



EPX® Series *EN4644*

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Introduction

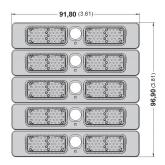
Radiall is recognized in the Aerospace and Defense industries for offering one of the broadest innovative product portfolios for connector interconnect solutions. The benefit of our experience with ARINC connectors permits Radiall to provide customers with a strong and global solution.

The EPX® series offers a wide range of solutions based on two insert sizes with a large variety of shells and contacts. This product range provides an excellent trade-off between the number of available contacts and the space used. The EPX® series is completely modular and expandable.

The EPX® series connectors are standardized by the EN4644 European standard.

A **high density solution** compared to circular connectors:

- Slim shell design with high contact density
- Stackable shells do not require additional space for locking and unlocking the connectors

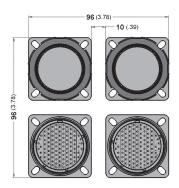


EPXB:

5 shells #2 with 2*48 Cts

--> Total Cts: 480

--> Total surface: 96.90 * 91.80 = 8895.42 mm² Gives 18.53 mm²/contact



38999:

4 shells #23 with 100 Cts

--> Total Cts: 400

--> Total surface: 96.00 * 96.00 = 9216 mm² Gives 23.04 mm²/contact

A cost saving and user-friendly solution:

- Inserts can be wired in the workshop and later installed in the shells
- A common panel cut-out simplifies the connector installation
- Inserts can be easily installed and removed from the shell
- Inserts and shells are keyed to prevent mis-mating
- Standard Mil spec tools for contact crimping and contact insertion/extraction
- Field replaceable sub-assemblies
- Vibration resistant self-locking threads

A **modular concept** with a large variety of options:

- Shell can accommodate a wide variety of inserts for signal, power, coax, data bus, fiber optic and high frequency BMA contacts
- Optional ground blocks (to meet the FAA HIRF requirements)
- Pin and socket inserts can be installed in either plug or receptacle shells (pin contacts are always fitted in the pin insert)

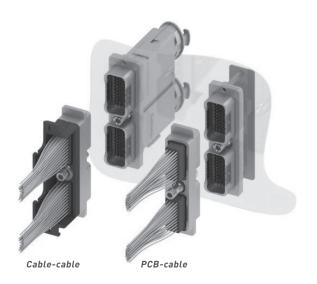
EPX® a **versatile solution** available in two different versions:

- Aluminium
- Composite



1-5

Disconnect Application



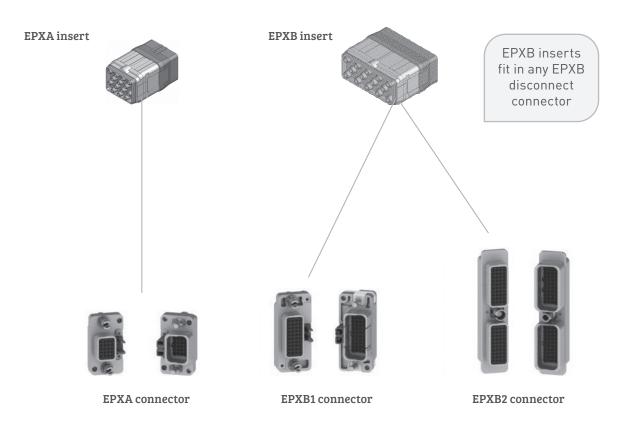
EPX® connectors (EPXA, EPXB1 and EPXB2) are specially designed to be used in cable-cable disconnect applications and PCB-cable disconnect applications.

The principle of EPX® disconnect connectors is that the locking system is located on the connector itself.

EPX® connectors for disconnect applications address three main needs:

- Compactness: the design of the locking system allows an access from the back of the shell so that connectors can be stacked. Space can be easily saved
- Modularity: connectors use similar tools and accessories so that spare parts are reduced
- Ease of assembly: when on a panel, the connector is easy to mate with the use of a standard Allen wrench tool (available at Radiall or anywhere)

The modularity of this series allows you to configure a connector with higher performances (environmental, grounding blocks, shell mountings, etc). Several accessories offer you the possibility to create harnesses, like the 38999 series.





Rack and Panel Application

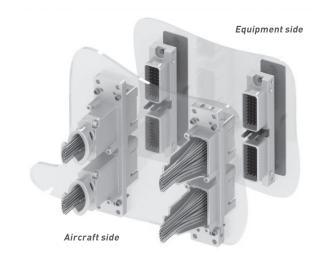
In response to the need of system miniaturization and new equipment design, Radiall introduces its new rack and panel connectors dedicated to Line Replaceable Module (LRM) applications.

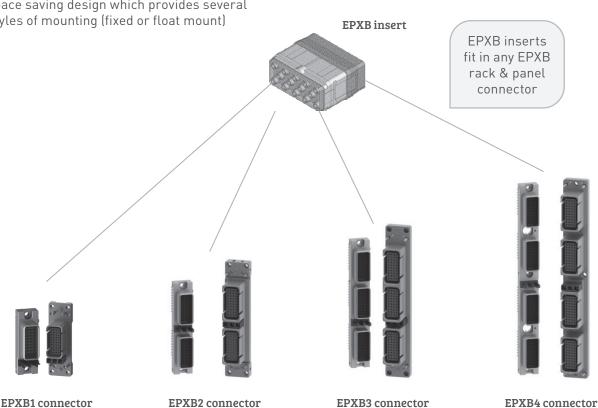
The EPX® rack and panel connectors are intended for blind mate applications. The plug connector is designed to be used in a Line Replaceable Module (LRM) while the receptacle is installed on the aircraft rack. There is no locking mechanism on these blind mate connectors, that feature is part of the equipment interface to the aircraft.

Radiall rack and panel modules offer:

- A wide range of connectors from size 1 to 4 based on the same design. They all use the same accessories, polarization and mounting style in order to standardize the EPX® series
- Reliable system: the polarization device prevents any mounting mistakes between the panel and the receptacle shell, and also between the plug and the receptacle shells
- Modularity in mounting EPX® connectors: EPX® rack and panel receptacles feature Arinc 600 functionality combined with a space saving design which provides several styles of mounting (fixed or float mount)

Go online for data sheets & assembly instructions.







Technical Characteristics for Disconnect Connectors

ELECTRICAL CHARACTERISTICSEMI shielding effectiveness EN2591-213

Frequency (MHz)	Leakage attenuation (dB)
100	65
200 & 300	63
400	62
500 & 600	60

OTHER CHARACTERISTICS

- **Shell to shell conductivity** < $2.5 \text{ m}\Omega$, operating voltage: 400 Vrms or 500 Vdc at sea level, according to EN2591-205
- Voltage stability (ground block): Maximum variation 4mV according to SAE AS 81714 (MIL-T-81714)
- Lightning stike: 5kA 1600V for EPX® connectors in aluminium version
 3kA 1600V for EPX® connectors in composite version

MECHANICAL CHARACTERISTICS

Mating/unmating

Shell type	Material	Mating/Unmating
EPXA	Aluminium	100 cycles
EPXB1	Aluminium	100 cycles
EPXB1	Composite	100 cycles
EPXB2	Composite	100 cycles ⁽¹⁾
EPXB2	Aluminium	100 cycles ⁽¹⁾

VIBRATION & SHOCK

		Vibration	Shock	
Shell type	Material	For 8 hrs on each of the 3 axis/interruption <1µs EN2591-403 EIA 364-28	3 shocks on each axis EN2591-402 EIA 364-27	
EPXA	Aluminium			
EPXB1	Aluminium		Shock amplitude 50g /duration	
EPXB1	Composite	Acceleration 27.8g	11ms	
EPXB2	Composite	(test condition 6 letter G)		
EPXB2	Aluminium		Shock amplitude 300g /duration 3ms	
Disconnect EPX® with Quadrax contacts	/	Acceleration 16.9g (test condition 5 letter E)	Shock amplitude 50g /duration 11ms	

NOTE:

[1] 500 mating cycles possible when using lubricant (as per the standard Mil-spec DOD G 24508) on locking device



Technical Characteristics for Rack & Panel Connectors

ELECTRICAL CHARACTERISTICS EMI shielding effectiveness en2591-213

Frequency (MHz)	Leakage attenuation (dB)
100	65
200 & 300	63
400	62
500 & 600	60

OTHER CHARACTERISTICS

- **Shell to shell conductivity** < 2.5 m Ω , operating voltage: 400 Vrms or 500 Vdc at sea level, according to EN2591-205
- Voltage stability (ground block): Maximum variation 4mV according to SAE AS 81714 (MIL-T-81714)
- Lightning stike: 5kA 1600V for EPX® connectors in aluminium version
 3kA 1600V for EPX® connectors in composite version

MECHANICAL CHARACTERISTICS

Mating/unmating

Shell type	Material	Mating/Unmating
EPXB1	Aluminium	500 cycles
EPXB2		500 cycles
EPXB3		500 cycles
EPXB4		500 cycles

The minimum mating forces are described in the EN4644 standard and depends on the connector size and insert arrangement. Consult Radiall for more information.

VIBRATION & SHOCK

		Vibration	Shock
Shell type	Material	For 8 hrs on each of the 3 axis/ interruption <1µs EN2591-403 EIA 364-28	3 shocks on each axis EN2591-402 EIA 364-27
EPXB1			
EPXB2		Acceleration 16.9g	Shock amplitude 50g /duration
EPXB3	Aluminium	(test condition 5 letter E)	11ms
EPXB4			



Technical Characteristics for Inserts & Contacts

ELECTRICAL CHARACTERISTICS

Electrical characteristics conform to SAE AS 39029 (MIL-C-39029 type A) Contacts conform to EN3155-076 and EN3155-077

CONTACTS

Contact size	Wire size	Max current Amps
	AWG22	5
22	AWG24	3
	AWG26	2
	AWG20	7.5
20	AWG22	5
	AWG24	3
	AWG16	13
16	AWG18	10
	AWG20	7.5
	AWG12	23
12	AWG14	17
	AWG16	13
8	AWG8	46
	AWG10	33
E	AWG8	80 m
5	AWG10	33

NOTE:

 $\hbox{(1) Size 5 contacts are not part of SAE AS 39029 (MIL-C-39029 type A). They are qualified by Radiall to 80 Amps}\\$

GROUND BLOCK CONTACT

Go online for data sheets & assembly instructions

	Contact with wire size	Max current Amps
Contact to contact	Contact + AWG20	7.5
Contact to mounting surface	Contact + AWG20	7.5

DIELECTRIC WITHSTANDING VOLTAGE EN2591-207 EIA 364-20 with leakage current < 1m $\!\Omega$

Level	Environmental inserts voltage (VRMS)	Non-environmental voltage (VRMS)
Sea level	1500	1500
50,000 feet	800	600
70,000 feet	800	300

INSULATION RESISTANCE EN2591-206 EIA 364-21

Temperature	Insulation resistance			
Ambient temperature	> 5000 MΩ			
175°C (+347°F)	> 200 MΩ			



Mechanical Characteristics

RETENTION CHARACTERISTICS

Contact retention EN2591-409 EIA 364-29 in terminated connectors.

Contact size	Retention force	Max displacement
Ground block	88N (20 lbs)	0.30mm (.012 in.)
22	53.4N (12 lbs)	0.38mm (.015 in.)
20	89N (20 lbs)	0.38mm (.015 in.)
16	111.2N (25 lbs)	0.38mm (.015 in.)
12	133.45N (30 lbs)	0.38mm (.015 in.)
8	133.45N (30 lbs)	0.38mm (.015 in.)
5	133.45N (30 lbs)	0.38mm (.015 in.)

