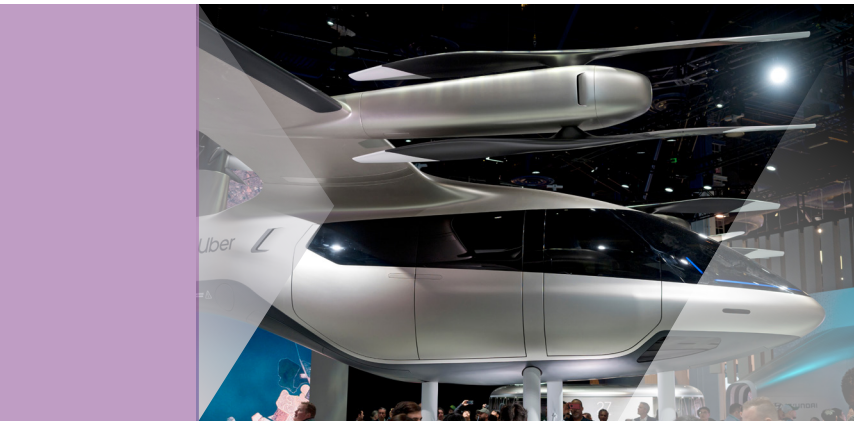




Amphenol Air LB

Your Satisfaction. Everyday. Everywhere.



