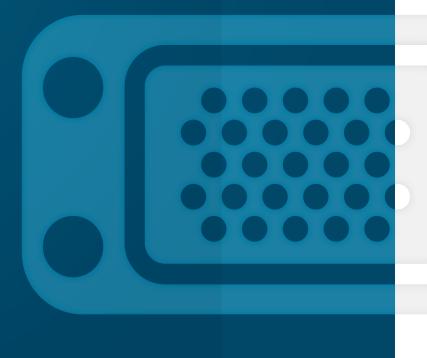




EPX™ SERIES

Product Catalog





SIMPLIFICATION is our INNOVATION

Radiall is a community of dedicated individuals with a shared purpose: simplify life for all those who innovate. Our manufacturing expertise allows us to deliver lighter and smaller products that simplify implementation and drive performance. We recognize that simplification starts with us, but proves its true benefits when it reaches you.



| Contents | |
|--|--------------|
| Introduction | |
| Disconnect applications | |
| Rack and panel applications | 1-5 |
| CHARACTERISTICS | |
| Disconnect connector technical characteristics | |
| Rack & panel connector technical characteristics | 1-5 |
| Technical characteristics for inserts & contacts | 1-8 to 1-9 |
| INSERTS | |
| Insert selection table | 1-10 |
| How to order EPX® inserts | 1-11 |
| EPX® insert arrangements | 1-12 to 1-14 |
| CONTACTS | |
| Signal & power crimp contacts | |
| Oversized and reduced crimp barrel contacts | |
| Coaxial crimp contacts | |
| Twinax and triax crimp contacts | |
| Quadrax & BMA crimp contacts | 1-19 |
| LuxCis® fiber optic contacts | 1-20 |
| Signal PC tail contacts | 1-21 |
| Quadrax size 8 PC tail contacts | 1-22 |
| Filler plugs | 1-23 |
| Sealing plugs | 1-23 |
| DISCONNECT APPLICATION | |
| EPXA1 product overview | 1-24 |
| EPXB1 product overview | 1-25 |
| How to order EPXA1 and EPXB1 shell | 1-26 |
| How to order EPXA1 and EPXB1 assembly kit | 1-27 |
| Polarization code for EPXA1 and B1 | 1-28 |
| Contact termination for EPXB1 | 1-29 |
| EPXA1 shell dimensions | 1-30 |
| EPXA1 shell weights | |
| EPXB1 shell dimensions | |
| EPXB1 shell weights | |
| EPXA1 & EPXB1 spare parts and accessories | |
| EPXB2 connectors | |
| EPXB2 product overview | |
| EPXB2 range overview | |
| EPXB2 latest innovations | |
| How to order EPXB2 shell | |
| How to order EPXB2 assembly kit | |
| EPXB2 polarization code | 1-40 |



Contents

| DISCONNECT APPLICATION (CONTINUED) | |
|--|------|
| Contacts termination for receptacles. | 1-41 |
| EPXB2 aluminium shell dimensions 1-42 to | 1-43 |
| EPXB2 composite shell dimensions | 1-44 |
| EPXB2 weights | 1-45 |
| EPXB2 accessories | 1-46 |
| EPXB2 spare parts | 1-47 |
| Disconnect tools | 1-48 |
| RACK & PANEL APPLICATION | |
| EPX rack and panel for LRM - product overview | 1-49 |
| How to order EPXB1, B2, B3 & B4 shell for LRM | |
| How to order EPXB1, B2, B3 & B4 assembly kit for LRM | |
| EPXB shell mounting | |
| EPXB polarization code | 1-52 |
| Contacts termination for EPXB1, EPXB2, EPXB3 and EPXB4 plugs | 1-53 |
| EPXB panel cut-out coding | 1-54 |
| EPXB1 shell dimensions and panel cut-outs | 1-55 |
| EPXB2 shell dimensions and panel cut-outs | 1-56 |
| EPXB3 shell dimensions and panel cut-outs | 1-57 |
| EPXB4 shell dimensions and panel cut-outs | 1-58 |
| Rack & panel accessories | 1-59 |
| Rack & panel tools | 1-60 |
| EPXB2 for LRU product overview | 1-61 |
| How to order EPXB2 shell for LRU | 1-62 |
| How to order EPXB2 assembly kit for LRU | 1-63 |
| EPX® galley product overview | 1-64 |
| How to order EPX® galley equipment connector | 1-65 |
| Dimensions and panel cut out | 1-66 |
| Multi-gang EPX® connectors | 1-67 |

Introduction |

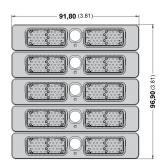
Radiall is recognized in the Aerospace and Defense industries for offering one of the broadest innovative product portfolios for connector interconnect solutions. The benefit of our experience with ARINC connectors permits Radiall to provide customers with a strong and global solution.

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.

EPX® 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

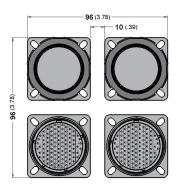


EPXB:

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:

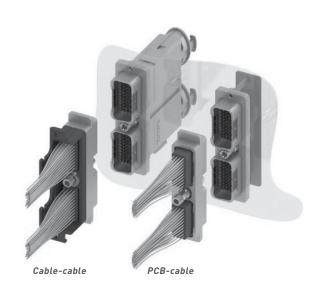
- Shell can accommodate a wide variety of inserts for signal, power, coax, data bus, fiber optic and high frequency BMA contacts
- Optional ground blocks (to meet the FAA HIRF requirements)
- Pin and socket inserts can be installed in either plug or receptacle shells (pin contacts are always fitted in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

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

- Aluminium
- Composite



Disconnect Applications



Specially designed for panel integration on EWIS applications, EPX® disconnect connectors cover cable-to-cable and PCB-to-cable links in major commercial and business jet aircrafts.

The connector can be easily identified by the locking device located directly on the connector (quarter turn device for A1 and B1 and central screws for EPXB2). This disconnect solution offers secure mating while answering OEM's most stringent requirements, and provides:

- 1- Modularity with three shell sizes: EPXA1, EPXB1 and EPXB2 available as lightweight shells and compatible with several options such as ground block functionality. EPX® connectors also feature a large variety of inserts and a unique range of contacts covering any technology. EPX® connectors answer all connecting needs with the use of a limited number of components.
- 2- Space savings with the combination of a slim shell design and high density inserts. In addition, EPX® disconnect stackable shells do not require additional space to lock and unlock the connectors.
- 3- Time savings and cost effectiveness with modular parts that enable pre-wiring. Connectors are easy to assemble as the receptacle can be pre-installed. Inserts will be wired in the shop and plugged later, which saves integration time.



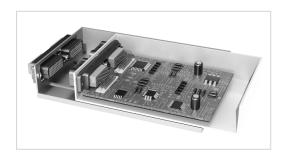




EPXA1 EPXB1 EPXB2

Rack and Panel Applications

In response to the need of system miniaturization and new equipment design, Radiall offers EPX® connector solutions for Line Replaceable Unit (LRU) and Line Replaceable Module (LRM). Discover more about these blind mate connectors:



EPXB2 for LRU

Largely used in distributed architecture, small Line Replaceable Units in an aircraft need compact, lightweight and cost effective connectors.

EPXB2 connectors equipped with centering guide will combine high density, low efforts and lightweight features. Discover the whole range of EPXB inserts offering from signal to power or quadrax contacts (available in straight or right angle PC tails and crimp contacts).



EPX Rack & Panel for LRM

Today, equipment manufacturers look for more cost effective and easy to maintain solutions such as Line Replaceable Module (LRM). As a result, Radiall has developed a new generation of Rack & Panel connectors. EPX® Rack & Panel connectors feature a modular, lightweight and high density shell that can be used on standalone PCB architecture.

EPX® rack and panel connectors are the perfect solution when equipment needs to combine compactness, weight savings and very high density. They offer:

- A modular range: from size 1 to size 4 using the complete range of EPX® inserts.
- Low mating force contacts from EPX® range that can reach very high density.
- A comprehensive range of contacts: right angle or straight PC tails for signal, coax, quadrax, or power contacts.



Disconnect Connector Technical Characteristics

ELECTRICAL CHARACTERISTICS EMI shielding effectiveness EN2591-213

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

- **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 strike:
 - 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 |
|-----------------------|-----------|-----------------|
| EPXA1 / EPXB1 / EPXB2 | Aluminium | 100 cycles |
| EPXB1 / EPXB2 | Composite | 100 cycles |

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 |
| EPXA1 / EPXB1 | Aluminium | | Shock amplitude 50g /duration |
| EPXB1 / EPXB2 | Composite | Acceleration 27.8g | 11ms |
| EPXB2 | Aluminium | (test condition 6 letter G) | Shock amplitude 300g /duration 3ms |
| Disconnect EPX® with Quadrax contacts | / | Acceleration 16.9g (test condition 5 letter E) | Shock amplitude 50g /duration 11ms |

ENVIRONMENTAL CHARACTERISTICS

- **Temperature range:** according to EIA364-32 and EN2591-305
 - For EPXB2 aluminium, EPXB1 and EPXA1 shells: -65°C/+175°C (-85°F/+347°F)
 - For EPXB2 composite shell: -65°C/+125°C (-85°F/+257°F)
- **Temperature life:** 1000 hours at maximum temperature
- 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: EN2591-314 EIA 364-03:
 - EPXB insert: 3 cycles at 50,000 feet
 - EPXB Bulkhead class insert: 3 cycles at 55,000 feet
- Air Leakage for EPXB2 Bulkhead receptacle: Level from EN3645; test according EN2591-312 method B: $4.4 \times 10^{-3} \text{ cm}^3/\text{s} = 16 \times 10^{-6} \text{ m}^3/\text{h}$



Rack & Panel Connector Technical Characteristics

ELECTRICAL CHARACTERISTICS

EMI shielding effectiveness EN2591-213

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

- **Shell to shell conductivity:** < $2.5 \text{ m} \Omega$, operating voltage: 400 Vrms or 500 Vdc at sea level, according to EN2591-205

- Lightning strike: 5kA - 1600V

MECHANICAL CHARACTERISTICS

Mating/unmating

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

The minimum mating forces are described in the EN4644 standard and depend 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 / EPXB3 / EPXB4 | Aluminium | Acceleration 16.9g (test condition 5 letter E) | Shock amplitude 50g /duration 11ms |

ENVIRONMENTAL CHARACTERISTICS

- **Temperature range:** -65°C/+125°C (-85°F/+257°F)

- Temperature life: 1000 hours at maximum temperature

- Salt spray: 96 hours 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



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 |
| 5 | AWG8 | 461 |
| | AWG12 | 23 |
| | AWG16 | 13 |

NOTES:

(1) Size contact 5 are not part of SAE AS 39029 (MIL-C-39029 type A)

GROUND BLOCK CONTACT (617221050)

| | 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 insert voltage (VRMS) | Non-environmental insert 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 |



Technical Characteristics for inserts and contacts

RETENTION CHARACTERISTICS

Retention forces indicated below are valid for terminated contacts (as per EN2591-409 and EIA364-29)

| 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.)



