Amphenol SOCAPEX

RNJ Series Blind mate 38999 connectors











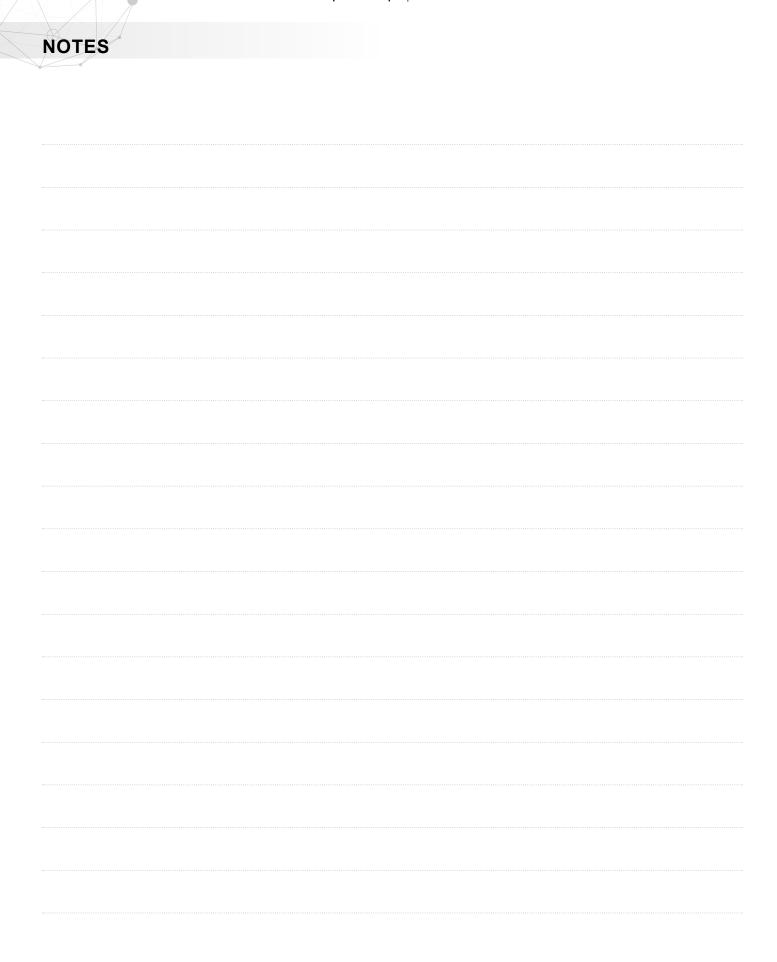


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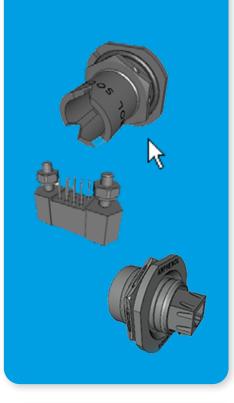
OUR RESOURCES

Access everything you need to simplify your projects. More than just a technical guide, our catalog opens the door to a multitude of services and practical tools.

All the information below is available on our website or by clicking on the digital PDF.

CAD Files & Product Selector

Streamline your design process with our 3D connector models. Downloadable in many formats.



Find product availability at our distributors

With your part number, find product availability in just a few clicks!



Technical Support

We'll answer all your questions.



Online quotation

receive your pricing



Export Control Classification

Product FAQ

Answers to your most important questions.



Technical Catalogs

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My Amphenol

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OUR OFFER



Rugged Ethernet, USB & Display connectors



2M Micro Miniature



Accessories



PT/451 - 26482 Series



SL61 & SOCA



RFM Series



PCB Connectors



Fiber Optic Solutions



Contacts



Ethernet Switch & Media Converter



USB Keys & Extenders



PS Series : Power Devices Solutions



Cordsets & Jumpers



Cable Assembly



Harness in the box



CUSTOMIZED PRODUCTS AND SOLUTIONS

From cable assembly to customized solutions, we're here to add value to your projects. We look forward to hearing from you.



Consult us



Since 1947, Amphenol Socapex has prescribed, designed and manufactured reliable and innovative interconnection solutions for harsh environments, specializing in standard and customized electrical and fiber optic connectors, contacts, accessories and cabling solutions.

Amphenol Socapex, based in the Mont Blanc region of France and with operations in India and Tunisia, has a global presence in over 100 countries.

Amphenol Socapex is part of Amphenol Corporation.

Discover our history

OUR MARKETS























Engineering Laboratory: 320m² state-of-the-art facilities in France and India with advanced testing and analysis equipment.

Expertise: 30+ specialists handling 300+ product tests and 1,400+ metrology requests annually.

Technology: Plating engineering, material development, high voltage analysis, 3D EM simulation, fiber optics, and assembly.

Metrology: Internal verification of the conformity of measuring instruments and ensuring that our measurement management system complies with the recommendations of ISO 10012.

OUR WORKSHOPS









Our workshops located in France & India provide consistent quality adapted to your volume requirements.

Molding: Solid expertise in thermoplastic elastomer and thermoset molding

Machining: Manufacturing of cylindrical shells and rectangular shells

Screw Machining: Manufacturing of electrical contacts

Plating: Plating with cadmium, nickel, electroless nickel, silver, black zinc nickel, gold

Assembly : Connector and harness assembly (electrical & optical)

Automation & Tooling: Tools for our different activities: molding, machining, assembly

Join us ! We're hiring

COMMON SECTION - PRODUCT OVERVIEW

RNJ Series: MIL-DTL-38999 derivative for blind mate applications

Description

RNJ series are a MIL-DTL-38999 derivative, dedicated to rack & panel applications. They were designed and qualified according to HE308 standard (MIL-DTL-38999 series I related), which defines the performances of blind mate connectors for harsh environments.

The **realignment and floatability capabilities** allow the connection between a rack (moving unit) and a panel (fixed structure), without manual coupling / uncoupling.

Ideal for **Line Replaceable Units** (LRU), or restricted areas, RNJ series ensure a safe and reliable connection of devices in Military and Aerospace applications.





RNJ Product Overview See our product video :

NO MANUAL COUPLING / UNCOUPLING





Markets



Commercial Aerospace



Ground Vehicles



Military Aerospace



Space



C5ISR

COMMON SECTION - PRODUCT OVERVIEW

RNJ Series: MIL-DTL-38999 derivative for blind mate applications

Main features

EASY TO USE:

- Push to mate easy and fast connection.
- Locking to be ensured by mechanical device on the system.

AXIAL, ANGULAR AND LONGITUDINAL FLOATABILITY

EMI/EMP SHIELDING:

- Grounding fingers ensuring shielding before contact mating.

CONTACTS PROTECTION:

- Scoop-proof design.

HIGH DURABILITY:

- 500 mating cycles.

ENVIRONMENTAL PERFORMANCES:

- Temperature range : -65 to +175°C.
- Sealing: IPx7 when mated.
- Fluid resistant : according to HE308.
- Vibrations & shocks : accoring to HE308.
- Corrosion: from 48 to 500 hrs salt spray resistance.

MIL-DTL-38999 SERIES QUALIFIED COMPONENTS

- Delivered with MIL-DTL-38999 series I and III inserts, including high density ones.
- AS329029 contacts and tooling.
- 8 shells sizes from 11 to 25.
- High speed contacts (twinax, coax, quadrax...).
- Power versions available, from 60 to 500A (23P1 & 25P1, for RNJ only).
- Optical termini upon request, please consult us.

STANDARD REAR ACCESSORIES:

- MIL-DTL-38999 series I accessories for RNJ & RNJ Reduced flange.
- MIL-DTL-38999 series III accessories for RNJLP.

OPTIONS:

- Crimp, PCB tails or solder cups contacts.
- Jam nut or square flange shells.
- Top deviations available (reduced flange, stand-off, enhanced sealing...).

RNJ Range











COMMON SECTION - TECHNICAL CHARACTERISTICS

Materials characteristics

Shell material	Shell finish	Salt spray exposure per EIA 364.26	HE308 class	Amphenol	Operating temperature (°C)			
materiai		(hours)		designation	Min	Max		
	Olive drab cadmium	500	7M	RNJ** 014	- 65	+ 175		
	Nickel	48	6M	RNJ** 023	- 65	+ 175		
Aluminum	Black zinc nickel	96	-	RNJ** 033K	- 65	+ 175		
7.1	Black zinc nickel CrVI free (REACH)	96	-	RNJ** 078	- 65	+ 175		
	Tin zinc	500	-	RNJ** 076	- 65	+ 175		
	Durmalon	500	-	RNJ**DT**	- 65	+ 175		
Stainless steel	Passivated	500	-	RNJ**KE**	- 65	+ 175		

Mechanical characteristics

Characteristics	According to HE308 standard										
Durability	500 cycles		•••••				••••				
Shock	150g, 3ms, 1/2		•••••	•••••			•••••••••••				
Vibration	Sine vibrations : -30g from 10 to 2000 Hz at ambient air										
Vibration	Random vibrations: -28grms from 50 to 2000 Hz at ambient air										
Contact retention force	Size	22D	20	16	12	8	4	00			
Contact retention force	Max load (N)	45	67	110	110	150	150	150			
	Size		Maximum mati	ng forces (daN		kimum unmating					
	11			20		12					
	13		3	30			13				
	15	•••••	3	35			15				
Mating and unmating forces	17	•••••		50			16				
	19	•••••		55		18					
	21	•••••	(35			22				
	23	80					27	27			
	25 102				02			34			

Environmental characteristics

Characteristics	According to HE308 standard
Humidity	§3.28 part VI - 93% Relative Humidity
Sealing	IPX7 when mated and fully cabled - 1 meter, 30 mins
Air leakage	§3.10 Receptacle RNJ27: limited to 16 cm³/h @ 2 bar Plug RNJ26/RNJ46: limited to 16 cm³/h @ 2 bar, front face - limited to 4cm³/h @0.5 bar, rear face Extra sealing option upon request
Corrosion resistance Salt spray (hours)	Aluminum: - Olive drab cadmium 500h - Electroless nickel 48h - Black zinc nickel, 96h - Tin Zinc, 500h Stainless steel: - Passivated or Nickel plated, 500h
Fluid immersion	Per HE308 - C5935X0005 - Turbine Fuels, grade JP-8, per MIL-DTL-83133 (NATO F-34) - Lubricating oil, per MIL-PRF-23699 - Hydraulic Fluid, per MIL-PRF-5606 - Defrosting fluid, per MIL-A-8243 - One part isprpyl alcohol Comme écrit dans le tableau actuel - Coolant, dielectic fluid, per MIL-DTL-87252C (Coolanol 25) or equivalent

COMMON SECTION - TECHNICAL CHARACTERISTICS

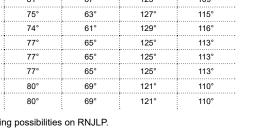
Service rating

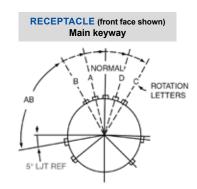
				VA/a eksim.							
Service rating		a level		meters		meters		meters	Working voltage		
	Mated	Unmated	Mated	Unmated	Mated	Unmated	Mated	Unmated	Vms	Vdc	
M	1300	1300	800	550	800	350	800	200	400	550	
I	1800	1800	1000	600	1000	400	1000	200	600	850	
II	2300	2300	1000	800	1000	500	1000	200	900	1250	

Keyway position - RNJ & RNJ reduced flange

A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The angles for a given connector are the same whether it contains pins or sockets. Master key stays fixed, minor keys rotate. Inserts are not rotated in conjunction with the master key/keyway.

Shell Size	Normal	References							
Onen Oize	woman	A	В	С	D				
11	95°	81°	67°	123°	109°				
13	95°	75°	63°	127°	115°				
15	95°	74°	61°	129°	116°				
17	95°	77°	65°	125°	113°				
19	95°	77°	65°	125°	113°				
21	95°	77°	65°	125°	113°				
23	95°	80°	69°	121°	110°				
25	95°	80°	69°	121°	110°				

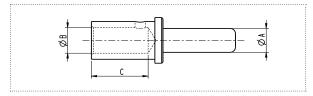




Please consult us for coding possibilities on RNJLP.

Contacts & cables characteristics

	Contac	ct characteristics				Conta	ct size			
•••••		Contact termination	23 ΰ	22D	20	16	12	8 **	4 **	00 **
Contact rati		Crimp barrel	5	5	7.5	13	23	60	100	250 *
nominal cur		PC tail	3	3	4.5	10	17	40		
oer contact, <i>i</i> ambient tem		Hermetic	3	3	5	10	17			
ontact re	sistance		15	0.6	0.26	0.102				
sulation	resistan	ce (MΩ)				> 5.10³ at ambi > 1.10³ at maxin	ent temperature num temperature			
ØA Pin co mating are		meter (mm)	0.68	0.76	1	1.57	2.36	3.60	5.70	12.0
· · · · · · · · · · · · · · · · · · ·		ØB Diameter (mm)	0.88 ± 0.03	0.88 ± 0.03	1.19 ± 0.03	1.70 ± 0.03	2.54 ± 0.06	4.6 ± 0.05	7.4 ± 0.05	12.1
Crimp barı	rei	C Depth (mm)	3.81	3.58	5.30	5.30	10	10	12	21
		American wire gauge AWG								
		28	0.095							
		26	0.	15						
		24		0.22	•	•	<u>.</u>			
		22		0.38						
	Cable	20			0.	60				
	nensions	18				0.93				
: `	Section	16				1.34				
<u>8</u> "	n mm²)	14					1.94			
cat		12					3.30			
Acceptable cables		8 **						8.98-10 _{MAX}		
pta		4 **							21.10 Å	
5		00 **				•				75
₹		0000 **								
0	Outside	MIN	0.76	0.76	1.02	1.68	2.46	4.50	7.73	
	iameter	Average		1.20	1.83	2.41	3.20			
	(mm)	MAX	1.27	1.37	2.11	2.77	3.61	5.20	8.40	



- 185A according to AS39029 standard. 230A only for 23-P1 arrangement with Radsok technology
- Consult us for other cable dimensions
- Concentric wire only (contacts 900007 & 900047). For others cables types consult us.

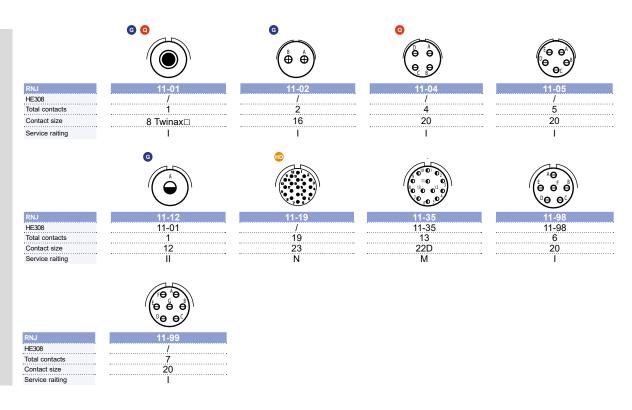
High density inserts using size 23 contacts Consult us for 25-P1 arrangement (Radsok contact)

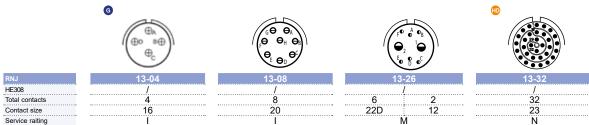
All dimensions are given for information only and are in mm, except as otherwise specified | *in mm: 1mm=0.03937 inch

•	•	Θ	\oplus	•	•	0	\otimes	Φ	HD	G	0	Coax or Twinax	Differential Twinax or Quadrax	Power contacts
23	22D	20	16	12	8	4	00	0000	High density	Ground plane version available	Quadrax available	16, 12, 8	•	

Front face of pin insert shown, master keyway illustrated.