Interconnect solutions
& attachment systems
for **Urban Air Mobility**



Version 2022



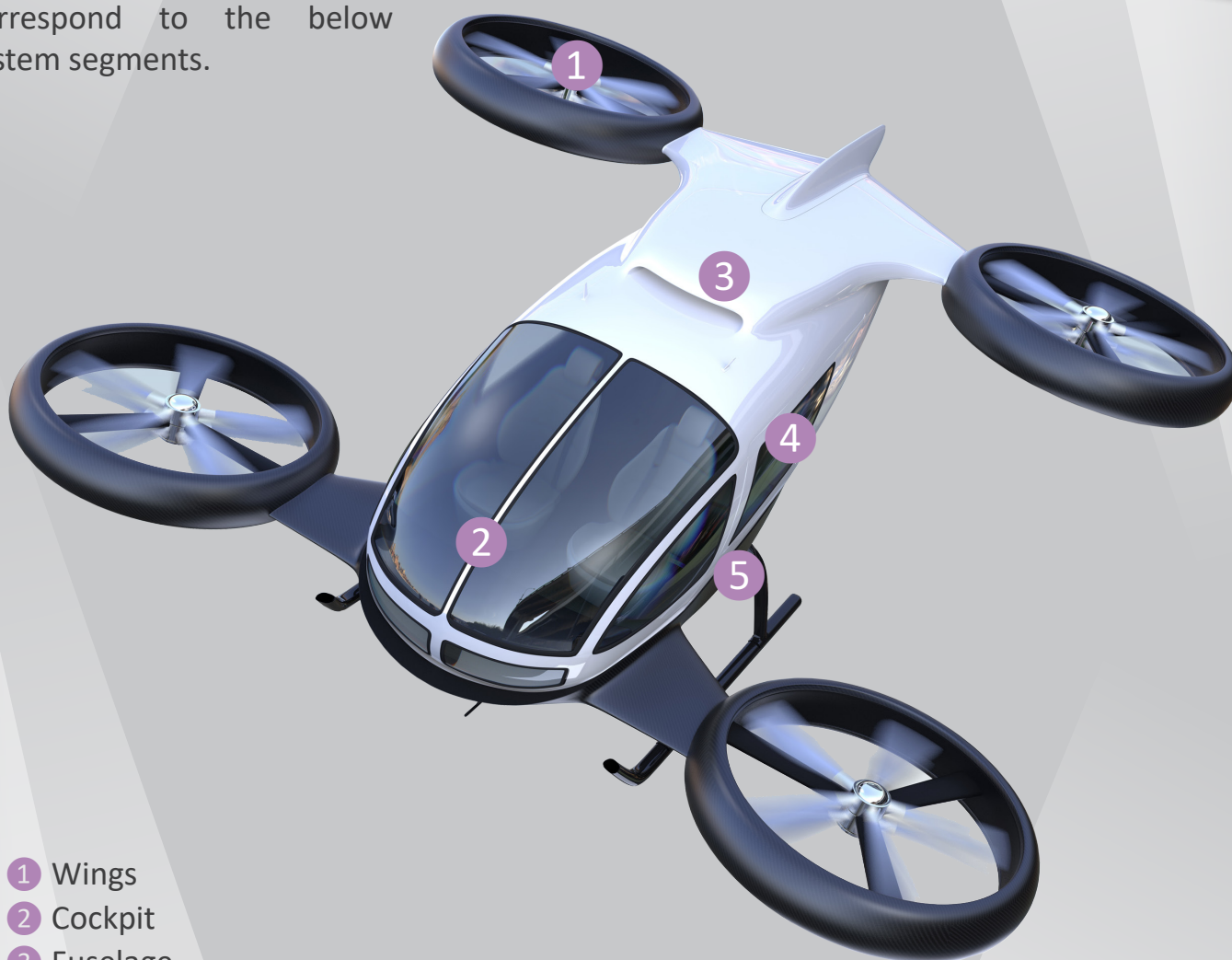
SYSTEM SEGMENTS

Amphenol Air LB offers a wide range of attachment systems and electrical, electronic and fiber optic connectors for urban air mobility applications.

Find in this brochure our recommended products which correspond to the below system segments.

Our products are perfectly suited for terminals and infrastructure, as well as for embedded applications, such as eVTOL or fixed wings aircrafts powered by hybrid electric systems, hydrogen fuel cells, solar or pure battery only...

And with their benefits of weight, time and space saving, they make us an ideal solution provider.

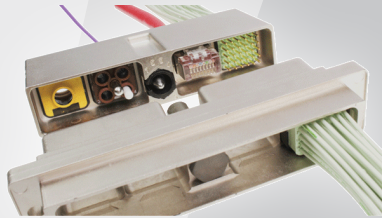


- ① Wings
- ② Cockpit
- ③ Fuselage
- ④ Passenger
- ⑤ Power Generation & Propulsors



CONNECTORS TO MATE

2
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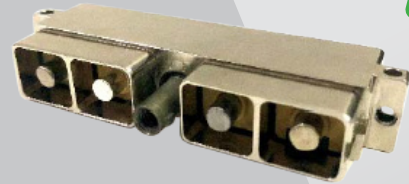


SIM / EN4165 Series

EN4165 / SIM modular connectors are fitted with overmolded SIM modules offering best-in-class dielectric and sealing performances. They come in composite version for weight saving applications or in metallic version for robust applications. Available with modules from 30 contacts size 23 (5 Amps) up to 1 contact size 8 (up to 80 Amps).

- Overmolding technology: second to none dielectric and sealing performances
- Lightweight and robust thermoplastic
- Metallized for shielding
- Versatility of mixing & matching Signal & Power, RF (Quadrax, Triax, Twinax and Coax) or Fiber Optic
- EN4165 qualified, comparable to U.S. MIL-STD-810 in performance

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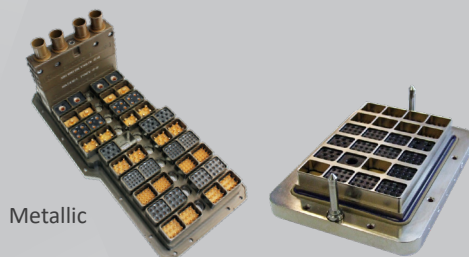


SIM / EN4165 Series with power modules

EN4165 / SIM modular connectors are fitted with overmolded SIM modules offering best-in-class dielectric and sealing performances. They come in composite version for weight saving applications or in metallic version for robust applications. This SIM range comes in 1, 2 or 4 modules for respectively 80 Amps, 160 Amps or 320 Amps for power applications.

- Overmolding technology: second to none dielectric and sealing performances
- Lightweight and robust thermoplastic
- Metallized for shielding
- EN4165 qualified, comparable to U.S. MIL-STD-810 in performance

2



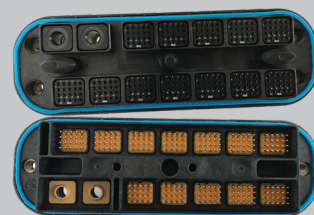
Metallic

SIM Plates (derived from EN4165)

EN4165 / SIM Plates are derived from EN4165 standard connectors. It consists of customer shells fitted with the whole range of EN4165 standard modules, together creating an integrated solution, supporting advanced signal and power requirements at a fraction of the space. Customs plates can easily be integrated at the rear of electronic boxes, or fully replace boxes themselves. EN4165 / SIM Plates are also suitable to connectorize boxes or structure parts, aiming to save parts and then simplify the supply chain. They come in composite version for weight saving applications or in metallic version for robust applications.