- **Insert retention:** 400N (90 lbs) EN2591-410 EIA 364-35
- Maximum insert displacement in the shell cavity: 0.30mm (.012 in.)

ENVIRONMENTAL CHARACTERISTICS

Temperature

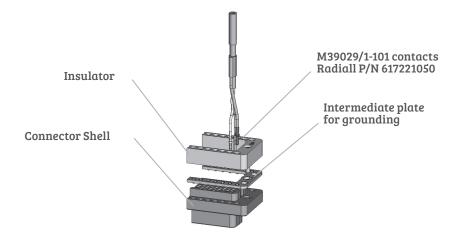
- Temperature range: -65°C/+175°C (-85°F/+347°F) according to EIA364-32 and EN2591-305
- Temperature range: -65°C/+125°C (-85°F/+257°F) for EPXB2 composite shell and for Rack & Panel EPXB
- **Temperature life:** 1000 hours at maximum temperature

OTHER CHARACTERISTICS

- **Salt spray:** 96 hours (nickel-plated aluminium and composite) EN2591-307 EIA 364-26 test condition A
- **Humidity:** 10 days with temperature variation from -10°C to +65°C EIA 364-31 Method 4, test condition B
- Altitude immersion: 3 cycles at 50,000 feet EN2591-314 EIA 364-03

GROUND BLOCK

Radiall provides a unique patented feature by integrating a ground block directly on the shell **This option permits very short ground terminations**





CONTACTS

Insert Selection Table

Insert name should be used when ordering EPX® insert Insert code should be used when ordering kit assembly

Signal Power Power or fiber optic Fi				Contact Size & Type (1)											
Series				22*	20*	15 or 16*	16	16	12*	8	8	8	5	5	
STATE STAT				Signal	Power	Power or coax	LuxCis® fiber optic	Power in fiber optic cavity	Power or coax	Power	or	ВМА	Coax or triax	Power	Total contacts
TP1 B		00	0												0
No		1C1	Α										1		1
SE		1P1	В											1	1
14 E 14	_	04	С			2			2						4
14 E 14	PXA	09	D		3	6									9
17		14	Е		14										14
20		14M	F	8	3	3									14
REAL PROPERTY OF THE PROPERTY		17	G	12	5										17
P3 B 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		20	Н	20											20
P3 B		00	0												0
BAY OF D S S S S S S S S S S S S S S S S S S		C3	Α										3		3
BAU 1002 E 8 8 6 1002 E 8 6 6 12 12 12 13 13 14 14 17 14 17 14 17 20 11 20 19 19 10 11 20 11 20 11 11 20 11 20 11 20 11 20 11 20 11 20 20		P3	В											3	3
SEA		3Q3	С								3				3
EXAMENDATE 12F6 F		06	D						6						6
F12C G 12 12 12 12 13C1 H 6 4 2 1 1 133 13P1 J 6 4 4 2 2 1 1 133 13P1 J 6 4 4 2 2 1 1 133 13P1 J 6 4 4 2 2 1 1 133 13P1 14 K 14 14 17 L 14 14 17 L 14 19 11 20C1 M 19 19 1 1 20C1 M 19 19 1 1 20C1 N 19 19 1 1 20C2 P 16 6 2 22V Q 16 6 6 2 22 28 T 22 6 30 U 30 30 30 30 30 30 34 W 18 16 4 40 X 40 40 48 Y 48 48 48 48 48		10Q2	Е		8						2				10
Table Tabl		12F6	F				6	6							12
Harmonia In the second of the		F12C	G				12								12
14 K 14 17 L 14 3 17 20C1 M 19 1 1 20 1 22 P 16 6 22 22V Q 16 6 22 25P1 R 24 1 1 25 25Q1 S 24 1 1 25 28 T 22 6 30 U 30 30 30 34 W 18 16 4 40 X 40 48 Y 48 Y 48 W 48 W 48 W 48 W 48 W 48 W		13C1	Н		6	4			2				1		13
17 L 14 3 17 20C1 M 19 1 20 20P1 N 19 1 20 22 P 16 6 22 22V Q 16 6 22 25P1 R 24 1 25 25Q1 S 24 1 25 28 T 22 6 28 30 U 30 30 34 W 18 16 40 X 40 40 48 Y 48 48		13P1	J		6	4			2					1	13
20C1 M 19 1 20 20P1 N 19 1 20 22 P 16 6		14	K			14									14
20P1 N 19 1 20 22 P 16 6 22 22V Q 16 6 22 25P1 R 24 1 25 25Q1 S 24 1 25 28 T 22 6 28 30 U 30 30 34 W 18 16 34 40 X 40 40 48 Y 48	a X	17	L		14				3						17
22 P 16 6 22 22V Q 16 6 22 25P1 R 24 1 25 25Q1 S 24 1 25 28 T 22 6 28 30 U 30 30 34 W 18 16 40 X 40 40 48 Y 48 48	F	20C1	М		19								1		20
22V Q 16 6 22 25P1 R 24 1 25 25Q1 S 24 1 25 28 T 22 6 28 30 U 30 30 34 W 18 16 34 40 X 40 40 48 Y 48 4 48		20P1	N		19									1	20
25P1 R 24 1 25 25Q1 S 24 1 1 25 28 T 22 6 28 30 U 30 30 34 W 18 16 34 40 X 40 40 48 Y 48 4 48		22	Р		16	6									22
25Q1 S 24 1 25 28 T 22 6 28 30 U 30 30 34 W 18 16 34 40 X 40 40 48 Y 48 48		22V	Q		16	6									22
28 T 22 6 28 30 U 30 30 34 W 18 16 34 40 X 40 40 48 Y 48 40 48		25P1	R	24						1					25
30 U 30 30 30 30 30 34 W 18 16 34 40 X 40 40 48 Y 48 48		25Q1	S	24							1				25
34 W 18 16 34 40 X 40 40 48 Y 48		28	Т	22		6									28
40 X 40 40 48 Y 48 48		30	u		30										30
48 Y 48 48		34	W	18	16										34
		40	Х	40											40
313 7 3 2		48	Y	48											48
		3T3	Z									3			3

NOTE:

(1) Only contacts marked with an asterisk (*) are included with EPX \otimes inserts All other contacts must be ordered separately (coax, twinax, quadrax and fiber optic contacts)



How to order EPX® inserts

Only crimp contacts can be delivered with insert

	EPX	В	Е	40	Р	В	S	
Series prefix —								
Insert size ⁽¹⁾ A: Insert for EPXA B: Insert for EPXB1, EPXB2, EPXB3 or EPXB4								
Class ⁽²⁾ ————————————————————————————————————	l							

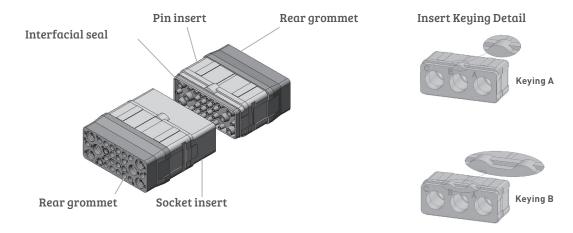
- N: Non-environmental (no rear grommet, no interfacial seal)
- H: Non-environmental with a rear grommet, available for pin insert only (recommended for crimp contacts)
- T: Non-environmental with an interfacial seal, available for pin insert only (recommended for PC tail contacts)

Insert name	_	
Refer to table on page 1-12 for insert arrangements		
Insert type		
P: Pin		
S: Socket		
Insert keying ⁽³⁾		
A: Keying A		
B: Keying B		
Contact		

Without code: insert delivered without contacts

5: Signal and power contacts are delivered with inserts but are uninstalled (refer to page 1-12) Inserts 00, 1C1, 1P1, C3, P3, 3Q3, 12F6, F12C and 3T3 are not available in S contact version

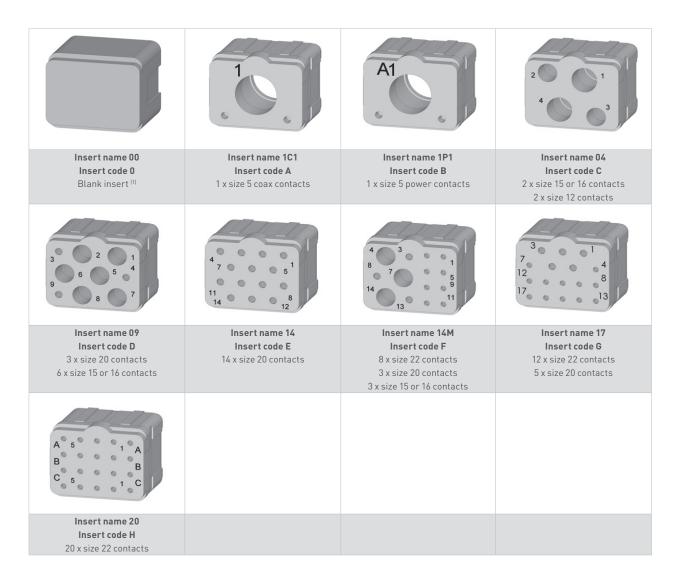
ENVIRONMENTAL INSERT



- (1) Inserts are designed for rear release & rear removable contacts
- (2) Pin and socket inserts can be installed in either plug or receptacle shell
 - F6, F12C and 12F6 are only available in E class. "Insert 00 is only available in N class
- (3) For EPXA, EPXB1, EPXB3 and EPXB4 shells, use only insert keyed A $\,$ For EPXB2 shells, use one insert keyed A and one insert keyed B



EPXA Insert Arrangements



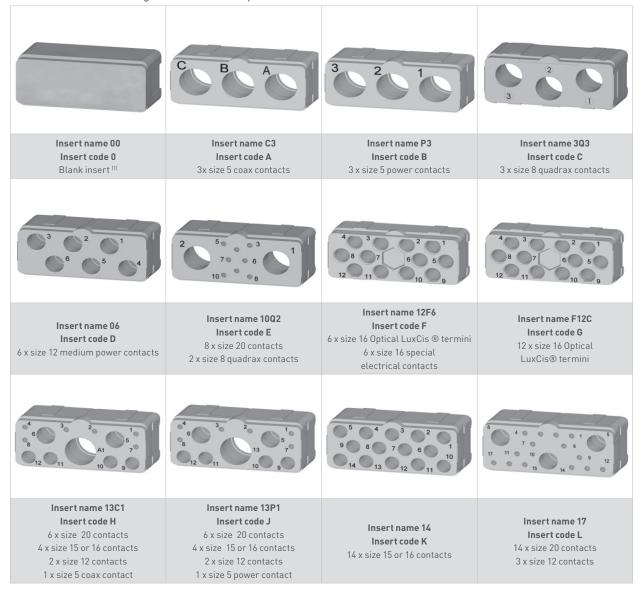
NOTE: (1) P/N for blank insert is EPXAN00



1-15

EPXB Insert Arrangements

Full size inserts arrangements are compliant with EN4644

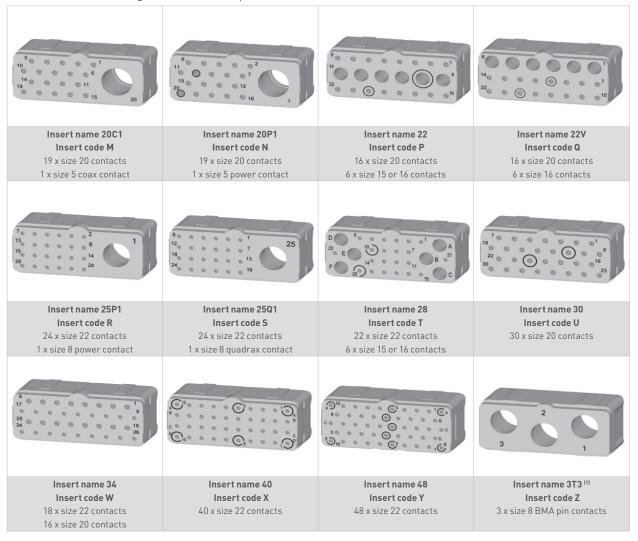


NOTE: (1) P/N for blank insert is EPXBN00



EPXB Insert Arrangements

Full size inserts arrangements are compliant with EN 4644.