Insert Selection Table

INSERTS

Insert name should be used when ordering EPX® insert Insert code should be used when ordering EPX® assembly kit Inserts available in Bulkhead class are identified with the following logo:



| | | | | | | | Contact Size | | | | | | |
|--------|---------------|--------|--------|-------|---------------|---------------------------|-----------------------------|---------------------|-------|-------------------------|---------------------|-------|---------|
| Series | Insert | Insert | 22* | 20* | 15 or 16* | 16 | 16 | 12* | 8 | 8 | 5 | 5 | Total |
| | name | code | Signal | Power | Power or coax | LuxCis® fiber optic | Power in fiber optic cavity | Power or coax | Power | Quadrax or twinax | Coax or triax | Power | contact |
| | 00 | 0 | | | | | | | | | | | 0 |
| | 1C1 | Α | | | | | | | | | 1 | | 1 |
| | 1P1 | В | | | | | | | | | | 1 | 1 |
| _ | 04 | С | | | 2 | | | 2 | | | | | 4 |
| EPXA | 09 | D | | 3 | 6 | | | | | | | | 9 |
| | 14 | E | | 14 | | | | | | | | | 14 |
| | 14M | F | 8 | 3 | 3 | | | | | | | | 14 |
| | 17 | G | 12 | 5 | | | | | | | | | 17 |
| | 20 | Н | 20 | | | | | | | | | | 20 |
| | 00 | 0 | | | | | | | | | | | 0 |
| | C3 | Α | | | | | | | | | 3 | | 3 |
| | 161 P3 | В | | | | | | | | | | 3 | 3 |
| | 3Q3 | С | | | | | | | | 3 | | | 3 |
| | 06 | D | | | | | | 6 | | | | | 6 |
| | 10Q2 | Е | | 8 | | | | | | 2 | | | 10 |
| | 12F6 | F | | | | 6 | 6 | | | | | | 12 |
| | 161 F12C | G | | | | 12 | | | | | | | 12 |
| | 13C1 | Н | | 6 | 4 | | | 2 | | | 1 | | 13 |
| | 13P1 | J | | 6 | 4 | | | 2 | | | | 1 | 13 |
| | 14 | K | | | 14 | | | | | | | | 14 |
| EPXB | 17 | L | | 14 | | | | 3 | | | | | 17 |
| ⊞ | 20C1 | М | | 19 | | | | | | | 1 | | 20 |
| | 20P1 | N | | 19 | | | | | | | | 1 | 20 |
| | 22 | Р | | 16 | 6 | | | | | | | | 22 |
| | 22V | Q | | 16 | 6 | | | | | | | | 22 |
| | 25P1 | R | 24 | | | | | | 1 | | | | 25 |
| | 25Q1 | S | 24 | | | | | | | 1 | | | 25 |
| | <u>161</u> 28 | Т | 22 | | 6 | | | | | | | | 28 |
| | <u>161</u> 30 | u | | 30 | | | | | | | | | 30 |
| | 34 | w | 18 | 16 | | | | | | | | | 34 |
| | 40 | Х | 40 | | | | | | | | | | 40 |
| | 48 | γ | 48 | | | | | | | | | | 48 |

NOTE: (1) Only contacts marked with an asterisk (*) are included with EPX® insert kit. All other contacts must be ordered separately (coax, twinax, quadrax and fiber optic contacts) Radiall **

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 EPX | | | | | | | |
| B: Insert for EPX | B1, EPXB2, | EPXB3 or E | EPXB4 | | | | |
| Class ⁽²⁾ | 1 | | | | | | |

- 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)
- B: Bulkhead insert with interfacial seal and a Bulkhead rear grommet, available for pin insert only

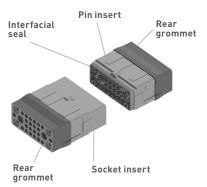


Contact -

Without code: insert delivered without contacts

5: Signal and power contacts are delivered with inserts but are uninstalled (refer to page 1-10) Inserts 00, 1C1, 1P1, C3, P3, 3Q3, 12F6, F12C and 3T3 are not available in S contact version

ENVIRONMENTAL INSERT



BULKHEAD INSERT



INSERT KEYING



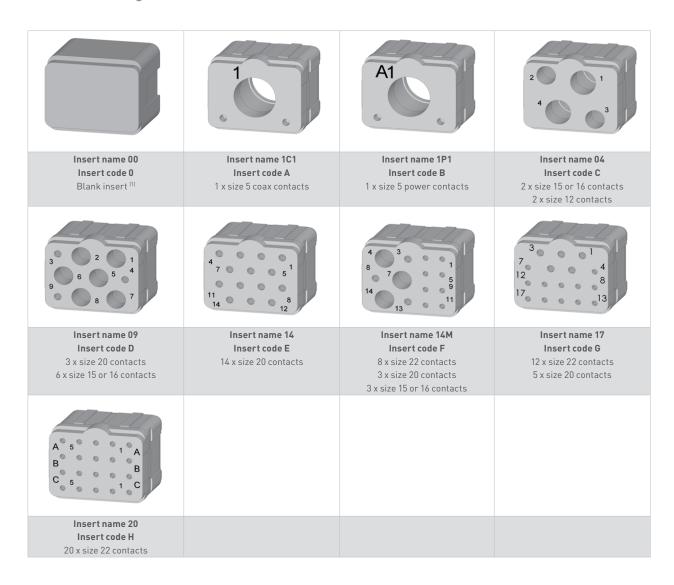


NOTES:

- (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 EPXA1, 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



WEIGHTS

Average weight per class and type for EPXA inserts without contacts.

| | Insert type | | | | |
|--------------|------------------|------------------|--|--|--|
| Insert Class | Pin | Socket | | | |
| Е | 4.10 g (0.14 oz) | 5.30 g (0.19 oz) | | | |
| N | 2.60 g (0.09 oz) | 4.00 g (0.14 oz) | | | |
| Н | 3.90 g (0.14 oz) | N/A | | | |
| Т | 2.80 g (0.10 oz) | N/A | | | |

NOTE:

(1) P/N for blank insert is EPXAN00



EPXB Insert Arrangements

Full size inserts arrangements are compliant with EN4644.



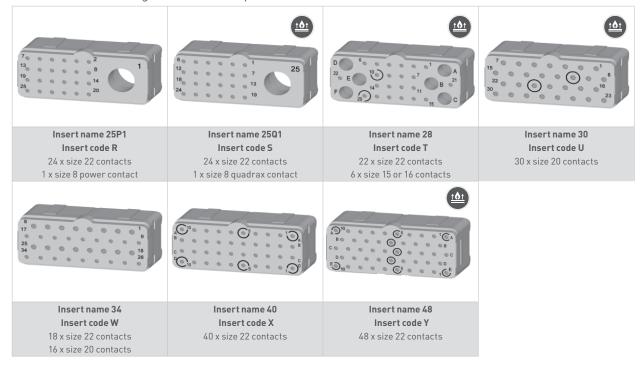
NOTE:

(1) P/N for blank insert is EPXBN00



EPXB Insert Arrangements

Full size inserts arrangements are compliant with EN4644.



WEIGHTS

Average weight per class and type for EPXB inserts without contacts.

| | Insert type | | | | | |
|--------------|------------------|-------------------|--|--|--|--|
| Insert Class | Pin | Socket | | | | |
| Е | 7.90 g (0.28 oz) | 10.00 g (0.35 oz) | | | | |
| N | 5.20 g (0.18 oz) | 7.60 g (0.27 oz) | | | | |
| Н | 7.70 g (0.27 oz) | N/A | | | | |
| Т | 5.50 g (0.19 oz) | N/A | | | | |
| В | 8.50 g (0.30 oz) | N/A | | | | |



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, the use of selective plated contacts has no impact on PCB design
- Product qualification is available upon request

CONTACT SELECTION TABLE

| Cor | ntact size | Wire size | Type | Part number full plated | Part number selectively plated | Crimping tool | Positioner | Selector | Ins / ext tool | Material of tool | |
|-----|-------------------|-----------------|--------------------------|--------------------------------|--------------------------------------|--|--------------------------|--------------------------|---|---------------------|-------|
| | | 22 | Pin | 617200 | 617200100 | 282281 | 282970 | 4 | 282522 | | |
| 22 | | 24 26 | Socket | 617300 | 617300100 | M22520/2-01 | M22520/2-23 | 3 | (M81969/14-01) | Plastic | |
| | | 20 | Pin | 617221 | 617221100 | | | 7 | | | |
| 20 | | 22 | ГШ | 017221 | 017221100 | 282281 M22520/2-01 | 282971 M22520/2-08 | 6 | 282522001 (M81969/39-01) | Plastic | |
| | | 24 | Socket | 617320 | 617320100 | , | | 5 | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | |
| | | 16 | Pin | 617240 | 617240100 | 202201 | 282972 | 6 | 202545 | | |
| | | 18 | Socket | 617340 | 617340100 | 282291 M22520/1-01 | M22520/1-02 | 5 | 282515 (M81969/14-03) | Plastic | |
| | | 20 | | | | | | 4 | | | |
| | for ground | 20 | Pin | 617221050 | N/A | 282281 | 282581015 M22520/2-11 | | 7 | 282886 | Metal |
| 16 | block | 20 | Socket | N/A | N/A | M225520/2-01 | | , | M81969/1-02 | MCtat | |
| | for | 16 | | | | 6 | | | | | |
| | optical/ elec- | elec- 18 Pin 61 | 617235003 ⁽¹⁾ | N/A | 282291 M22520/1-01 | 282581013 | 5 | 282515 (M81969/14-03) | Plastic | | |
| | trical cavity | 20 | | | | MIZZ3Z0/ 1-01 | | 4 | (14101707/14-03) | | |
| | | 12 | Pin | 617250 | 617250100 | 000004 | | 8 | 0005 (000 (| Plastic | |
| 12 | | 14 | Socket | 617350 | 617350100 | 282291 M22520/1-01 | 282972 M22520/1-02 | 7 | 282549004 (M81969/14-04) | | |
| | | 16 | JOERET | 017030 | 017000100 | · | | 6 | | | |
| | | | | 617291002 ^[2&3] | N/A | R282600000 M22520/ | | | | | |
| 8 | 8 | | Socket | 617391002 ^[2&3] | N/A | 23-01 + Die set R282650000 M22520/23-02 | 282588 | N/A | 282549001 | Metal | |
| | | | Pin | 617280 ^(2&4) | N/A | R282600000 | 282557020 | | | | |
| 5 | 5 | | Socket | 617390 ^(2&4) | N/A | M22520/ 23-01 + Die set R282650000 M22520/23-02 | 282557021 | N/A | 282946 (M81969/28-01) | Metal | |
| | | 12 | Pin | 617260001 ^(2&4) | N/A | 282613 | 282586003 | 6 | | | |
| | | 16 | Socket | 617370001 ^[2&4] | N/A | 282013 | 282586005 | 4 | | | |

