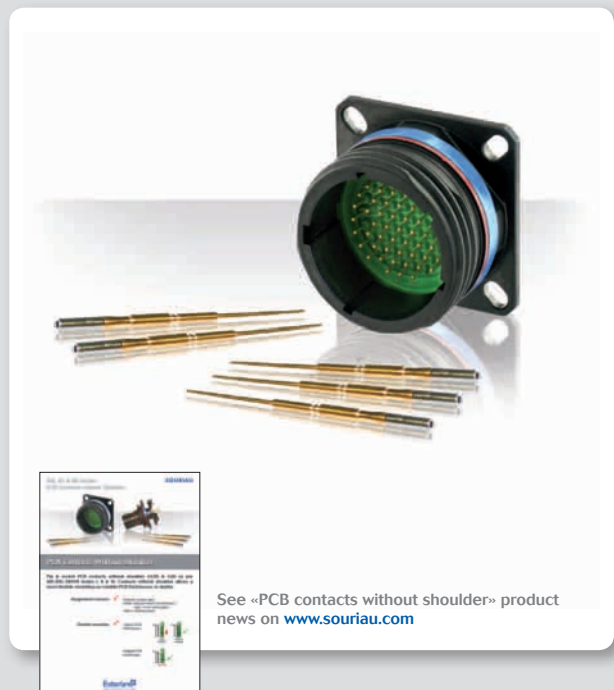
**Pin & socket PCB contacts without shoulder #22D & #20 as per MIL-DTL-38999 Series I, II & III. Contacts without shoulder allows a more flexible mounting on variable PCB thicknesses or depths.**

**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.



See «PCB contacts without shoulder» product news on [www.souriau.com](http://www.souriau.com)

# 8D Series Range Extension

## Product range extension

### Power Contact

**Power supply in harsh environments. Designed to be used in severe environments, fluid resistance, high shock and vibration.**

**A unique contact design with a braid socket:**

- . 20 contact points for a #4 contact vs 2 or 3 for a standard socket.
- . Allowing 20 % more current as compared to standard socket.
- . Excellent vibration withstanding.
- . Insure excellent crimping

**A versatile individual sealing on the cable:**

- . Sealing on the cable done thanks to a sealing boot.
- . Same connector can accomodate a wild range of cable diameter.

**A contact technology integrated in well proven standard AeroMil connectors:**

- . Up to 260°C service temperature,
- . Up to 60G vibration withstanding.
- . Shell available in, aluminium, composite, Stainless steel, Titanium & Bronze.



See «8D Series - MIL-DTL-38999» catalog on [www.souriau.com](http://www.souriau.com)

### High Power Contact

**38999 High Power (up to 850A). Designed to meet the harshest military requirement where high power and shielding are needed.**

**3 aluminum shell sizes available:**

- . Size 19 (450A max); size 23 (650A max); size 25 (850A max).
- . Different finish: cadmium, zinc nickel, electroless nickel.
- . Threaded coupling.

**Superior contact technology equipped with a silver plated braid:**

- . High contact endurance.
- . Low contact resistance.
- . No microcut under vibration.

**Modular design for easy installation:**

- . Removable backshell: straight, right angle or bus bar.
- . Backshell termination: for thread or shrink boot.
- . Possible to crimp various cable (Ø from 50 to 185mm).

**Safety**



See «38999 Series III - High Power Contacts» product news on [www.souriau.com](http://www.souriau.com)

# 8D Series Range Extension

## Product range extension

### Quadrax Contact

**Quadrax contacts for full duplex ethernet link with robust MIL-DTL-38999 compliant screw coupling system for networks & high vibration environments.**

**High speed:**

- . One Quadrax contact replace two concentric Twinax contacts.
- . Data rate up to 1 Gbit/sec.

**A wide range:**

- . Compatible with all Souriau standard 38999 shells, plating and inserts (with at least one #8 cavity).

**A flexible range:**

- . Available in 100 and 150 ohms (grounded or not).

**A versatile technology:**

- . Quadrax layouts compatible with all #8 contacts type: power, coax, concentric twinax, fiber optic.



### ELIO® Contact

**ELIO® contact: ruggedized and user friendly fiber optic technology. Easy mounting optical link for severe applications.**

**Flight proven:**

- . The only Airbus qualified fiber optic technology: ABS1379, ABS1213, ARINC 801 and EN4531 qualified.

**Robust connection:**

- . Withstanding the most severe vibrations with excellent optical performance (0.3 dB).

**User friendly contact:**

- . Easy cleaning: no part to remove.
- . No tool needed for insertion/extraction of the contacts.

**A wide range available:**

- . In all planforms with #8 cavities. Up to 24 ELIO® contacts in 38999 size 25.



# 8D Series Range Extension

## 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](http://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](http://www.souriau.com)

# 8D Series Range Extension

## Product range extension

### Reinforced Sealing

**Cost effective sealing solution, the best value for money.**

**To be used when enhanced sealing is needed in harsh environments and as an alternative to hermetic glass bead.**

**Weight saving:**

- . Lightweight compared with hermetic versions.

**Excellent shock resistance:**

- . Better than hermetic glass seals.
- . Filtered receptacle are generally standard length.

**High performances:**

- . Reinforced sealing receptacle with male or female straight PC tails.
- . High hermiticity performance:  $10^{-7}$  atm.cm<sup>3</sup>/s.
- . 100 % scoop proof.
- . High density connectors.
- . Lower profile for compactness.



### Hermetic Version

**Glass sealed connector (helium leakage test).**  
**Low profile for compacity requirements.**

**As per MIL-DTL-38999:**

- . Inert glass insulator.
- . High hermeticity performance.
- . Ideal for high pressure environments.
- . Low profile.
- . Nickel plating upon request.

**Various shell types:**

- . Box mounting flange receptacle.
- . Jam nut receptacle.
- . Solder mounting receptacle.



# 8D Series Range Extension

## Product range extension

### RJ45/USB

#### Ethernet Connectors for Harsh Environments. Rugged RJ45, USB-A/USB-B solutions.

##### RJ45 / USB connectors:

- . A & B types, connectors available on MIL-C-26482 Series I, MIL-DTL-38999 Series III.

##### IP67 sealing:

- . In mated conditions.

##### USB data transmission:

- . USB - A & B types - according to the «Bus» specification, Rev 2.0.

##### RJ45 data transmission:

- . RJ45 - 10 BaseT, 100 BaseTX and 1000 BaseT networks, CAT 5E per TAI/EIA 568B and ClassD per ISO/IEC 11801.



See «8D Series - MIL-DTL-38999» catalog on [www.souriau.com](http://www.souriau.com)

### 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.



# 8D Series Range Extension

## 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](http://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.cm<sup>3</sup>/s).
- . Permanent sealing barrier on panel (O rings).
- . Glass fused hermetic version available ( $<10^{-8}$  atm.cm<sup>3</sup>/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](http://www.souriau.com)





# SOURIAU

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