NOTE:

Go online for data sheets & assembly instructions

[1] 3T3 pin insert only is available. It is mateable with 3Q3 socket insert



Signal & Power Crimp Contacts

EPX series offers a wide range of contacts compliant with EN3155 and SAE AS 39029. The available contacts cover aerospace applications for terminating to both cables and printed circuit boards.

- Signal and power contacts
- High frequency with coax, twinax and triax contacts
- Ethernet links with Quadrax contacts
- Optical links with LuxCis® contacts

Discover our brand new range of signal & power contacts with selective gold plating Features and benefits:

- Significant reduction of cost of ownership
- Reduced dependence on gold rate fluctuation
- No change in the contact crimping or soldering process

Specifications:

- Same contact design as full plated version
- Contact interface gold plated with 1.27µm
- For crimp version, no changes are required for the crimping process
- For PC tail version, use of selective plated contacts has no impact on PCB design
- Product qualification is available upon request

Со	ntact size	Wire size	Type	Part number full plated	Part number selectively plated	Crimping tool	Positioner	Selec- tor	Ins / ext tool	Type of tool		
		22	Pin	617200	617200100	202201	202070	4	202522			
22		24	1 1111	017200	017200100	282281 M22520/2-01	282970 M22520/2-23	3	282522 (M81969/14-01)	Plastic		
		26	Socket	617300	617300100	,		3	,			
		20	Pin	617221	617221100	282281	282971	7	282522001			
20		22			M22520/2-01 M22520/2-08 6 (M81969		(M81969/39-01)	Plastic				
		24	Socket	617320	617320100			5				
		16	Pin	617240	617240100	000001	282972 M22520/1-02	6	000545			
		18	Socket	617340	617340100	282291 M22520/1-01		5	282515 (M81969/14-03)	Plastic		
		20	JUCKET	017340	017340100			4	(, 00)			
16	Ground	20	Pin	617221050	N/A	282281	282581015 M22520/2-11			7	282886	Metal
10	block	20	Socket	N/A	N/A	M225520/2-01		/	202000	метат		
	for	16					282581013	6	282515 [M81969/14-03]			
	optical/ electrical	18	Pin	617235003(1)	N/A	282291 M22520/1-01		5		Plastic		
	insert	20				11122020/11 01		4				
		12	Pin	617250	617250100			8	282549004 (M81969/14-04)	Plastic		
12		14	Socket	617350	617350100	282291 M22520/1-01	282972 M22520/1-02	7				
		16	JOCKET	017330	017000100			6				
		8	Pin	617291002[2&3]	N/A	R282600000						
8		10	Socket	617391002(2&3)	N/A	M22520/23- 01 + Die set R282650000 M22520/23-02	282588	N/A	282549001	Metal		
	5	8	Pin	617280	N/A	R282600000 M22520/23-01	282557020					
5		10	Socket	617390 ^[2&4]	N/A	+ Die set R282650000 M22520/23-02		N/A	282946 (M81969/28-01)	Metal		
		12	Pin	617260001[2&4]	N/A	202/12	282586003	,				
		16	Socket	617370001(2&4)	N/A	282613	282586005	6				

NOTES:

- (1) Electrical contacts for optical inserts are always pin contacts (hermaphrodite)
- [2] In order to make these contacts environmental, it is necessary to add a sealing boot. Please contact us for additional information
- (3) These power contacts can be used in power inserts only (25P1)
- (4) These power contacts can be used in power inserts only (P3, 13P1 and 20P1)



Oversized & Reduced Crimp Barrel Contacts

С	ontact size	Wire size	Туре	Part number fully plated	Crimping tool	Positioner	Selector	Ins / ext tool	Type of tool		
	reduced crimp	28	Pin	617201 [1]	282281	282970	5				
	barrel	30	Socket	617301[1]	M22520/2-01	M22520/2-23	4				
22		20	Pin	617200200			5	282522 [M81969/14-01]	Plastic		
	oversize crimp	22		44500000	282281 M22520/2-01			282970 M22520/2-23	4	(MO1707/14-01)	
	Darret	24	Socket	617300200		14122320/2-23	3				
		22	Pin	617224001 [1]		282971 M22520/2-08	4				
	reduced crimp	24	6 1 .		282281 M22520/2-01		3		Plastic		
	Darret	26	Socket	617324001 (1)	MIZZ3Z0/Z=01		3	282522001			
20		18	Pin	617221200		282971 M22520/2-08	5	(M81969/39-01)			
	oversize crimp	20		44500000	282281 M22520/2-01		5	_			
	barrel	22	Socket	617320200			4				
		20	Pin	617241 (1)		5					
	reduced crimp	22				282291 M22520/1-01	282972 M22520/1-02	5			
	Darret	24	Socket	617341 [1]	MIZZ3ZU/ 1-01	MIZZ3ZU/ 1-UZ	4				
	reduced crimp	20					5				
16	barrel for optical	22	Pin	617235002 (82)	282291 M22520/1-01	282581013	5	282515 (M81969/14-03)	Plastic		
	electrical insert	24			MIZZ3ZU/ 1-U I		4	[M81969/14-U3]			
		14	Pin	617240200			6				
	oversize crimp	16			282291	282972 M22520/1-02	5				
	barrel	18	Socket	617340200	M22520/1-01		5				

NOTES:

(1) When smaller wire sizes are used on contacts with reduced crimp barrel, the wire will not provide sealing to the grommet. If sealing is required, please contact Radiall

(2) Electrical contacts for optical insertss are always pin contacts (hermaphrodite)



Coaxial Crimp Contacts

Contact size	Cable type	Туре	Environmental part number	Non-environmental part number	Ins/ext tool	Type of tool
	RG174-RG179 RG316	Pin	617	130		
	KG1/4-KG1/9 KG316	Socket	617	030		
	RG178	Pin	617	131		
	KG1/8	Socket	617	031		
	GORE/AXON P812817	Pin	617	132		
15-16	FILECA F1703-134 FILOTEX SP132868	Socket	617	032	282512	Metal
	RG178 DT	Pin	617	133		
	KG1/8D1	Socket	617	033		
	UT .047	Pin	617	135		
	01.047	Socket	617	035		
12	UT.085-RG405	Pin	617	617160		Plastic
	01.065-R6405	Socket	617	060	(M81969/14-04)	Plastic
	RG58-RG141	Pin	617101001	617101		
	K030-K0141	Socket	617001001	617001		
	RG142 - RG400	Pin	617102001	617102		
	KG142 - KG400	Socket	617002001	617002		
5	RG174-RG316 RG188	Pin	617103001	617103	282946	Metal
5	RG1/4-RG316 RG188	Socket	617003001	617003	(M81969/28-01)	метат
	RG178-RG196	Pin	617104001	617104		
	KU1/0-KU170	Socket	617004001	617004		
	RG180	Pin	617105001	617105		
	KUISU	Socket	617005001	617005		



Twinax & Triax Crimp Contacts

Contact size	Cable type	Type	Environmental part number	Non-environmental part number	Ins/ext tool	Type of tool	
	F0C0700	Pin	617190010				
12 Triax	ECS0700	Socket	6170	90010	282549004	District	
	M17/17/ 00002	Pin	6171	70012	(M81969/14-04)	Plastic	
	M17/176-00002	Socket	6170	90012			
TENSOLITE 24473/03159X-2	TENSOLITE	Pin	617165021	617165020		Metal	
	24473/03159X-2	Socket	617065021	617065020			
OTTIGX	WHITMOR W26751575	Pin	617165	617165001			
		Socket	617065	617065001	282549001		
	ABS0386WF24	Pin	617165011	620165010			
8 Twinax	& TYCO 1726A1424A	Socket	617065011	620065010			
	M47/47/ 0000	Pin	617150001	617150			
	M17/176-0002	Socket	617050001	617050	282946	Makal	
5 Triax	DAN//21	Pin	617152001	617152	(M81969/28-01)	Metal	
	PAN6421	Socket	617052001	617052			



Quadrax & BMA Crimp Contacts

QUADRAX CONTACTS



Contact size	Cable type	Туре	Environmental part number	Non-environmental part number	Extraction tool in metal
	Ethernet cable	Pin	617175011	617175012	
	ABS0972 & ABS1503	Socket	617075011	620075010	
	TENSOLITE	Pin	617175051	617175052	
8	NF24Q100	Socket	617075051	620075050	282549001
	Tensolite NF26Q100	Pin	617175053	617175054	
	JSF Y18	Socket	617075053	620075021	

BMA CONTACTS



Contact size	Cable type	Connector Type	Environmental part number	Non-environmental part number	Frequency range	Max VSWR	Insertion loss
8	SHF5 - SHF5M ⁽¹⁾	Pin ⁽²⁾	617171011	617171010	DC-18 GHz	1.35	0.13 dB at max frequency (18 GHz)
	RG142	Pin ⁽²⁾	617171021	617171020	DC-12.4 GHz	1.35	0.11 dB at max frequency (12.4 GHz)
	SHF2.4M ¹¹ /UT.085 Harbour SS405 Times Tflex405	Pin ⁽²⁾	617171031	617171030	DC-18 GHz	1.35	0.13 dB at max frequency (18 GHz)
	SHF5 - SHF5M ^[1]	Socket	617071011	617071010	DC-18 GHz	1.35	0.13 dB at max frequency (18 GHz)
-	RG142	Socket	617071021	617071020	DC-12.4 GHz	1.35	0.11 dB at max frequency (12.4 GHz)
	SHF3 ⁽¹⁾	Socket	617071041	617071040	DC-18 GHz	1.35	0.13 dB at max frequency (18 GHz)

Extraction tool 282549001 is used for size 8 BMA contacts Environmental BMA contacts are all provided with sealing boots

- $\hbox{(1) The BMA contacts which can accommodate SHF cables requires a termination by Radiall}\\$
- [2] BMA can only be installed in modified EPXB Quadrax insert such as 3T3P. Ex: EPXBE3T3PA



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.

