



MIL-DTL 38999 Type Connectors



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Contents

Introduction & Application	11-4
Product overview	11-5
How to order MIL-DTL-38999 type connectors	11-6
Inserts for LuxCis® contacts	11-7
LuxCis® Fiber Optic Contacts	11-8
Quadrax & Coaxial Contacts	11-9
Shell dimensions	11-10

SECTION 11 TABLE OF CONTENTS

MIL-DTL-38999

Introduction

Radiall offers a wide range of MIL-DTL-38999 type connectors for applications in both military and civil aviation markets.

Whether your needs are for crimped coax or quadrax contacts, or for LuxCis® optical contacts, you will find products that suit your requirements.

Radiall proposes various sizes (from 11 to 25), types (plugs, wall-mount & jam-nut receptacles), and plating for 38999 type shells to withstand high performances:

- Aluminum Olive drab Cadmium (500h salt spray)
- Nickel plated Aluminum (48h salt spray)
- Nickel plated Composite (2000h salt spray)
- Nickel Aluminum Bronze (500h salt spray)

Radiall also provides an extensive range of inserts: nine optical arrangements including one that mixes electrical and optical contacts.

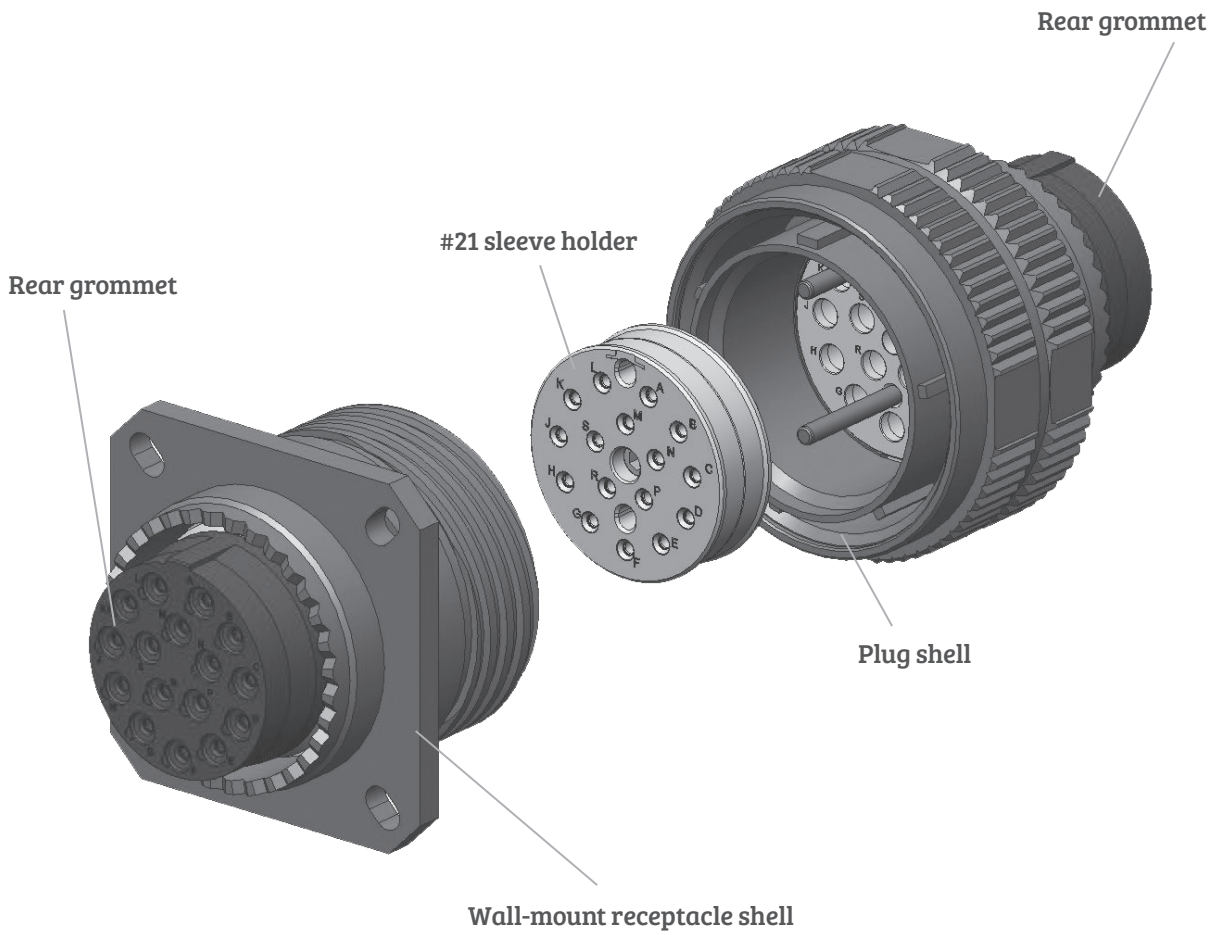
Apart from our LuxCis contacts range, you will also find Radiall's Quadrax & Coaxial contact offer, for environmental and non-environmental needs.