11





13			
	RNJ	13-35	13-98
	HE308	13-35	13-98
	Total contacts	22	10
	Ctt -i	220	20

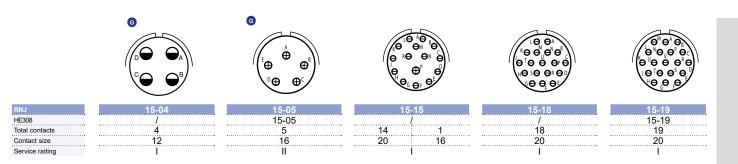
- △ Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)
- Delivered with Twinax contacts for double braid cable (PAN 6421. AECMA Pr EN 3375 004. Raychem 10613. EPD44692. EPD44693)
- / Not applicable

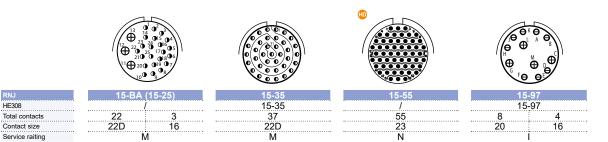
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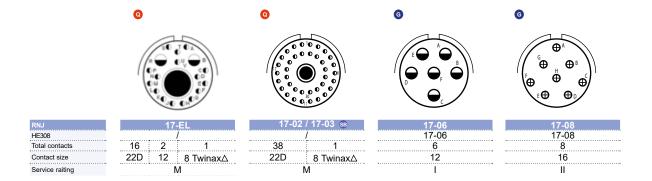
Amphenol SOCAPEX

•	•	Θ	\oplus	•	•)	0	\otimes	Φ	HD	G	0	Coax or Twinax	Differential Twinax or Quadrax	Power contacts
23	22D	20	16	12	8	,	4	00	0000	High density	Ground plane version available	Quadrax available	16, 12, 8	•	

Front face of pin insert shown, master keyway illustrated.







- Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)
- Delivered with Twinax contacts for double braid cable (PAN 6421. AECMA Pr EN 3375 - 004. Raychem 10613. EPD44692. EPD44693)
- Not applicable

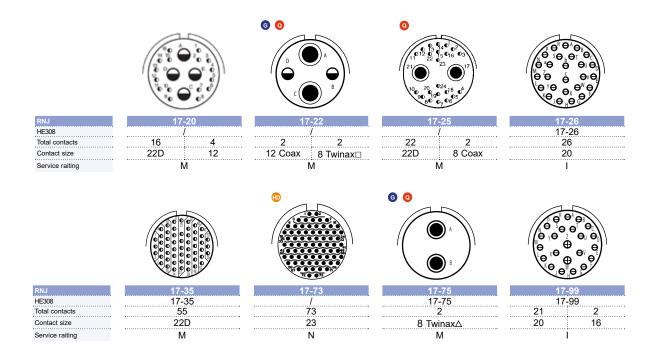
RNJ HE308

17

•	0	Θ	0	•	•	0	8	Φ	(I D	G	0	Coax or Twinax	Differential Twinax or Quadrax	Power contacts
23	22D	20	16	12	8	4	00	0000	High density	Ground plane version available	Quadrax available	16, 12, 8	•	

Front face of pin insert shown, master keyway illustrated.

17



Δ Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)

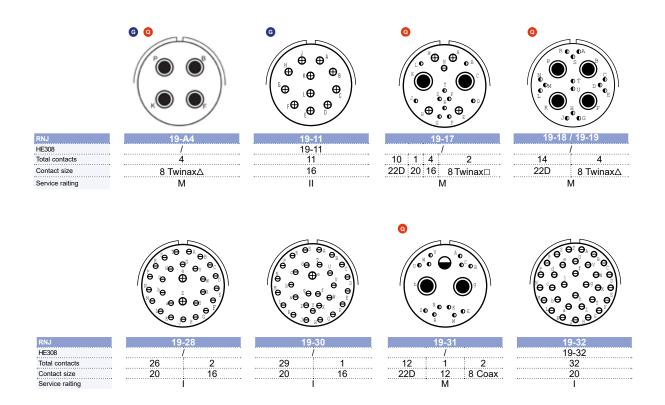
[□] Delivered with Twinax contacts for double braid cable (PAN 6421. AECMA Pr EN 3375 - 004. Raychem 10613. EPD44692. EPD44693)

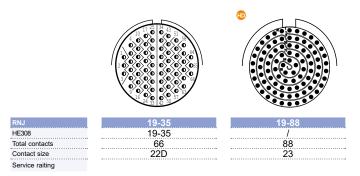
[/] Not applicable

19

COMMON SECTION - CONTACTS ARRANGEMENTS

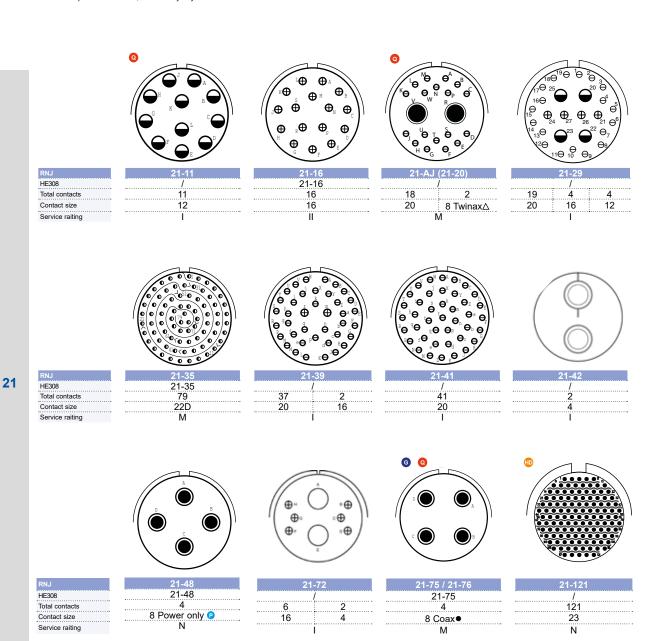
•	0	Θ	0	•	•)	0	8	Φ	HD	G	0	Coax or Twinax	Differential Twinax or Quadrax	Power contacts
23	22D	20	16	12	8		4	00	0000	High density	Ground plane version available	Quadrax available	16, 12, 8	•	





- Δ Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)
- Delivered with Twinax contacts for double braid cable (PAN 6421. AECMA Pr EN 3375 004. Raychem 10613. EPD44692. EPD44693)
- / Not applicable

•	•	Θ	\oplus	•	•	0	8	Ф	(10	G	0	Coax or Twinax	Differential Twinax or Quadrax	Power contacts
23	22D	20	16	12	8	4	00	0000	:	Ground plane version available	Quadrax available	16, 12, 8	•	

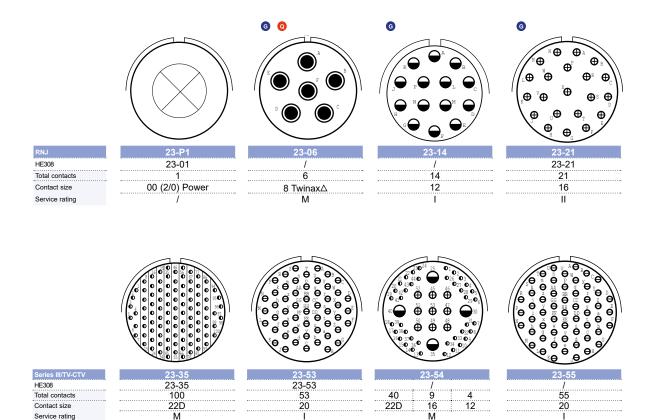


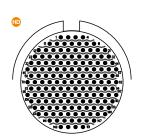
- Male version to be used with 900198 power contacts only
- △ Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)
- Delivered with 4 Coaxial contacts for RG180 and RG195 wire under Amphenol designation
- / Not applicable

23

COMMON SECTION - CONTACTS ARRANGEMENTS

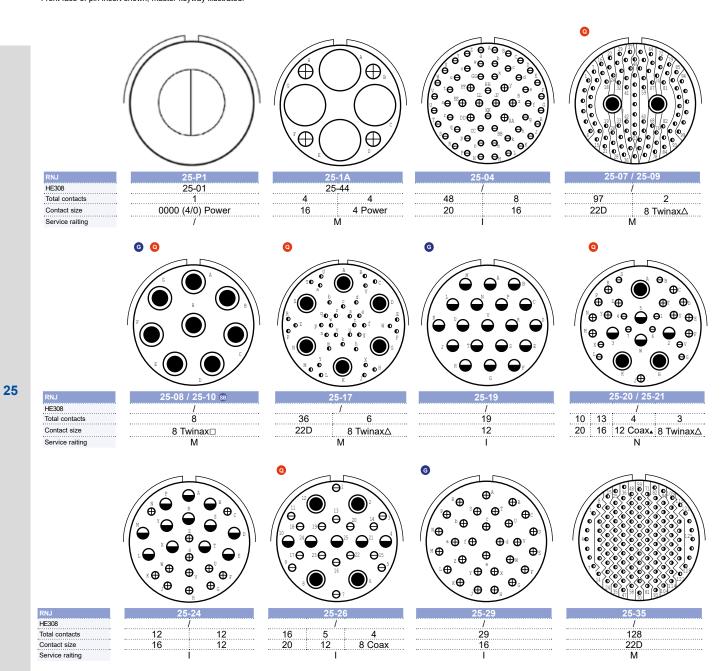
•	0	θ	Ф	•	•	0	\otimes	Φ	(D	G	0	Coax or Twinax	Differential Twinax or Quadrax	Power contacts
23	22D	20	16	12	8	4	00	0000	High density	Ground plane version available	Quadrax available	16, 12, 8	•	$\begin{array}{c} \bullet \hspace{0.1cm} \bullet \hspace{0.1cm} \oplus \hspace{0.1cm} \oplus \\ \bullet \hspace{0.1cm} \bullet \hspace{0.1cm} \bigcirc \hspace{0.1cm} \otimes \hspace{0.1cm} \oplus \end{array}$





Series III/TV-CTV HE308	23-151 /
Total contacts	151
Contact size	23
Service rating	N

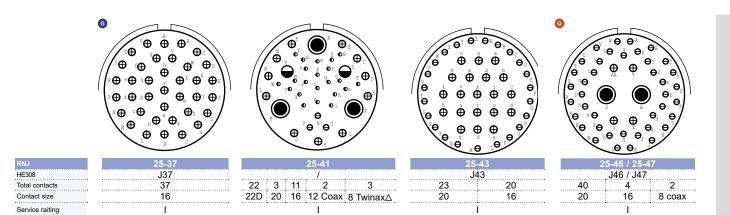
- △ Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)
- Delivered with Twinax contacts for double braid cable (PAN 6421. AECMA Pr EN 3375 004. Raychem 10613. EPD44692. EPD44693)
- / Not applicable

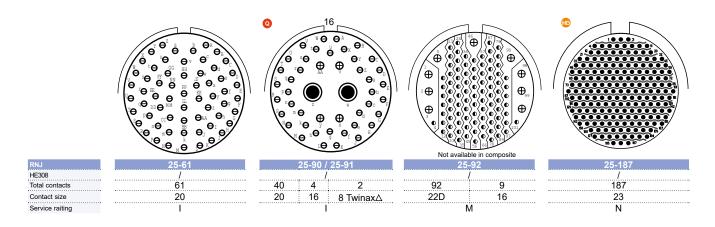


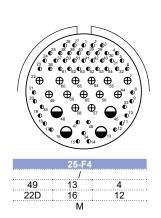
- $\Delta \quad \text{Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)}$
- Delivered with Twinax contacts for double braid cable (PAN 6421. AECMA Pr EN 3375 004. Raychem 10613. EPD44692. EPD44693)
- Size 12 Coax : 2 contacts M39029/28-211 or M39029/75-416 for cavities 2 & 3 and 2 contacts M39029/102-558 or M39029/103-559 for cavities 5 & W
- / Not applicable

•	0	Θ	Ф	•	•	١ .	0	\otimes	Φ	(II)	G	0	Coax or Twinax	Differential Twinax or Quadrax	Power contacts
23	22D	20	16	12	8		4	00	0000	High density	Ground plane version available	uadrax /ailable	16, 12, 8	•	$\begin{array}{c} \bullet \hspace{0.1cm} \bullet \hspace{0.1cm} \oplus \hspace{0.1cm} \oplus \\ \bullet \hspace{0.1cm} \bullet \hspace{0.1cm} \bullet \hspace{0.1cm} \bullet \hspace{0.1cm} \oplus \end{array}$

Front face of pin insert shown, master keyway illustrated.







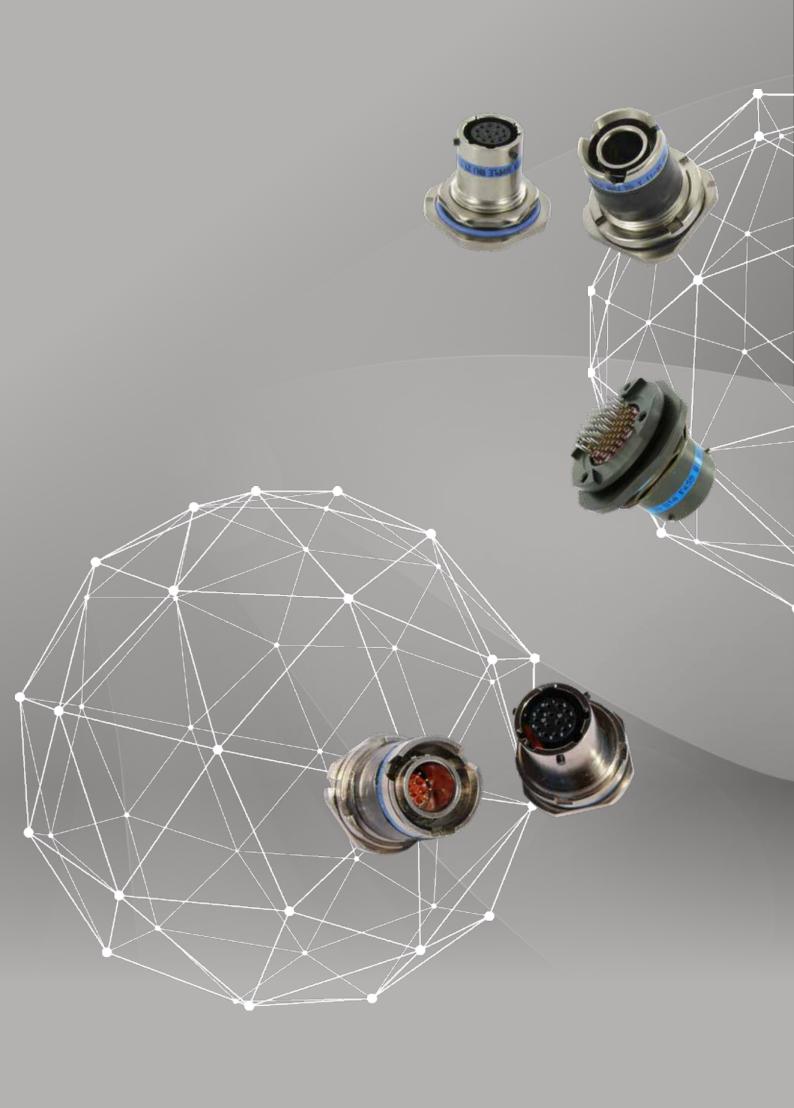
- $\Delta \qquad \text{Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)}$
- / Not applicable