- (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

| C | Contact size | Wire size | Type | Part number fully plated | Crimping tool | Positioner | Selector | Ins / ext tool | Material of tool |
|----|--------------------------|-----------|---------|--------------------------|-----------------------|-----------------------|----------|-----------------------------|------------------|
| | reduced crimp | 28 | Pin | 617201 | 282281 | 282970 | 5 | | |
| | barrel | 30 | Socket | 617301 | M22520/2-01 | M22520/2-23 | 4 | | |
| 22 | | 20 | Pin | 617200200 | | | 5 | 282522 (M81969/14-01) | Plastic |
| | oversize crimp barrel | 22 | Socket | 617300200 | 282281 M22520/2-01 | | 4 | (1101707714 01) | |
| | | 24 | Socket | 61/300200 | 1412232072-01 | | 3 | | |
| | | 22 | Pin | 617224001 | | | 4 | | |
| | reduced crimp | 24 | Carlant | 110050010 01 | 282281 M22520/2-01 | 282971 M22520/2-08 | 3 | 282522001 [M81969/39-01] | |
| 20 | 20 oversize crimp | 26 | Socket | 61/324001 | 11/22020/2 01 | 1412202072 00 | 3 | | Plastic |
| 20 | | 18 | Pin | 617221200 | 282281 M22520/2-01 | 282971 M22520/2-08 | 5 | | |
| | | 20 | 6 1 1 | /4500000 | | | 5 | | |
| | barret | 22 | Socket | 617320200 M22 | | | 4 | | |
| | | 20 | Pin | 617241 | | | 5 | | |
| | reduced crimp | 22 | Socket | 617341 | 282291 M22520/1-01 | | | 5 | |
| | barret | 24 | Socket | 61/341 | 1412232071-01 | 14122320/ 1-02 | 4 | | |
| | reduced crimp | 20 | | | | | 5 | | |
| 16 | barrel for optical | 22 | Pin | 617235002 ⁽¹⁾ | 282291 M22520/1-01 | 282581013 | 5 | 282515 (M81969/14-03) | Plastic |
| | electrical cavity | 24 | | | 1112232071 01 | | 4 | [NO 1707/ 14-U3] | |
| | oversize crimp | 14 | Pin | 617240200 | | | 6 | | |
| | | 16 | 6 1 1 | (450,4000 | 282291 M22520/1-01 | 282972 M22520/1-02 | 5 | | |
| | Darret | 18 | Socket | 617340200 | 14122320/1-01 | | 5 | | |

NOTES:

(1) Electrical contacts for optical inserts are always pin contacts (hermaphrodite)



Coaxial Crimp Contacts

| Contact size | Cable type | Туре | Environmental part number | Non-environmental part number | Ins/ext tool | Material of tool |
|-----------------|--|--------|---------------------------|-------------------------------|--------------------------|------------------|
| | RG188 | Pin | 617 | 7130 | | |
| | FILECAF1709/6 F1709/8 RG174-RG179-RG316 ASNE0639XY 75 Ohms | Socket | 617 | 7030 | | |
| | RG178 | Pin | 615 | 7131 | | |
| | K0176 | Socket | 617 | 7031 | | |
| 15-16 | GORE/AXON P812817 | Pin | 617 | 7132 | 282512 (M81969/14-03) | Metal |
| | FILECA F1703-134 FILOTEX SP132868 | Socket | 617 | 7032 | (M81707/14-U3) | |
| | RG178 DT | Pin | 617 | 7133 | | |
| | KG1/8 D1 | Socket | 617 | 7033 | | |
| | UT .047 | Pin | 617 | 7135 | | |
| | 01.047 | Socket | 617 | 7035 | | |
| 12 | UT.085-RG405 | Pin | 617 | 7160 | 282549004 | Plastic |
| 12 | 01.065-R0405 | Socket | 617 | 7060 | (M81969/14-04) | Flastic |
| | RG58-RG141 | Pin | 617101001 | 617101 | | |
| | KG36-KG141 | Socket | 617001001 | 617001 | | |
| | RG142 - RG400 | Pin | 617102001 | 617102 | | |
| | RG142 - RG400 | Socket | 617002001 | 617002 | | |
| | RG174-RG316-RG188- | Pin | 617103001 | 617103 | | |
| 5 | RG178DS NEXAN 10036442 75 Ohms | Socket | 617003001 | 617003 | 282946 (M81969/28-01) | Metal |
| | DC170 DC10/ | Pin | 617104001 | 617104 | | |
| | RG178-RG196 | Socket | 617004001 | 617004 | | |
| | RG180 | Pin | 617105001 | 617105 | | |
| | PAN6422XZ ANSE063WGH 96 Ohms | Socket | 617005001 | 617005 | | |



Twinax & Triax Crimp Contacts

| Contact size | Cable type | Type | Environmental part number | Non-environmental part number | Ins/ext tool | Material of tool |
|-----------------|---|--------|---------------------------|-------------------------------|--------------------------|------------------|
| | ECS0700 | Pin | 6171 | 90010 | | |
| 12 Triax | EC30700 | Socket | 6170 | 90010 | 282549004 | Plastic |
| 12 Irlax | M17/176-00002 | Pin | 6171 | 90012 | (M81969/14-04) | Plastic |
| | M17/176-00002 | Socket | 6170 | 90012 | | |
| | TENSOLITE | Pin | 617165021 | 617165020 | | |
| 8 Triax | 24463/9P025X-2 100 Ohms | Socket | 617065021 | 617065020 | 282549001 | Metal |
| | WHITMOR W2675-1575 | Pin | 617165 | 617165001 | | |
| | | Socket | 617065 | 617065001 | | |
| | ABS0386WF24 | Pin | 617165011 | 620165010 | | Metal |
| 8 Twinax | & TYCO 1726A1424A | Socket | 617065011 | 620065010 | 282549001 | |
| | PAN6421ZA002 | Pin | 617150001 | 617150 | | |
| 5 Triax | 77 0hms M17/176-00002 EN3375-003 Raychem 106113 77 0hms | Socket | 617050001 | 617050 | 282946 (M81969/28-01) | Metal |
| | TENSOLITE 24473/03159X | | | 617152 | | |
| | 124 Ohms | Socket | 617052001 | 617052 | | |



Quadrax & BMA Crimp Contacts

QUADRAX CONTACTS



The Quadrax contact offer is compliant to Arinc 600 and EN3155-072 and EN3155-073 standards.

Environmental Quadrax

| Contact size | Cable type | Type | Environmental part number | Extraction tool in metal |
|--------------|----------------------|--------------------------------|------------------------------|--------------------------|
| | Ethernet cable | Pin | 617175011 | |
| | ABS0972 & ABS1503 | 972 & ABS1503 Socket 617075011 | | |
| | TENCOLITE NEO / 0400 | Pin | 617175051 | |
| | TENSOLITE NF24Q100 | Socket | 617075051 | 0005 (0004 |
| 8 | TENSOLITE NF26Q100/ | Pin | 617175053 | 282549001 |
| | JSF Y18 | Socket | 617075053 | |
| | TENCOLITE NEOCOMO | Pin | 617175041 | |
| | TENSOLITE NF22Q100 | Socket | 617075041 | |

Non-environmental Quadrax

| Contact size | Cable type | Type | Non-enviromnmental part number | Compatible sealing boot part number | Extraction tool in metal | |
|--------------|-------------------------|------------------|-----------------------------------|--|--------------------------|--|
| | Ethernet cable | Pin | 617175012 | | | |
| | ABS0972 & ABS1503 | 30CKEL 020073010 | | /4500000 | | |
| | TENIOO ITE NIEO (0400 | Pin | 617175052 | 617939003 | 282549001 | |
| | TENSOLITE NF24Q100 | Socket | 620075050 | | | |
| 8 | TENSOLITE NF26Q100/ | Pin | 617175054 | (4500005 | | |
| | JSF Y18 | Socket | 620075021 | 617939005 | | |
| | TENCOLITE NECOCIO | Pin | 617175040 | /47020002 | | |
| | TENSOLITE NF22Q100 | Socket | 620075040 | 617939003 | | |

BMA CONTACTS



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

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

NOTES:

[1] The BMA contacts which can accommodate SHF cables require a termination by Radiall



LuxCis® Fiber Optic Contacts

The LuxCis® product range is a proven, flexible Fiber Optic interconnect solution offering high speed communication in aerospace and other harsh environments.

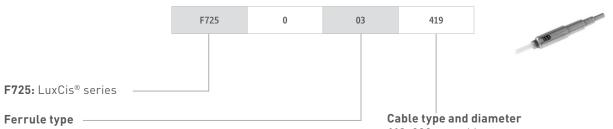
OPTICAL PERFORMANCE

| | 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 | Performance | | |
|---|----------------------------|---|--|--|
| Thermal cycling | SAE AS 13441 method 1003.1 | -55°C/+125°C (cable dependant) | | |
| Temperature endurance | TIA/EIA 455-4 | 1000 h at 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



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

Go online for data sheets & assembly instructions

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

The sealing plug F718 211 200 is specifically designed to fill the unused LuxCis® Arinc 801 cavities.

NOTES:

(1) 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 designations are a combination of 2 letters:

- The first letter characterizes the contact plating R = Pure-tin (RoHS); Z = Tin lead; Y = Gold
- The second letter characterizes the length of the PC tail: A to D The exact lengths can be found on the assembly kit sections

| Contact termination | Contact type | Size 22 | Size 20 | Size 16 | Size 12 | Size 8 | Size 5 |
|------------------------|--------------|------------------------|---------------------------|------------------------|---------------------------|---------------------------|------------------------|
| D.4 | Pin | 617205510 | 617222514 | 617242510 | 617259505 | 617291501 | 617289506 |
| RA | Socket | 617305500 | 617322505 | 617342510 | 617359505 | 617391501 | 617389506 |
| V/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 |
| D.D. | Pin | 617205501 | 617222512 | 617242508 | 617259506 | 617291503 | 617289504 |
| RB | Socket | 617305501 | 617322506 | 617342511 | 617359506 | 617391503 | 617389504 |
| | Pin | 617205001 | 617222012 | 617242008 | 617259006 | 617291003 | 617289004 |
| YB | Socket | 617305001 | 617322006 | 617342011 | 617359006 | 617391003 | 617389004 |
| | Pin | 617205701 | 617222712 | 617242708 | 617259706 | 617291703 | 617289704 |
| ZB | Socket | 617305701 | 617322706 | 617342711 | 617359706 | 617391703 | 617389704 |
| 5.0 | 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 |
| 70 | Pin | 617205715 | 617222713 | 617242717 | 617259703 | 617291704 | 617289703 |
| ZC | Socket | 617305708 | 617322707 | 617342713 | 617359703 | 617391704 | 617389703 |
| | Pin | 617205509 | 617222510 | 617242509 | 617259507 | 617291505 | 617289507 |
| RD | Socket | 617305502 | 617322509 | 617342515 | 617359507 | 617391505 | 617389507 |
| V/D | Pin | 617205009 | 617222010 | 617242009 | 617259007 | 617291005 | 617289007 |
| YD | Socket | 617305002 | 617322009 | 617342015 | 617359007 | 617391005 | 617389007 |
| 70 | Pin | 617205709 | 617222710 | 617242709 | 617259707 | 617291705 | 617289707 |
| ZD | Socket | 617305702 | 617322709 | 617342715 | 617359707 | 617391705 | 617389707 |
| Ins/e | ct. 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 designations are a combination of 2 letters:

- The first letter characterizes the contact plating R = Pure-tin (RoHS); Z = Tin lead; Y = Gold
- the second letter characterizes the length: A to D. The exact dimensions of the lengths can be found on the assembly kit sections



| Contact termination | Contact type | Part number | | |
|---------------------|--------------|-------------|--|--|
| RA | Pin | 617177512 | | |
| 107 | Socket | 617077512 | | |
| YA | Pin | 617177012 | | |
| 10 | Socket | 617077012 | | |
| 7A | Pin | 617177712 | | |
| ZA | Socket | 617077712 | | |
| RB | Pin | 617177501 | | |
| KD | Socket | 617077502 | | |
| YB | Pin | 617177001 | | |
| T D | Socket | 617077002 | | |
| 70 | Pin | 617177701 | | |
| ZB | Socket | 617077702 | | |
| RC | Pin | 617177508 | | |
| KC. | Socket | 617077508 | | |
| YC | Pin | 617177008 | | |
| Y C | Socket | 617077008 | | |
| ZC. | Pin | 617177708 | | |
| 20 | Socket | 617077708 | | |
| RD | Pin | 617177513 | | |
| עא | Socket | 617077513 | | |
| VD | Pin | 617177013 | | |
| YD | Socket | 617077013 | | |
| ZD | Pin | 617177713 | | |
| ΔU | Socket | 617077713 | | |
| Ext. too | 282549001 | | | |



Filler Plugs

Filler plugs are dedicated to non-environmental insert cavities.

| Size | Contact cavity version | Ins/ext | Color | Part Number | Drawing | | | | | | | | |
|-----------------------------------|------------------------|-----------|----------|-------------|------------|-------------|--|-------|-------|--------|-------|--------|---|
| 22 | | | Black | 620920 | ← [] | | | | | | | | |
| 20 | | | White | 610941 | ← [] | | | | | | | | |
| 16 for electrical cavity | For pin & socket | | | Blue | 620922 | ← [| | | | | | | |
| 16 for optical cavity | | | | Green | F718211200 | | | | | | | | |
| 12 | | | Yellow | 620923 | ← | | | | | | | | |
| 8 | Pin | Rear/Rear | Nickel - | 619953 | ← [] | | | | | | | | |
| 8 | Socket | | | | 619950 | ← | | | | | | | |
| 5 | Pin | White | | | | | | White | White | W// :- | White | 617930 | + |
| J | Socket | Socket | | 617931 | + | | | | | | | | |

Sealing Plugs

Sealing plugs are dedicated to environmental insert cavities.

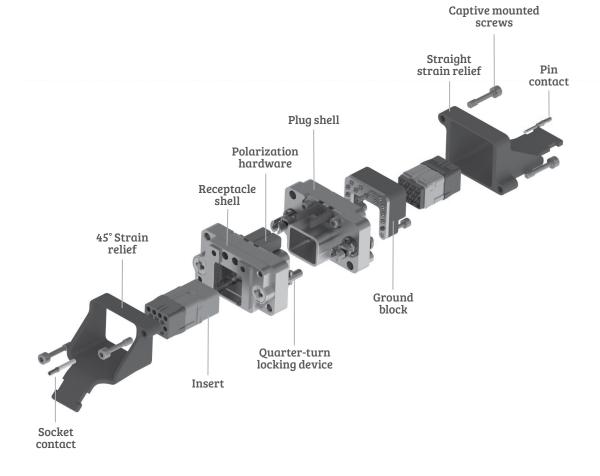
| Size | Contact cavity version | Ins/ext | Color | Part Number | Drawing | | | |
|-----------------------------------|------------------------|------------|---------|-------------|--|-------|--------|-----|
| 22 | | | Black | 616910 | ← □□□□ | | | |
| 20 | | | Red | 616911 | ← □ | | | |
| 16 for electrical cavity | | Rear/ Rear | | | | Green | 616912 | ← [|
| 16 for optical insert | For pin & socket | | r/ Rear | F718211200 | < □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ | | | |
| 12 | . 0. p a 300.101 | | | Orange | 616913 | ← | | |
| 8 | | | Red - | 618915 | ← □□□ | | | |
| 5 | | | | 616914013 | ← □□□ | | | |

The arrows show the direction which you have to insert the plug.



EPXA1 Product Overview

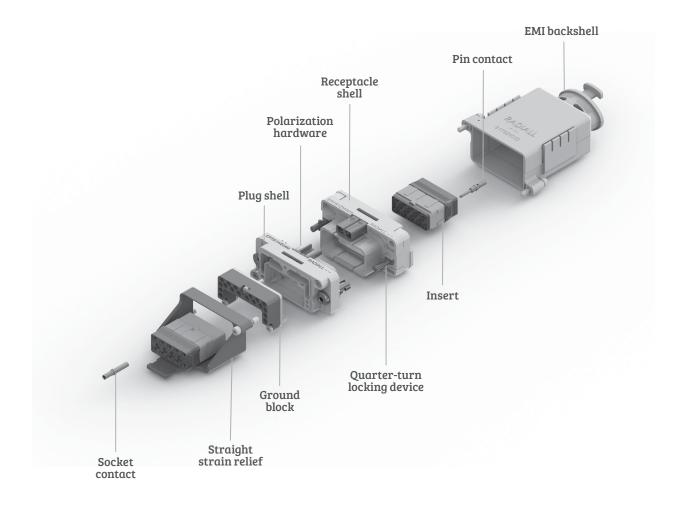
Detailed view of receptacle and plug with accessories for the EPXA1 connector.





EPXB1 Product Overview

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





How to Order EPXA1 & EPXB1 Shell

| | EPX | B1 | Р | В | 0 | 4 | М |
|--|--------------|-------------|------------------------|---|---|---|---|
| | | | | | | | |
| Series prefix ————— | | | | | | | |
| 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 bloo | ~k | | | | | | |
| | | | | | | | |
| Shell mounting option ^[1] | | | | | | | |
| B: Plug without mounting hole | S | | | | | | |
| M: Receptacle with 2 mounting | | UNC for rea | r panel ⁽²⁾ | | | | |
| | , | | 1 | | | | |
| Locking device ———— | | | | | | | |
| 0: Quarter-turn fastener | | | | | | | |
| | | | | | | | |
| Polarization code ⁽³⁾ | | | | | | | |
| 4: Shell delivered with polarizi | | | led | | | | |
| 5: Shell delivered with no pola | rizing hardw | /are | | | | | |
| Shell class | | | | | | | |
| M: Nickel-plated composite for | r EDYR1 | | | | | | |

M: Nickel-plated composite for EPXB1

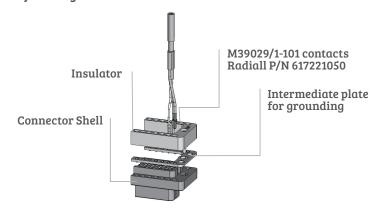
K: Nickel-plated aluminium for EPXB1 (mateable with version M composite shell)

N: Nickel-plated aluminium for EPXA1

GROUND BLOCK

Radiall provides a unique patented feature by integrating a ground block directly on the shell.

This option permits very short ground terminations



- [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 1-28 on how to use the polarization device

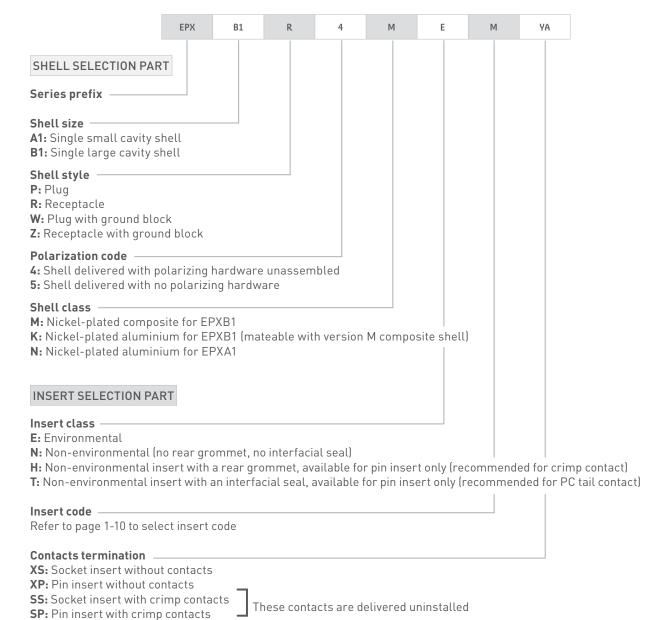


How to Order EPXA1 & EPXB1 Assembly Kit

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

Tips to help you make a selection:

- You are free to use either pin or socket inserts in EPXA1 & EPXB1 plug or receptacles.
- Crimp contacts can be delivered with a kit, check which contacts would be included on page 1-10.
- 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.





Refer to page 1-29 to select PC tail contacts for receptacle

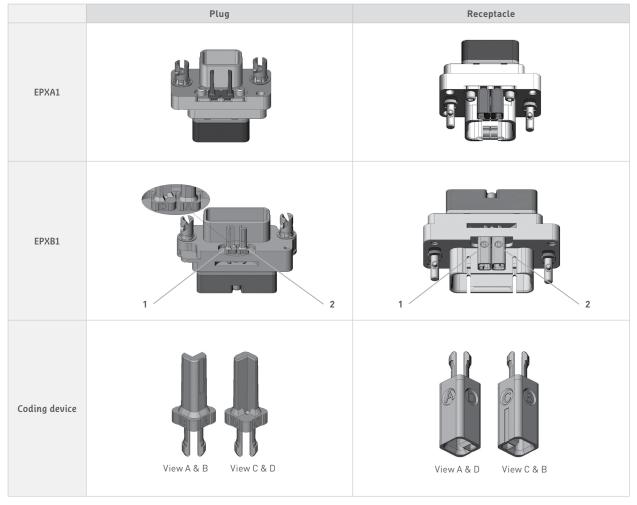
YA: Gold PC tail contacts length A

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

CONTACTS

Polarization code for EPXA1 and B1

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

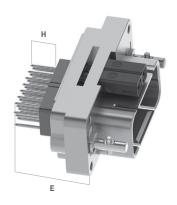


There are 16 possible codings:

| Key position 1 | А | А | А | А | В | В | В | В | С | С | С | С | D | D | D | D |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Key position 2 | Α | В | С | D | Α | В | С | D | Α | В | С | D | А | В | С | D |

Contact termination for EPXB1

Aluminium and composite shell versions.



| 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



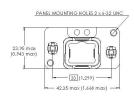
EPXA1 Shell Dimensions

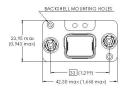
WITH GROUND BLOCK

Receptacle



Plug

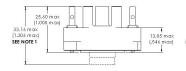




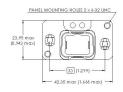
WITHOUT GROUND BLOCK

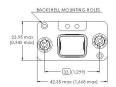
Receptacle





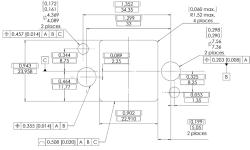




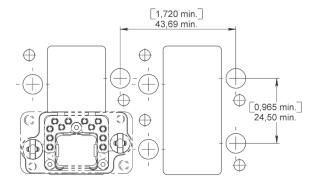


SINGLE PANEL CUT OUT (2)