Application

Interconnect solution for aerospace and military harsh environment applications.



Product Overview



MIL-DTL-38999

MIL-DTL-38999

How to order MIL-DTL-38999 type connectors

PART NUMBERS FOR LUXCIS® MIL-DTL-38999 TYPE CONNECTORS

R8	W	15	0	6F0	S	A	N
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R8: LuxCis® MIL-DTL-38999 series

Shell type: _____

W: Plug

R: Square flange receptacle

N: Jam nut receptacle

Shell size: _____

11-13-15-17-19-21-23-25

Shell material and finish: _____

O: Aluminium olive drab cadmium

N: Nickel plated Aluminium

M: Nickel plated composite

G: Nickel aluminium bronze

Contact layout: _____

2F0: 2 LuxCis® contacts (shell size 11)

2F02E: 2 LuxCis® + 2 electrical contacts (shell size 13)

4F0: 4 LuxCis® contacts (shell size 13)

6F0: 6 LuxCis® contacts (shell size 15)

8F0: 8 LuxCis® contacts (shell size 17)

12F0: 12 LuxCis® contacts (shell size 19)

16F0: 16 LuxCis® contacts (shell size 21)

24F0: 24 LuxCis® contacts (shell size 23)

32F0: 32 LuxCis® contacts (shell size 25)

Insert type: _____

S: Sealed insert for plug (R8W)

P: Sealed insert for receptacle

(R8R or R8N)

Insert material: _____

A: Anodized aluminium

C: Non metalized composite

Polarization: _____

N-A-B-C-D-E

Electrical contacts are to be ordered separately

Anodized aluminum inserts are recommended when specific EMI protection is required

All connectors are supplied with a plastic cap

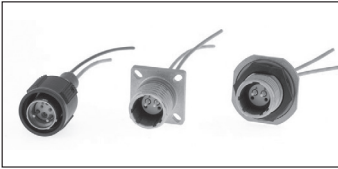
Accessories such as backshell or metalized caps are only available for harness assemblies manufactured by Radiall.

Please contact your sales representative for other plating alternatives or for specific requirements

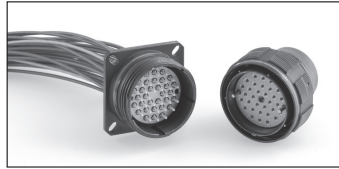
Inserts for LuxCis® contacts

MIL-DTL-38999 TYPE CONNECTORS FOR LUXCIS® CONTACT

The LuxCis® product range also includes MIL-DTL-38999 type connectors



Size 11 MIL-DTL-38999 type connectors



Size 25 MIL-DTL-38999 type connectors



Removable sleeveholder for easy access to the ferrules and sleeves for inspection and cleaning

SHELLS ARRANGEMENT

Size 11, 2 LuxCis®	Size 13, 4 LuxCis®	Size 15, 6 LuxCis®	Size 17, 8 LuxCis®	Size 19, 12 LuxCis®
Size 21, 16 LuxCis®		Size 23, 24 LuxCis®		Size 25, 32 LuxCis®

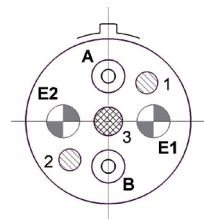
1 & 2: Alignment pins

3: Sleeve-holder screw

A, B, ... : Optical cavities

All views show the front face of a plug.

The LuxCis® product range also includes hybrid connectors, mixing electrical and LuxCis® cavities.



Size 13 connector with 2 electrical and 2 LuxCis® cavities

Hybrid connectors are available in all sizes; please see your local Radiall representative for more details.

LuxCis® Fiber Optic Contacts

The LuxCis® product range is a proven, flexible and always expanding fiber optic interconnect solution offering high speed communication in aerospace and other harsh environments.

OPTICAL PERFORMANCES

	MultiMode (PC) 850 / 1300 nm	SingleMode (UPC) 1310 / 1550 nm
Insertion Loss (IL) Mean (IEC 61300-3-4 Method B)	0.1 dB	0.15 dB
Return Loss (RL) (IEC 61300-3-6)	> 20 dB	> 50 dB

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

	Standard	Performances
Thermal cycling	SAE AS 13441 method 1003.1	-55°C/+125°C (cable dependant)
Temperature endurance	TIA/EIA 455-20	1000 h @ 125°C (cable dependant)
Vibration	TIA/EIA 455-11	43 Grms
Shocks	TIA/EIA 455-14	330 G, 3 ms
Durability	TIA / EIA 364-09	500 cycles
Maintenance ageing	SAE AS 13441 method 2002.1	10 cycles
Cable retention 1.8 mm diameter 900 µm diameter	SAE AS 13441 method 2009.1	68 N 7 N
Humidity	TIA EIA 455-5	10 cycles / 24 h 90% RH -25°C / +65°C