RNJ HE308

Series				Contacts size ● ● ● ● ● ●									Ground	Quadrax	Firewall	
Amphenol	HE308	Service rating	Nb of contacts	23	0			•	12	8	8	8	O 4	plane option	Option	available
RNJ / RNJLP				10	22D	20	16	12		Power		Twinax		G	0	Ð
11-01		ı	1	<u> </u>								1 🗆		G	0	
11-02		ı	2	<u> </u>			2							G		Ø
11-04		ı	4	<u> </u>		4		.								Ø
11-05		i I	5			5										•
11-12	√ (11-01)	II	1					1						G		
11-19 迎	(11-01)	N	19	19										<u>_</u>		
11-35	~	М	13		13											Ð
11-98	<u>,</u>	1	6	-		6		<u>.</u>								•
11-99		<u>'</u>	7			7										•
13-04			4	<u> </u>			4		<u> </u>					6		
				.			4	<u>.</u>						G		•
13-08		1	8	<u>.</u>		8	ļ		 							Ø
13-26		М	8		6			2								
13-32 🕕		N	32	32				ļ								
13-35	Υ	М	22	<u> </u>	22			<u>.</u>								•
13-98	~	1	10	<u>.</u>	<u>.</u>	10	<u>.</u>	<u>.</u>	<u>.</u>	<u>.</u>		<u>.</u>				G
15-04		1	4	<u>.</u>			<u>.</u>	4						G		
15-05	~	11	5	<u>.</u>			5	<u>.</u>	<u>;</u>	<u>.</u>				G		Ø
15-15		I	15			14	1									•
15-18		ı	18			18										G
15-19	~	ı	19			19										G
15-BA*	•	М	25		22		3									:
15-35	~	М	37		37											Ø
15-55 🕕		N	55	55						••••••••••••••••••••••••••••••••••••••						:
15-97	~	ı	12			8	4									Ð
17-EL		М	19		16			2				1Δ			0	
17-02 / 17-03		М	39		38	.				.		1Δ			0	
17-06	~	I	6					6	 			· · · · · · · · · · · · · · · · · · ·		G		G
17-08	~	II	8				8							G		•
17-20	······································	M	20	· .	16	<u>.</u>		4		<u>.</u>						
17-22		M	4	·				ļ	2			2 🗆		G	<u> </u>	
17-25		M	24	.	22			<u>.</u>	<u> </u>		2			•	0	
17-26		· ;	26	.	- 22	26		<u>.</u>	· }							A
	Υ	l M	55	.		20		ļ								G
17-35	~	· ;			55	<u>.</u>	ļ	<u>.</u>	<u>.</u>		ļ					•
17-73 🖽		N	73	73				ļ		<u>.</u>		<u> </u>				.
17-75	,	М	2	<u>.</u>		6.1		<u></u>	. .			2Δ		G	0	
17-99	~	1	23	<u>.</u>	ļ	21	2	ļ	ļ		ļ	ļ				Ð
19-A4		M 	4	ļ	ļ	ļ	ļ	ļ	ļ		ļ	4 △		<u> </u>	0	ļ <u>.</u>
19-11	~	II	11	<u>.</u>	ļ	ļ	11	ļ	<u>.</u>			<u>.</u>		G		•
19-17		М	17	<u>.</u>	10	1	4					2 🗆			0	
19-18 / 19-19		М	18		14							4 △			0	Ø
19-28		ı	28	-		26	2									Ø
19-30		ı	30			29	1	:	-		[
19-31		М	15		12	:	:	1		<u> </u>	2				0	
19-32	~	ı	32			32										ø
19-35	~	М	66		66		:									Ø
19-88 💬		N	88	88		!			· 	.						<u> </u>
21-11		Ī	11	<u> </u>			<u> </u>	11	 					G		•
21-16	~		16	<u> </u>			16		· 	<u>.</u>		<u> </u>		6		•
21-10 21-AJ / 21-20	*	M		.		12				<u>.</u>		2 ^		~	Q	<u> </u>
		lvi I	20 27	<u> </u>		18 10	4	4	·	<u>.</u>		2 △			₩	•
21-29	~	M	27 79	-	70	19	4	4	 	<u>.</u>		<u> </u>				e A
21-35	7	. •	39	<u> </u>	79	27	2		<u> </u>	: :						e e
21-39		1	39	<u>.</u>		37	2	<u>.</u>	. .	.			ļ			•

		Service	Nb of	Contacts size									Ground	Quadrax	Firewall	
Amphenol	HE308			•	•	θ	\oplus	•	•	•	•		0	plane option	Option	Firewall
RNJ / RNJLP	пЕзио	rating	contacts	23	22D	20	16	12	12	. 8	8	_ 8	4	·		
				•					Coax	Power	Coax	Twinax		G	0	G
21-42		I	8			<u>.</u>	<u>.</u>	<u>.</u>	<u>.</u>	<u>.</u>			2			<u>.</u>
21-48 🕑	~	N	4						<u>.</u>	4						
21-72		1	8				6		<u>.</u>				2		<u>.</u>	
21-75 / 21-76	~	M	4								4●			G	0	•
21-121 🕕		N	121	121					<u>.</u>	<u>.</u>		<u>.</u>				
23-P1	~	-	1		,	,	,1	conta	ct size	00 (2/0)						
23-06		М	6									6 △		G	0	G
23-14		Ī	14					14		}				G	-	G
23-21	~	II	21	Ī			21							G		ø
23-35	~	М	100	Ī	100											ø
23-53	~	I	53	†		53										ø
23-54		М	53	†	40		9	4								
23-55		I	55	†		55										Ø
23-151 🜐		N	151	151	<u> </u>	<u>.</u>										
25-P1		-	1	†	.	.	1	contac	t size (0000 (4/0)				-	
25-1A	~	M	8	†		[4					:	4		-	
25-04		i I	56	†		48	8	<u>.</u>		<u> </u>		<u> </u>				Ø
25-07 / 25-09		M	99	†	97	<u>.</u>	<u>.</u>	<u>.</u>		<u> </u>		2Δ			0	ø
25-08 / 25-10		M	8	†		<u>.</u>	<u>.</u>	<u>.</u>		<u> </u>		8 🗆		G	0	ø
25-17		М	42	†	36							6Δ			0	G
25-19		l	19	†				19						G		Ð
25-20 / 25-21		N	30	†		10	13		4			3 △			0	
25-24		ı	24	· } ·····		!	12	12		.				G		G
25-26		ı	25	· } ·····		16		5		<u>.</u>	4				0	G
25-29		i i	29	· } ·····		!	29			<u>.</u>				G		ø
25-35		М	128	· } ·····	128	!				<u>.</u>						Ð
25-37	•	i i	37	· } ·····		!	37			<u>.</u>				G		Ø
25-41	•	i i	41	· } ·····	22	3	11		2	<u>.</u>		3 △				
25-43	•	i i	43	· !		23	20			.						Ð
25-46 / 25-47		i i	46	· !		40	4			.	2				0	•
25-61	~	i i	61	· !		61				.		<u>+</u>				Ō
25-90 / 25-91		i I	46			40	4			.		2 Δ			0	ø
25-92		М	101	· ! ·····	92	!	9			.		<u> </u>				
25-187 🖽		N	187	187						.						
25-F4		M	66	†	49	!	13	4		<u>.</u>					· }· ··································	a

HD	High Density inserts using size 23 contacts
G	Ground plane proprietary option available (metal insert for use with Coaxial, Twinax or Quadrax contacts). Please consult us for socket version
Q	Quadrax version - Inserts designed with a key to avoid contacts rotation in the cavities when using a Quadrax or Octomax contact.
Ø	Available in firewall version for Stainless Steel (Classe KE) conectors only. Consult us for availability
Δ	Delivered with Twinax contacts for simple braid cable (M17/1760002. AECMA Pr EN3375-003. Raychem 10612. EPD44690. EPD44691)
	11-01, 17-22, 19-17 and 25-08 contacts arrangements are delivered with Twinax contacts for double braid cable (PAN6421. AECMA Pr EN3375 -004 Raychem 10613. EPD44692.
•	Delivered with 4 Coaxial contacts for RG 180 and RG 195 wire under Amphenol designation
*	Equivalent to 15-25 Layout - Formerly Pyle insert
P	21-48 : Power version only. Male version to be used with 900198 contact.



RNJ RANGE



Table of contents

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RNJ - Rack & Panel	24
RNJ - Rack & Panel - Stand-off Receptacle	31
RNJ - Rack & Panel - Enhanced Sealing	32
RNJ - Rack & Panel - Reduced Flange	34





The RNJ series rack and panel connectors are qualified for the requirements of the standard DAT C 5935 x 0005 HE308 21, 25, 26 & 27T models. They are used to connect electrical and optical devices (see RNJ OP catalog) between a moving unit (rack) and a fixed unit (panel) without any coupling / uncoupling device. This function is ensured by a system of moving and the fixed units.

The connectors are built to allow for design tolerances (up to the limits shown below) during the mating of the connectors and the final locking of the moving and fixed units. These connectors are derived from the LJT series and meet or exceed the MIL-DTL-38999 Series I requirements.

Main features

AXIAL, ANGULAR AND LONGITUDINAL FLOATABILITY

HE308 QUALIFIED - MIL-DTL-38999 COMPONENTS

- Delivered with MIL-DTL-38999 series I and III inserts
- AS39029 contacts and tooling
- RNJ27 and RNJ67 receptacles compatible with LJT06, HE308-06 and MS27467 plugs
- Compatible with many M85049 backshells for 38999 series I connectors

RUGGED DESIGN

- 8 shell sizes from 11 to 25
- Lightweight space saving design
- Contacts protection: 100% scoop-proof design

EMI/EMP SHIELDING

- Shells are grounded before contact mating

SEALING

- IPX7 when mated and fully cabled
- In addition to interfacial seal, main joint souffler and rear gasket on the plug are set up for moisture sealing between connector halves.

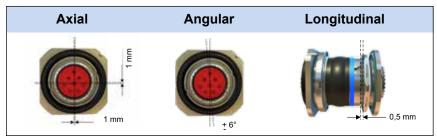
MATERIALS AND PLATINGS

- Aluminium with Olive drab cadmium / Black zinc nickel / Nickel / Tin Zinc plating $\,$
- Passivated Stainless steel

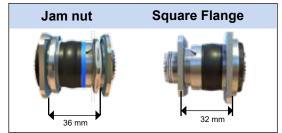
OPTIONS

- Crimp or PC tail contact terminations
- Power versions from 60 to 500A (23-P1 and 25-P1)
- Jam nut or Square flange plugs & receptacles
- Stand-off option on receptacles RNJ27***F459 & RNJ67***F459.

Realignment axis



Distance between panels

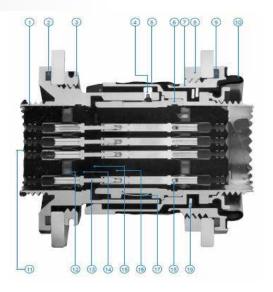


Options

	JAM	NUT	SQUARE	FLANGE
Plug RNJ*6**	RNJ26** HE308 26** with rear accessory option	RNJ46** without rear accessory option	RNJ66** with rear accessory option	RNJ86** without rear accessory option
Receptacle RNJ*7**	RNJ27** HE308 27**	RNJ27***F459 Stand-off	RNJ67**	RNJ67***F459 Stand-off

Presentation

- 1 Receptacle shell
- 2 O ring
- 3 Hexagonal nut
- 4 Rivet
- 5 Sealed membrane
- 6 Free plug shell
- 7 Fixed plug shell
- 8 Panel nut (plug)
- 9 O ring
- 10 Sealed membrane



- 11 Grommet
- 12 Dielectric retention disc
- 13 Pin contact
- 14 Male insert
- 15 Interfacial seal
- 16 Female insert
- 17 Grounding fingers
- 18 Socket contact
- 19 Spring washers

Plug concept



Online configurator & 3D model download

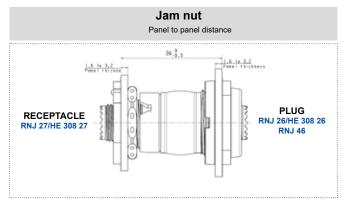


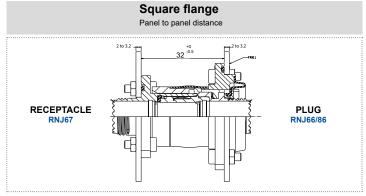
Panel integration

Mandatory distance to guarantee the product performances.

Guiding system: the system must ensure the right positioning of the rack independently of the connectors.

No mechanical stress must be applied to the rear of the plug (wires).





HOW TO ORDER - RNJ - RACK & PANEL

Military Designations - HE308 - UTE 93422 Connectors

	1.	2.	3.	4.	5.	6.	7.
Series	Shell type	Crimp contacts	Contact arrangement	Contact gender	Keying	Material and platings	With or without contacts
HE308	26	Т	15-05	S	N	6M	L

1. Shell	type	
27	Receptacle	Jam-nut
26	Dlug	Jam-nut
25	riug	Jam-nut without rear accessory possibility

2. Cri	imp contact
Т	Crimp contacts
3. Co	ontact arrangements

Refer to page 18 for contact arrangements - HE308.
First number represents the shell size and second number is the contact arrangement.

4. Conf	act gender
P	Pin (500 cycles)
S	Socket (500 cycles)

5. Keying	
N (for normal)	N keying only

6. Mate	erial and platings	
	Shell material	Shell finish
7M	Aluminum	Olive drab cadmium
6M	Aluminum	Nickel ✓

7. With	or without contacts
Blank	Connector delivered with contacts
L	Connector delivered without contact

Amphenol Designations - RNJ Crimp connectors

	1.	2.	3.	4.	5 .	6.	7.	8.	9.
Series	Shell type	Material	Quadrax contacts	Contact arrangement	Contact gender	Keying	Plating	With or without contacts	Deviation
RNJ	27	Т	-	15-35	P	N	023	-	-

She	ell type	
27	Receptacle	Jam-nut
67	Receptacle	Square flange
26	Dive	Jam-nut
66	··· Plug	Square flange

2. Mate	orial
T	Aluminium
KE	Stainless steel

drax contacts
Without quadrax contacts
 With guidray contacts

4. Contact arrangements
Refer to page 18 for contact arrangements. First number represents the shell size and second number is the contact arrangement.

5. Cont	act gender
P	Pin (500 cycles)
S	Socket (500 cycles)

014 Olive drab cadmium 023 Nickel ✓ 033K Aluminum Black Zinc Nickel ✓ 078 Black Zinc Nickel Cr 076 Tin Zinc (consult us) Blank Stainless steel Passivated ✓	
023 Nickel ✓ 033K Aluminum Black Zinc Nickel ✓ 078 Black Zinc Nickel Cr 076 Tin Zinc (consult us) Blank Stainless steel Passivated ✓	
033K Aluminum Black Zinc Nickel ✓ 078 Black Zinc Nickel Crł 076 Tin Zinc (consult us) Blank Stainless steel Passivated ✓	
078 Black Zinc Nickel Cr³ 076 Tin Zinc (consult us) Blank Stainless steel Passivated ✓	
076 Tin Zinc (consult us)	
Blank Stainless steel Passivated ✓	~
- addition t	
i or other materials/platings, please consult us.	
. With or without contacts	
Blank Connector delivered with contacts	
LC Connector delivered without contact	
. Deviation	
Description Shell type	

: RoHS compliant

HOW TO ORDER - RNJ - RACK & PANEL

Amphenol Designations - RNJ PCB connectors

	1.	2.	3.	4.	5.	6.	7.	8.	9.
Series	Shell type	Material	Quadrax contacts	PC tails	Contact arrangement	Contact gender	Keying	Plating	Deviation
RNJ	27	KE	Q	CI	15-35	P	N	023	F459

1. She	II type					
27	Receptacle	Jam-nut				
67	Receptacle	Square flange				
46		Jam-nut				
86	Plug	Square flange				
2. Mate	erial					
Blank	Aluminium					
KE	Stainless steel					
3. Qua	drax contacts					
Blank	Without quadrax contacts					
Q	With quadrax contacts					
4. PC t	ails					
CI	PC Tail contacts -	Standard length				
LI	PC Tail contacts - Long length					
5. Con	tact arrangem	ent				
	page 18 for contact a ber represents the s	arrangements hell size and second number is the contact arrangement.				
6. Con	tact gender					
P	Pin (500 cycles)					
S	Socket (500 cycles)					

7. Keying	
N (normal coding)	For other coding options, please consult us en note

8. Plating					
	Shell material	Shell finish			
014		Olive drab cadmium			
023		Nickel ✓			
033K	Aluminium	Black Zinc Nickel ✓			
078		Black Zinc Nickel CrVI free ✓			
076		Tin Zinc (consult us) ✓			
Blank	Stainless steel	Passivated ✓			

For other materials/platings, please consult us.

	PC Tail finish / Tinning						
Shell style	Tin lead	Silver tin ~	Silver tin copper	Gold	Shell type compatibility		
Standard	F404	F404LF	F404LFC	Blank	All		
Stand-off *	F459	F459LF	F459LFC	F459H	27/67		
Reduced flange	F312	F312LF	F312LFC	F312H	26/27/46		
Stand-off reduced flange	F059	F059LF	F059LFC	F059H	26/27/46		

^{*} For receptacles only (consult us for plugs). For other deviations. please consult us.

Amphenol Designations - RNJ Receptacles with enhanced sealing

	1.	2 .	3.	4.	5.	6.	7.	8.	9.	10.
Series	Shell type	Material	Quadrax contacts	Enhanced sealing	Contact type	Contact arrangement	Contact gender	Keying	Plating	Deviation
RNJ	27	KE	-	ET	С	15-35	P	N	023	-

1. She	ell type	:	:	!	:
27		Jam nut			
67	Receptacle	Square flar	nge		
2. Mat	erial				

Connectors with PC Tail contacts are always delivered with contacts.

