Typical applications

Civil Aeronautics

Military Aeronautics

Defense

Ground Military

Industrial

Marine - Offshore

Features & Benefits

QPL

MIL-DTL-38999 Qualified

54 qualified layouts.
Qualified protective caps.

ROBUST

High reliability

Temperature up to 200°C.
High vibration withstanding (44g).
500 mating/unmating cycles.

LIGHT WEIGHT

High end materials

Aluminum (D38999 & EN3645 qualified).
Composite (D38999, EN3645 & BACC qualified).
Titanium version.

LARGE OFFER

Versatility

RoHS platings, high density layouts, ...
Contacts: signal, high speed (optical, quadrax), high power, ...
Specific shells: double flange, clinch nuts, integrated backshell, ...

FIRE SEAL

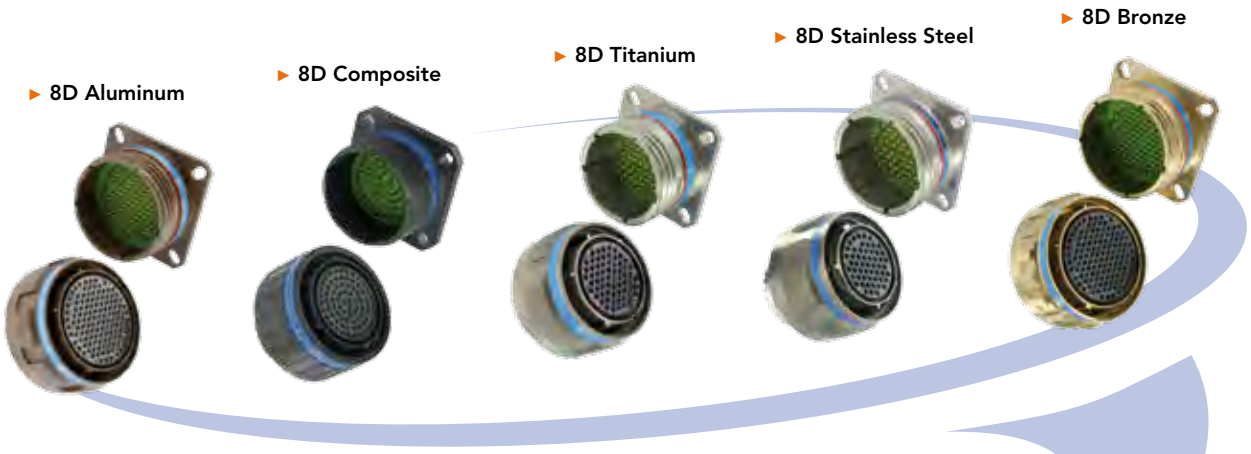
Class K

Stainless steel (D38999, EN3645 & BACC qualified).
Hermetic version.

