



# H-PAC

High Power Amphenol Connector

## High Power connector



Commercial Aerospace  
Defence



BROCHURE 11/25 - V9.0

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# Amphenol Air LB

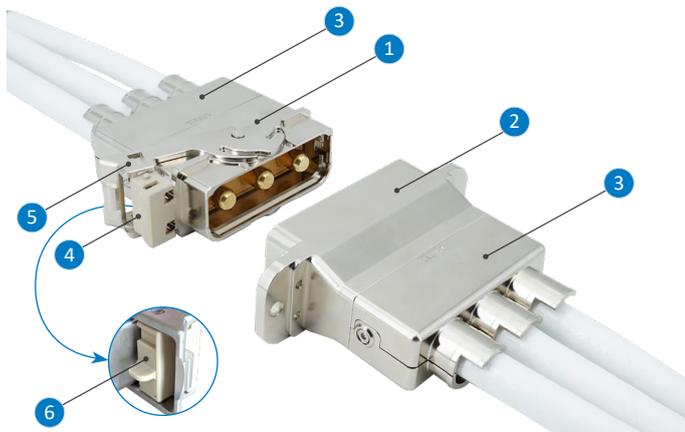
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# PRESENTATION

**H-PAC** is a brand new connector for Power applications.

This product features an innovative and easy-to-use locking system offering a perfect connection security: a lever mating mechanism and a CPA (Connector Position Assurance).

This quick-mate and quick-install connector aims to facilitate operator's work for both installation and maintenance and is perfectly suited for high demanding power applications on various platforms such as eVTOLS, UAVs,...



## CAPTION

- 1 - Plug
- 2 - Receptacle
- 3 - Accessory
- 4 - CPA security system
- 5 - Locking / unlocking lever
- 6 - Lock

## KEY FEATURES

- According to MIL-DTL-38999 specifications
- High mechanical conception: metallic shape
- 360° shielding
- High performance contact and aluminum contact cable compatible
- Temperature: -65°C to +200°C
- Overmolding technology for HVDC application
- HVIL technology (High Voltage Interlock Loop)
- Quick connection / Lever lock assistance
- CPA function (Connector Position Assurance)
- Quick install accessories
- Stackable solution -> Space saving

# TECHNICAL CHARACTERISTICS

## **ELECTRICAL**

Insulation resistance: > 5000 M $\Omega$

Breakdown Voltage AC (rms):

Sea level: > 8000 V

Dielectric Withstanding Voltage AC (rms):

Sea level: 3/4 BV = 6000 V

30 Kft: 2400 V

Recommended Max Operating Voltage AC (rms):

Sea level: 1/3 DWV = 2000 V

30 Kft: 800 V

Recommended Max Operating Voltage DC:

Sea level: 2800 V

30 Kft: 1120 V

Partial Discharge Free Voltage AC (rms):

Sea level, 21°C: 5600 V

30 Kft, 21°C: 2600 V

30 Kft, 200°C: 2200 V

Maximum intensity (overheating 40°C max / ambient):

#4: 125 A

#1 / 0: 215 A

Contact resistance: 2 m $\Omega$

Shell electrical continuity:

2,5 m $\Omega$ /link

## **MECHANICAL**

Vibrations (type): EN2997 & EN3645 according to NFEN 2591-403 method B fig 3 level J  
MIL38999 serie II according to EIA-364-28F condition VI letter J

Vibrations (maximum frequency):

Between 50 and 2000 Hz

Vibrations (amplitude): 40,9 grms

Vibrations (duration): 8 h/axis x 3 axis

Shocks (type): EN2997 & EN3645 according to NFEN 2591-402 method A severity 300  
MIL38999 according to EIA-364-27C condition D

Shocks (amplitude): 300 g

Shocks (duration): 3 ms (2 ways for each of the 3 directions)

Mating cycles: 500 Min

## **CLIMATIC**

Temperature of use: From -65°C to +200°C

Salt mist resistance (shell material and plating type dependant):