KE	Stainless steel
	rax contacts

Blank Aluminium

Enhanced sealing

Mandatory

U. Quu	o. Quadrax contacto					
Blank	Without quadrax contacts					
Q	With quadrax contacts					

	•					
5. Contact type - Non-removable contacts only						
CI	PC Tail contacts - Standard length					
LI	PC Tail contacts - Long length					

С	Solder cup contacts	
6. Cor	ntact arrangements	
Refer to	page 18 for contact arrangements	

Refer to page 18 for contact arrangements

First number represents the shell size and second number is the contact arrangement.

7. Co	ntact gender
P	Pin (500 cycles)
S	Socket (500 cycles)
Enhance	

8. Keying	
N (for normal)	For other coding possibilities, please consult us

). Plating					
	Shell material	Shell finish			
014		Olive drab cadmium			
023		Nickel ✓			
033K	Aluminum	Black Zinc Nickel ✓			
078		Black Zinc Nickel CrVI free ✓			
076		Tin Zinc (consult us) ✓			
Blank	Stainless steel	Passivated			

For other materials/platings, please consult us.

Shell style	Tin lead	Silver tin	Silver tin copper	Gold	Shell type compatibility
Standard	F404	F404LF	F404LFC	Blank	All
Stand-off *	F459	F459LF	F459LFC	F459H	27/67
Reduced flange	F312	F312LF	F312LFC	F312H	26/27/46
Stand-off reduced flange	F059	F059LF	F059LFC	F059H	26/27/46

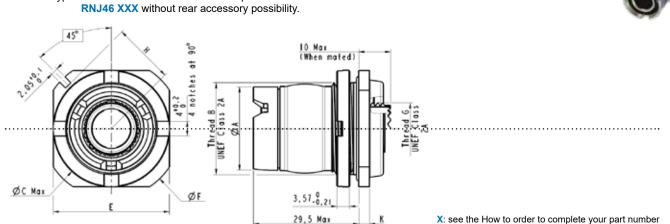
For other deviations, please consult us.

: RoHS compliant

Overall dimensions - PLUG

Jam nut plug

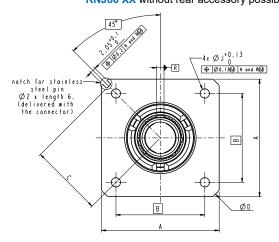
Part number type: RNJ26 XXX / HE308 26 XXX compatible with M85049 accessories for 38999 Series I connectors.

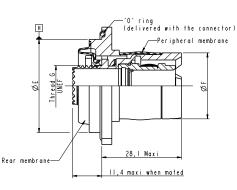


Size	+0.03 ØA -0.1	Thread B UNEF Class 2A	C MAX	0 E -0.25	ØF ±0.41	Thread G UNEF Class 2A	0 H ^{-0.25}	+0.28 K ^{-0.25}
11	23.0	1.000-20	32.23	32.16	38.10	.5625-24	16.92	2.77
13	26.8	1.125-18	35.25	35.34	41.28	.6875-24	18.51	2.77
15	30.0	1.250-18	38.40	38.51	44.45	.8125-20	20.10	2.77
17	33.22	1.375-18	41.60	41.69	49.23	.9375-20	22.67	2.77
19	36.2	1.500-18	46.30	46.43	52.37	1.0625-18	24.26	3.56
21	39.4	1.625-18	49.60	49.64	55.58	1.1875-18	25.84	3.56
23	42.6	1.750-18	52.70	52.78	58.72	1.3125-18	27.43	3.56
25	45.68	1.875-16	53.93	54.03	59.10	1.4375-18	27.58	3.56

Square flange plug

Part number type: RNJ66 XX compatible with M85049 accessories for 38999 Series I connectors RNJ86 XX without rear accessory possibility



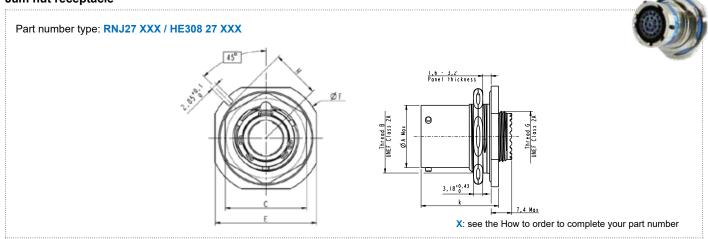


X: see the How to order to complete your part number

Size	S	R	F	ØD -0.05	ØA	V thread UNEF class 2A	#0.13 ØT 0
11	41	31	25.5	32.5	23.03	.5625-24	3.22
13	44	33	27	36	26.83	.6875-24	3.22
15	47	35	28.5	38.5	30.03	.8125-20	3.22
17	50	38	30.5	42	33.25	.9375-20	3.22
19	54	40	32	46.5	36.23	1.0625-18	3.22
21	57	43	34	49.5	39.43	1.1875-18	3.22
23	60	45	35.5	53	42.63	1.3125-18	3.7
25	63	46	36.5	54	45.71	1.4375-18	3.7

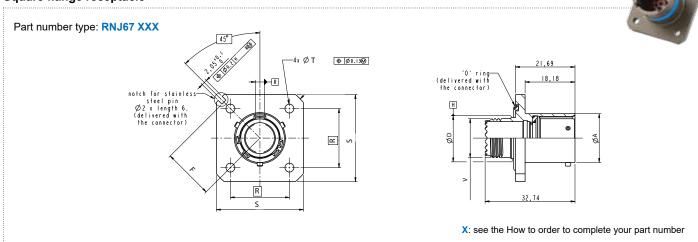
Overall dimensions - RECEPTACLE

Jam nut receptacle



Size	ØA _{MAX}	B thread UNEF Class 2A	C MAX	+0.48 E	+0 ØF ^{−0.3}	V Thread UNEF Class 2A	H _{-0.2}	K +0.13
11	17.81	.8125-20	25.80	31.49	35.20	.5625-24	15.33	26.92
13	21.62	1.000-20	30.00	34.69	38.37	.6875-24	16.92	26.92
15	24.80	1.125-18	33.00	37.79	41.55	.8125-20	18.51	26.92
17	27.97	1.250-18	37.00	40.99	44.72	.9375-20	20.10	26.92
19	30.69	1.375-18	40.00	45.79	49.50	1.0625-18	22.67	27.71
21	33.86	1.500-18	43.00	48.99	52.64	1.1875-18	24.26	27.71
23	37.04	1.625-18	46.00	52.09	55.85	1.3125-18	25.84	27.71
25	40.22	1.750-18	51.20	55.29	58.99	1.4375-18	27.43	27.71

Square flange receptacle

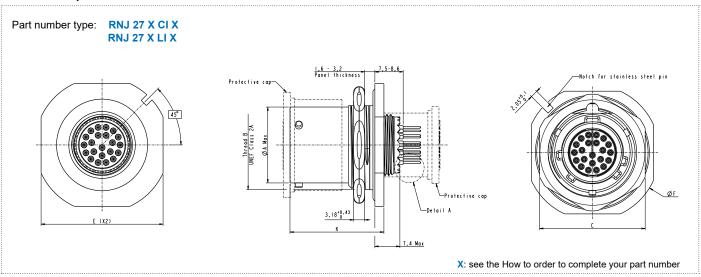


Size	S	R	F	0 ØD - ^{0.05}	ØA	V thread UNEF class 2A	+0.13 ØT ⁰
11	31.7	21.5	18.5	15	17.81	.5625-24	3.22
13	34.9	24.6	20.5	18	21.62	.6875-24	3.22
15	38	26.6	22	21	24.80	.8125-20	3.22
17	41.2	29	24	24	27.97	.9375-20	3.22
19	45	32	26	28	30.69	1.0625-18	3.22
21	48	34	27.5	31	33.86	1.1875-18	3.22
23	51	36	29	34	37.04	1.3125-18	3.7
25	54	38	30.5	37	40.21	1.4375-18	3.7

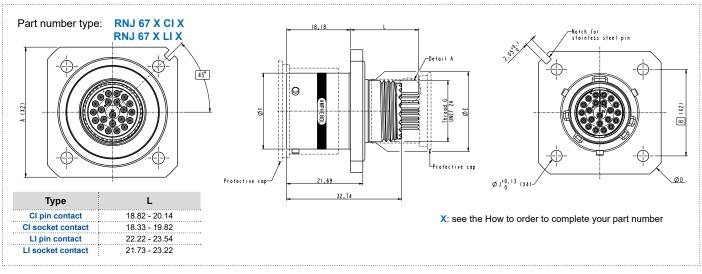
Overall dimensions - RECEPTACLE

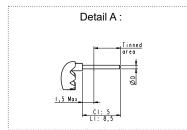
Dimensions not listed are identical to crimp connectors.

Jam-nut receptacle - PCB



Square flange receptacle - PCB





	Ø D Max					
Contact	CI (5mm cor	ntact length)	LI (8.5 mm contact length)			
size	Gold plated contacts	Tin lead. Silver tin or Silver tin copper plated contacts	Gold plated contacts	Tin lead. Silver tin or Silver tin copper plated contacts		
22	0.5	0.6	0.7	0.8		
20	0.7	0.8	0.7	0.8		
16	1.15	1.25	1.15	1.25		
12	1.7	1.8	1.7	1.8		

RNJ - RACK & PANEL - STAND-OFF RECEPTACLE

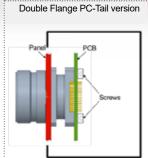


Double flange receptacle for PCB tails application

Main features

- Receptacle with Stand-off flange shell, for attachment to printed circuit boards.
- Prevent mechanical stress on the contact terminations.
- Provide grounding continuity between PCB and box.
- Increase reliability and resistance to shocks and vibrations.

Standard PC Tail version



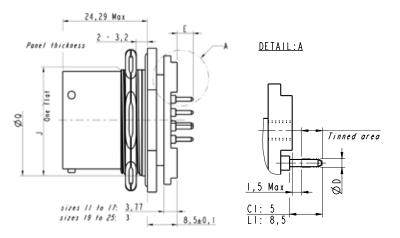
Overall dimensions - RECEPTACLE

Jam-nut Stand-off receptacle

Part number type: RNJ27CI XX F459 XX RNJ27LI XX F459 XX

	E		
	CI	LI	
Socket contacts	3.99 - 5.07	7.49 - 8.57	
Pin contacts	4.19 - 5.27	7.69 - 8.77	

Contact	ØD	MAX
size	CI	LI
22D	0.6	0.8
20	0.8	0.8
16	1.25	1.25
12	1.8	1.8

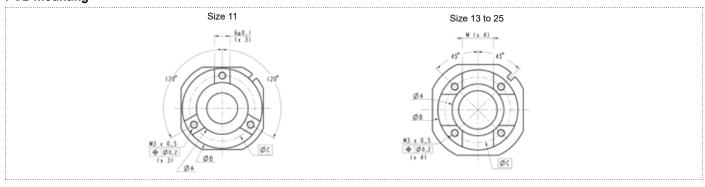


Consult us for stand-off receptacles with high speed contacts

X: see the How to order to complete your part number

Size	øQ ^{-0.05}	+0 J ^{-0.05}	ØQ ⁺⁰
11	20.83	19.23	20.83
13	25.53	23.96	25.53
15	28.75	27.23	28.75
17	31.93	30.38	31.93
19	35.10	33.56	35.10
21	38.23	36.76	38.23
23	41.45	39.84	41.45
25	44.63	43.11	44.63

PCB mounting



Size	ØA±0.15	ØB±0.15	ØC	+0.2 M ⁻⁰
11	19.9	30.8	25.2	-
13	19.9	30.8	25.25	12
15	23	33.9	28.42	14
17	26	36.8	31.42	16
19	29.5	40.4	35.03	18
21	32.2	43.2	37.82	20
23	35.5	46.5	41.12	23
25	38.6	49.6	44.3	25

RNJ - RACK & PANEL - ENHANCED SEALING

Helium leakage limited to 1.10⁻⁶ cm³ per second

Description

RNJ27ETC*** / ETCI*** / ETLI*** receptacles with transversal sealing are derived from the standard MIL-DTL-38999 Series I Jam nut receptacles. The inserts have been modified to ensure an air leakage of < 1.10-6 cm³/s under 1 bar of differential pressure.

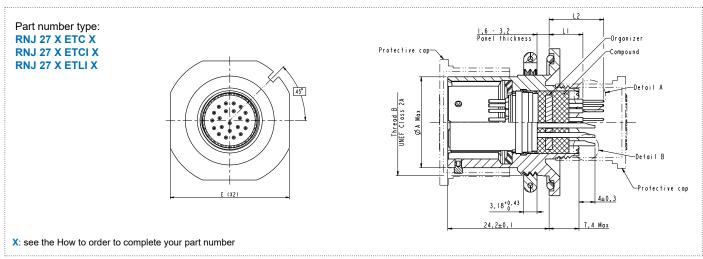
Main features

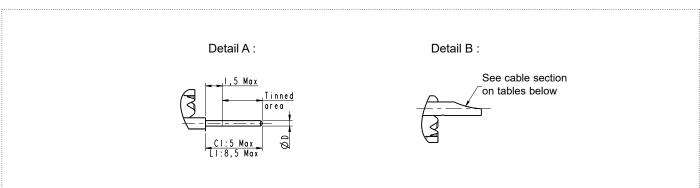
- Receptacles with enhanced sealing intermeatable with MIL-DTL-38999 Series I plugs.
- Available with solder cup or PC tails contacts.
- High speed contacts available (consult us).
- Operating Temperature range: -55 / +125°C.
- Initial sealing performance: Helium leakage < 1.10⁻⁶ cm³/s under 1 bar of differential pressure.
- Designed for unpressurized area.
- Avoid any stress on contacts before, during and after wave or iron soldering process.
- With Stand-off shells, shells must be threaded onto the PC Board before any soldering.
- We advise to use HFE cleaning product and strongly not recommend any Vigon based one.

CONTACTS TERMINATIONS	DEVIATION
Solder Cup contacts	ETC
PC Tail - Standard Length	ETCI
PC Tail - Long Length	ETLI

Jam-nut receptacle - Enhanced sealing

Dimensions not listed are identical to crimp connectors.





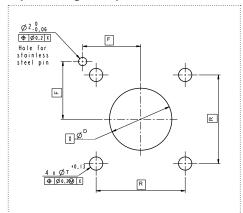
Signal contacts						
	ØD Max					
Contact	CI Co	ntacts	LI Coı	ntacts		
size	Gold Tinn		Gold	Tinned		
	tail	tail	tail	tail		
22D	0.5	0.6	.7	0.8		
20	0.7	0.8	0.7	0.8		
16	1.15	1.25	1.15	1.25		
12	1.7	1.8	1.7	1.8		

ETC contacts						
Contact Solder cup						
size	section					
22D	0.34mm ²					
20	0.6mm ²					
16	1.34mm²					

		CI Contacts	LI Contacts
Pin	L1	7.9 to 8.6	11.4 to 12.1
contact	L2	12.8 to 13.7	16.3 to 17.2
Socket contact	L1	7.7 to 8.4	11.2 to 11.9
	L2	12.6 to 13.5	16.1 to 17

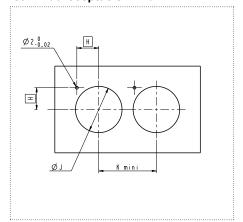
Panel holes dimensions

Square flange receptacle - RNJ67



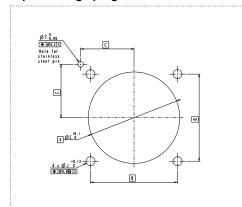
Size	R	F	ØT ^{+0.13}	ØD ^{+0.1}
11	21.5	14	3.22	15.05
13	24.6	15.5	3.22	18.05
15	26.6	16.5	3.22	21.05
17	29	18	3.22	24.05
19	32	19.5	3.22	28.05
21	34	20.5	3.22	31.05
23	36	21.5	3.7	34.05
25	38	22.5	3.7	37.05

Jam nut receptacle - RNJ27



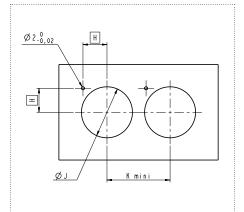
Size	Н	øJ ^{+0.1}	K _{MIN}
11	11.69	20.88	32.6
13	12.81	25.58	36.0
15	13.94	28.80	39.6
17	15.05	31.98	43.3
19	16.88	35.15	47.0
21	18.00	38.28	50.6
23	19.12	41.50	54.2
25	20.24	44.68	59.7

Square flange plug - RNJ66



Size	В	С	#0.13 ØJ 0	ØE ^{+0.1}
11	31	19	3.22	32.55
13	33	20	3.22	36.05
15	36	21	3.22	38.55
17	38	22.5	3.22	42.05
19	40	23.5	3.22	46.55
21	43	25	3.22	49.55
23	45	26	3.7	53.05
25	46	27	3.7	54.05

Jam nut plug - RNJ26



Size	V MIN	w	+0.1 ØJ -0
11	32.6	12.81	25.58
13	36.0	13.94	28.80
15	39.6	15.06	31.98
17	43.3	16.88	35.15
19	47.0	18.00	38.28
21	50.6	19.12	41.50
23	54.2	20.24	44.68
25	59.7	20.30	48.08

RNJ - RACK & PANEL - REDUCED FLANGE

When small dimensions & lower weight are critical





Description

Rack and Panel connectors offering realignement and floatability for blind mate applications in harsh environments, with a smaller flange and weight.