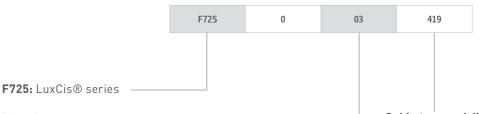
OPTICAL PERFORMANCES

	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 455-4	1000 h @ 125°C (cable dependant)
Vibration	TIA/EIA 455-11	27 Grms
Shock	TIA/EIA 455-14	50 G, 11 ms
Durability	TIA / EIA 364-09	500 cycles ^[1]
Maintenance	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



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

NOTES:

() Mating cycles are dependant on connector series Radiall can support you with your cable and harness assemblies Please contact your sales representative



Signal PC tail Contacts

Selection table for straight PC tail contacts

Contact termination	Contact type	Size 22	Size 20	Size 16	Size 12	Size 8	Size 5
RA	Pin	617205510	617222514	617242510	617259505	617291501	617289506
KA	Socket	617305500	617322505	617342510	617359505	617391501	617389506
\/A	Pin	617205010	617222014	617242010	617259005	617291001	617289006
YA	Socket	617305	617322005	617342010	617359005	617391001	617389006
7.4	Pin	617205710	617222714	617242710	617259705	617291701	617289706
ZA	Socket	617305700	617322705	617342710	617359705	617391701	617389706
DD	Pin	617205501	617222512	617242508	617259506	617291503	617289504
RB	Socket	617305501	617322506	617342511	617359506	617391503	617389504
VD	Pin	617205001	617222012	617242008	617259006	617291003	617289004
YB	Socket	617305001	617322006	617342011	617359006	617391003	617389004
7.0	Pin	617205701	617222712	617242708	617259706	617291703	617289704
ZB	Socket	617305701	617322706	617342711	617359706	617391703	617389704
	Pin	617205515	617222513	617242517	617259503	617291504	617289503
RC	Socket	617305508	617322507	617342513	617359503	617391504	617389503
	Pin	617205015	617222013	617242017	617259003	617291004	617289003
YC	Socket	617305008	617322007	617342013	617359003	617391004	617389003
7.0	Pin	617205715	617222713	617242717	617259703	617291704	617289703
ZC	Socket	617305708	617322707	617342713	617359703	617391704	617389703
2.5	Pin	617205509	617222510	617242509	617259507	617291505	617289507
RD	Socket	617305502	617322509	617342515	617359507	617391505	617389507
1/5	Pin	617205009	617222010	617242009	617259007	617291005	617289007
YD	Socket	617305002	617322009	617342015	617359007	617391005	617389007
7.5	Pin	617205709	617222710	617242709	617259707	617291705	617289707
ZD	Socket	617305702	617322709	617342715	617359707	617391705	617389707
Ins/e	xt. tool	282522 M81969/14-01	282522001 M81969/39-01	282515 M81969/14-03	282549004 M81969/14-04	282549001 M81969/28-03	282946 M81969/28-01



QUADRAX SIZE 8 PC tail CONTACTS

Selection table for straight PC tail contacts

Contact termination	Contact type	Part number size 8		
RA	Pin	617177512		
NA	Socket	617077512		
YA	Pin	617177012		
IA	Socket	617077012		
ZA	Pin	617177712		
ZA	Socket	617077712		
RB	Pin	617177501		
KD	Socket	617077502		
YB	Pin	617177001		
1 D	Socket	617077002		
ZB	Pin	617177701		
ZB	Socket	617077702		
RC	Pin	617177508		
KC .	Socket	617077508		
YC	Pin	617177008		
10	Socket	617077008		
ZC	Pin	617177708		
26	Socket	617077708		
DD	Pin	617177513		
RD	Socket	617077513		
YD	Pin	617177013		
ıΠ	Socket	617077013		
ZD	Pin	617177713		
ZU	Socket	617077713		
Ext. too	l	282549001		







Filler Plugs & Sealing Plugs

Sealing plugs are dedicated to environmental inserts and filler plugs are dedicated to non-environmental inserts

Contact size	Filler	Sealing plug	
Size 22	620	920	616910
Size 20	610	616911	
Size 16	620	616912	
Size 12	620	616913	
Size 8	Socket	619950	/10015
Size 8	Pin	619953	618915
C: E	Socket	617931	/1/01/012
Size 5	Pin	617930	616914013



Contacts for GBE Links

Radiall offers gigabit ethernet solutions based on standard components These 2 solutions are perfectly suited for high speed transfers for digital audio and video signals

QUADRAX SOLUTION:

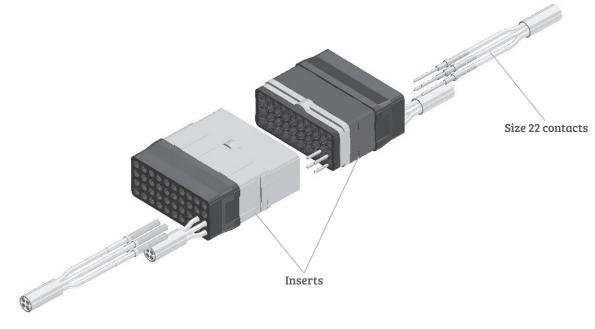
- Available with any EPXB connector
- 2 Quadrax contacts are required for 1 Gigabit link
- Quadrax inserts: 3Q3 or 10Q2
- Up to 2 Gbit/sec

HIGH DENSITY SOLUTION:

- Available with any EPXB connector
- 4 twisted pairs requires 8 #22 contacts for 1 Gbit link
- Inserts: 40 or 25Q1
- Additional size 22 contacts can be used for ground continuity
- EMI backshell (recommended by Radiall)
- Up to 1 Gbit/sec
- Short strip dimensions are required to get minimum impedance disturbance. Radiall solution combines short strip and easy maintenance availability.

For further information, please contact Radiall

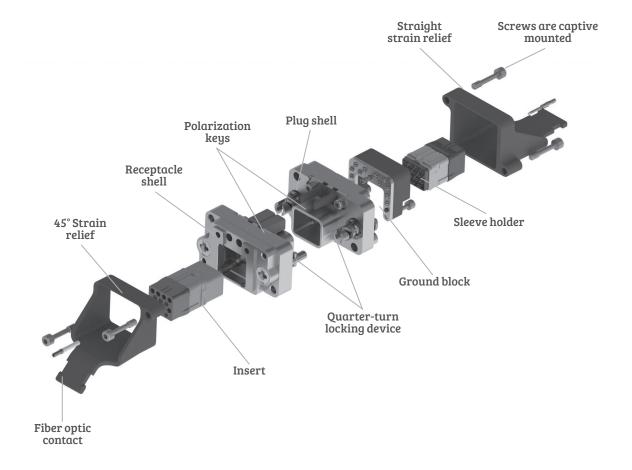
High density solution Detailed view of inserts including contacts for gigabit ethernet link





EPXA Product Overview

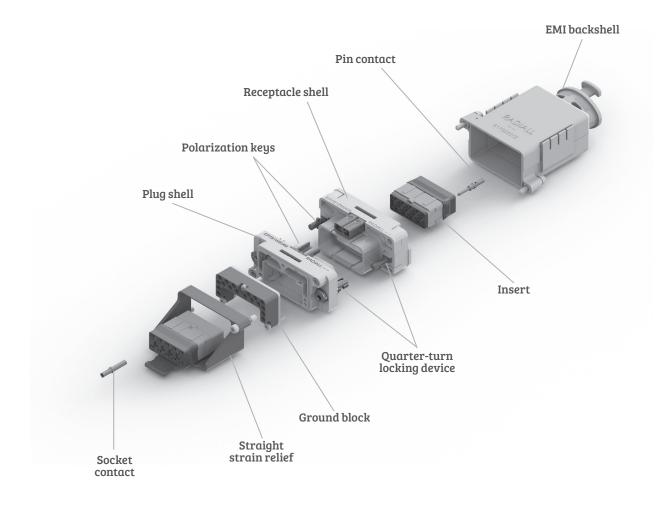
Detailed view of receptacle and plug with accessories for the EPXA1 connector





EPXB1 Product Overview

Detailed view of receptacle and plug with accessories for the EPXB1 connector





How to Order EPXA & EPXB1 Shell

	EPX	B1	Р	В	0	4	M
Shell size A1: Single small cavity shell B1: Single large cavity shell Shell style P: Plug R: Receptacle W: Plug with ground block Z: Receptacle with ground block		d spring fin	gers				
Shell mounting option ⁽¹⁾ B: Plug without mounting hole M: Receptacle with 2 mounting		UNC for rea	r panel ⁽²⁾				
Locking device 0: Quarter-turn fastener							
Polarization code ⁽³⁾ 4: Shell delivered with polarizi 5: Shell delivered with no pola			led				
Shell plating —							

- M: Nickel-plated composite for EPXB1
- **K:** Nickel-plated aluminium for EPXB1 (mateable with version M composite shell)
- N: Nickel-plated aluminium for EPXA

NOTES:

- [1] Recommended locking torque: 1.6Nm (14.16 in-lbs) for metallic shell and 1.1Nm (9.73 in-lbs) max for composite shell
- [2] Self-locking mounting holes are designed for rear panel mounting
- (3) Please see page 1-33 on how to use the polarization device



How to Order EPXA & EPXB1 Assembly Kit

Assembly kit is delivered fully assembled including shell with insert mounted, with or without contacts according to the selection.

Tips to help you in your selection:

- You are free to use either pin or socket inserts in EPXA & EPXB1 plug or receptacles.
- Crimp contacts can be delivered with a kit, check which contacts would be included on page 1-12.
- If PC tail are selected then all cavities including signal, power and quadrax are populated. Size 5 coax cavities are not populated.
- If PC tail contacts are needed, remember that they are available as pin straight PC tail contacts in receptacles only.

	EPX	B1	R	4	М	Е	M	YA
SHELL SELECTION PAR	Т							
Series prefix ————								
Shell size A1: Single small cavity sh B1: Single large cavity sh								
Shell style ?: Plug R: Receptacle W: Plug with ground bloc Z: Receptacle with groun		nd groun	d fingers					
colarization code : Shell delivered with po : Shell delivered with no				nbled				
Shell plating M: Nickel-plated compos K: Nickel-plated aluminion N: Nickel-plated aluminion	um for EF	XB1 (ma	teable wit	th version	M compo	osite shell		
INSERT SELECTION PAR	RT							
nsert class E: Environmental N: Non-environmental (no H: Non-environmental ins T: Non-environmental ins	sert with a	a rear gro	ommet, av	ailable fo				
Insert code Refer to page 1-12 to sele	ct insert o	code						
Contacts termination — XS: Socket insert without XP: Pin insert without cor SS: Socket insert with crimp	ntacts mp conta	cts] TI	nese conta	acts are d	elivered (uninstalled	Ŀ	



Refer to page 1-30 to select PC tail contacts for receptacle

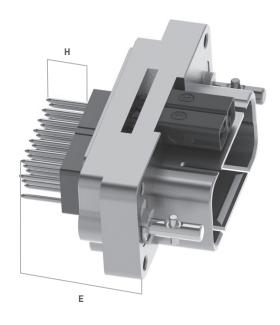
YA: Gold PC tail contacts length A

ZA: Tin-lead PC tail contacts length A **RA:** Pure tin (RoHS) PC tail contacts length A

Contacts Termination for EPXB1

EPXB1 RECEPTACLES (aluminium and composite shell version)

Straight PC Tail contact termination									
Min Length E mm (inch)	Min Length H mm (inch)	Gold	Tin-lead	Pure tin (RoHS)					
16.20 (0.637) [1]	/	YA	ZA	RA					
19.40 (0.763) [1]	/	YB	ZB	RB					
21.25 (0.836) [1]	/	YC	ZC	RC					
25.20 (0.992)	5.40 (0.212)	YD	ZD	RD					



NOTE:

(1) These PC tail lengths are not compatible with EPXBE and EPXBH inserts

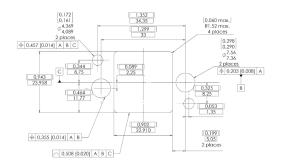


EPXA Shell Dimensions

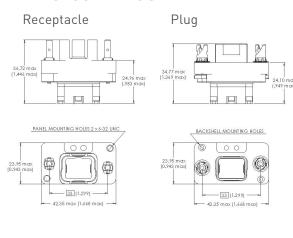
WITHOUT GROUND BLOCK

Receptacle Plug 25.00 max | 25.50 max | 20.255 max | 20

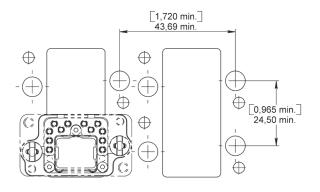
SINGLE PANEL CUT OUT (2)



WITH GROUND BLOCK



MULTIPLE PANEL CUT OUT (2)



NOTES:

(1) Maximum dimension for insert with grommets

For inserts without grommets maximum dimensions will be for receptacle 25.55mm (1.006in) and for the plug 23.52mm (0.926in) [2] Rear mounting side view with key post oriented to the upper side