Metallic bright nickel plated: 96 h

Metallic nickel PTFE: 500 h

Thermoplastic bright nickel plated: 500 h

Resistance to fluids: According to MIL-DTL-38999 standard

Altitude immersion: 145 mb (45 Kft, 14000 m)

Air leakage: 4 cm<sup>3</sup>/h under 1 bar

IP indice: IP68

# REFERENCES AND DIMENSIONS

## ■ PART NUMBERING SYSTEM

### MATERIAL

Metallic

### SHELL TYPE

Plug  
Standard receptacle  
Flanged receptacle<sup>(1)</sup>

### PLATING

Bright nickel (RoHS)  
Olive drab cadmium

### LAYOUT

	Shell size 1	Shell size 2
2 contacts size 0	20	44
4 contacts size 4 <sup>(2)</sup>	44	30
3 contacts size 0	30	

### GENDER

Pin  
Socket  
Pin less contacts  
Socket less contacts  
Pin high performance contacts  
Socket high performance contacts

### POLARIZERS

#### Coding position A

From 1 to 6

#### Coding position B

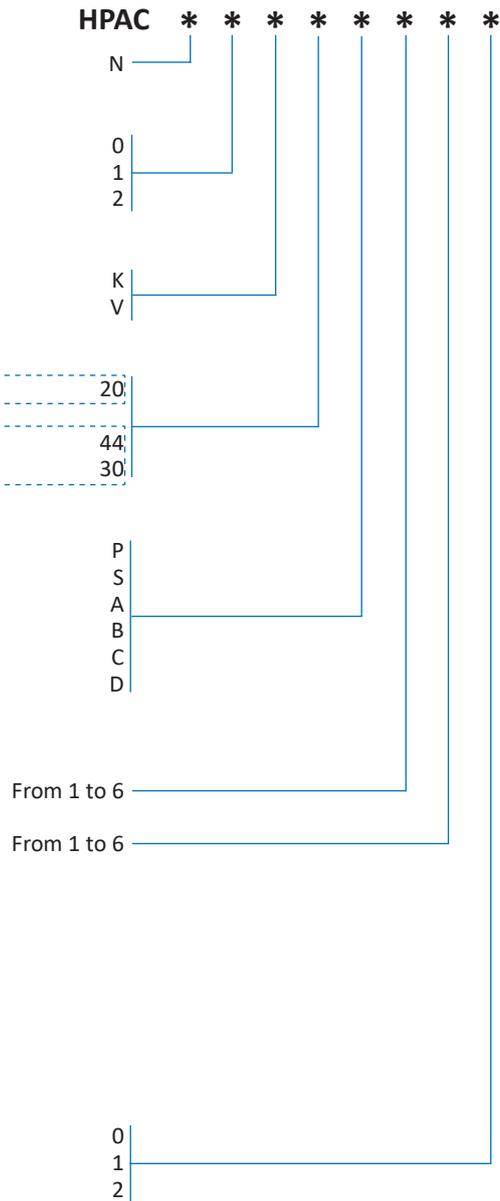
From 1 to 6

#### Position color

1 = Black  
2 = Red  
3 = Blue  
4 = Green  
5 = Yellow  
6 = Pink

### PANEL SEAL<sup>(3)</sup>

Without seal  
With not conductor seal  
With conductor seal



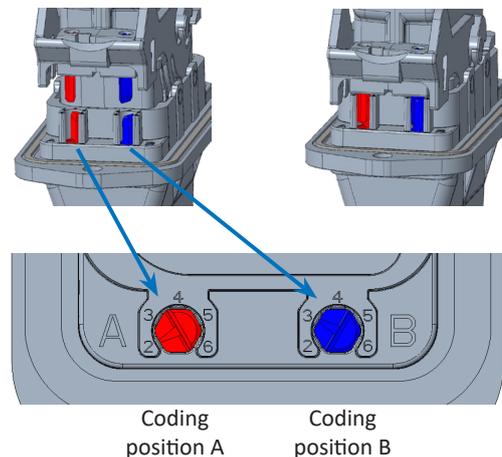
<sup>(1)</sup> See panel seal option.