Main features

- Derived from RNJ, same performances, floatability and realignement
- Higher density on panel and lower weight than Standard RNJ
- Available for Jam nut plug and receptacle only
- Compatible with RNJ Standard range (including Square Flange)
- Delivered with 38999 series I and III inserts
- Contacts: Crimp, PC tails, with or without stand off.

MATERIALS AND PLATINGS

- Aluminum with Olive drab cadmium, Tin Zinc, Nickel, Black zinc nickel plating
- Stainless steel passivated

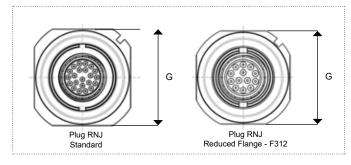




See part how to order page 197					
AMPHENOL	DEVIATIONS				
Crimp and standard PC tail with standard castle nut	RNJ**F312				
Crimp and standard PC tail with safety castle nut	RNJ**F311				
Stand-off PC tail with standard castle nut	RNJ**F059				
Stand-off PC tail with safety castle nut	RNJ**F058				

Footprint saving

Average 30% Footprint reduction



Shell Size	Standard RNJ G max (mm)	RNJ F312/F059 G max (mm)	Footprint Reduction
11	32,16	27,03	-39,07%
13	35,34	31,03	-33,24%
15	38,51	34,53	-29,88%
17	41,69	38,53	-29,89%
19	46,43	41,53	-28,74%
21	49,64	44,53	-27,86%
23	52,78	47,53	-24,36%
25	54,03	50,53	-19,06%

Footprint dimensions are the same in Standard & Stand-off versions

Options

Plug RNJ26 F312
For crimp applications

Plug RNJ46 F312
For PC Tails applications*

Receptacle RNJ27 F312

F312 / F311
Reduced Flange
For Crimp & PC Tails
contacts*

Plug RNJ46 F059

Receptacle RNJ27 F059

Plug RNJ46 F059

Receptacle RNJ27 F059







^{*} Please note that we strongly recommend not using PC Tails on plug unless soldering on flex

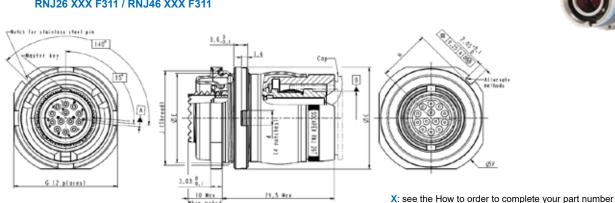
RNJ - RACK & PANEL - REDUCED FLANGE





Overall dimensions - PLUG

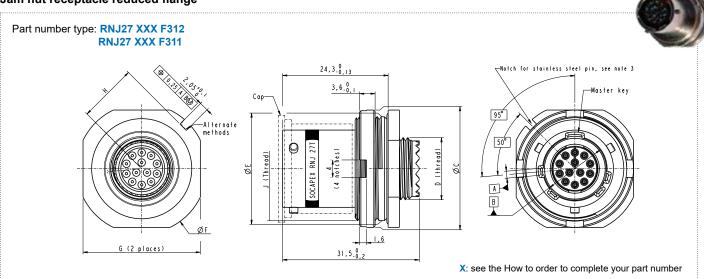
Jam nut plug reduced flange Part number type: RNJ26 XXX F312 / RNJ46 XXX F312 **RNJ26 XXX F311 / RNJ46 XXX F311** Motes for stainless steel pin



Size	ØC -0.1	+0 ØE -0.1	+0 ØF -0.2	+0 G -0.1	+0 H -0.1	J Thread - 6 g
11	27.03	23.93	30.03	27.03	13.5	M24 x 1
13	31.03	27.93	34.03	31.03	15.5	M28 x 1
15	34.43	30.93	37.53	34.53	17.1	M31 x 1
17	38.43	34.93	41.53	38.53	19.1	M35 x 1
19	41.43	37.93	44.53	41.53	20.6	M38 x 1
21	44.43	40.93	47.53	44.53	22.1	M41 x 1
23	47.43	43.93	50.53	47.53	23.6	M44 x 1
25	50.43	46.93	53.53	50.53	25.1	M47 x 1

Overall dimensions - RECEPTACLE

Jam nut receptacle reduced flange



Size	+0 ØC -0.1	D Thread Class 2A	+0 ØE -0.1	+0 ØF - ^{0.2}	+0 G -0.1	+0 H - ^{0.1}	J Thread - 6 g
11	27.03	0.5625-24	23.93	30.03	27.03	13.5	M24 x 1
13	31.03	0.6875-24	27.93	34.03	31.03	15.5	M28 x 1
15	34.43	0.8125-20	30.93	37.53	34.53	17.1	M31 x 1
17	38.43	0.9375-20	34.93	41.53	38.53	19.1	M35 x 1
19	41.43	1.0625-18	37.93	44.53	41.53	20.6	M38 x 1
21	44.43	1.1875-18	40.93	47.53	44.53	22.1	M41 x 1
23	47.43	1.3125-18	43.93	50.53	47.53	23.6	M44 x 1
25	50.43	1.4375-18	46.93	53.53	50.53	25.1	M47 x 1

RNJ - RACK & PANEL - REDUCED FLANGE

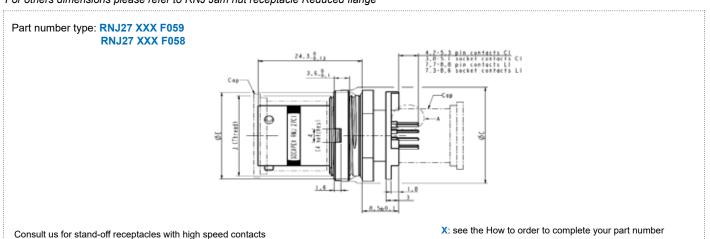


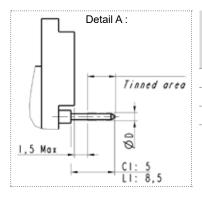


Overall dimensions - RECEPTACLE

Jam-nut receptacle reduced flange Stand-off

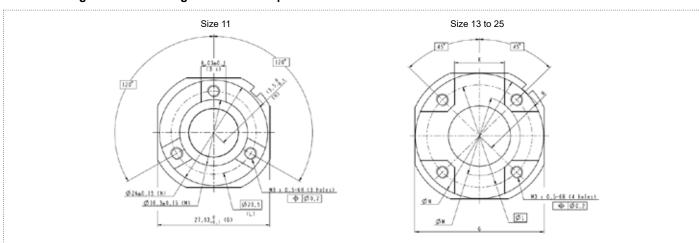
For others dimensions please refer to RNJ Jam nut receptacle Reduced flange





	Ø D Max				
Contact	CI (5mm contact length)		LI (8.5 mm contact length)		
size	Gold plated contacts	Tin lead. Silver tin or Silver tin copper plated contacts	Gold plated contacts	Tin lead. Silver tin or Silver tin copper plated contacts	
22	0.5	0.6	0.7	0.8	
20	0.7	0.8	0.7	0.8	
16	1.15	1.25	1.15	1.25	
12	1.7	1.8	1.7	1.8	

PCB mounting for reduced flange stand-off receptacles



Size	+0.2 K ⁻⁰	ØL	ØM ^{± 0.15}	ØN ^{± 0.15}
11	=	20.50	16.3	26
13	11.97	25.25	19.5	30.8
15	13.97	28.42	22.8	33.9
17	15.97	31.42	25.9	36.8
19	17.97	35.03	29.1	40.4
21	19.97	37.82	32.2	43.2
23	22.97	41.12	35.4	46.5
25	24.97	44.30	38.6	49.6

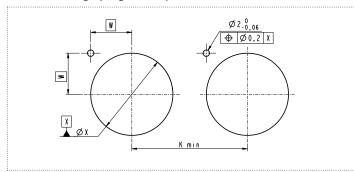
RNJ - RACK & PANEL - REDUCED FLANGE





Panel holes - PLUG & RECEPTACLE

Reduced flange plug & receptacle



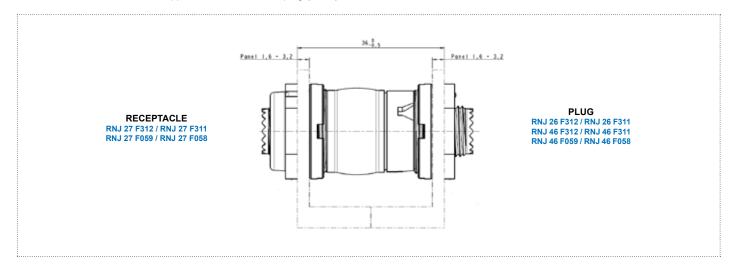
Size	K _{MIN}	W	ØX +0,1
11	27,6	10,3	24
13	31,6	11,7	28
15	35,1	12,9	31
17	39,1	14,3	35
19	42,1	15,4	38
21	45,1	16,4	41
23	48,1	17,5	44
25	51,1	18,6	47

Panel integration

Mandatory distance to guarantee the product performances.

Guiding system: the system must ensure the right positioning of the rack independently of the connectors.

No mechanical stress must be applied to the rear of the plug (wires).



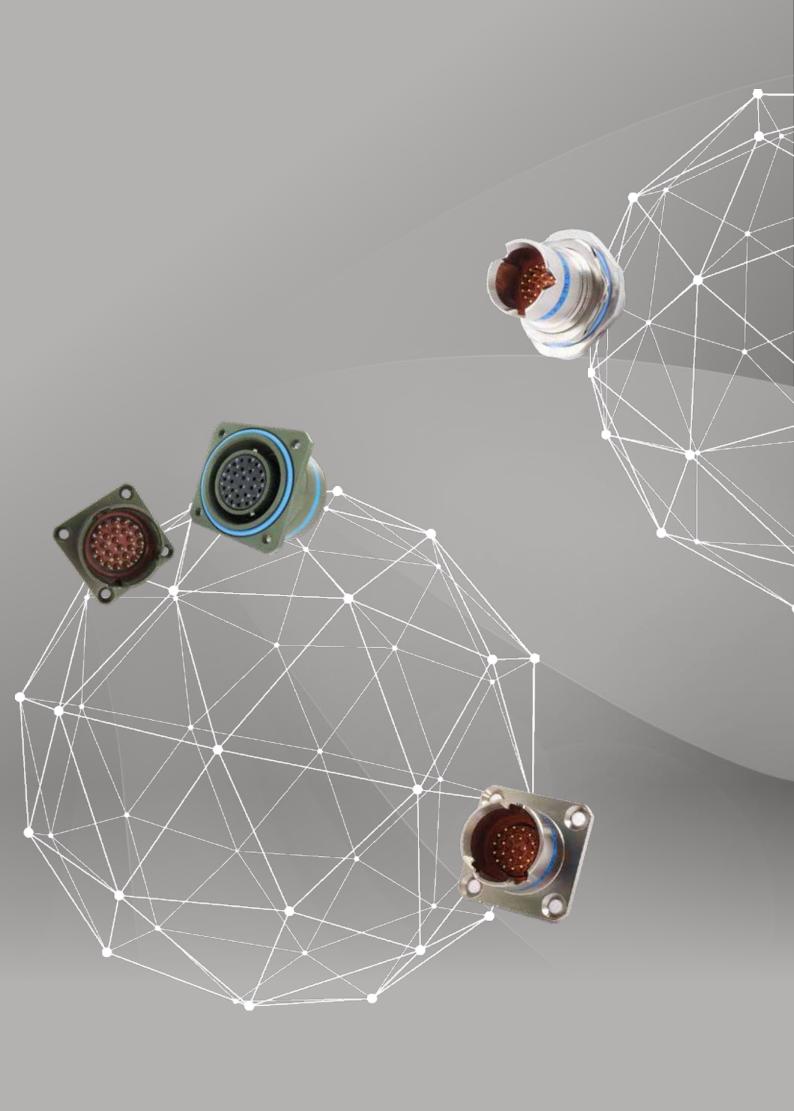




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RNJ LP - Stand-off	46
RNJ LP - Enhanced sealing	48





Description

Rack and panel range using MIL-DTL-38999 Series III inserts. Realignment capabilities & floatability on 3 axis. Connection between a rack (moving unit) and a panel (fixed structure) without manually coupling/uncoupling the connectors. Low profile version for reduced distance between the racks: 7.3mm panel to panel distance (Square flange) or 16mm (Jam nut) instead of 36mm with RNJ and RNJ reduced flange.

Main features

AXIAL. ANGULAR AND LONGITUDINAL FLOATABILITY

MIL-DTL-38999 COMPONENTS

- Delivered with MIL-DTL-38999 series III inserts
- AS39029 contacts and tooling
- Compatible with M85049 backshells for 38999 series III connectors

RUGGED & OPTIMIZED DESIGN

- Low profile: shorter distance between panels (same than ARINC404).
- Light weight: 20% weight savings versus standard RNJ (plug) for square flange.
- Contacts protection: 100% scoop proof design

EMI/EMP SHIELDING

- Grounding fingers ensuring shielding before contact mating.

SEALING

- IPX7 when fully mated and cabled
- Plug rear membrane protected by a metal cap on plug
- O-rings provided on both jam nut and square flange connectors

MATERIALS & PLATINGS

- Aluminum with Olive drab cadmium / Black zinc nickel / Nickel / Tin Zinc plating
- Passivated Stainless steel

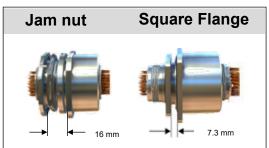
OPTIONS

- Crimp or PC tail contact terminations
- Power versions from 60 to 100A (consult us for higher power)
- Jam nut or Square flange plugs & receptacles
- Stand-off option on receptacles RNJLP27***F459 & RNJLP67***F459.

Realignment axis

Axial Angular Longitudinal I mm + 6° O,5 mm

Distance between panels

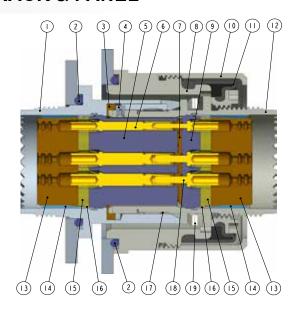


Options

		JAM NUT		SQUARE FLANGE		
Plug RNJLP*6	Crimp	RN	JJLP26**	RNJLP66**		
	PCB (flex applications)	RN without rear thread -	JLP46* * dedicated to PCB contacts			
Receptacle RNJLP*7	Crimp	RN	JJLP27**	RNJLP67**		
	PCB	RNJLP27* * without rear thread - dedicated to PCB contacts	RNJLP27*I*F459 Stand-off	RNJLP67* * without rear thread - dedicated to PCB contacts		

Presentation

- 1 Receptacle shell
- 2 Panel seal
- 3 Gasket
- 4 Rivet
- 5 Socket insert
- 6 Socket crimp contact
- 7 Interfacial seal
- 8 Plug socket
- 9 Pin insert
- 10 Protection cover



- 11 Membrane
- 12 Plug shell
- 13 Grommet
- 14 Compound
- 15 Retention disc
- 16-TPRS bond
- 17 Grounding spring
- 18 Pin crimp contact
- 19 Wave spring

Plug concept

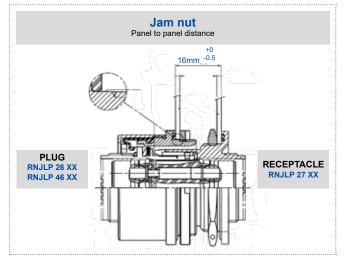


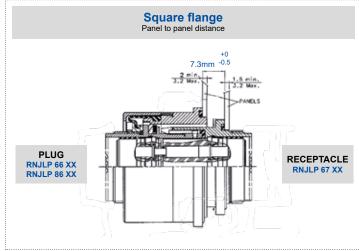
Online configurator & 3D model download



Panel integration

- Mandatory distance to guarantee the product performances.
- Guiding system: the system must ensure the right positioning of the rack independently of the connectors.
- No mechanical stress must be applied to the rear of the plug (wires or flex).