MULTIPLE PANEL CUT OUT (2)



EPXA1 Shell Weights

Weights include the shell with polarization hardware.

| EPXA1 | Shell style | Weight |
|----------|-------------|------------------|
| | Р | 27.0 g (0.95 oz) |
| CL ACC N | R | 33.0 g (1.16 oz) |
| CLASS N | W | 35.0 g (1.23 oz) |
| | Z | 41.0 g (1.45 oz) |

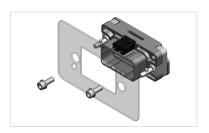
NOTES:

(1) Maximum dimension for insert with grommets

- For insert without grommet 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



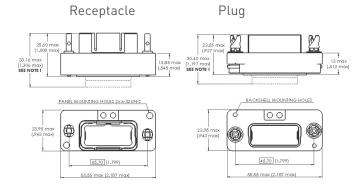
EPXB1 Shell Dimensions



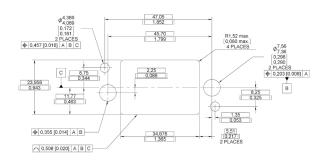
WITH GROUND BLOCK

Plug Receptacle 00 55,55 max (2,187 max)

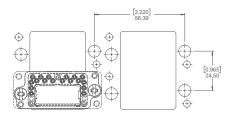
WITHOUT GROUND BLOCK



SINGLE PANEL CUT OUT (2)



MULTIPLE PANEL CUT OUT (2)



EPXB1 Shell Weights

Weights include the shell with polarization hardware.

| EPXB1 | Shell style | Weight |
|---------|-------------|------------------|
| | Р | 27.0 g (0.95 oz) |
| CLASS K | R | 33.0 g (1.16 oz) |
| CLASS N | W | 37.0 g (1.31 oz) |
| | Z | 43.0 g (1.52 oz) |
| | Р | 25.0 g (0.88 oz) |
| CLACCM | R | 33.0 g (1.16 oz) |
| CLASS M | W | 35.0 g (1.23 oz) |
| | Z | 43.0 g (1.52 oz) |

- [1] Maximum dimension for insert with grommet. For insert without grommet: 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 insert 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 polarization hardware oriented to the upper side



CONTACTS

EPXA1 & EPXB1 Spare Parts

SPARE PARTS & DUST CAPS

| | Description | | |
|----------------|-------------|-----------|---|
| | EPXA | EPXB1 | Description |
| | 617980032 | - | Polarization kit for plug connector |
| | 617980033 | - | Polarization kit for receptacle connector |
| | - | 617980030 | Polarization post |
| | - | 617980031 | Polarization key |
| and the second | 617954006 | 617954008 | Dust cap for plug shell (pink color) |
| | 617954007 | 617954009 | Dust cap for receptacle shell (pink color) |
| Mile. | 617954044 | 617954034 | ESD dust cap for plug shell (black color) |
| | 617954045 | 617954028 | ESD dust cap for receptacle shell (black color) |
| | 617929033 | - | Sealing inserts for fly away applications: |
| | - | 617929023 | mateable with pin insert |
| | 617929032 | - | Sealing inserts for fly away applications: |
| | - | 617929022 | mateable with socket insert |



EPXA1 & EPXB1 Accessories

STRAIN RELIEFS AND EMI BACKSHELLS

| | Part number | | December |
|-------|-------------|-----------|---|
| | EPXA1 | EPXB1 | Description |
| | 617921030 | 617921029 | Straight strain relief (composite) |
| | 617921032 | 617921031 | 45° strain relief (composite) |
| | - | 617924016 | Straight EMI backshell (Nickel-plated aluminium) |
| Gi ma | - | 617928002 | Straight EMI backshell (Nickel-plated composite) |
| | - | 617921044 | Fiber Optic backshell (composite) |

NOTE:

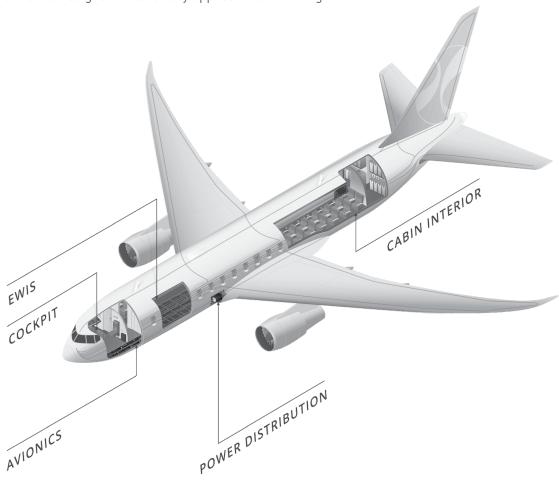
For mounting instructions, please contact Radiall



EPXB2 Connectors

Radiall's EPXB2 disconnect connectors have been widely used in the aerospace industry for more than 10 years. Meant to be used in cable-to-cable and PCB-to-cable applications, EPXB2 connectors exceed civil aerospace market expectations in terms of high density, quick installation, and cost and weight savings.

Standardized by EN4644 European standard, Radiall's EPX® has been recognized as the leading rectangular modular connector and used in major commercial and business jet aircrafts. EPXB2 connectors are designed to cover any applications including:





EWIS

EPXB2 provides easy maintenance, and high reliability which are key characteristics of EWIS environments.



CABIN INTERIOR

EPXB2 combines high speed data with space savings to serve the last generations of cabin systems.



COCKPIT

EPXB2 offers simplified and intuitive installation for Fiber Optic and signal connections that are critical in cockpit design.



AVIONICS

EPXB2 compactness, lightweight and robust design efficiently support avionics systems needs.

Go online for data sheets & assembly instructions



POWER DISTRIBUTION

EPXB2 stackable and segregated features make it the perfect solution for power distribution.



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



CONTACTS

EPXB2 Range Overview

Modular and flexible, EPXB2 answers all disconnect connecting needs with the use of a limited number of components. With a large variety of shells and one range of inserts, contacts and accessories, EPXB2 range is completely expandable and fits to your exact needs. You can mix and match solutions to build your connector with:

SHELL CLASSES - (ALL NICKEL PLATED)







Aluminium

Composite

Weight Optimized Aluminium

SHELL STYLES

Defining connector types (plug or receptacle) and their key features.











Classic EPXB2

Ground Block

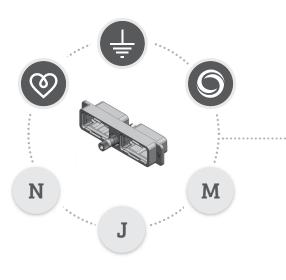
Flange

Bulkhead

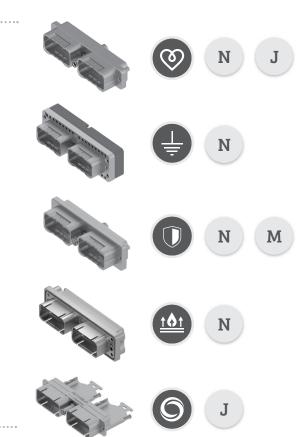
iEPX

EPXB2 GALAXY

Plugs Receptacles



Go online for data sheets & assembly instructions





iEPX



Radiall expands the EPX® series by offering iEPX, a new weight optimized EPXB2 shell designed to be used in disconnect panel applications. With an integrated strain relief and EMI backshell to press-in, iEPX provides EMI shielding while reducing cost and weight.

FEATURES AND BENEFITS:

- Quick and easy to terminate
- Lightweight
- Prevents FOD
- Cable-to-cable connection
- Integrated strain relief



MIX AND MATCH:

- Fully intermateable with all EPXB2 plugs and receptacles.
- Modular and comprehensive range: iEPX uses all contacts and inserts from EPX® range

EPX® BULKHEAD



Radiall's EPXB2 Bulkhead receptacle is a perfect solution for disconnect panel sealing applications. Combining EPX® proven technology with Bulkhead functionality, EPXB2 Bulkhead modular connectors provide effective panel sealing with a user friendly and cost saving approach.

With EPXB Bulkhead pin insert range, Bulkhead receptacle provides permanent sealing between two zones with different environmental conditions.

FEATURES AND BENEFITS:

- Modular
- Competitive offer
- Optimized and mature design
- Easy and economical integration in the BOM
- PCB-to-cable or cable-to-cable connection

MIX AND MATCH:

- Fully intermateable with all EPXB2 plugs
- Uses EPX® broad range of accessories and contacts including signal, power, quadrax and fiber optics





How to Order EPXB2 Shell

| | EPX | B2 | Н | L | 2 | 2 | N |
|--|--|----------------------------------|------------|------|---|---|---|
| Series prefix — | | | | | | | |
| Shell size B2: Two cavity shell | | | | | | | |
| For option compatibility, set.: Receptacle with flange H: Classic receptacle Z: Receptacle with ground R: Receptacle without ground B: Bulkhead receptacle (Both) C: iEPX receptacle with interpretable (Both) P: Classic plug W: Plug with ground block D: iEPX plug with integrate | block und fingers ulkhead pii egrated sti | ; n inserts co rain-relief | ompulsory | | | | |
| 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 Locking & polarization der | mm thru nector wit nector wit | holes h 2 x 6-32 r | mounting h | oles | | | |

1: Jackscrew

- 2: Jacknut
- 3: Without locking device

Polarization code [2]

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

Shell class

- 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 | | | X | X | X |
| | Н | | × | X | X | X |
| | Z | X | × | | | |
| Class N | R | X | | | | |
| | Р | | × | X | | X |
| | W | X | × | | | |
| | В | X | | | | |
| | Н | | | | | X |
| Class I (sisht antimical aluminium) | С | | | | | X |
| Class J (weight optimized aluminium) | Р | | × | | | |
| | D | | X | | | |
| Class M (somposito) | L | | | X | | X |
| Class M (composite) | Р | | X | X | | X |

NOTES

- [1] Jackscrew/Jacknut can be mounted on either plug or receptacle shell. However, the standard options are:
 - Jackscrew for plug shells
 - Jacknut for receptacle shells
- (2) Please see page 1-40 for how to use the the polarization coding



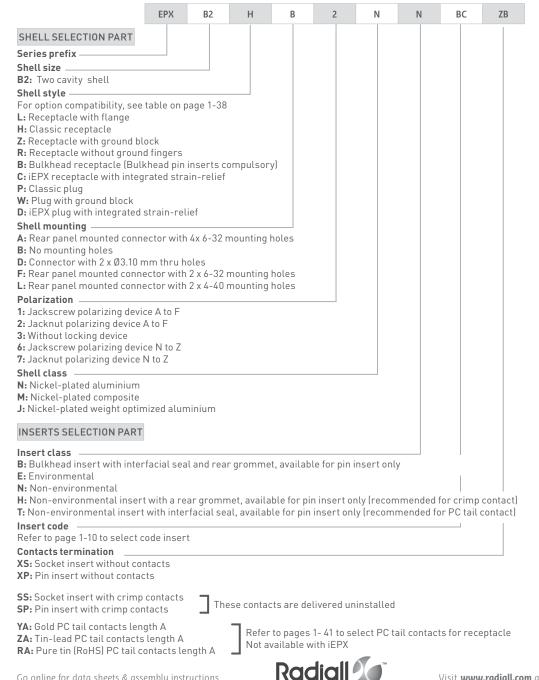
How to Order EPXB2 Assembly Kit

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 make a 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 1-10
- PC tail contacts can also delivered with a kit. Remember that only straight pin 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. iEPX is not compatible with insert 3Q3 in environmental class.