<sup>(2)</sup> Please contact us.

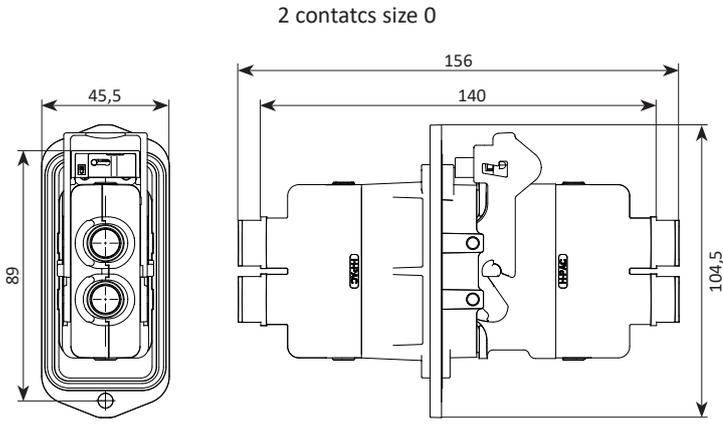
<sup>(3)</sup> Only available with flanged receptacle.

Polarizers example:

Each plug / socket contains 2 polarizers.  
Each polarizer has 6 different positions which offers a total of 36 mechanical keying combinations.  
Polarizers are delivered assembled in position (see part numbering system above).

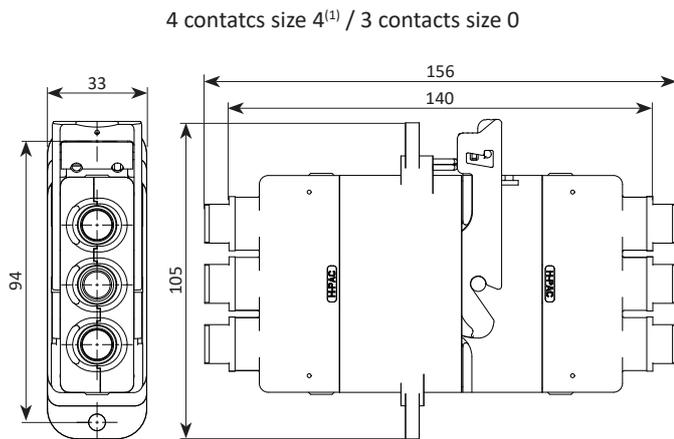


## SHIELDS SIZES AND ARRANGEMENTS



	20 arrangement	30 arrangement	44 arrangement <sup>(1)</sup>
Plug + receptacle + accessory weight (without contacts)	314,5 g	325 g	

<sup>(1)</sup> Please contact us.



## LAYOUTS / CONTACTS

Insert arrangement	20		30		44 <sup>(1)</sup>	
						
Contact gauge	#0	#20 <sup>(2)</sup>	#0	#20 <sup>(2)</sup>	#4	#20 <sup>(2)</sup>
Pin	High performance contact 215A 3020 2119 000 CTM	AS39029/58-363 or EN3155-008M2020	High performance contact 215A 3020 2119 000 CTM	AS39029/58-363 or EN3155-008M2020	High performance contact 125A	AS39029/58-363 or EN3155-008M2020
	Standard contact 150A AS39029/29-216		Standard contact 150A AS39029/29-216		Standard contact 80A AS39029/29-215	
Socket	High performance contact 215A 3021 2119 000 CTF	AS39029/56-351 or EN3155-003F2020	High performance contact 215A 3021 2119 000 CTF	AS39029/56-351 or EN3155-003F2020	High performance contact 125A	AS39029/56-351 or EN3155-003F2020
	Standard contact 150A AS39029/30-222		Standard contact 150A AS39029/30-222		Standard contact 80A AS39029/30-221	
Number of contacts	2	4	3	4	4	6

➔ Aluminum cable compatible.

<sup>(1)</sup> Please contact us.

<sup>(2)</sup> HVIL function.