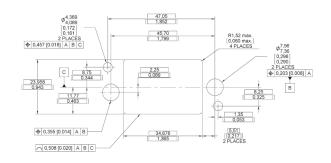


EPXB1 Shell Dimensions

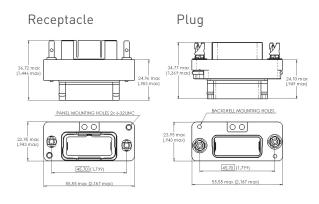
WITHOUT GROUND BLOCK

Receptacle Plug 25.00 max | 13.05 max | 13.05 max | 15.00 max |

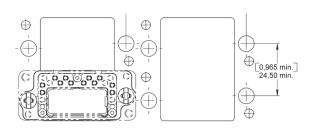
SINGLE PANEL CUT OUT (2)

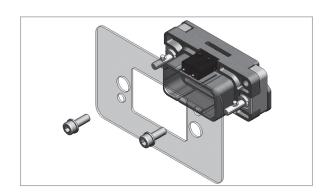


WITH GROUND BLOCK



MULTIPLE PANEL CUT OUT (2)





NOTES

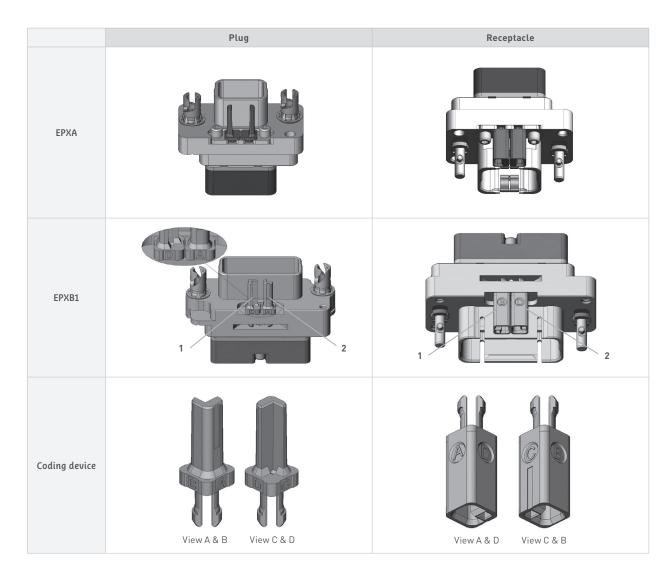
- (1) Maximum dimension for insert with grommets. For inserts without grommets: Insert is flush to the shell. Maximum dimension for the receptacle is 25.55 mm(1.006 in) and for the plug is 23.52 mm(0.926 in). For inserts with optical contacts: the maximum dimension for the receptacle is 38.70 mm(1.524 in) and the plug is 36.00 mm (1.418 in)
- (2) Rear mounting side view with key post oriented to the upper side



Polarization Code

EASY READING OF POLARIZATION CODE

Caution: Read the polarization code from left to right, the same way the part number marking can be read on the connector



There are 16 possible codings:

Key position 1	А	А	А	А	В	В	В	В	С	С	С	С	D	D	D	D
Key position 2	А	В	С	D	А	В	С	D	А	В	С	D	А	В	С	D



CONTACTS

EPXA & EPXB1 Accessories

SPARE PARTS & DUST CAPS

	Part number		Description	Assembly tool	Assembly torque	
	EPXA EPXB1		Description	Haselitoty tool	rissembly torque	
	617980032	-	Polarization kit for plug connector	282666002	0.8 Nm	
	617980033	-	Polarization kit for receptacle connector	202000002	(7 In-Ibs)	
	-	617980030	Polarization post			
	-	617980031	Polarization key			
and the	617954006	617954008	Dust cap for plug shell (pink color)	N/A		
	617954007	617954009	Dust cap for receptacle shell (pink color)			
	617954044	617954034	ESD dust cap for plug shell (black color)			
	617954045	617954028	ESD dust cap for receptacle shell (black color)		N/A	
	617929033		Sealing inserts for fly away applications: mateable		N/A	
		617929023	with pin insert	- N/A		
	617929032		Sealing inserts for fly away	N/A		
		617929022	applications: mateable with socket insert			



Go online for data sheets & assembly instructions

EPXA & EPXB1 Accessories

STRAIN RELIEF AND EMI BACKSHELLS

Part number		Description	Assembly	Assembly	
EPXA	EPXB1	Description	tool	torque	
617921030	617921029	Straight strain relief (composite)			
617921032	617921031	45° strain relief (composite)			
-	617921035	Strain relief for fiber optic (anodized aluminium)	282666002	0.8 Nm (7 In-lbs)	
-	617924016	Straight EMI backshell (Nickel-plated aluminium)			
-	617928002	Straight EMI backshell (Nickel-plated composite)			

NOTE:

For mounting instructions, please contact Radiall



CONTACTS

EPXB2 Disconnect Connectors

When less is more.

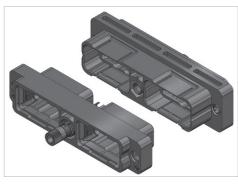
Radiall EPXB2 disconnect connectors have been widely used in aerospace industry for more than 10 years. As a worldwide leader in cable to cable and PCB to cable connections, Radiall is committed to constantly innovating to meet the demands of the industry with the most effective and reliable solutions.

Demand for weight saving connection solution is now growing more and more.

Radiall is proud to introduce:

- EPXB2 class M (Nickel plated composite)
- EPXB2 class J (Weight optimized aluminium)

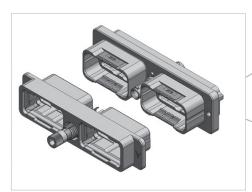
Two proven and available alternatives when you are facing weight issues in cable to cable and PCB to cable connections.



EPXB2 class M

Performances:

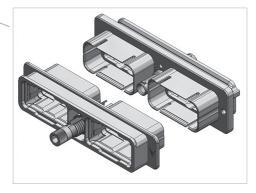
- Weight saving compared to class N EPXB2 : -15%
- T° range: -65°C / +125°C



EPXB2 class N

Performances:

- T° range -65°C / +175°C



EPXB2 class J

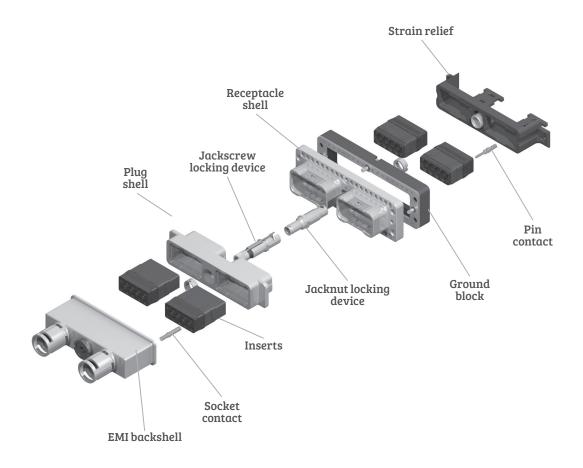
Performances:

- Weight saving compared to class N EPXB2: -15%
- Cost effective solution
- T° range: -65°C / +175°C



EPXB2 Product Overview

Detailed view of receptacle and plug with accessories for the EPXB2 disconnect connector.





How to Order EPXB2 Shell

	EPX	B2	Н	L	2	2	N
Series prefix —							
Shell size B2: Two cavity shell							
For option compatibility, set L: Receptacle with flange at H: Receptacle with ground Z: Receptacle with ground R: Receptacle without ground P: Plug W: Plug with ground block	and ground fingers block and g und fingers	fingers ground fing	gers				
A: Panel rear mounted con B: No mounting holes D: Connector with 2 x Ø3.10 F: Panel rear mounted con L: Panel rear mounted con	0 mm thru inector with	n 4 x 6-32 r holes n 2 x 6-32 r	mounting h	oles			
Locking & polarization de 1: Jackscrew 2: Jacknut 3: Without locking device	vice ^[1]						

5: Socket centering guide for receptacle shell for LRU (Line Replaceable Unit) application only [2] Polarization code (3) -

- 2: Polarizing device A to F delivered unassembled
- 3: Polarizing device N to Z delivered unassembled

Shell plating

- N: Nickel-plated aluminium
- M: Nickel-plated composite
- J: Nickel-plated weight optimized aluminium

AVAILABLE SHELL MOUNTING

	Shell style	A (4 x 6.32 UNC)	B (no holes)	D (2 x Ø3.10mm)	F (2 x 6.32 UNC)	L (2 x 4.40 UNC)
	L			√	√	√
	Н		√	√	√	√
Class N (sluminium)	Z	√	√			
Class N (aluminium)	R	√				
	Р		√	√		√
	W	√	√	D (2 x Ø3.10mm) F (2 x 6.32 UNC V V V V V V V V V		
Class I (waisht autimized aluminium)	Н					√
Class J (weight optimized aluminium)	Р		√			
	L			√		√
Class M (composite)	Р		√	√		√

NOTES:

 $\hbox{(1) Jackscrew/Jacknut can be mounted on either plug or receptacle shell. However, the standard options are: } \\$

4: Pin centering guide for plug shell for LRU (Line Replaceable Unit) application only (2)

- Jackscrew for plug shells
- Jacknut for receptacle shells
- (2) Pin/Socket centering guides can be mounted on either plug or receptacle shells. However, the standard options are:
- Pin centering guide for plug shells
- Socket centering guide for receptacle shells
- (3) Please see page 1-44 for how to use the the polarization coding



How to Order EPXB2 Assembly Kit

Assembly kits are delivered fully assembled including shell with inserts mounted, with or without contacts according to the selection. When selecting your insert codes, do not forget to place them in the order you want them assembled. Locking and polarizing devices are delivered uninstalled. Tips to help you in your selection:

- You are free to use either pin or socket inserts in EPXB plug or receptacle.
- Crimp contacts can be delivered with a kit, check which contacts will be included on page 1-12.
- PC tail contacts can also delivered with a kit. Remember that only straigh tpin PC tail contacts are available, and in receptacle only.
- If PC tail contacts are selected then all cavities including signal, power and quadrax are populated. Size 5 coax cavities are not populated.

All connector inserts will use the same insert class and the same contact termination.