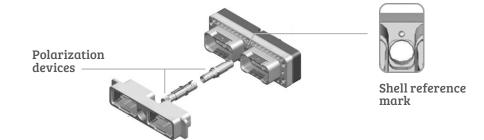


EPXB2 Polarization Code



As a standard, jackscrews shall be installed in plugs and jacknuts in receptacle shells, however, jackscrew/jacknut can be installed in either plugs and receptacles. The nut can be fixed with your automatic screwdriver and the tool bit we provide (P/N 282664).

Tip: use the shell reference mark (located at the top of the locking cavity) to choose keying position.



| | | Keying position | | Availa | ble as |
|-----------|-------------|-----------------|---------|-----------|-----------|
| | | Receptacle | Plug | Standard | Bulkhead |
| Jacknut | From A to F | A B C | B F E | 617980029 | 617980066 |
| | From N to Z | X R N | N W X | 617980028 | 617980067 |
| | Universal | | | 617980022 | N/A |
| Jackscrew | From A to F | A B C | A F C D | 617980012 | N/A |
| | From N to Z | X R N | N R W X | 617980013 | N/A |
| | Universal | | | 617980023 | N/A |

Shell reference mark



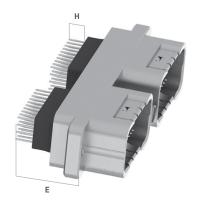
Contacts Termination for Receptacles

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 | | | | |



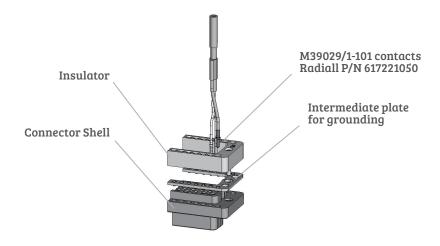
NOTE:

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

GROUND BLOCK

Radiall provides a unique patented feature by integrating a ground block directly on the shell.

This option permits very short ground terminations



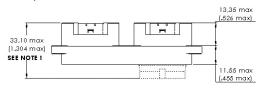


EPXB2 Aluminium Shell Dimensions

CLASS N&J

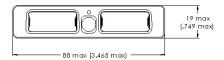
Classic

Receptacle (HL)



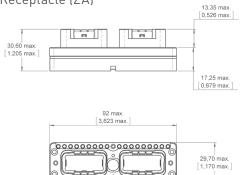


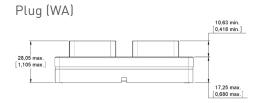
Plug (PB) 10,63 min (.418 min) 30,40 max (1.197 max) SEE NOTE 1 11,25 max (.443 max)

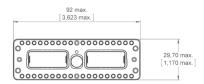


CLASS N Ground Block

Receptacle (ZA)

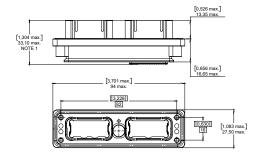






Bulkhead

Receptacle (BA)



Go online for data sheets & assembly instructions

NOTES:

(1) For insert with grommet: maximum dimension is the one shown in the drawing

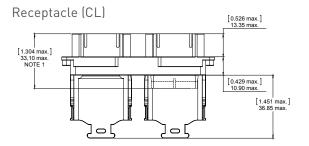
For insert without grommet: insert is flush to the shell. Maximum dimension for the receptacle is 25.55 mm (1.006 in) and for the plug is 23.52 mm (0.926 in)

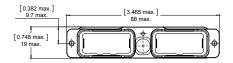
For insert with optical contacts: the maximum dimension for the receptacle is 38.70 mm (1.524 in) and for the plug is 36.00 mm (1.418 in)



EPXB2 Aluminium Shell Dimensions

CLASS J iEPX

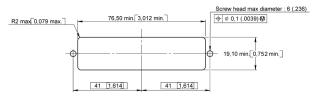




[0.419 min.] [1.197 max.] [3.040 max.] [1.451 max.]

SINGLE PANEL CUT OUT Class N & J

Shell mounting code D, F and L

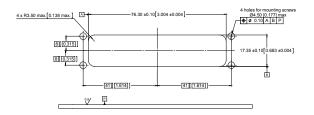


Shell mounting code A



Class N - Bulkhead receptacle

Shell mounting code A



MULTIPLE PANEL CUT OUT

Class N & J



NOTES:

(1) For insert with grommet: maximum dimension is the one shown in the drawing

For insert without grommet: 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)

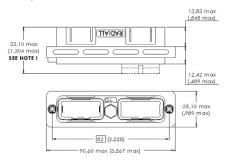
 $For insert with optical contacts: the maximum dimension for the receptacle is 38.70 \, mm \, (1.524 \, in) \, and for the plug is 36.00 \, mm \, (1.418 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the receptacle is 38.70 \, mm \, (1.524 \, in) \, decreases a contact of the$

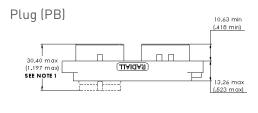


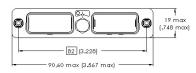
EPXB2 Composite Shell Dimensions

CLASS M

Receptacle (LL)



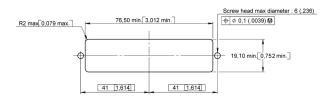




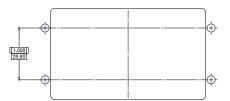
SINGLE PANEL CUT OUT

Shell mounting code D and L

Go online for data sheets & assembly instructions



MULTIPLE PANEL CUT OUT



NOTE:

- [1] For insert with grommet (EPXBE and EPXBH): maximum dimension is the one shown in the drawing
 - For insert without grommet (EPXBN): 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)



EPXB2 Weights

Weights include the shell with no polarization. If locking is needed, please add the following weights:

- Jackscrew: 9.0 g

- Jacknut: 7.8 g

- Bulkhead jacknut: 8.7 g

| Class | Shell mounting | А | В | D | F | L |
|---------|----------------|----------------|----------------|----------------|----------------|----------------|
| | Shell style | | | | | |
| | L | - | - | 45 g (1.59 oz) | 45 g (1.59 oz) | 45 g (1.59 oz) |
| | Н | - | 35 g (1.23 oz) | 36 g (1.27 oz) | 36 g (1.27 oz) | 36 g (1.27 oz) |
| | Z | 80 g (2.82 oz) | 80 g (2.82 oz) | - | - | - |
| Class N | R | 45 g (1.59 oz) | - | - | - | - |
| | Р | - | 30 g (1.06 oz) | 30 g (1.06 oz) | - | 30 g (1.06 oz) |
| | W | 75 g (2.65 oz) | 75 g (2.65 oz) | - | - | - |
| | В | 50 g (1.76 oz) | - | - | - | - |
| | Н | - | - | - | - | 27 g (0.95 oz) |
| Class J | С | - | - | - | - | 35 g (1.23 oz) |
| Cluss J | Р | - | 25 g (0.88 oz) | - | - | - |
| | D | - | 30 g (1.06 oz) | - | - | - |
| Class M | L | - | - | 35 g (1.23 oz) | - | 35 g (1.23 oz) |
| Class M | Р | - | 24 g (0.85 oz) | 25 g (0.88 oz) | - | 25 g (0.88 oz) |



EPXB2 Accessories

| | Part number | Description |
|----------|-------------|--|
| | 617922007 | Straight strain relief (composite) |
| | 617922014 | Straight strain relief for Fiber Optic cable (anodized aluminium) |
| 0.9 | 617928100 | Straight EMI backshell (nickel-plated composite) |
| TO B | 617925052 | EMI backshell for braid shield termination (nickel-plated aluminium) |
| OF CLEEN | 617925054 | EMI backshell for screened twisted pair cables (nickel-plated aluminium) |
| | 617925056 | Backshell for large sized wire harnesses (nickel-plated aluminium) ^[1] |
| | 617925013 | EMI Backshell for iEPX connectors (aluminium) |
| | 617922029 | Fiber Optic backshell (composite) |

NOTE

(1) Not compatible with jackscrew



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 |
| | 617980066 | Bulkhead Jacknut A/B/C/D/E/F |
| | 617980067 | Bulkhead Jacknut N/R/W/X/Y/Z |
| | 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) |
| Bank | 617954003 | Dust cap for receptacle shell (pink color) |
| BX | 617954004 | ESD dust cap plug shell (black color) |
| | 617954005 | ESD dust cap receptacle shell (black color) |
| | 617929023 | Sealing inserts for fly away applications: mateable with pin insert |
| | 617929022 | Sealing inserts for fly away applications: mateable with socket insert |



CONTACTS

Disconnect Tools

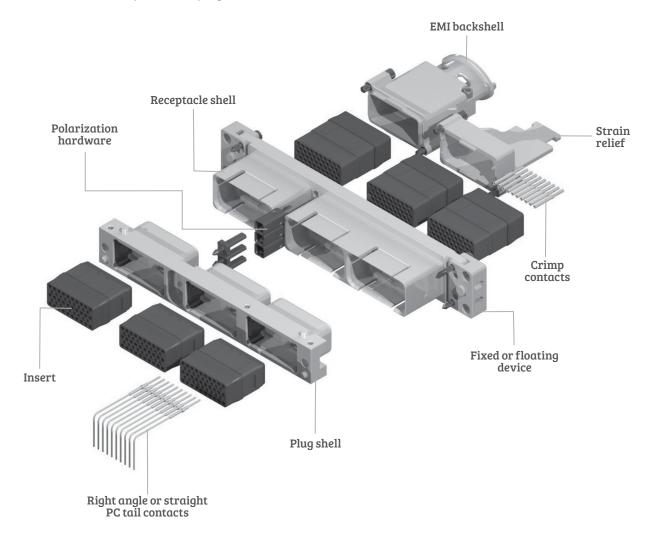
| | David www.law | To | be used wi | with | | |
|--|---------------|---|------------|-------|-------|--|
| | Part number | Description | EPXA1 | EPXB1 | EPXB2 | |
| O management of the second | 282664 | 1/4 inch hex. screwdriver bit to affix the nut of the jackscrew or the jacknut to the EPXB2 accessories | | | 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) | Х | 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 | |
| 161 | 282521007 | Bulkhead insert extraction tool | | | X | |
| | 282521005 | Insert extraction tool | X | | | |
| | 617954020 | Plastic box to protect wired inserts during handling | X | X | X | |
| | F780855000 | Hexagonal key 2mm (5/64inch) Flats for sleeve holder removal | | X | X | |
| is the state of th | 282668001 | Tweezers to change polarizing posts and keys | | X | | |



EPX Rack and Panel for LRM - Product Overview

RACK AND PANEL

Detailed view of receptacle and plug with accessories for the EPXB3 Rack and Panel connector.