# ACCESSORIES

## ■ PART NUMBERING SYSTEM

**SHELL TYPE**  
Backshell

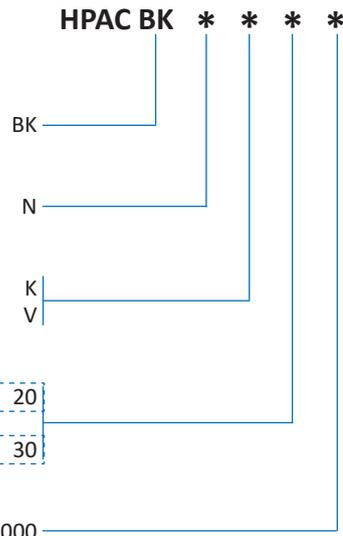
**MATERIAL**  
Metallic

**PLATING**  
Bright nickel (RoHS)  
Olive drab Cadmium

**LAYOUT**

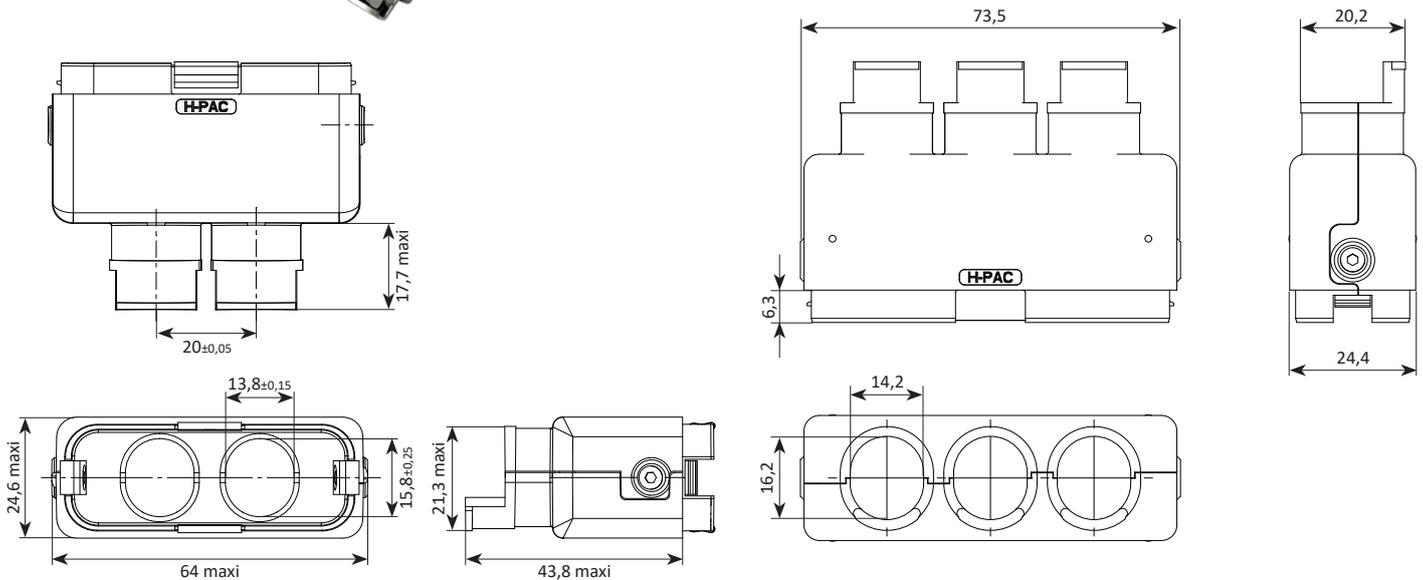
2 contacts size 0	20
3 contacts size 0	30

**BACKSHELL CONFIGURATION**  
Backshell with 2 straight outlets with tie-rip support 000



## ■ DIMENSIONS

The accessories are composed of two half parts and two captive screws.  
Use an hexagonal key .078 inch across flats to fix them.  
3 versions are available: 4<sup>(1)</sup>, 3 or 2 chimneys.



<sup>(1)</sup> Please contact us.