- Designed and qualified according to EN4165 standard
- Scoop-proof and blind mating shells available
- SIM modules in overmolding technology
- Versatility of mixing & matching RF (Quadrax, Triax, Twinax and Coax), Fiber Optics, Signal & Power
- Connectorization of boxes or structures aiming to save parts and simplify the supply chain
- Custom design

1
5



Composite



CONNECTORS TO MATE

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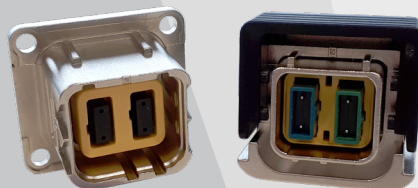


MonoModule SIM / EN4165 / ARINC 809

The EN4165 / SIM Monomodule series is a single module connector, fitted with overmolded SIM modules offering best-in-class dielectric and sealing performances. With lightweight composite shells they are especially suited where weight and space saving is mandatory. Multiple color coding, backshells and accessories available. Available with modules from 30 contacts size 23 (5 Amps) up to 1 contact size 8 (up to 80 Amps).

- Overmolding technology: second to none dielectric and sealing performances
- Lightweight and robust thermoplastic
- Metallized for shielding
- Fixing accessories, multiple colors, flight caps and 3-pin quick install versions are also readily available

2
3

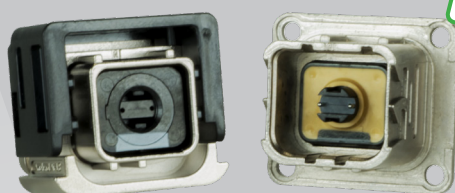


SIMTac03 Optical Module

SIMTac03 Optical Modules are suited for the whole range of EN4165 / SIM connector ranges. They come with 2 MTAC Connectors with Strain Relief. Recessed MT Ferrule reduces exposure. Boot are for round or ribbon fiber. Finger-touch-proof. Available in Multi-mode & single mode versions.

- Pending standardization: EN4733 (modules) and EN4734 (connectors)
- SIM module for 2 SIMTac03 connectors with strain relief
- SIMTac03 connectors are fitted with MT ferrules as per IEC 61754-5
- Protective shroud aiming recessed MT ferrule and "Finger-Touch-Proof"
- Boot for round or ribbon fiber
- Multi-mode and single mode
- 12 and 24 optical ways

3
4

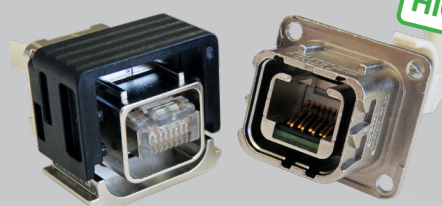


SIMTac08 Optical Module

SIMTac08 Optical Modules are suited for the whole range of EN4165 / SIM connector ranges. They are designed to receive 1 MT Ferrule packaged within a Size 8 Quadrax contact form factor. 2 versions available: EN4165 / M38999 cavities & ARINC 600 cavities. For boot or sealed sleeve. Multi-mode (12 optical ways).

- SIM module for 1 MT Ferrule packaged within a Size 8 Quadrax contact form factor
- Suited for all EN4165 / SIM connector ranges
- 2 versions: for EN4165 / M38999 cavities, and for ARINC 600 cavities
- Available with boot or sealed sleeve
- Multi-mode (12 optical ways)

3
4



SIM Monomodule with RJ45 module

SIM module for RJ45 Cat6a 10Gb can be used with the whole range of EN4165 / SIM Monomodule connectors. Available for cable-to-cable or cable-to-PCB applications. Rear accessories are available to provide a sealed connection.

- RJ45 - 10 Gb
- Cat6a (TIA 568C2)
- Ea class (ISO 11801)
- Versions cable-to-cable and cable-to-PCB



- 1 Wings
- 2 Cockpit
- 3 Fuselage
- 4 Passenger
- 5 Power Generation & Propulsors

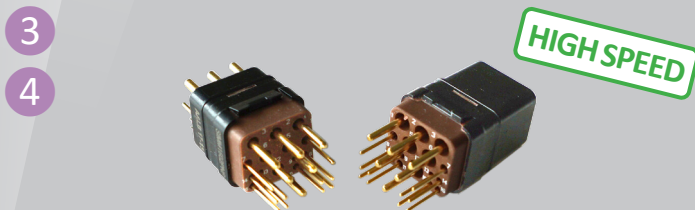
CONNECTORS TO MATE



1900SIM

1900SIM is a '3 modules' rectangular connector providing versatility and high density within a small form factor. They are fitted with overmolded SIM modules offering best-in-class dielectric and sealing performances. They come in composite version for weight saving applications. Available with modules from 30 contacts size 23 (5 Amps) up to 1 contact size 8 (up to 80 Amps).

- Overmolding technology: second to none dielectric and sealing performances
- Lightweight and robust thermoplastic
- Metallized for shielding
- Versatility of mixing & matching Signal & Power, RF (Quadrx, Triax, Twinax and Coax) or Fiber Optic
- Many accessories and backshells available
- EN4165 qualified



Gigabit Modules

Gigabit Modules are part of the SIM / EN4165 module range that can be used with the whole range of SIM / EN4165 connectors. These modules provide high speed Cat 5E Ethernet data transmission and power in one module.