How to Order EPXB1, B2, B3 & B4 Shell for LRM

| | 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 1-52 for coding M: Plug, fixed connector with Ø3.96m N: Plug, fixed connector with 8-32 UN S: Receptacle, fixed with 4 x 8-32 UN T: Receptacle, floating with 4 x 8-32 UN T: | m holes & NC & 4-40l C | JNC on sid | | | | |
| Polarization code 1: Shell delivered with polarizing hard 2: Shell delivered with no polarizing h | | ssembled | | | | |
| Panel cut out coding A to Z: Receptacle, refer to page 1-54 | for the cod | de selectio | n | | | |

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

NOTE:

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

Go online for data sheets & assembly instructions



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

Assembly kit includes shell with inserts mounted, with or without contacts. When selecting your insert codes, do not forget to place them in the order you want them assembled. Polarization hardware are always provided unassembled with assembly kits.

Tips to help you make a 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 1-10
- 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 they are only available in plugs All connector inserts will use the same insert class and the same contact termination.

| | EPX | B4 | Р | N | 0 | E | ABDC | YA |
|---|-----------------------|--------|----------|-----------|-----------|-------------|------|----|
| SHELL SELECTION PART | | | | | | | | |
| 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-pla | ted | | | | | | | |
| Shell mounting (refer to page 1-52 for codes) M: Plug, fixed connector with Ø3.96mm holes & 4-40UNC on side N: Plug, fixed connector with 8-32 UNC & 4-40 UNC on side S: Receptacle, fixed with 4 x 8-32 UNC T: Receptacle, floating with 4 x 8-32 UNC (two axes) [1] | | | | | | | | |
| Panel cut out coding A to Z: For receptacle, refo | | | the code | selection | 1 | | | |
| INSERT SELECTION PART | | | | | | | | |
| Insert class E: Environmental N: Non-environmental (no rear grommet, no interfacial seal) H: Non-environmental insert with a rear grommet (recommended for crimp contact) T: Non-environmental insert with interfacial seal (recommended for PC tail contact) | | | | | | | | |
| Insert code Refer to page 1-10 to select | ct insert co | ode | | | | | | |
| Contacts termination — XS: Female insert without XP: Male insert without coss: Female insert with crisp: Male insert with crimination. | ontacts imp contac | cts]T | hese con | tacts are | delivered | l uninstall | led. | |

YA: Gold PC tail contacts length A

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

ZA: Tin-lead PC tail contacts length A

Refer to page 1- 53 to select PC tail contacts for plug

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

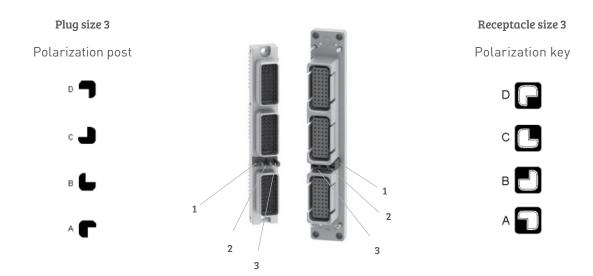


Shell Mounting

| Receptacle side | Code | Plug side |
|---|------|---|
| N/A | М | Fixed connector with Ø 3.96 mm holes & 4-40 UNC front or side mount |
| 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 |

EPXB Polarization Code

Polarization device is included in the part number and could be installed as shown below. Each shell has 3 polarization hardware which can be in four different position. The three polarization hardware can have their own position which allow a large range of codification.

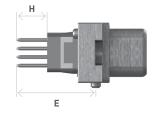


Connectors are shown front side with cavity A upwards.

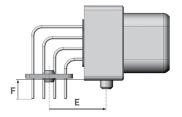


Contact Terminations for EPXB1, EPXB2, EPXB3 and EPXB4 Plugs

| 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 | | | | | |
|---|----------------------------|------|----------|--------------------|--|
| Mini length F mm (inch) | Mini length E mm (inch) | Gold | Tin-lead | Pure tin (RoHS) | |
| 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 $\,$



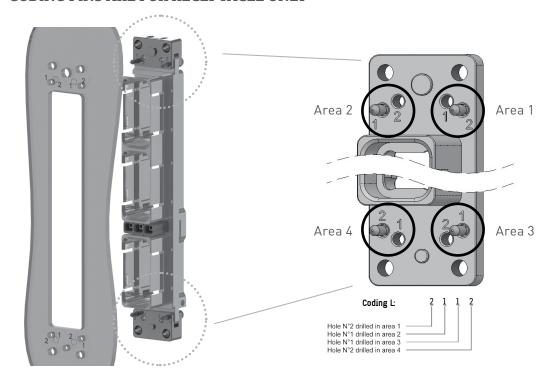
EPXB Panel Cut out Coding

When several 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 $n^{\circ}1$ or hole $n^{\circ}2$). 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 |
| P | 2 | 2 | 1 | 1 |
| R | 2 | 2 | 1 | 2 |
| S | 2 | 2 | 2 | 1 |
| Т | 2 | 2 | 2 | 2 |
| Z | | Connector delivered | d without coding pin ^[1] | |

CODING PINS ARE FOR RECEPTACLE ONLY



NOTE:

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

Go online for data sheets & assembly instructions

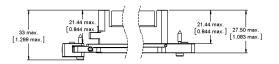


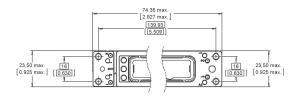
EPXB1 Shell Dimensions & Panel Cut outs

RECEPTACLE

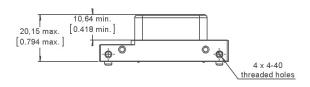
Floating Mount

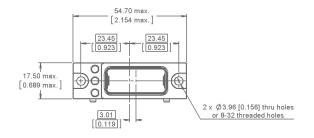
Fixed Mount





PLUG

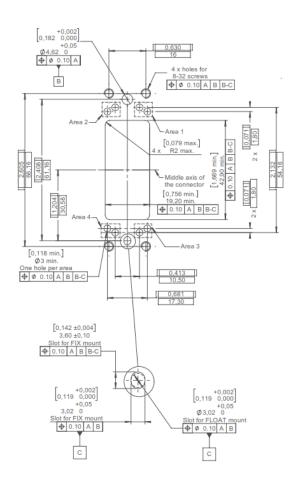




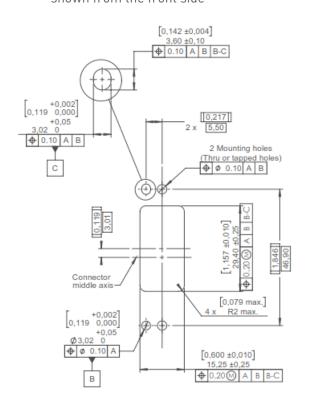
PANEL CUT OUTS

Receptacle

shown from the rear side



Plug shown from the front side



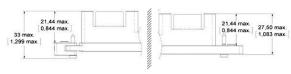


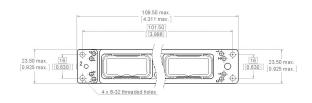
EPXB2 Shell Dimensions & Panel Cut outs

RECEPTACLE

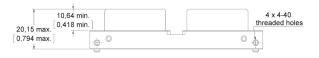
Floating Mount

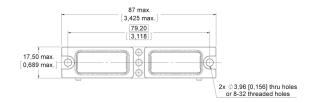
Fixed Mount





PLUG

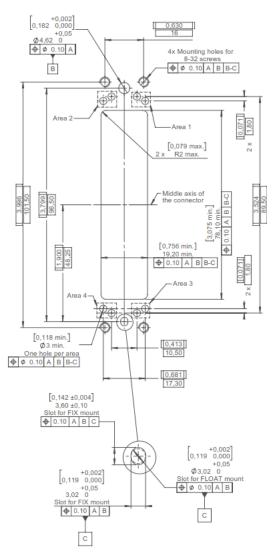




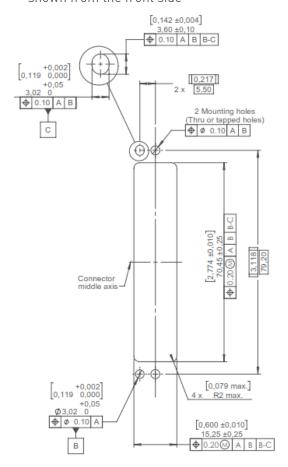
PANEL CUT OUTS

Receptacle

shown from the rear side



Plug shown from the front side

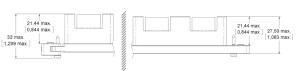


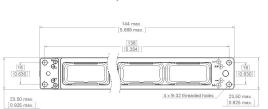


EPXB3 Shell Dimensions & Panel Cut outs

RECEPTACLE

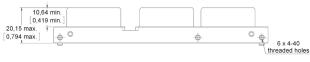
Floating Mount Fixed Mount

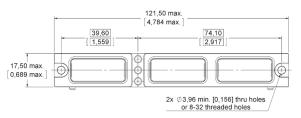






PLUG

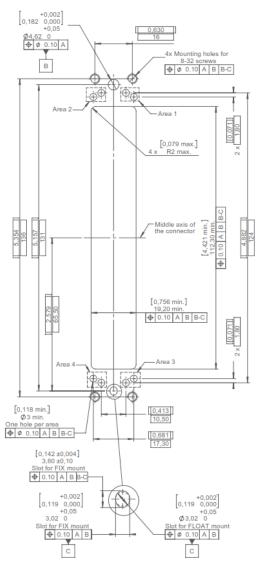




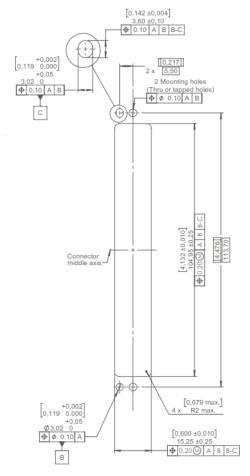
PANEL CUT OUTS

Receptacle

shown from the rear side



Plug shown from the front side

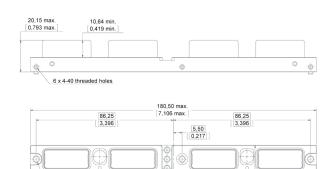


EPXB4 Shell Dimensions & Panel Cut outs

RECEPTACLE

21.44 max. 27.50 max. [1.083 max.] 188 max. [7.402 max.] 89.80 [3.535] 4 x 8-32 threaded holes [16] 0.630] 23.50 max. [0.925 max.]

PLUG

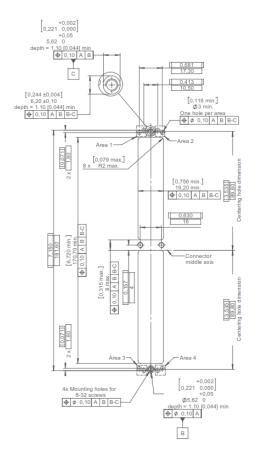


17,50 max. [0,689 max.]