# CONTACTS INSERTION / EXTRACTION

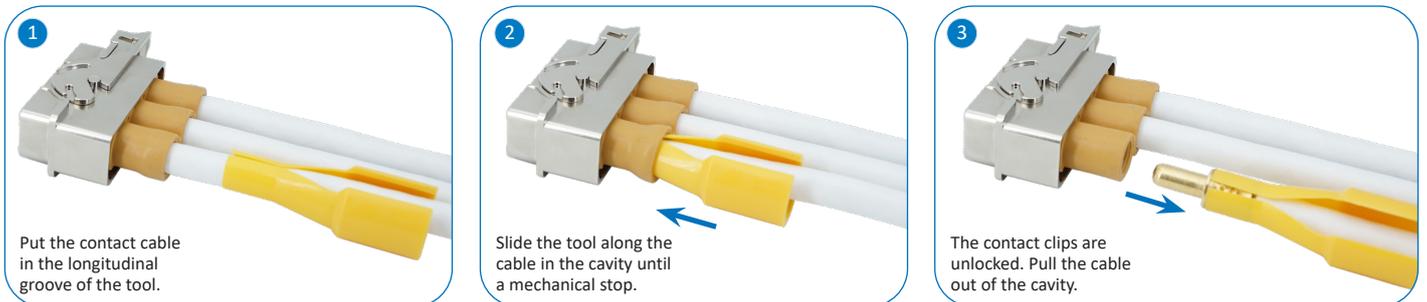
## CONTACTS INSERTION

The contacts insertion is made without any tool.



## CONTACTS EXTRACTION

The contacts extraction is made with standardized tool P/N: M81969/14-08 (size 0) or M81969/14-07 (size 4).



# BACKSHELL MOUNTING / UNMOUNTING

## BACKSHELL MOUNTING

The backshell is composed of two half parts and two captive screws.

It must be mounted after the contacts insertion.

The backshell is mounted in the same way for plug as for the receptacle.



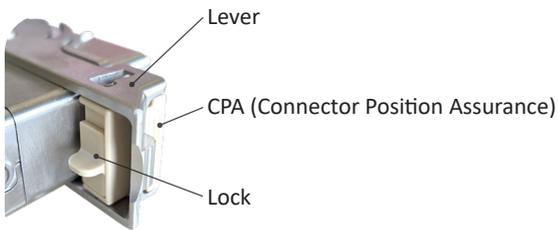
## BACKSHELL UNMOUNTING



# CONNECTOR LOCKING / UNLOCKING

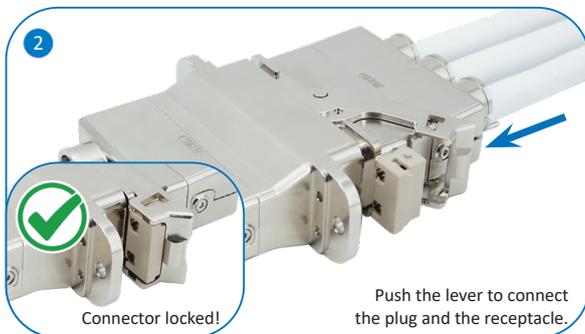
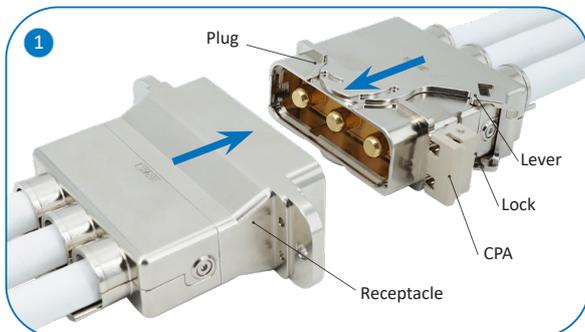
## LOCK

The plug is equipped with 3 elements:



## CONNECTOR LOCKING

The locking is made on plug side.  
The CPA (Connector Position Assurance) ensures the correct position of the locking mechanism.  
The lock secures the locking of the lever.



## CONNECTEUR UNLOCKING