Panel mounting direction

	Plug		Receptacle				
	Jam nut RNJLP26/46	Square flange RNJLP66/86	Jam nut RNJLP27	Jam nut stand-off RNJLP27***F459	Square flange RNJLP67		
Back panel mounting		~			=		
Front panel mounting	-				~		

For other panel mouting directions, please consult us.

HOW TO ORDER - RNJ LOW PROFILE - RACK & PANEL

Amphenol Designations - RNJLP Crimp connectors

	1.	2.	3.	4.	5.	6.	7.	8.
Series	Shell type	Material	Quadrax contacts	Contacts arrangement	Contact gender	Keying	Plating	With or without contacts
RNJLP	26	Blank	-	15-35	S	N	014	LC

1. Shell type						
27	Receptacle	Jam-nut				
67	Receptacle	Square flange				
26	Plua	Jam-nut				
66		Sauare flance				

2. Mat	terial
Blank	Aluminum
KE	Stainless steel

For Stainless steel 316L, please consult us.

3. Quadrax contacts						
Blank	Without quadrax contacts					
0	With quadray contacts					

4. Contacts arrangements

Refer to page 18 for contact arrangements

First number represents the shell size and second number is the contact arrangement

5. Contact gender					
P	Pin (500 cycles)				
S	Socket (500 cycles)				

6. Key	6. Keying						
N (normal coding)	For other coding options, please consult us en note						
7. Plat	ing						
	Shell material	Shell finish					
014		Olive drab cadmium					
023		Nickel ✓					
033K	Aluminum	Black zinc nickel ✓					
078		Black Zinc Nickel without CrVl ✓					
076		Tin Zinc (consult us) ✓					
Blank	Stainless steel	Passivated ✓					

For other materials/platings, please consult us.

8. With or without contacts					
Blank	Connector delivered with contacts				
LC	Connector delivered without contacts				

Amphenol Designations - RNJLP PCB connectors

	1.	2.	3.	4.	5.	ь.	7.	٥.	9.
Series	Shell type	Material	Quadrax contacts	PC tails	Contacts arrangement	Contact gender	Keying	Plating	Deviation
RNJLP	46	KE	Q	CI	15-35	P	N	033K	_

1. Sh	1. Shell type 27			
27	December	Jam-nut		
67	Receptacle	Square flange		
46	Plug	Jam-nut without rear accessory possibilty		
96		Square flange without rear accessory possibility		

2. Ma	iterial	
Т	Aluminum	

3. Qua	drax contacts
Blank	Without quadrax contacts
	With guidray contacts

4. PC t	ails
CI	PC Tail contacts - Standard length
LI	PC Tail contacts - Long length

5. Contacts arrangements

Refer to page 18 for contact arrangements
First number represents the shell size and second number is the contact arrangement

6. Cor	ntact gender
P	Pin (500 cycles)
S	Socket (500 cycles)

Connectors with PC Tail contacts are always delivered with contacts.

7. Keying	
N (for normal)	For other coding possibilities, please consult us

8. Plating				
	Shell material	Shell finish		
014		Olive drab cadmium		
023		Nickel ✓		
033K	Aluminum	Black zinc nickel ✓		
076		Tin Zinc (consult us) ✓		
078		Black Zinc Nickel without CrVI ✓		
Blank	Stainless steel	Passivated ✓		

For other materials/platings, please consult us.

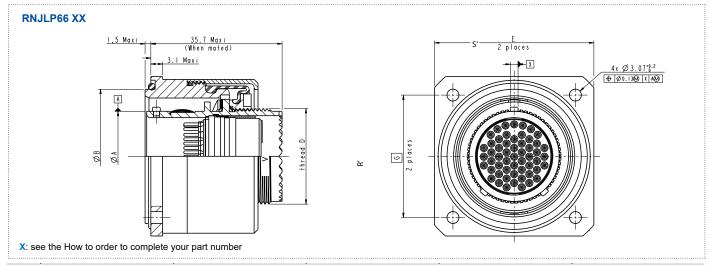
9. Deviation									
Shell style	Tin Silver tin		Silver tin copper Gold		Shell type compatibility				
Standard	F404	F404LF	F404LFC	Blank	All				
Stand-off *	F459	F459LF	F459LFC	F459H	27 / 67				

* For receptacles only, for plugs consult us. For other deviations, please consult us.

Overall dimensions - PLUG

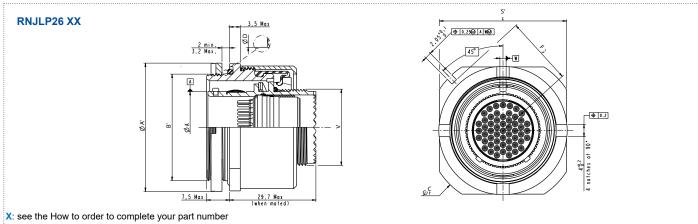
Accessory interface conform to MIL-DTL-38999 Series III. A locating pin is provided to ensure proper positioning of the connector. Available without rear thread for PC Tails applications (on flex) contacts (CI or LI): RNJLP66 or RNJLP86.

Square flange plug



Size	#0 ØA ^{- 0.13}	#0 -0.05 ØB	V thread-metric	+0 - ^{0.25}	R'
11	14.38	25.53	M15x1-6g	33.60	25.5
13	17.23	28.75	M18x1-6g	36.30	28
15	20.40	31.93	M22x1-6g	39.50	30
17	23.58	35.10	M25x1-6g	41.69	32
19	26.24	38.23	M28x1-6g	46.43	35
21	29.42	41.45	M31x1-6g	49.64	37
23	32.59	44.63	M34x1-6g	53.00	39.5
25	35.77	48.03	M37x1-6q	54.50	41.5

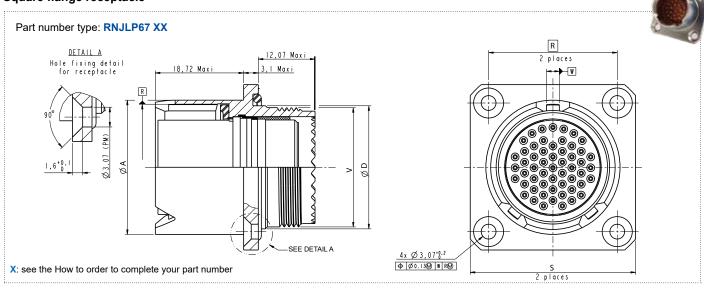
Jam nut plug



Size	ØA ⁺⁰	B' thread-metric	ØD -0.05	V thread-metric	øs' ⁺⁰	øc ⁺⁰	F ⁺⁰	ØA' _{Max}
11	14.38	M25x1-6g	25.53	M15x1-6g	32.16	38.50	16.92	32.10
13	17.23	M28x1-6g	28.75	M18x1-6g	35.34	41.68	18.51	35.10
15	20.40	M32x1-6g	3193	M22x1-6g	38.51	44.85	20.10	39.10
17	23.58	M35x1-6g	35.10	M25x1-6g	41.69	49.63	22.67	42.10
19	26.24	M38x1-6g	38.23	M28x1-6g	46.43	52.78	24.26	45.70
21	29.42	M41x1-6g	41.45	M31x1-6g	49.64	55.99	25.84	48.70
23	32.59	M44x1-6g	44.63	M34x1-6g	52.78	59.13	27.43	51.70
25	35.77	M48x1-6g	48.03	M37x1-6g	55.93	59.53	27.58	55.70

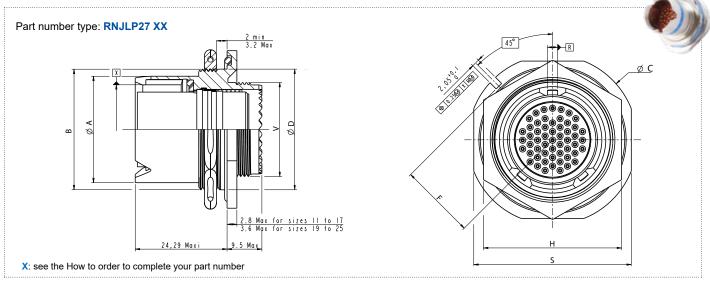
Overall dimensions - RECEPTACLE

Square flange receptacle



Size	*0 ØD ^{- 0.05}	V thread-metric	ØA _{Max}	s +0 s	R
11	16.73	M15x1-6g	18.68	28.3	20.62
13	19.93	M18x1-6g	21.88	30.7	23.01
15	22.83	M22x1-6g	25.08	32.3	24.61
17	25.83	M25x1-6g	28.18	34.7	26.97
19	29.03	M28x1-6g	31.18	37.1	29.36
21	32.23	M31x1-6g	34.38	39.7	31.75
23	34.03	M34x1-6g	37.58	42.9	34.93
25	37.23	M37x1-6a	40.78	46	38.10

Jam nut receptacle

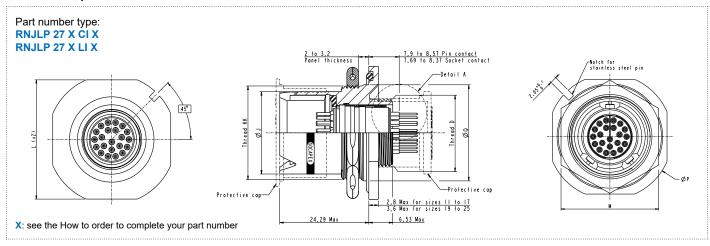


Size	V thread-metric	ØA _{Max}	B thread- metric	s ⁺⁰	H _{Max}	F ⁺⁰	øc ⁺⁰	+0 -0.05 ØD
11	M15x1-6g	18.68	M20x1-6g	32.16	25.84	15.33	35.34	20.83
13	M18x1-6g	21.88	M25x1-6g	35.34	30.62	16.92	38.51	25.53
15	M22x1-6g	25.08	M28x1-6g	38.51	33.76	18.51	41.69	28.75
17	M25x1-6g	28.18	M32x1-6g	41.69	36.97	20.10	44.86	31.93
19	M28x1-6g	31.18	M35x1-6g	46.43	40.11	22.67	49.64	35.10
21	M31x1-6g	34.38	M38x1-6g	49.64	43.32	24.26	52.78	38.23
23	M34x1-6g	37.58	M41x1-6g	52.78	46.46	25.84	55.99	41.45
25	M37x1-6g	40.78	M44x1-6g	55.99	51.24	27.43	59.13	44.63

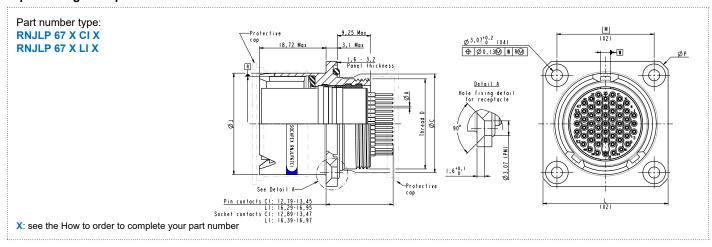
Overall dimensions - RECEPTACLE

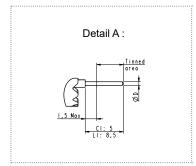
Dimensions not listed are identical to crimp connectors.

Jam nut receptacle - PCB



Square flange receptacle - PCB





	Ø D Max				
Contact	CI (5mm cor	ntact length)	LI (8.5 mm contact length)		
size	Gold plated contacts	Tin lead. Silver tin or Silver tin copper plated contacts	Gold plated contacts	Tin lead. Silver tin or Silver tin copper plated contacts	
22	0.5	0.6	0.7	0.8	
20	0.7	0.8	0.7	0.8	
16	1.15	1.25	1.15	1.25	
12	1.7	1.8	1.7	1.8	

RNJ LOW PROFILE - RACK & PANEL - STAND-OFF RECEPTACLE



Double flange receptacle for PCB tails application

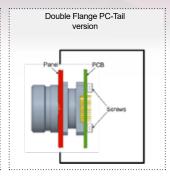
Description

- Receptacle with Stand-off flange shell, for attachment to printed circuit boards.
- Prevent mechanical stress on the contact terminations.
- Provide grounding continuity between PCB and box.
- Increase reliability and resistance to shocks and vibrations.

Panel

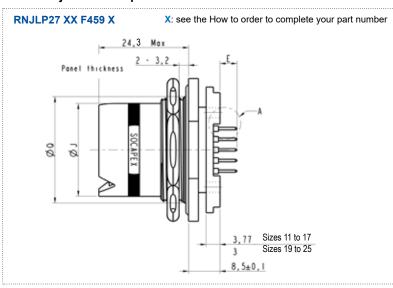
Standard PC Tail

version



Overall dimensions - RECEPTACLE

Stand-off jam nut receptacle

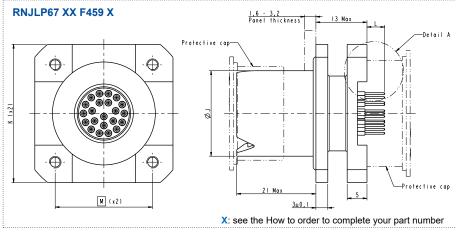


Size	ØJ _{Max}	ØQ -0.05
11	18.68	20.83
13	21.88	25.53
15	25.08	28.75
17	28.18	31.93
19	31.18	35.10
21	34.38	38.23
23	37.58	41.45
25	40.78	44.63

F		Contac	t size			
_	22D 20 16 1					
CI	Socket: 3.99 – 5.07 Pin: 4.19 – 5.27					
LI		Socket: 7.4 Pin: 7.69				

Consult us for stand-off receptacles with high speed contacts

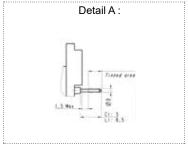
Stand-off Square flange receptacle



Size	ØAA ±0.15	ØJ _{Max}	K Max	M
11	23	16.68	31.7	21.5
13	26	21.88	34.9	24.6
15	29	25.08	38	26.6
17	32	28.18	41.2	29
19	35	31.18	45	32
21	38	34.38	48	34
23	41	37.58	51	36
25	44	40.78	54	38

		Conta	ct size		
_	22D	20	16	12	
CI	Pin: 3.93 – 5.30 Socket: 3.73 - 5.10				
LI	Pin: 37.23 - 8.60 Socket: 7.43 - 8.80				

Consult us for stand-off receptacles with high speed contacts.

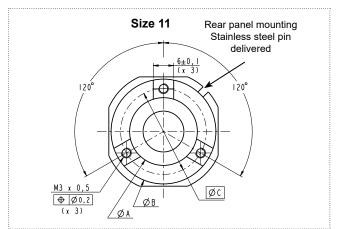


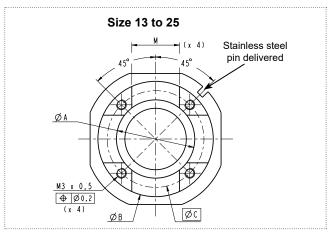
	Ø D Max				
Contact	CI (5mm co	ntact length)	LI (8.5 mm contact length)		
size	Gold plated contacts	Tin lead. Silver tin or Silver tin copper plated contacts	Gold plated contacts	Tin lead. Silver tin or Silver tin copper plated contacts	
22	0.5	0.6	0.7	0.8	
20	0.7	0.8	0.7	0.8	
16	1.15	1.25	1.15	1.25	
12	1.7	1.8	1.7	1.8	

RNJ LOW PROFILE - RACK & PANEL - STAND-OFF RECEPTACLE

Overall dimensions - RECEPTACLE

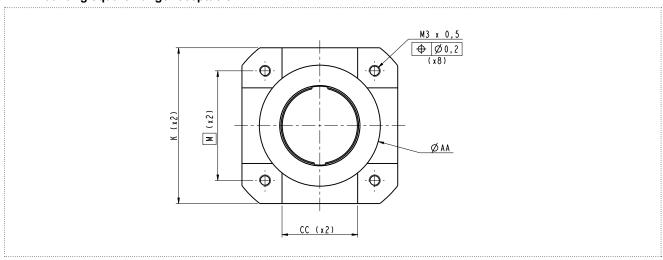
PCB mounting jam nut receptacle





Size	ØA ± 0.15	ØB ± 0.15	ØС	+0.2 M 0
11	19.9	30.8	25.20	-
13	19.9	30.8	25.25	12
15	23	33.9	28.42	14
17	26	36.8	31.42	16
19	29.5	40.4	35.03	18
21	32.2	43.2	37.82	20
23	35.5	46.5	41.12	23
25	38.6	49.6	44.3	25

PCB mounting square flange receptacle



Size	ØAA± 0.15	ØCC± 0.15	М
11	23	14	21.5
13	26	16	24.6
15	29	18	26.6
17	32	20	29.0
19	35	22	32.0
21	38	24	34.0
23	41	26	36.0
25	44	28	38.0

RNJ LOW PROFILE - RACK & PANEL - ENHANCED SEALING



Description

RNJLP 27 ETC*** / ETCI*** / ETLI*** receptacles with transversal sealing's equips inserts that have been modified to ensure an air leakage of < 1.10-6cm³/s under 1 bar of differential pressure.