	EPX	B2	Н	В	2	N	N	ВС	ZB
SHELL SELECTION PART									
Series prefix —									
Shell size									
B2: Two cavity shell									
Shell style									
For option compatibly, see ta	able on pa	ge 1-36							
L: Receptacle with flange an	d ground t	fingers							
H: Receptacle with ground fi	9								
Z: Receptacle with ground bl		round fin	gers						
R: Receptacle without groun	d fingers								
P: Plug									
W: Plug with ground block									
Shell mounting A: Rear panel mounted conn	octor with	. /. / 22	mounting	20100					
B: No mounting holes	ector with	148 0-32 1	inounting i	iotes					
D: Connector with 2 x Ø3.10 r	mm thru h	oles							
F: Rear panel mounted conn			mountina	holes					
L: Rear panel mounted conn									
Polarization ————									
1: Jackscrew polarizing devi	ce A to F								
2: Jacknut polarizing device	A to F								
3: Without locking device									
4: Pin centering guide for plu	9								
5: Socket centering guide for		le shell fo	or LRU app	lication (only, pola	rizing devi	ce A to F		
6: Jackscrew polarizing devi									
7: Jacknut polarizing device		n I Dilan	aliaatian a	مارد ممامس	ining day	 	I		
8: Pin centering guide for plu 9: Socket centering guide for							ico N to 7		
Shell plating	тесеріас	te shett it	л ско арр	, tication t	onty, pota		1		
N: Nickel-plated aluminium									
M: Nickel-plated composite									
J: Nickel-plated weight optin	nized alun	ninium							
INSERTS SELECTION PART	1								
Insert class									
E: Environmental									
N: Non-environmental									
H: Non-environmental inser	t with a re	ar gromr	net, availa	ble for pi	n insert o	nly (recon	nmended	for crimp	contact)
T: Non-environmental insert	t with inte	rfacial se	al, availab	le for pin	insert on	ly (recomi	mended f	or PC tail	contact)
Insert code —									
Refer to page 1-12 to select of	code inser	t							
Contacts termination —									
XS: Socket insert without co									
XP: Pin insert without contac	cts								
SS: Socket insert with crimp	contacts	_							
SP: Pin insert with crimp cor		These	e contacts	are deliv	ered unin	stalled			
·		_							
YA: Gold PC tail contacts len ZA: Tin-lead PC tail contacts			Pofor to	nagoc 1	(∩ to col	oct DC toil	contacts	for recept	aclo
DA. Duro tin (DoUS) DC tail o	9	nath A	Iverer 10	payes 1-	40 10 5816	ct F G tdll	CUITACES	ioi recept	acie



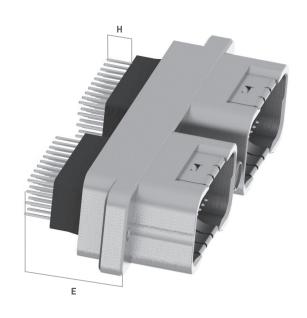
Contacts Termination for Receptacles

EPXB2 COMPOSITE SHELL

	Straight PC Tail contact termination									
Min Length E mm (inch)	Min Length H mm (inch)	Gold	Tin-lead	Pure tin (RoHS)						
14.20 (0.559) [1]	/	YA	ZA	RA						
17.35 (0.683) [1]	/	YB	ZB	RB						
19.20 (0.755) [1]	/	YC	ZC	RC						
23.10 (0.909)	5.40 (0.212)	YD	ZD	RD						

EPXB2 WEIGHT OPTIMIZED ALUMINIUM AND ALUMINIUM SHELL

Straight PC Tail contact termination									
Min Length E mm (inch)	Min Length H mm (inch)	Gold	Tin-lead	Pure tin (RoHS)					
14.55 (0.572) [1]	/	YA	ZA	RA					
17.75 (0.698) [1]	/	YB	ZB	RB					
19.55 (0.769) [1]	/	YC	ZC	RC					
23.50 (0.925)	5.40 (0.212)	YD	ZD	RD					



NOTE:

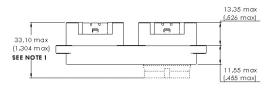
(1) These PC tail lengths are not compatible with EPXBE and EPXBH inserts

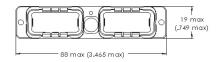


EPXB2 Metallic Shell Dimensions

WITHOUT GROUND BLOCK Class N & J

Receptacle



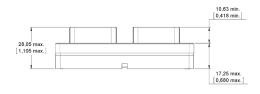


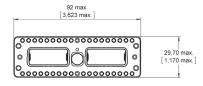
Plug 10,63 min (,418 min) 30,40 max (1,197 max) SEE NOTE 1 11,25 max (,443 max)



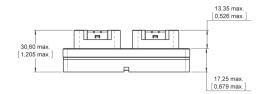
WITH GROUND BLOCK Class N

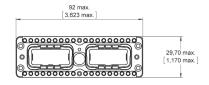
Receptacle





Plug





PANEL CUT OUT Class N & J

Shell mounting code D, F and L



Shell mounting code A



NOTES:

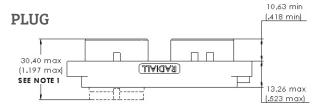
For inserts with grommets: maximum dimension is shown in the diagram

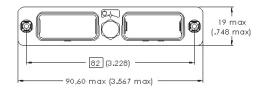
(1) For inserts without grommets: Insert is flush to the shell. Maximum dimension for the receptacle is 25.55 mm(1.006 in) and for the plug is 23.52 mm(0.926 in)

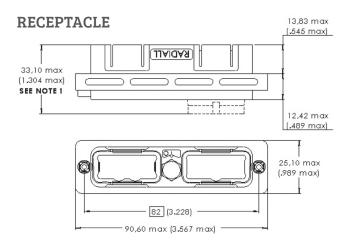
For inserts with optical contacts: the maximum dimension for the receptacle is 38.70 mm(1.524 in) and for the plug is 36.00 mm (1.418 in)



EPXB2 Composite Shell Dimensions

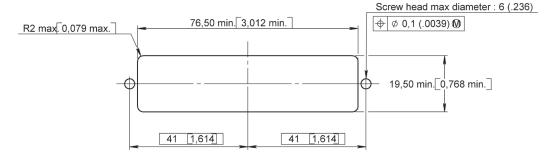






PANEL CUT OUT

Shell mounting code D and L



NOTE

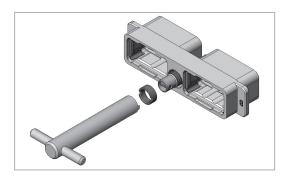
(1) For inserts with grommets (EPXBE and EPXBH) : maximum dimension is shown in the diagram

For inserts without grommets (EPXBN): Insert is flush to the shell. Maximum dimension for the receptacle is $25.55 \, \text{mm} (1.006 \, \text{in})$ and for the plug is $23.52 \, \text{mm} (0.926 \, \text{in})$

For inserts with optical contacts: the maximum dimension for the receptacle is 38.70 mm(1.524 in) and the plug is 36.00 mm (1.418 in)



EPXB2 Polarization Code



As a standard, jackscrews shall be installed in plugs and jacknuts in receptacle shells.

The polarizing device must be locked by the operator at 1.2 Nm (10.62 Lb-In.) for the metallic shell and 0.8Nm (7.08 Lb-In.) for composite shell. LOCTITETM 272 resin shall be used to assemble them.

The nut can be fixed with your automatic screwdriver and the tool bit we provide (PN 282 664)

Designation	Polarization code	Coding device key	Part number	
	From A to F		617980012	97
Jackscrew	From N to Z 30° offset compared to the key of jackscrew P/N 617980012	30°	617980013	
	Universal		617980023	
	From A to F		617980029	
Jacknut	From N to Z 30° offset compared to the key of jacknut 617980029	30°	617980028	
	Universal		617980022	



CONTACTS

EPXB2 Polarization Code

PLUG SHELL

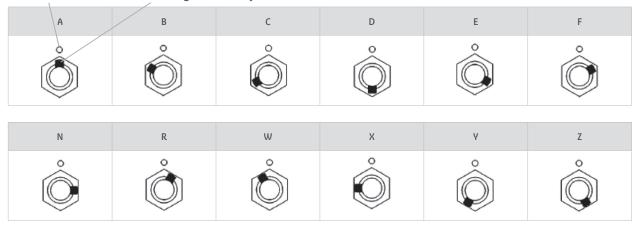
Shell reference mark



Aluminium shell

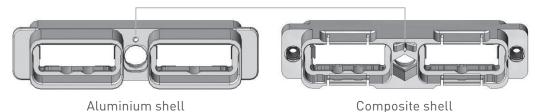
Composite shell

Shell reference mark Coding device key



RECEPTACLE SHELL

Shell reference mark



Shell reference mark Coding device key

Go online for data sheets & assembly instructions

A	В	С	D	E	F
	Ô		ô		ô
N	R	w	х	Y	z
	Ů	Ů	Ů.	ô	ô



1-45

EPXB2 Accessories

	Part number	Description	Assembly tool (2)	Assembly torque
	617922007	Straight strain relief (composite)	282664 or	0.8 Nm (7.08 in-lbs)
	617922014	Straight strain relief for fiber optic cable (anodized aluminium)	282665	
	617928100	Straight EMI backshell (nickel-plated composite)	Allen wrench 1/4 inch	
O DO B	617925052	EMI backshell for braid shield termination (nickel-plated aluminium)	282664	1.2 Nm (10.62 in-lbs)
OF CL.	617925054	EMI backshell for screened twisted pair cables (nickel-plated aluminium)	or 282665	
	617925056	Backshell for large sized wire harnesses (nickel-plated aluminium) ⁽¹⁾	282664 or 282665 and Allen wrench	

NOTE:

- (1) Not compatible with jackscrew
- (2) For more details, refer to page 1-47



EPXB2 Spare Parts

	Part number	Description
	617954101	Grounding spring (for EPXB2 aluminium only)
	617980029	Jacknut – A/B/C/D/E/F
	617980028	Jacknut – N/R/W/X/Y/Z
	617980022	Universal jacknut
	617980012	Jackscrew – A/B/C/D/E/F
	617980013	Jackscrew – N/R/W/X/Y/Z
	617980023	Universal jackscrew
	617954002	Dust cap for plug shell (pink color)
RADO	617954003	Dust cap for receptacle shell (pink color)
BX T	617954004	ESD dust cap plug shell (black color)
	617954005	ESD dust cap receptacle shell (black color)



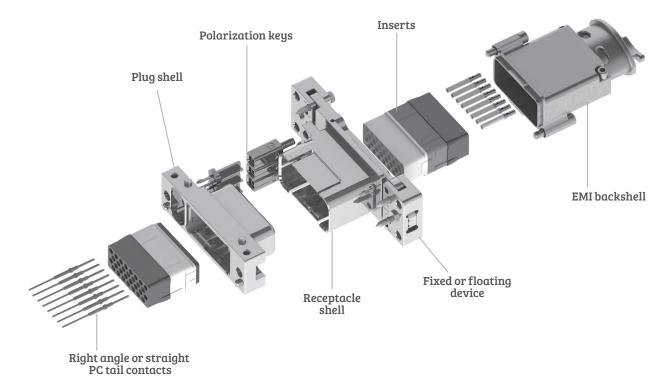
Tools

Part number	Description	To be used				
Furt Humber	Description	EPXA	EPXB1	EPXB2		
282664	1/4 inch hex. screwdriver bit to affix the nut of the jackscrew or the jacknut to the EPXB2 accessories			X		
282665	Spigot wrench to affix the nut of the jackscrew or the jacknut to the EPXB2 accessories			X		
282666	Allen wrench for 1/4 turn fasterner (3/32 inch)	X	X			
282666002	Allen wrench for rear accessories (5/64 inch)		X			
282666001	Allen wrench for jackscrew (9/64 inch)			X		
282521002	Insert extraction tool		X	X		
282521004	Right angle insert extraction tool		X	X		
282521005	Insert extraction tool	X				
617954020	Plastic box to protect wired inserts during handling	Х	X	X		
F780855000	Hexagonal key 2mm (5/64inch) Flats for sleeve holder removal		X	X		
282668001	Tweezers to change polarizing posts and keys		X			



EPXB1 Product Overview

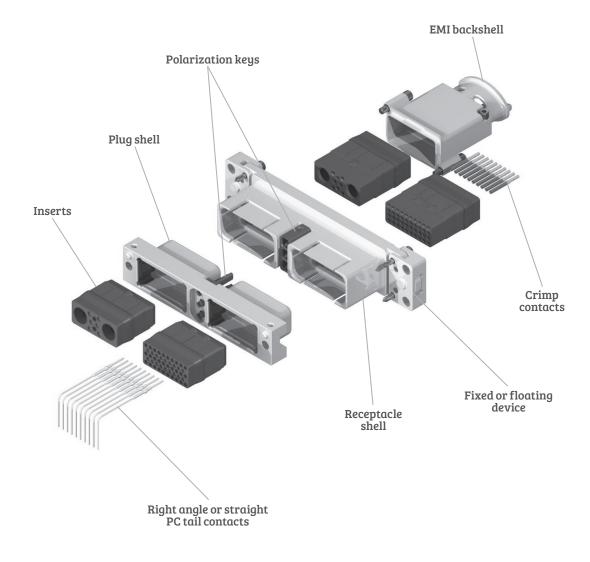
Detailed view of receptacle and plug with accessories for the EPXB1 rack and panel connector.