PANEL CUT OUTS

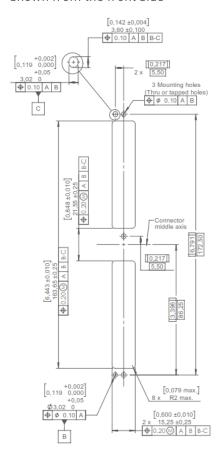
Receptacle

shown from the rear side



Plug shown from the front side

3 x Ø 3,96 [0,156] thru holes or 8-32 threaded holes





Rack & Panel Accessories

| | Part number | Description |
|----------|-------------|---|
| | 617925073 | EMI backshell for receptacle only (aluminium nickel-plated) |
| | 617922022 | Straight strain relief for receptacle only (composite) |
| | 617954002 | Dust cap for plug shell (pink color) |
| RADQUEPX | 617954003 | Dust cap for receptacle shell (pink color) |
| | 617954004 | ESD dust cap plug shell (black color) |
| | 617954005 | ESD dust cap receptacle shell (black color) |
| | 617980052 | Coding Pin |
| | 617980030 | Polarization post |
| | 617980031 | Polarization key |



Rack & Panel Tools

| Part number | Description |
|-------------|---|
| 282521002 | Insert extraction tool |
| 282521004 | Right angle insert extraction tool |
| 617954020 | Plastic box to protect wired inserts during handling |
| F780855000 | Hexagonal key 2mm (5/64inch) Flats for sleeve holder removal |

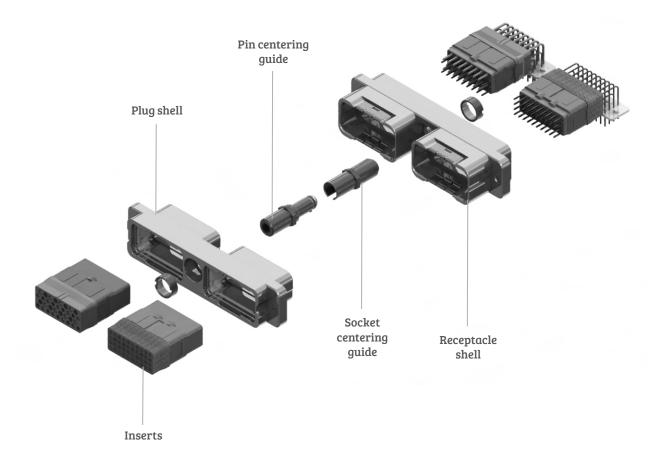


Go online for data sheets & assembly instructions

1-61

EPXB2 for LRU Product Overview

Detailed view of a receptacle and plug for the EPXB2 LRU connector.





How to Order EPXB2 Shell for LRU

| | - | | | | | | |
|--|---|-------------------------------------|--------------------------|------|---|---|---|
| | EPX | B2 | Н | L | 2 | 2 | N |
| Series prefix | | | | | | | |
| Shell size B2: Two cavity shell | | | | | | | |
| Shell style For option compatibility, set L: Receptacle with flange H: Classic receptacle Z: Receptacle with ground R: Receptacle without ground C: iEPX receptacle with inte P: Classic plug W: Plug with ground block D: iEPX plug with integrate | ee the table block und fingers egrated str | e below - -ain-relief | | | | | |
| Shell mounting 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 | nector wit Omm thru nector witl | h 4 x 6-32 holes h 2 x 6-32 i | mounting h mounting h | oles | | | |
| Locking & polarization dev 4: Pin centering guide 5: Socket centering guide | vice ⁽¹⁾ — | | | | | | |
| Polarization code 2: Polarizing device A to F of the State of the Stat | | | | | | | |
| | | | | | | | |

Shell class

- 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 | | | X | Х | Х |
| | Н | | Х | X | X | X |
| Class N | Z | X | Х | | | |
| Class N | R | Х | | | | |
| | Р | | Х | X | | X |
| | W | X | х | | | |
| | Н | | | | | X |
| Class I (waight autimized aluminium) | С | | | | | X |
| Class J (weight optimized aluminium) | Р | | Х | | | |
| | D | | x | | | |
| Class M (composite) | L | | | X | | X |
| Class M (composite) | Р | | Х | X | | X |

NOTES:

- [1] 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



1-63

How to Order EPXB2 Assembly Kit for LRU ■

Assembly kits includes shell with inserts mounted, with or without contacts. When selecting your insert codes, do not forget to place them in the order you want them assembled. Locking device is delivered uninstalled.

Tips to help you make a selection:

Go online for data sheets & assembly instructions.

- 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 1-10
- PC tail contacts can also delivered with a kit. Remember that only straight pin PC tail contacts are available, and in receptacle only. iEPX (styles C and D) are not availble with PC tails
- 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 is not compatible with insert 3Q3 in environmental class.

| | EPX | B2 | Н | В | 2 | N | N | BC | ZB |
|--|--------------|-------------|-------------|-------------|-----------|------------|------------|---------------|---------|
| SHELL SELECTION PART | | | | | | | | | |
| Series prefix — | | | | | | | | | |
| Shell size | | | | | | | | | |
| B2: Two cavity shell | | | | | | | | | |
| Shell style | | | | | | | | | |
| For option compatibly, see ta | ble on pa | ge 1-62 | | | | | | | |
| L: Receptacle with flange | | | | | | | | | |
| H: Classic receptacle | | | | | | | | | |
| Z: Receptacle with ground bl | | | | | | | | | |
| R: Receptacle without groun | | | | | | | | | |
| C: iEPX receptacle with integ | rated str | ain-relief | | | | | | | |
| P: Classic plug | | | | | | | | | |
| W: Plug with ground block D: iEPX plug with integrated | ctrain rol | liof | | | | | | | |
| 1 3 | Sti alli-lei | uei | | | | | | | |
| Shell mounting ———————————————————————————————————— | octor with | 1/v / 32 n | oounting | holos | | | | | |
| B: No mounting holes | ector with | 148 0-32 11 | ilouiitiiig | notes | | | | | |
| D: Connector with 2 x Ø3.10 r | nm thru h | nles | | | | | | | |
| F: Rear panel mounted conne | | | nountina | holes | | | | | |
| L: Rear panel mounted conn | | | | | | | | | |
| Polarization | | | | | | | | | |
| 4: Pin centering guide, polar | izing devi | ce A to F | | | | | | | |
| 5: Socket centering guide, po | | | F | | | | | | |
| 8: Pin centering guide, polar | izing devi | ce N to Z | | | | | | | |
| 9: Socket centering guide, po | larizing d | levice N to | Z | | | | | | |
| Shell class | | | | | | | | | |
| N: Nickel-plated aluminium | | | | | | | | | |
| M: Nickel-plated composite | | | | | | | | | |
| J: Nickel-plated weight optin | nized alur | minium | | | | | | | |
| | 1 | | | | | | | | |
| INSERTS SELECTION PART | | | | | | | | | |
| Insert class ———— | | | | | | | | | |
| E: Environmental | | | | | | | | | |
| N: Non-environmental | | | | | | | | | 1 |
| H: Non-environmental inser | | | | | | | | | |
| T: Non-environmental insert | with inte | rfacial sea | al, availal | ole for pin | insert or | nly (recom | mended i | for PC tail c | ontact |
| Insert code | | | | | | | | | |
| Refer to page 1-10 to select of | ode inser | t | | | | | | | |
| Contacts termination | | | | | | | | | |
| XS: Socket insert without co | | | | | | | | | |
| XP: Pin insert without contact | CIS | | | | | | | | |
| SS: Socket insert with crimp | contacts | ٦ | | | | | | | |
| SP: Pin insert with crimp cor | | Thes | se contac | ts are del | ivered un | ıınstalled | | | |
| YA: Gold PC tail contacts len | | | _ | | | | | | |
| ZA: Tin-lead PC tail contacts ten | 9 | | | | | | tail conta | acts for rec | eptacle |
| RA: Pure tin (RoHS) PC tail c | | ength A | Not | available | with iEPX | (| | | |



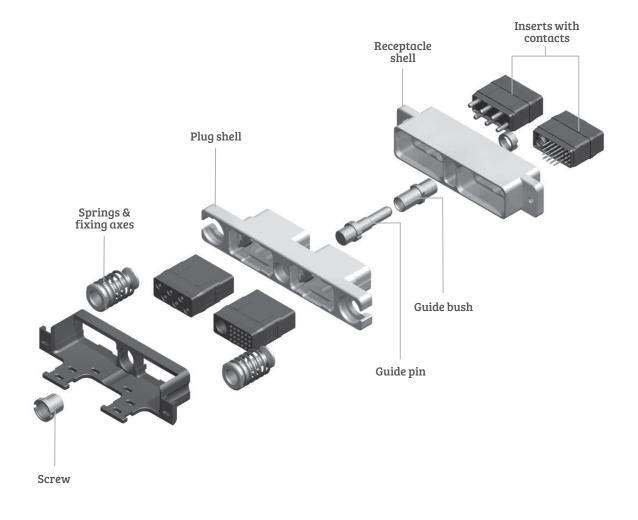
EPX® Galley Arinc 810 Product Overview

The 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.





Go online for data sheets & assembly instructions

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

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

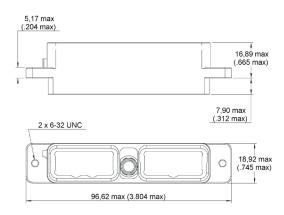


Dimensions and Panel Cut Out

EPX® GALLEY EQUIPMENT CONNECTOR PER ARINC 810

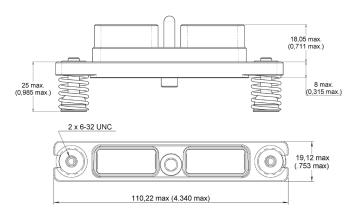
RECEPTACLE

Front mount



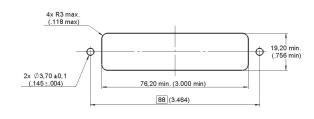
PLUG

Rear mount



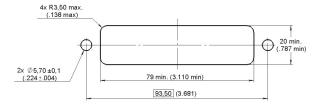
PANEL CUT OUT

RECEPTACLE



Go online for data sheets & assembly instructions

PLUG

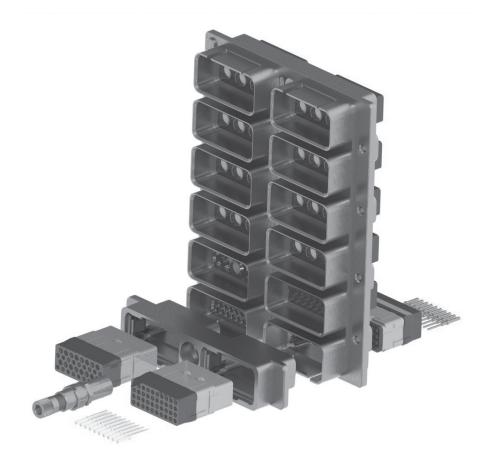




Multi-gang EPX® Connectors

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 performance

Several options are available:

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





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