Main features

- Available with solder cup or PC tails contacts.
- High speed contacts available (consult us).
- Operating Temperature range: -55 / +125°C.
- Initial sealing performance: Helium leakage < 1.10⁻⁶ cm³/s under 1 bar of differential pressure.
- Designed for unpressurized area.
- Avoid any stress on contacts before, during and after wave or iron soldering process.
- We advise to use HFE cleaning product and strongly not recommend any Vigon based one.

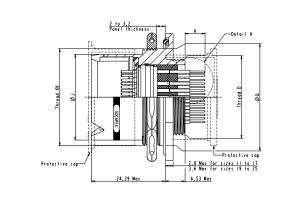
CONTACTS TERMINATIONS	DEVIATION
Solder Cup contacts	ETC
PC Tail - Standard Length	ETCI
PC Tail - Long Length	ETLI

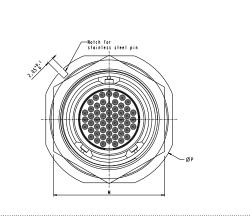
Overall dimensions - RECEPTACLE

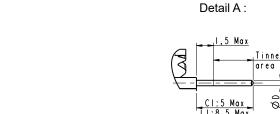
Dimensions not listed are identical to crimp connectors.

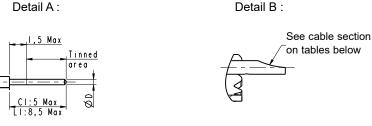
Jam nut receptacle - Enhanced sealing

Part number type: RNJLP27 ETC XX RNJLP27 ETCI XX RNJLP27 ETLI XX









Signal contacts						
	ØD Max					
Contact	CI Contacts		LI Contacts			
size	Gold tail	Tinned tail	Gold tail	Tinned tail		
22D	0.5	0.6	.7	0.8		
20	0.7	0.8	0.7	0.8		
16	1.15	1.25	1.15	1.25		
12	1.7	1.8	1.7	1.8		

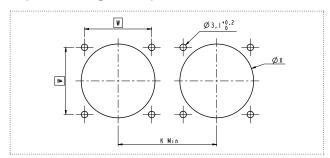
ETC contacts					
Contact	Solder cup				
size section					
22D 0.34mm ²					
20 0.6mm ²					
16	1.34mm²				

Conta	act type	22D	20	16	12
CI	Pin	6.21 - 7.34			
CI	Socket	5.79 - 7.22			
	Pin	•	9.71 -	10.84	
ы	Socket	•	9.29 -	10.72	
FTC	Pin	•	4.21	- 5.14	
Socket		3.79 -	5.02	/	1

Panel holes dimensions

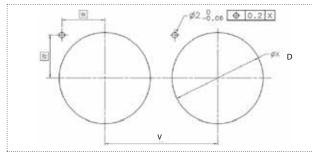
A stainless steel pin is always provided with jam nut receptacles to ensure a perfect positioning of the connector on the panel.

Square Flange receptacle - RNJLP67**



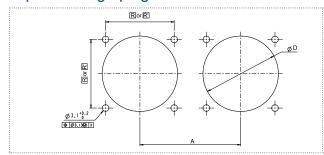
Size	K _{MIN}	W	+0.1 Ø X ⁰
11	36.0	20.62	16.78
13	39.6	23.01	19.98
15	43.3	24.61	22.88
17	47.0	26.97	25.88
19	50.6	29.39	29.08
21	54.2	31.75	32.28
23	59.7	34.93	34.08
25	59.7	38.10	37.28

Jam nut receptacle - RNJLP27**



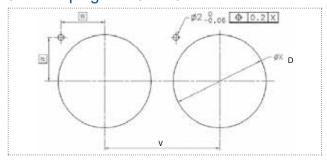
		Receptacle				
Size	V _{MIN}	w	+0.1 Ø D			
11	32.57	11.69	20.86			
13	36	12.81	25.58			
15	39.6	13.94	28.80			
17	43.3	15.06	31.98			
19	47	16.88	35.15			
21	50.6	18	38.28			
23	54.2	19.12	41.50			
25	59.7	20.24	44.68			

Square Flange plug - RNJLP66**



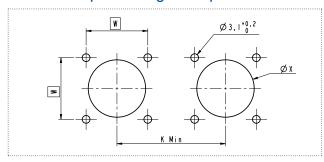
		Plug		
Size	V _{MIN}	W	#0.1 ØD ⁰	
11	36	25.5	25.58	
13	39.6	28	28.80	
15	43.3	30	31.98	
17	47	32	35.15	
19	50.6	35	38.28	
21	54.2	37	41.50	
23	59.7	39.5	44.68	
25	59.7	41.5	48.08	

Jam nut plug - RNJLP26**

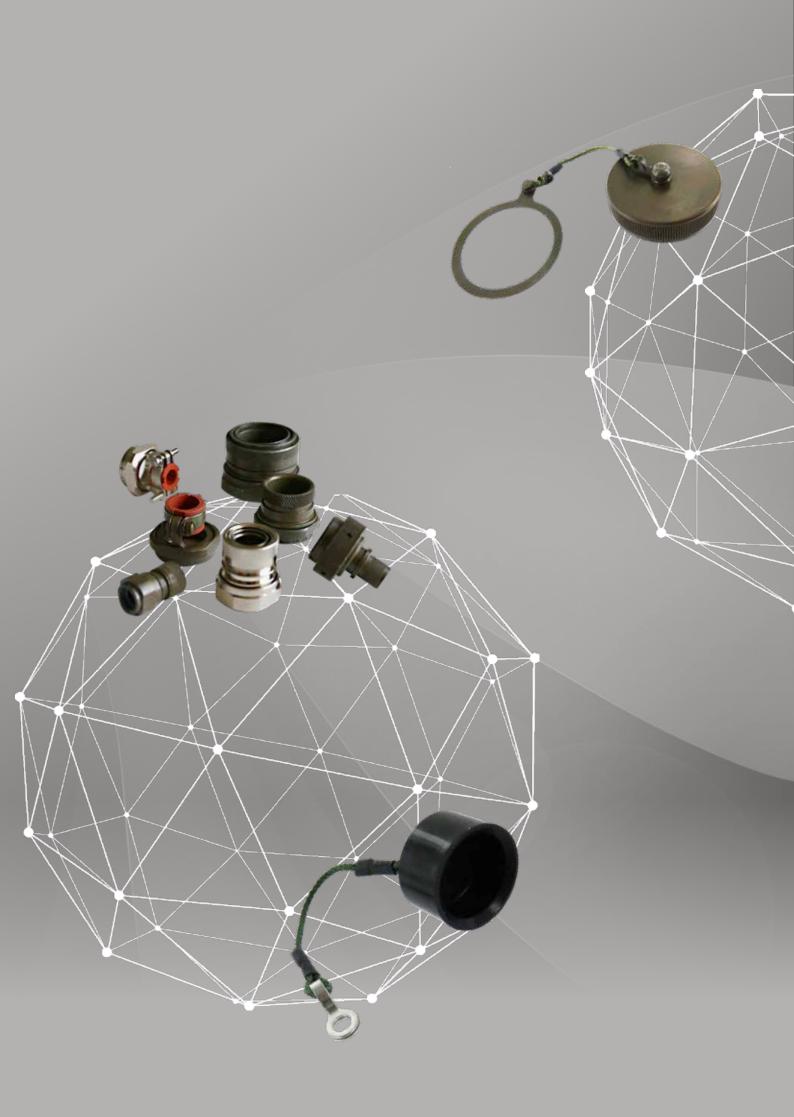


Size	V _{MIN}	Plug			
		w	+0.1 ØD ⁰		
11	32.57	12.81	25.58		
13	36	13.94	28.80		
15	39.6	15.06	31.98		
17	43.3	16.88	35.15		
19	47	18	38.28		
21	50.6	19.12	41.50		
23	54.2	20.24	44.68		
25	59.7	20.30	48.08		

Stand-off square flange receptacle - RNJLP27**F459



	K _{MIN}	Plug		
Size		W	*0.1 ØX	
11	41.6	21.5	20.86	
13	44.6	24.6	25.58	
15	47.6	26.6	28.80	
17	50.6	29.0	31.98	
19	54.6	32.0	35.15	
21	57.6	34.0	38.28	
23	60.6	36.0	41.50	
25	63.6	38.0	44.68	



ACCESSORIES



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ACCESSORIES - METAL BACKSHELL QUICK SELECTION GUIDE

Description

Amphenol offers a full range of backshell for any need and application. These rear accessories enhance the performance capabilities of the connectors in severe environment applications. Several materials & finishes are available as well as numerous versions. For more details, please consult the backshells catalog (DOC-000022-ANG).



		Series availability	and designation	
	Туре	RNJ & RNJ REDUCED FLANGE	RNJ LOW PROFILE	Description
	STRAIGHT			<u>.</u>
	(HE308-35	TV 35	- Full 360° shield termination Available with different cabling chambers Easy maintenance or repairability Sealing ensured by straight or right-angled heat-shrink molded piece.
	RIGHT ANGLE			
DING		LJT SBC	TV SBC	- Full 360° shield termination Available with different cabling chambers Easy maintenance and repairability Sealing ensured by straight or right angled heat-shrink molded piece.
필	HIGH LEVEL OF EMI/RFI PROTE	CTIVE		
EMI SHIELDING		LJT NSA HE308-13	TV NSA	- Electrical continuity between cable and connector by clamping the braid with a screwing system Free inner ring to avoid twisting the braid when screwing Sealing ensured by straight or right angle heat-shrink molded piece.
	BAND LOCK ADAPTOR			
		M85049/85 (straight) M85049/87 (90°)	M85049/88 (straight) M85049/90 (90°)	- MIL standardized band backshell Full 360° termination Sealing ensured by straight or right angle heat-shrink molded piece Right angle and 45° versions available.
	ADAPTER FOR HEAT-SHRINK	MOLDED PIECE		
SEALING		LJT NSD HE308-14	TV NSD	- Ensure the sealing and mechanical retention on the cable.
ĒĀ	ADAPTER FOR SEALING GLA	AND		
o)		-	TV 35M (straight) TV 105 M (90°)	- Ensure adaptation on metric sealing gland. - Available in different cabling chamber lengths and rear side.
	STRAIN RELIEF CLAMP			
MECHANICAL RETENTION		M85049/49-2 (straight) M85049/47 (90°)	M85049/38 (straight) M85049/39 (90°)	- MIL standardized strain relief clamp Mechanical retention of the cable Easy maintenance or repairability Self locking option available.

RNJ & RNJ reduced flange plugs are not compatible with all M85049 backshells. Please consult us.

Torques values for rear accessories:

Accessory thread torque value (N.m)				
Shell size	Heavy duty (All metal connectors)			
11	8 ± 0.4			
13	11 ± 0.5			
15	11 ± 0.5			
17	14 ± 0.7			
19	14 ± 0.7			
21	17 ± 0.8			
23	17 ± 0.8			
25	20 ± 1			

Tightening procedure:

The procedure for fitting rear fittings may vary from one equipment manufacturer to another in terms of the torque to be applied.

The use of Loctite is excluded.

For aluminium alloy rear accessories, if the use of Loctite is excluded, the best performance over time of the "connector + rear fitting" system is to apply the torque value once, then unscrew, apply the torque value a second time, then unscrew and finally apply the torque value a third time.

To mount an accessory on the RNJ's plugs, it is necessary to use a holding support to avoid strain on the internal set of the plug.

ACCESSORIES - PROTECTIVE CAP - METAL CAPS

Description

Amphenol offers a large selection of IP68 protective caps for plugs & receptacles to protect your connector against dust, water & moisture EMI function.

Main features

- Compatible with RNJ & RNJ reduced flange receptacles IP68 (permanent sealing).
- Protective against dust, water and moisture.
- EMI function.
- Nylon cord, stainless steel rope or metal chain.
 Rivet and attachement are not plated.









Amphenol Designations - Metal Caps for MIL-DTL-38999 Series I, HE308, LJT

		1.	2.	3.	4.
C	ap type	Cap style	Wire type	Cap si:	ze Material and platings
	В	EC	N	13	014
1. Cap sty	'le		3	. Cap size (same as	connector size)
EC	EC For Square flange receptacle			11 13 15	17 19 21 23 25
ER	For Jam nut rece	ptacle	••••••••••••••	:	
			4	. Material and platin	gs
2. Wire ty	ре			Shell material	Shell finish
-	Metal chain			014	Olive drab cadmium
N	Nylon cord			023 Aluminum	Nickel ✓
R	Stainless Steel r	one)33K	Black zinc nickel ✓

Consult us for reduced flange receptacles caps

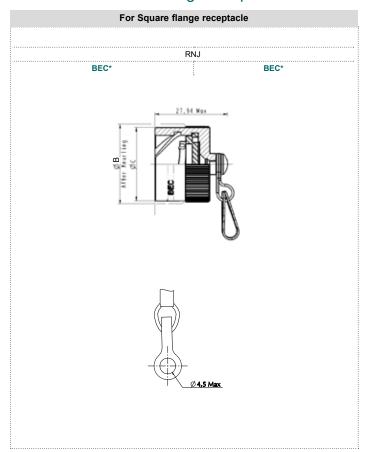


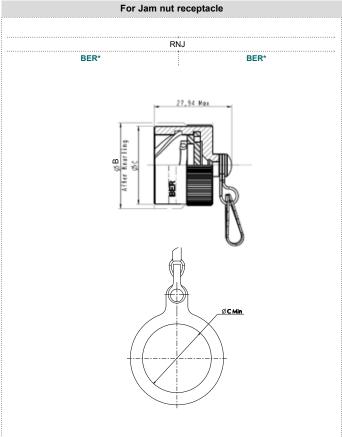
Military Designations - Metal Caps for HE308 UTE 93422

	1.	2.		. 4.
Cap type	Cap style	Cap size	Material 8	& plating Mandatory suffix
HE308 B	00	13	7	М
p style			3. Material and plat	ings
00 For Square flange	e receptacle	······································	Shell material	Shell finish
77 For Jam nut rece	ptacle	•••••••••••••••••••••••••••••••••••••••	7	Olive drab cadmium
i o dan ia odgađa			6 Aluminum	Nickel ✓
p size (same as con	nector size)		4. Mandatory suffix	
13 15	17 19 21 23	25	***************************************	y for all types

ACCESSORIES - PROTECTIVE CAP - METAL CAPS

RNJ & RNJ reduced flange receptacles





Shell size	Laynard length +0.1 0	ØB _{MAX}	ØC _{MAX}	ØN _{max}	A _{MAX0.13}
11	76.20	24.89	23.88	23.88	17.78
13		29.46	27.94	27.18	21.59
15	88.90	32.51	30.99	30.23	24.77
17	66.90	35.81	34.04	33.53	27.94
19		38.61	37.08	36.58	30.66
21		41.91	40.13	39.88	33.83
23		44.96	43.18	42.93	37.01
25		48.01	46.88	46.23	40.18

ACCESSORIES - PROTECTIVE CAP - RUBBER CAPS



Silicon protective cap against dust and water for RNJ receptacles (consult us for compatibility with plugs).

Main features

- Compatible with all shell types (plugs and receptacles).
 IP67 (1meter, 30 min sealing).
 Protection against dust and water.
 Silicone 200°C.

- Nylon cord.
- Light weight and noiseless.