EPXB2 Product Overview

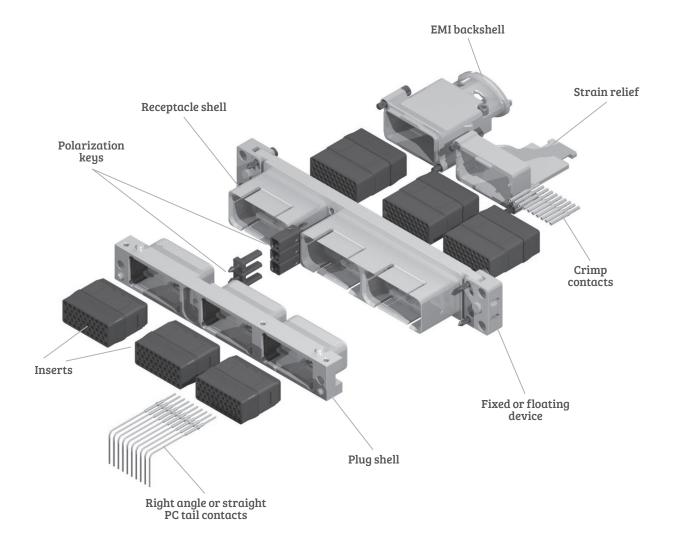
Detailed view of receptacle and plug with accessories for the EPXB2 rack and panel connector.





EPXB3 Product Overview

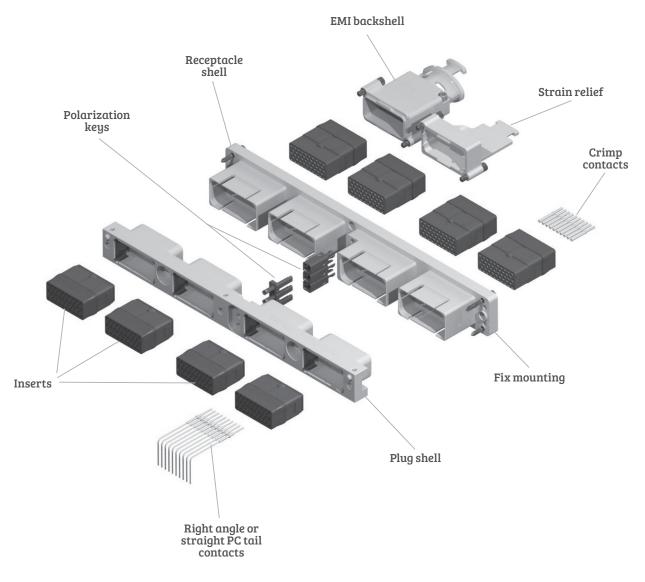
Detailed view of receptacle and plug with accessories for the EPXB3 rack and panel connector





EPXB4 Product Overview

Detailed view of receptacle and plug with accessories for the EPXB4 rack and panel connector





How to Order EPXB1, B2, B3 & B4 Shell

	EPX	В3	Р	N	1	0
Series prefix						
Shell size B1: One cavity shell B2: Two cavity shell B3: Three cavity shell B4: Four cavity shell						
Shell style P: Plug, nickel-plated R: Receptacle, nickel-plated						
Shell mounting (refer to page 1-54 for codi M: Plug, fixed connector with Ø3.96m N: Plug, fixed connector with 8-32 UN S: Receptacle, fixed with 4 x 8-32UN T: Receptacle, floating with 4 x 8-32 UN	m holes & NC & 4-40l C	JNC on sid				
Polarization code 1: Shell delivered with polarizing keys 2: Shell delivered with no polarizing keys		bled				
Panel cut-out coding	f + b	Ja aalaat:-	_			

A to Z: Receptacle, refer to page 1-59 for the code selection

O (zero): Plug, no panel cut out coding

NOTE:

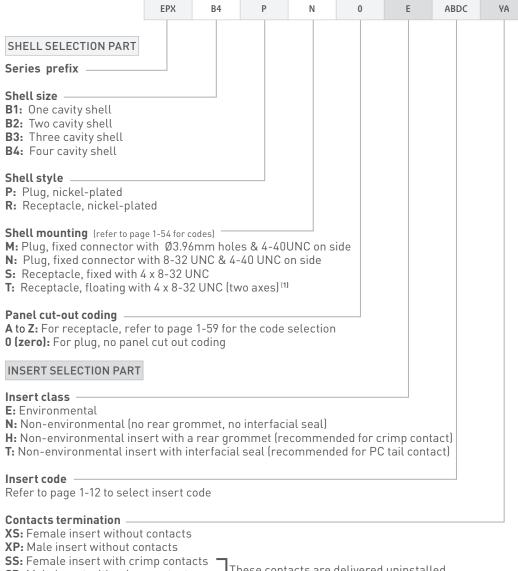
(1) This floating option is not available in EPXB4 version



How to Order EPXB1, EPXB2, B3 & B4 Assembly Kit

Assembly kit is delivered fully assembled including shell with inserts mounted, with or without contacts according to the selection. When selecting your insert codes, do not forget to place them in the order you want them assembled. Polarization keys are always provided unassembled with assembly kits. Tips to help you in your selection:

- You are free to use either pin or socket inserts in EPXB plug or receptacle.
- Crimp contacts can be delivered with a kit, check which contacts will be included on page 1-12.
- If PC tail contacts are selected then all cavities including signal, power and quadrax are populated. Size 5 coax cavities are not populated.
- If PC tail contacts are needed, remember that only straight pin PC tail contacts are available, and in plug only. All connector inserts will use the same insert class and the same contact termination.



SP: Male insert with crimp contacts

These contacts are delivered uninstalled.

YA: Gold PC tail contacts length A
ZA: Tin-lead PC tail contacts length A

RA: pure tin (RoHS) PC tail contacts length A

Refer to page 1-54 to select PC tail contacts for plug

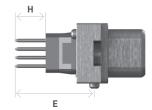
NOTE:

(1) This floating option is not available in EPXB4 version

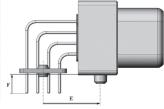


Contacts Termination for EPXB1, EPXB2, EPXB3 and EPXB4 Plugs

Straight PC Tail contact termination									
Mini Length E mm (inch)	Mini Length H mm (inch)	Gold	Tin-lead	Pure tin (RoHS)					
10.60 (0.417) [1]	/	YA	ZA	RA					
13.80 (0.543) (1)	/	YB	ZB	RB					
15.60 (0.614) [1]	/	YC	ZC	RC					
19.55 (0.769)	5.40 (0.212)	YD	ZD	RD					



Right Angle PC Tail contact termination (2)					
Mini length F Mini length E Gold Tin-lead Pure tin					
2.20 (0.086)	12.85 (0.505) [1]	GA	LA	TA	
3.60 (0.141)	20.10 (0.791)	GB	LB	ТВ	
3.60 (0.141)	12.85 (0.505) [1]	GC	LC	TC	
2.20 (0.141)	20.10 (0.791)	GD	LD	TD	



NOTES:

(1) These PC tail lengths are not compatible with EPXBE and EPXBH inserts

(2) Right angle PC tail lengths GA, LA, TA and GD, LD, TD are not available for #5 and #8 power contacts

EPXB Shell Mounting

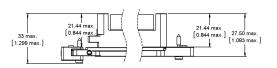
Receptacle side	Code	Plug sides
N/A	М	Fixed connector with Ø 3.96 mm holes & 4-40 UNC front or side mount 4-40 UNC 03.96 mm
N/A	N	Connector with 8-32 UNC & 4-40 UNC front or side mount
Fixed with 4 x 8-32 UNC panel rear mount	S	N/A
Floating with 4 x 8-32 UNC panel rear mount	Т	N/A

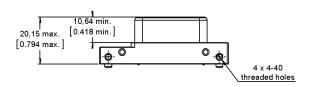


EPXB1 Shell Dimensions & Panel Cut-outs

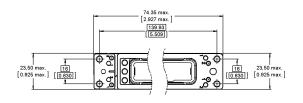
RECEPTACLE

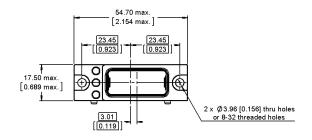
Floating Mount Fixed Mount



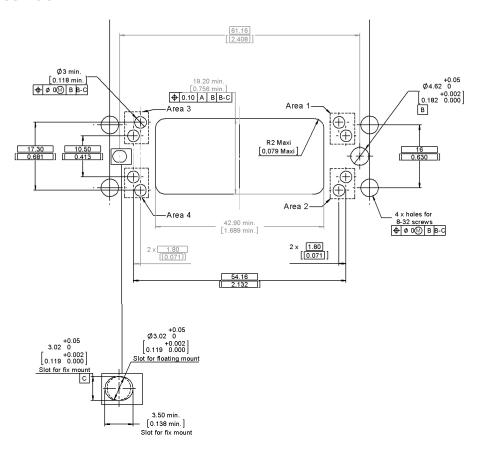


PLUG





PANEL CUT OUT (1)



(1) The panel cut-out is shown from the rear of the panel

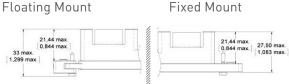


EPXB2 Shell Dimensions & Panel Cut-outs

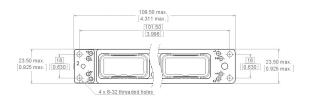
RECEPTACLE

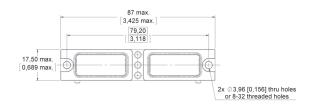
Fixed Mount

PLUG

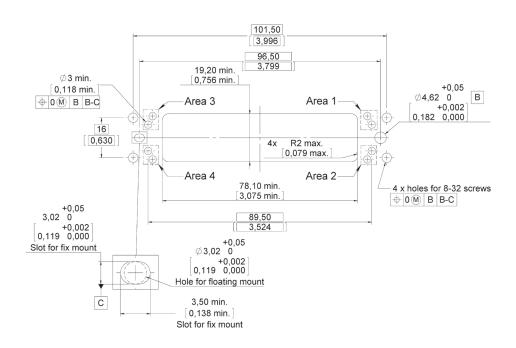








PANEL CUT OUT (1)



NOTE:

(1) The panel cut-out is shown from the rear of the panel

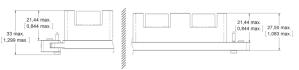


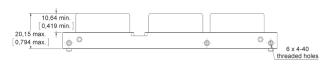
EPXB3 Shell Dimensions & Panel Cut-outs

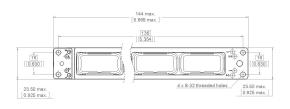
RECEPTACLE

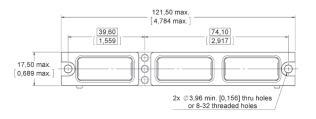
PLUG Fixed Mount

x, y Floating Mount

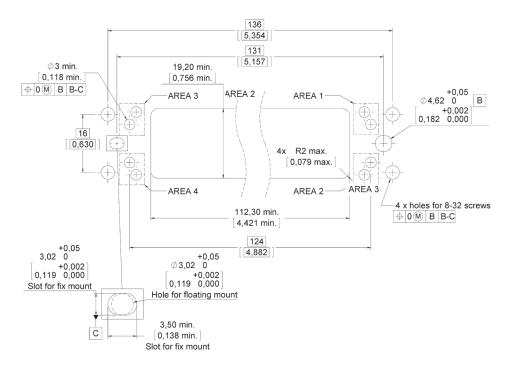








PANEL CUT OUT (1)



NOTE:

(1) The panel cut-out is shown from the rear to the panel

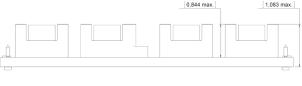


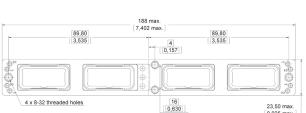
 $\overline{\Box}$

EPXB4 Shell Dimensions & Panel Cut-outs

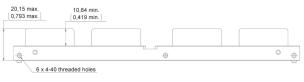
RECEPTACLE

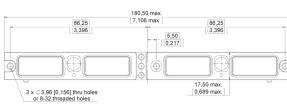
21,44 max. [0,844 max. 27,50 max. [1,083 max.