LUXCIS® CONTACT PART NUMBERING SYSTEM



F725: LuxCis® series

Ferrule type

- 00:** PC ferrule for SingleMode fiber
- 03:** PC ferrule for 50/125 or 62,5/125 um MultiMode fiber
- 04:** PC ferrule for 100/40 um MultiMode fiber
- 05:** PC ferrule for 200/230 um MultiMode fiber
- 50:** APC ferrule for SingleMode fiber

Cable type and diameter

- 118:** 900 µm cable
- 318:** 1.2 mm cable with strengthening members, tight structure
- 419:** 1.6 to 2.2 mm cable, loose structure
- 519:** 1.6 to 2.2 mm cable, tight structure

NOTE:

Radiall can support you with your cable and harness assemblies
Please contact your sales representative

Quadrax & Coaxial Contacts

SIZE 8 QUADRAX & COAXIAL CONTACTS

Type		Socket contact	Pin contact	Cable	
Size 8	Quadrax	Environmental	670075023	670175023	Draka F 4703-2
	Quadrax		670175012	670175012	Tensolite NF 24 Q 100
	Quadrax	Non- Environmental	670075028	/	Tensolite NF 24 Q 100
	Coax		670001007	670101007	EN3645 EN4165



MIL-DTL-38999

Shell Dimensions

SQUARE FLANGE AND JAM NUT RECEPTACLES

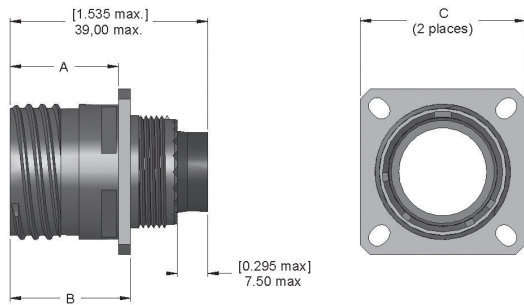


Fig. 1 Square flange receptacles

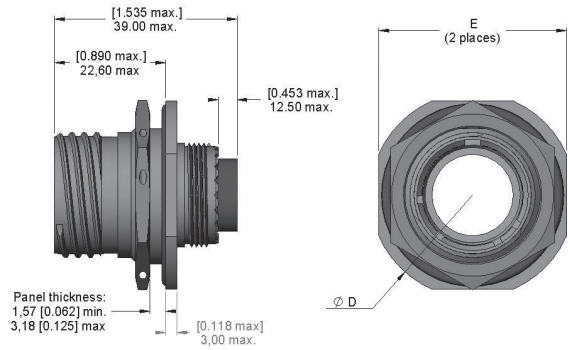
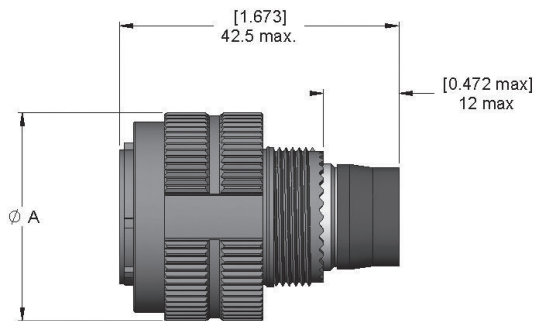


Fig. 2 Jam nut receptacles

Shell size	Figure 1				Figure 2		
	A max. mm (inch)		B max. mm (inch)		C max. mm (inch)	Dia. D max. mm (inch)	E max. mm (inch)
	Metallic shell	Composite shell	Metallic shell	Composite shell			
11	20.83 (0.820)	19.69 (0.775)	23.15 (0.911)	23.19 (0.913)	26.50 (1.043)	35.20 (1.386)	32.20 (1.268)
13					28.90 (1.137)	38.40 (1.512)	35.30 (1.390)
15					31.30 (1.232)	41.60 (1.638)	38.50 (1.516)
17					33.70 (1.323)	44.80 (1.764)	41.70 (1.642)
19					36.90 (1.449)	49.50 (1.949)	46.40 (1.827)
21	20.07 (0.790)	18.92 (0.745)	23.14 (0.911)	23.14 (0.911)	40.10 (1.575)	52.70 (2.075)	49.60 (1.953)
23					43.30 (1.701)	55.90 (2.200)	52.80 (2.079)
25					46.40 (1.823)	59.00 (2.323)	56.00 (2.205)

PLUGS



Shell size	Dia. A max. mm (inch)
11	25.00 (0.984)
13	29.40 (1.157)
15	32.50 (1.280)
17	35.70 (1.405)
19	38.50 (1.516)
21	41.70 (1.642)
23	44.90 (1.768)
25	48.00 (1.890)



Our most
important
connection
is with you.™

It's not just a slogan. It's a statement of our earnest desire to put you at the forefront of all our business practices. As part of Radiall's mission to be available and accessible, we make it a priority to have local offices around the globe ready and able to assist you – wherever you are, whenever you need us.

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