Product overview

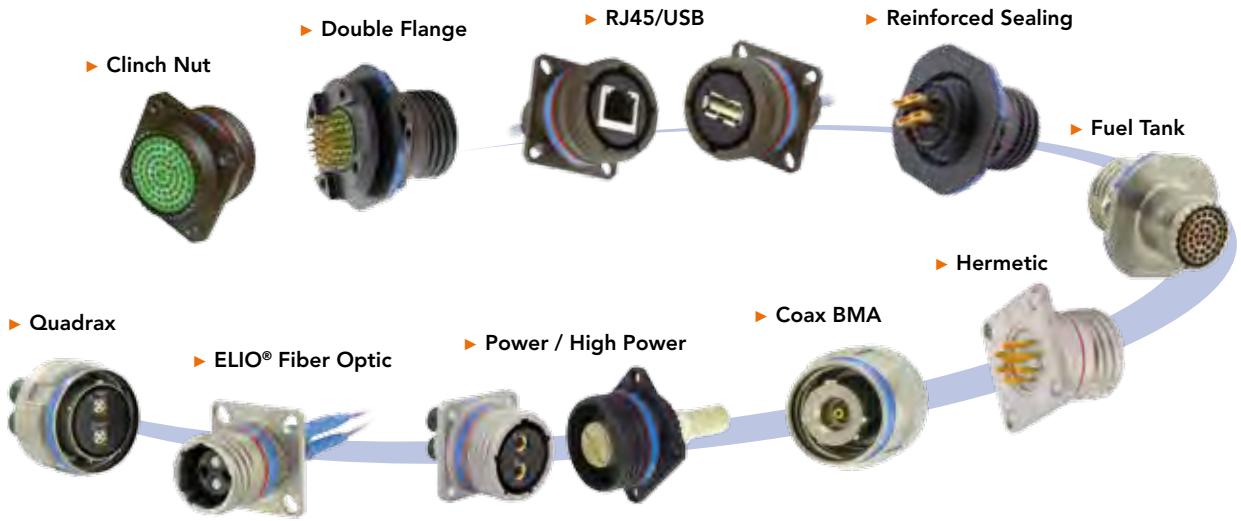
Standard Series

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



Derived Series

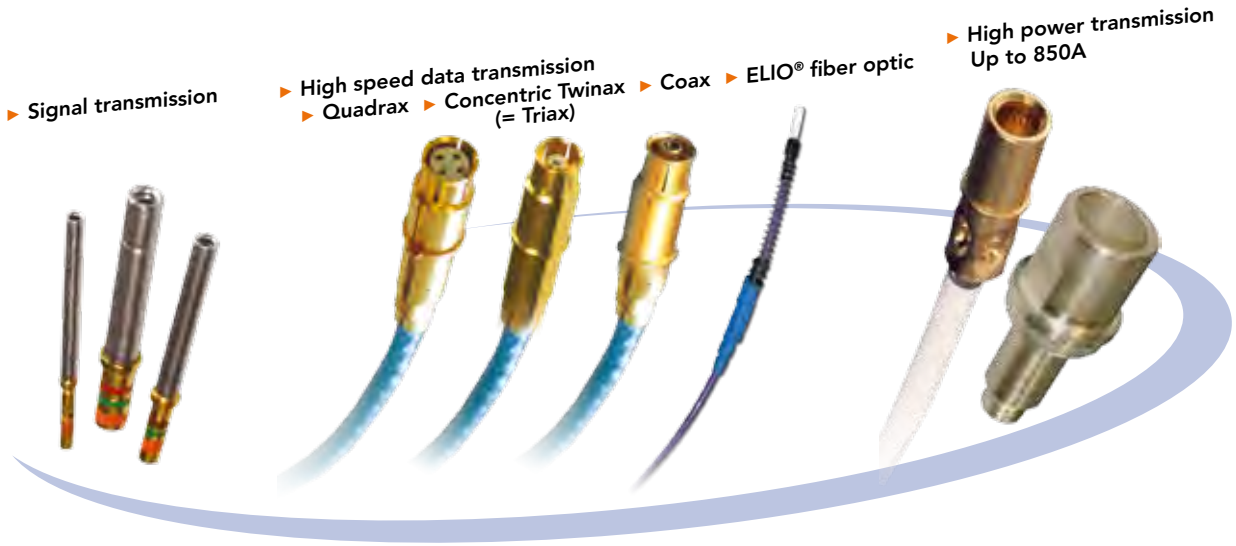
- **Various possibilities of range extension & shell variant from Standard Series**
- **The only limit is your imagination: Consult us !**



A superior concept

A full range of contacts

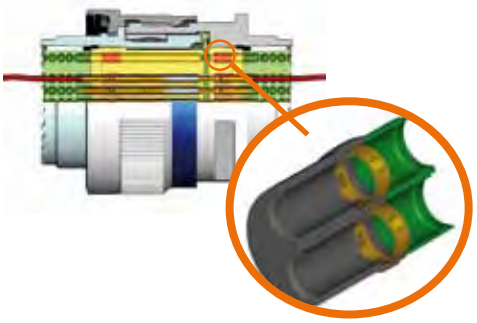
- Multi-contact technology provides versatile connectors



- 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, ...

Note: Concentric Twinax = Triax

Product overview - A performing MIL standard connector design

Scoop proof connector

- No risk of damaging contacts during the coupling operation

Self locking mechanism

Patented by SOURIAU

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

Quick screw coupling

- $1^{1/4}$ turn to mate

Fully shielded connector

- 360° shielding

- Shell to shell bottoming = perfect shield continuity

Visual mating indication

- Red band visible = not correctly mated

- Red band hidden = correctly mated

A universal product platform

38999 Series I: 8LT Series

MIL-DTL-38999

- High density MIL-spec circular
- Scoop proof
- Bayonet coupling
- Mounting: screws or jam nut
- Shell: Aluminum alloy
- Plating: Cadmium or nickel
- QPL approved
- Numerous layouts

38999 Series II: 8T Series

MIL-DTL-38999

- Short version of 38999 Series I
- High density MIL-spec circular
- Bayonet coupling
- Mounting: screws or jam nut
- Shell: Aluminum alloy
- Plating: Cadmium, nickel or hard anodized
- QPL approved

8ST Series

VG96912 & JN1003

- High density
- Lightweight version of Series I
- Scoop proof, bayonet coupling
- Mounting: screws or jam nut
- Shell: Aluminum alloy
- Plating: Cadmium or nickel
- VG 96912 German specification
- JN 1003 Typhoon specification

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 (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)
- 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 (ZC)
  . 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 ambiant T°
  Test with accessories in acc with EN2591-D3

- **Contact retention:**

Contacts size	26	22	20	16	12	8	4
Min force in N	30	44	67	111	111	111	200

Weight comparison

Example for a plug shell size 15

Materials	Weight
Stainless steel	58.80 g
Titanium	33.90 g
Aluminum	20.35 g
Compo-site	14.30 g

42% lighter
40% lighter
30% lighter

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 (ZC): 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

Environmental

• 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°
. 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-C-87936 diluted
. De-icing fluid: MIL-A-8243
. Extinguishing fluid: Bromochloromethane
. Cooling fluid: Coolanol