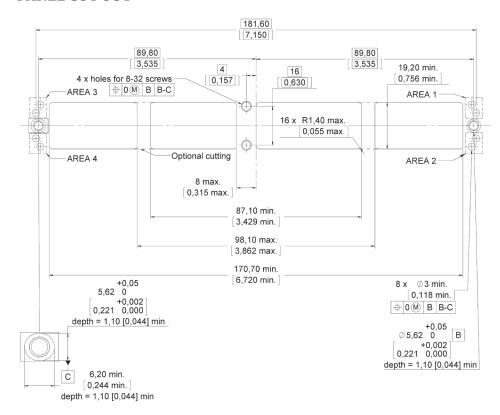


PLUG





PANEL CUT OUT [1]



NOTE:

(1) The panel cut-out is shown from the rear of the panel

Go online for data sheets & assembly instructions



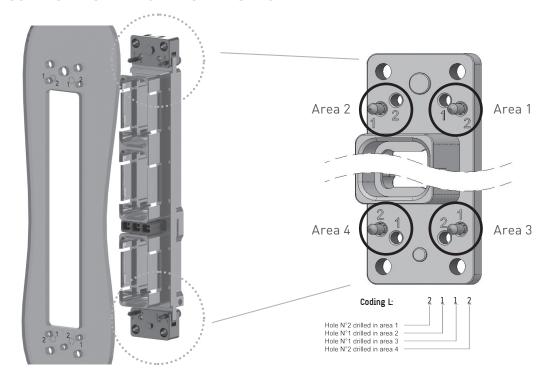
EPXB Panel Cut-out Coding

When several EPXB connectors are used with the same equipment, a coding is available on the shell to correlate the correct shell with the correct panel cut-out.

On the panel cut-out, four areas are coded, area 1, 2, 3 and 4 (see figure below). For each area, one of the two holes should be drilled (hole n°1 or hole n°2). Each hole on the panel cut-out corresponds to the use of a coding pin on the shell.

Panel cut-out coding	Panel hole number to drill in Area 1	Panel hole number to drill in Area 2	Panel hole number to drill in Area 3	Panel hole number to drill in Area 4	
А		Connector delivered with	coding device uninstalled		
В	1	1	1	1	
С	1	1	1	2	
D	1	1	2	1	
Е	1	1	2	2	
F	1	2	1	1	
G	1	2	1	2	
Н	1	2	2	1	
J	1	2	2	2	
K	2	1	1 1		
L	2	1	1 2		
М	2	1	2	1	
N	2	1	2	2	
Р	2	2	1	1	
R	2	2	1	2	
S	2	2	2	1	
Т	2	2	2	2	
Z	Connector delivered without coding pin ⁽¹⁾				

CODING PINS ARE FOR RECEPTACLE ONLY



(1) Z panel cut out coding is only available with fix mounting

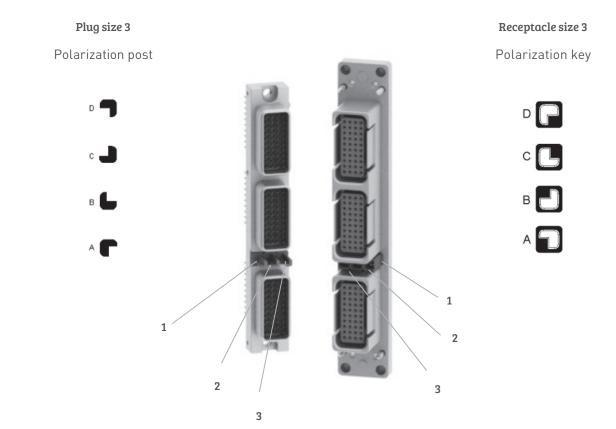


EPXB Polarization Code

EASY READING OF POLARIZATION CODE

Polarization device is included in the part number and could be installed as shown below Each shell has 3 keys which can be in four different position

The three polarization keys can have their own position which allow a large range of codification



Connectors are shown front side with cavity A upwards
This is how you should read your code for either EPXB2 or EPXB3 or EPXB4



Go online for data sheets & assembly instructions

Rack & Panel Accessories

	Part number	Description	Assembly torque
	617925073	EMI backshell for receptacle only (aluminium nickel-plated)	0.55±0.05 Nm (4.87±0.44 in-lbs)
	617922022	Straight strain relief for receptacle only (composite)	0.55±0.05 Nm (4.87±0.44 in-lbs)
	617954002	Dust cap for plug shell (pink color)	N/A
RADI	617954003	Dust cap for receptacle shell (pink color)	N/A
EX.	617954004	ESD dust cap plug shell (black color)	N/A
	617954005	ESD dust cap receptacle shell (black color)	N/A
	617980052	Coding Pin	0.8 Nm (7 in-lbs)
	617980054	Polarization post	N/A
	617980055	Polarization key	N/A



Rack & Panel Tools

	Part number	Description	EPXB
	282521002	Insert extraction tool	X
	282521004	Right angle insert extraction tool	X
	617954020	Plastic box to protect wired inserts during handling	X
	F780855000	Hexagonal key 2mm (5/64inch) Flats for sleeve holder removal	Х
0	282549041	Removal tool for metal coding keys (M81969/30-06)	X



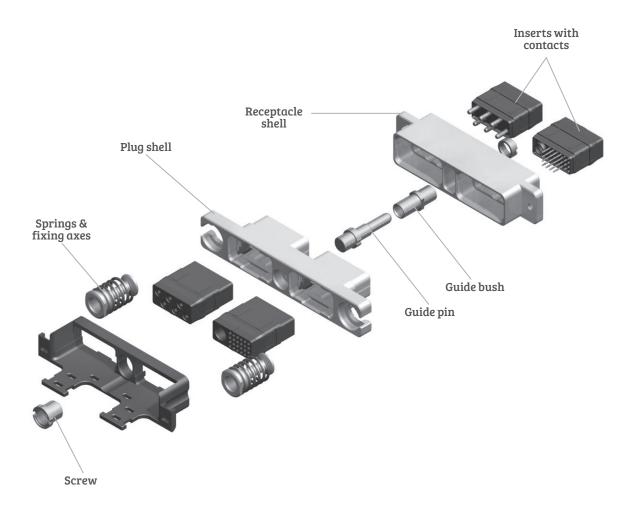
EPX Galley Product Overview

The new EPXB2 Galley connector was specially designed for the severe conditions required by galley equipment. A floating mechanism was developed to avoid any risk of jamming and to guarantee a fully sealed connection.

The EPXB2 is used on ovens, beverage makers, refrigerators, microwave ovens and other equipment which fit within the new standardized galley layouts.

The EPXB2 connector is modular and provides extra contact density to add new contacts such as the #8 Twinax CAN data bus contact. Backshell accessories are also available.

Detailed view of receptacle and plug with accessories for the EPXB2 galley connector





INSERTS

How to Order EPX® Galley Equipment Connector

RECEPTACLE AND PLUG ASSEMBLY KIT

Part number	Description
617610188 or 617610558	Receptacle assembled kit (*)
617610189	Plug assembled kit (*)

[*]Part numbers for assembly kits include: plug or receptacle shell, inserts, contacts, sealing plugs and dust caps.

Each item included in the kit is indicated in the table below and can also be ordered separately

RECEPTACLE KITS

617610188

Shell with 2 self-locking threaded holes

Part number	Description	Quantity per kit
617610212	Receptacle shell	1
EPXBE25Q1PA	Insert for cavity A	1
EPXBE06PB	Insert for cavity B	1
617200	Pin crimp contacts/Size 22	15
617250	Pin crimp contacts/Size 12	6
616910	Filler plug	9
617954003	Dust cap	2

617610558

Shell with 2 thru holes

Part number	Description	Quantity per kit
617610419	Receptacle shell	1
EPXBE25Q1PA	Insert for cavity A	1
EPXBE06PB	Insert for cavity B	1
617200	Pin crimp contacts/Size 22	15
617250	Pin crimp contacts/Size 12	6
616910	Filler plug	9
617954003	Dust cap	2

PLUG KIT

617610189 contents

Part number	Description	Quantity per kit
617610213	Plug shell	1
EPXBE25Q1SA	Insert for cavity A	1
EPXBE06SB	Insert for cavity B	1
617300	Socket crimp contacts/Size 22	15
617350	Socket crimp contacts/Size 12	6
616910	Filler plug	9
617922007	Strain relief	1
617954002	Dust cap	2

CAN DATA BUS CONTACTS

Go online for data sheets & assembly instructions

Part number	Description	
617165011	Size 8 Twinax pin contact	
617065011	Size 8 Twinax pin contact	



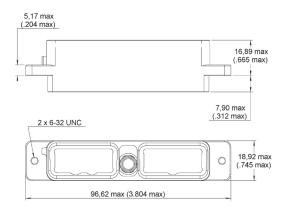
Dimensions and Panel Cut Out

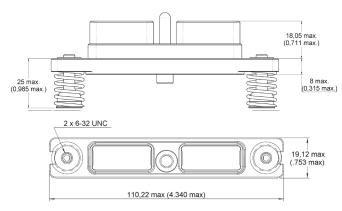
EPX® GALLEY EQUIPMENT CONNECTOR PER ARINC 800

RECEPTACLE

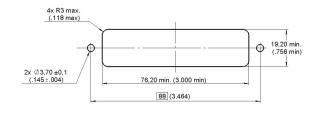
Front mount

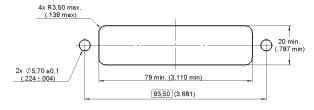






PANEL CUT OUT

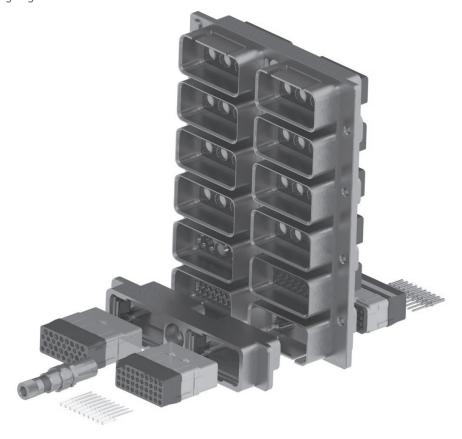




Multi-gang EPX® Connectors

A whole range of multigang connectors is available for disconnect and rack and panel applications. Multigang connectors features and benefits:

- Weight saving design
- Make installation easier and quicker
- Utilize EPX modularity and its whole range of inserts
- Take advantage of EPX connectors functionalities and use EPXB2 standard plug shells with a multigang shell



Specifications

- Several cavities for EPXB inserts : from 4 to 20 cavities
- Standard EPX strain reliefs and backshells available
- In accordance with EN4644 performances

Several options are available:

- Grounding block
- Grounding spring fingers
- Float mounting
- Spring loaded mounting



area offices



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