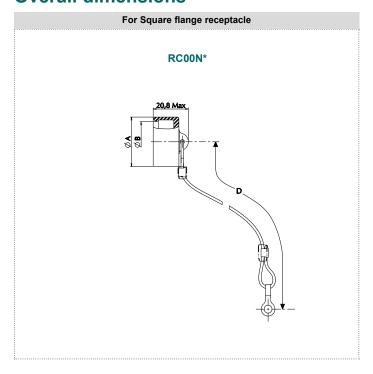


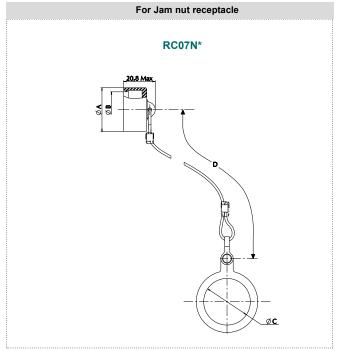


Amphenol Designations - Rubber caps for MIL-DTL-38999 Series I, II, III, LJT, JT, TV

		1.	2.		3.	4.
	Cap type	Cap style	Wire type		Series	Cap size
	RC	00	N		LJT	15
1. Cap sty	le			3. Series		
00	For Square flange re	eceptacle		LJT	MIL-DTL-38999 Series I, HE3	308, LJT & RNJ - Receptacles only
07	For Jam nut recepta	acle			,	
Note: for RN	J plugs, please consu	ult us		4. Cap siz	e (same as connector size	e)
2. Wire typ	De .			11	13 15 17 1	9 21 23 25
N	Nylon cord			Consult us for	reduced flange receptacles caps	

Overall dimensions

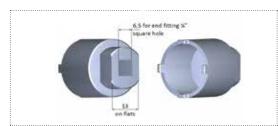




ACCESSORIES - TIGHTENING TOOLS, POSITIONNING PIN

Tightening tools for castle nut

Specific tool for the castle nut clamping:

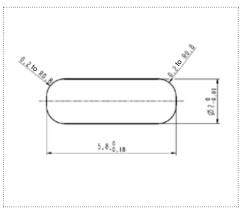


Shell Size	Tools Part Number					
Sileli Size	RNJ & RNJ Low Profile	RNJ Reduced Flange				
11	RNJ8982 A11	809642				
13	RNJ8982 B13	809643				
15	RNJ8982 C15	809644				
17	RNJ8982 D17	809645				
19	RNJ8982 E19	809646				
21	RNJ8982 F21	809647				
23	RNJ8982 G23	809648				
25	RNJ8982 H25	809649				

^{*}Same tool for plugs and receptacles for RNJ Reduced Flange

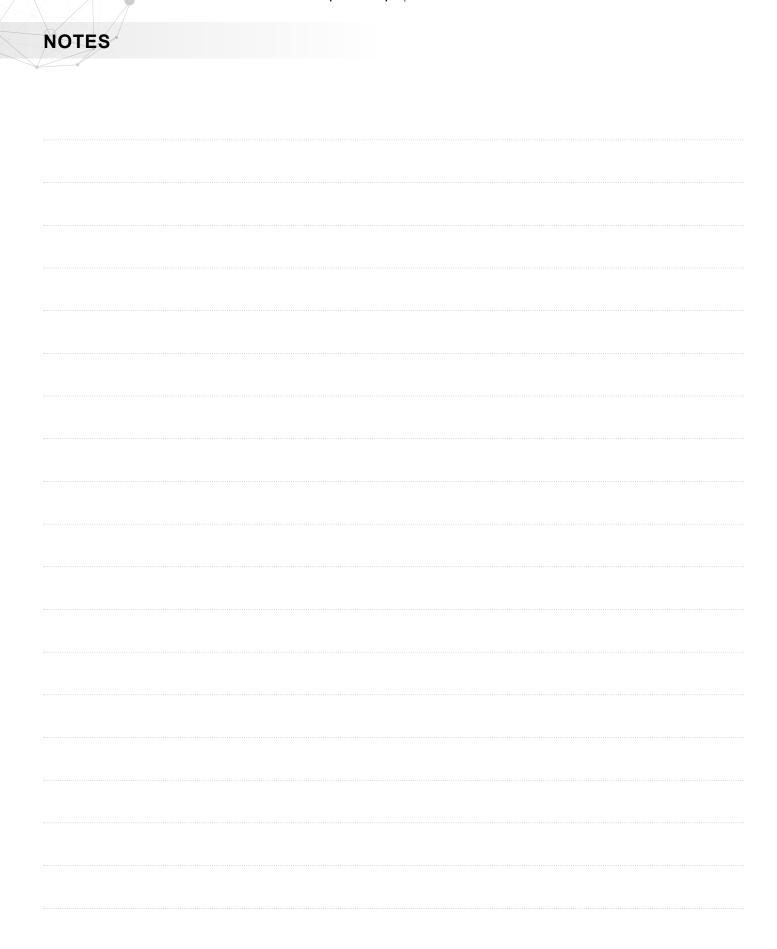
Stainless steel pin

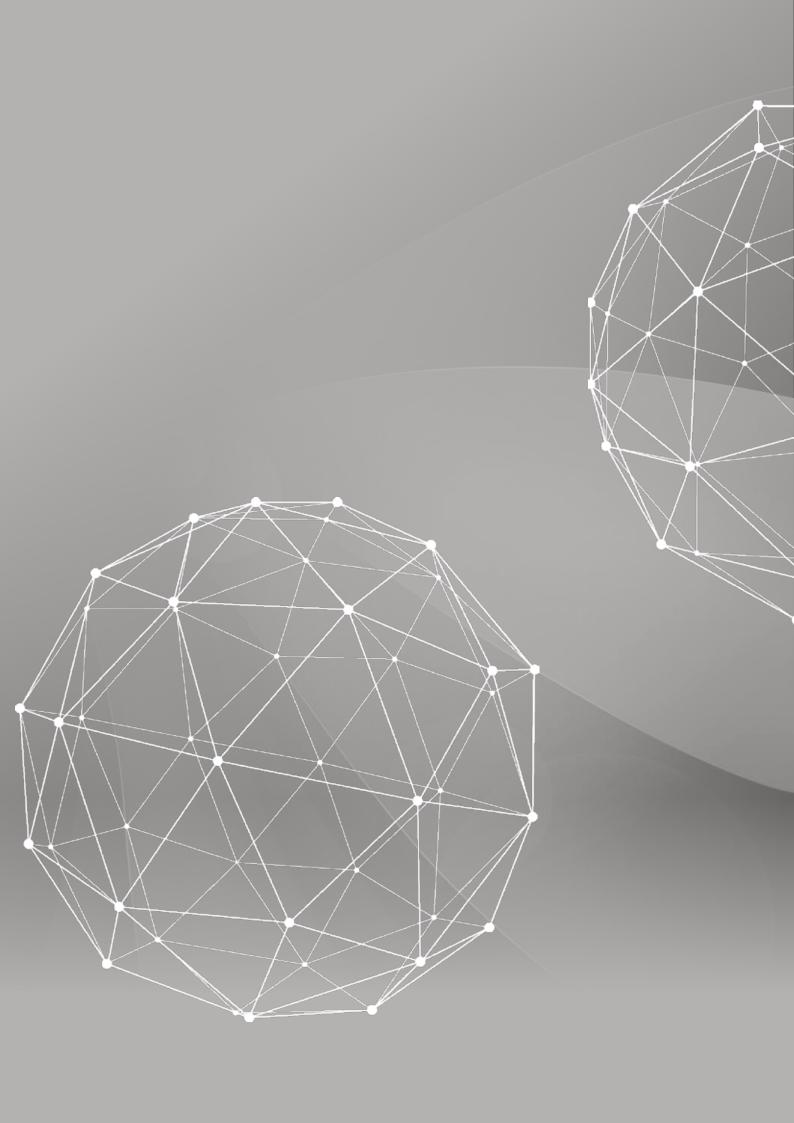
Pin for ensuring a perfect positioning of RNJ, RNJ reduced Flange and RNJ Low Profile jam nut receptacles on the panel (delivered with jam nut connectors).



Part number : 922133







CONTACT ASSEMBLY



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CONTACT ASSEMBLY - CONTACT CRIMPING

Video available to help you on our website







Scan me

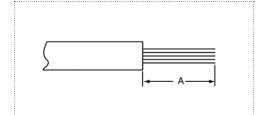
Wire stripping

- Ostrip wire to required length. (See stripping dimensions table below). When using hot wire stripping, do not wipe melted insulation material on wire strands; with mechanical strippers do not cut or nick strands.
- 2 See table 1 for proper finished outside wire dimensions.
- 3 Twist strands together to form a firm bundle.
- ② Insert stripped wire into contact applying slight pressure until wire insulation butts against wire well. Check inspection hole to see that wire strands are visible. If there are strayed wire strands, entire wire end should be re-twisted.

When wire is stripped and properly installed into contact, the next step is to crimp the wire inside the contact by using the proper crimping tool.



Stripping dimension



Contact size	Stripping length (mm)
23 HD	4
22D	4
20	6
16	6
12	6

	141111.	ivia.
10	3.43	4.11
12	2.46	3.61
16	1.65	2.77
20	1.02	1.96
22M. 22D	0.76	1.27

Contact size

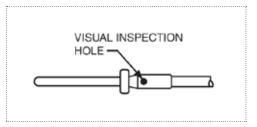
Wire Dimension (mm)

For other contacts sizes, please consult us

Contact crimping

Select the recommended crimping tool, turret head or positioner selection settings according to contact size. part number and wire gauge size.

- 1 Insert stripped wire into contact crimp pot. Wire must be visible through inspection hole.
- Using correct crimp tool and locator, cycle the tool once to be sure the indentors are open. insert contact and wire into locator. Squeeze tool handles firmly and completely to insure a proper crimp. The tool will not release unless the crimp indentors in the tool head have been fully actuated.
- Release crimped contact and wire from tool.
 Be certain the wire is visible through inspection hole in contact.





High density 38999.

CONTACT ASSEMBLY - CONTACT INSERTION & REMOVAL



Videos available to help you on our <u>youtube channel</u>.

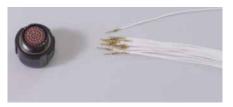
- Contact Insertion Instructions
- Contact Crimping Instructions
- Quadrax. Twinax and Coax contacts

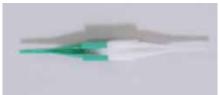


Contact insertion

Note: All plastic tools are double-ended. The colored side is the insertion tool and the white side is the removal tool.

• First remove hardware from the plug and receptacle and slide the hardware over wires in proper sequence.





Use proper plastic or metal insertion tool for corresponding contact. (Consult insertion tool table "Crimping tool"). Slide correct tool (with plastic tool use colored end) over wire insulation and slide forward until tool bottoms against rear contact shoulder

Plastic tool with contact in proper position



Metal tool



• Next align the tool and contact up to the properly identified cavity at rear of connector plug. Use firm, even pressure; do not use excessive pressure. It is recommended to start at the center cavity. Contact must be aligned with grommet hole and not inserted at an angle. Push forward until contact is felt to snap into position within insert.



CAUTION. when inserting or removing contacts. do not spread or rotate tool tips

② Remove tool and pull back lightly on wire, making sure contact stays properly seated and isn't dragged back with the tool. Repeat operation with remainder of contacts to be inserted, beginning with the center cavity and working outward in alternating rows.



3 After all contacts are inserted, fill any empty cavities with wire sealing plugs.



Reassemble plug or receptacle hardware slide forward and tighten using connector pliers. Connector holding tools are recommended while tightening back accessories.

When using strain relief, center wires at bar clamp. Slide clamp grommet into position and tighten clamp bar screws. When tightening screws, pressure should be applied in the same direction that clamp is threaded to rear threads of connector. When not using clamp grommet, build up wire bundle with vinyl tape so clamp bar will maintain pressure on wires.

Contact removal

Note: All plastic tools are double-ended. The colored side is the insertion tool and the white side is the removal tool.

• Remove hardware from plug or receptacle and slide hardware back along wire bundle.



② Use proper plastic or metal removal tool for corresponding contact. Slide correct size tool over wire insulation.



3 Insert plastic or metal removal tool into contact cavity until tool tips enter rear grommet and come to a positive stop. Hold tool tip firmly against positive stop on contact shoulder. Grip wire and simultaneously remove tool and contact. (On occasion, it may be necessary to remove tool. rotate 90° and reinsert.)



CONTACT ASSEMBLY - CONTACTS, TOOLING & ACCESSORIES



Amphenol offers a wide range of contacts and dedicated tools & accessories. For more information please consult the Contacts Catalog (DOC-000081-ANG)

Standard Crimp contacts & Crimping tools

		CONTACT			BIN		CONNECTOR		Crimping Tool		
PIN or SOCKET	MILITARY Nb	Mating end Wire barrel		AMPHENOL P/N			MIL-DTL-38999		Crimping tool	Positionner	
		size	size size		1st	2nd	3rd	SI	S III		
***************************************	M39029/18-177	23	22	900049					X	M22520/2-01	M22520/2-13
	M39029/58-360	22	22D	900004				Х	X	M22520/2-01	M22520/2-09
Р	M39029/58-363	20	20	900001				Х	Х	M22520/2-01	M22520/2-10
	M39029/58-364	16	16	900000				Х	X	M22520/1-01	M22520/1-04
	M39029/58-365	12	12	900005				Х	X	M22520/1-01	M22520/1-04
	M39029/17-172	23	22	900048					X	M22520/2-01	M22520/2-16
	M39029/56-348	22	22D	900044				Χ	Х	M22520/2-01	M22520/2-07
S	M39029/56-351	20	20	900041				Χ	Χ	M22520/2-01	M22520/2-10
	M39029/56-352	16	16	900040				Х	X	M22520/1-01	M22520/1-04
	M39029/56-353	12	12	900045				Х	X	M22520/1-01	M22520/1-04

Power contacts

PIN or SOCKET	size	tact Wire barrel size	Amphenol P/N	Crimping Tool	Piggy Back Grommet		
	۵	900197 M300-BT with SP593		M300-BT with SP593	900471		
Р	0	0	O	0	900198*	(supplied by DMC Tools)	300471
	4	4	900007*	809947 with 809948	N/A		
S	8	8	900217	M300-BT with SP593 (supplied by DMC Tools)	900471		
	4	4	900047	809947 with 809948	N/A		

^{*}Compatible with 21-48 contact arrangement only Size 4 contacts are compatible with concentric build cables. Consult us for twisted conduction cables.

Dummy Contacts

Contact size	Dummy contact material	Proprietary No	
4	White plastic	900329	
8	Green plastic	900488	
8	Brass + gold finish	900183	
8	White plastic (recommended)	900029	
12	Brass + gold finish	900025	
12	White plastic	900486	
16	Brass + gold finish	900028	
16	Blue plastic	900026	
20	Brass + gold finish	900332	

Metal dummy contacts are recommended for applications requesting EMI protection.

Sealing plugs

Contact size	Proprietary No	Military No	
8 power	900024	-	
12	900023	MS27488-12-2	
16	900020	MS27488-16-2	
20	900021	MS27488-20-2	
22D	900022	MS27488-22-2	
23	900022	MS27488-22-2	

CONTACT ASSEMBLY - CONTACTS, TOOLING & ACCESSORIES

Insertion and removal tools

Plastic tools



Contact size	Insertion tool		Remov	Colour		
	Proprietary No	Military No	Proprietary No	Military No	Insertion	
8 Power/coax	*	*	-	M81969/14-12	-	green
12	809 859	M81969/14-04	809 859	M81969/14-04	yellow	white
16	809 855	M81969/14-03	809 855	M81969/14-03	blue	white
20	809 854	M81969/14-10	809 854	M81969/14-10	red	orange
22D	809 856	M81969/14-01	809 856	M81969/14-01	areen	white

^{*} Manual insertion

Metallic tools



Contact size	Straig	ht type	Angle type					
	Insertion tools	Removal tools	Insertio	n tools	Removal tools			
	Proprietary No	Proprietary No	Proprietary No	Military No	Proprietary No	Military No		
4	*	809943	-	-	-	-		
8 Power/coax	-	809961	*	*	809 845	M81969/8-14		
12	-	-	809 838	M81969/8-09	809 839	M81969/8-10		
16	809 816	809 846	809 812	M81969/8-07	809 820	M81969/8-08		
20	809 817	809 847	809 813	M81969/8-05	809 821	M81969/8-06		
22D	809 819	809 849	809 815	M81969/8-01	809 823	M81969/8-02		
23	810 010	810 010	_	_	_	-		

^{*} Manual insertion



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