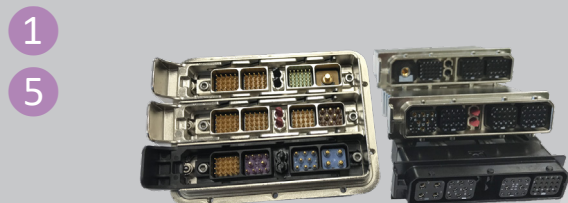
- ARINC 800 / SIM Hybrid modules
- Overmolding technology
- Available in male and female versions, with or without peripheral sealing
- Comparable to U.S. MIL-STD-810 in performance



Power 1900SIM

1900SIM is a '3 modules' rectangular connector providing versatility and high density within a small form factor. They are fitted with overmolded SIM modules offering best-in-class dielectric and sealing performances. They come in composite version for weight saving applications. This 3 modules connector allows to pass power up to 240 Amps.

- Overmolding technology: second to none dielectric and sealing performances
- Lightweight and robust thermoplastic
- Metallized for shielding
- Many accessories and backshells available
- EN4165 qualified



SIM Quick Release Plates

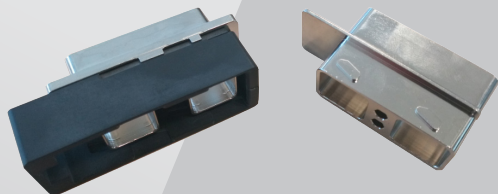
Based on legacy EN4165 connectors, SIM QR Plates and connectors features a quick disconnection system. Fitted with modules selected from an extensive range of overmolded EN4165 / SIM modules providing multiple contacts sizes and arrangements offering best-in-class dielectric and sealing performances. For Power & Signal contacts.

- Overmolding technology: second to none dielectric and sealing performances
- Lightweight and robust thermoplastic
- Metallized for shielding
- Many accessories and backshells available.
- Quick mating / unmating



CONNECTORS TO MATE

4



SIM Quick Release Connector

Quick disconnection connector based on EN4165 / SIM standard. Fitted with modules selected from an extensive range of overmolded EN4165 / SIM modules providing multiple contacts sizes and arrangements offering best-in-class dielectric and sealing performances. For Power & Signal contacts.

- Space saving / High density
- Quick disconnection
- Using std EN4165 modules & accessories

1

4



SIM Splice Series

This modular composite splice provides a reliable and simple connection between two EN4165 / SIM modules. Available with or without cable clamp, and/or flange, the SIM splice can be fixed on/under a structure or Feed-through. It can be fitted with the whole range of EN4165 / SIM modules.

In-Seat Modular & Flexible Wiring; Quick install interconnect, splicing.

- Space efficient & modular design
- Compatible with the whole range of EN4165 / SIM modules
- SIM modules in overmolding technology
- Fire / Smoke / Toxicity conform to ABD0031 and FAR 25853

3

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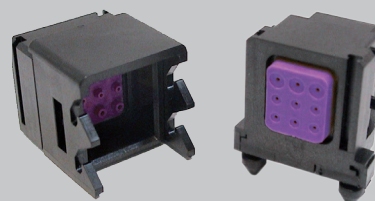
H-PAC Connector

Next Generation of Power connector, H-PAC has an innovative and easy-to-use locking system offering a perfect connection security. It is perfectly suited for high demanding power applications on various platforms such as eVTOLS, UAVs,.... It offers 4 contacts 125 Amps + 6 interlock contacts.

- Mixed: 4 Power + 6 Interlock
- Quick connect and no tools needed thanks to the lever
- Secured connection thanks to the CPA (Connector Position Assurance)
- Overmolding technology for HVDC application
- Sealing IP67, shielding 360°
- Temperature: -65°C to +200°C
- Specifications according to EN4165

1

4



PSU Connectors 3559 Series

The 3559 connectors series is a mono modular, push-pull connector that is ideal for In-Flight Entertainment Systems, Cabin Service Systems, and other interconnect system requirements. Especially suited for applications where shielding is not necessary.

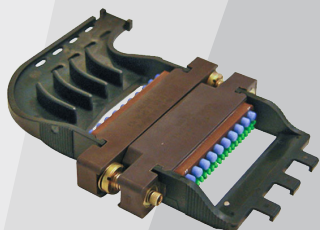
- Lightweight and robust thermoplastic
- Compatible with the whole range of EN4165 / SIM modules
- SIM modules in overmolding technology
- Feed-thru and 3-pin quick install versions are readily available
- Fire / Smoke / Toxicity conform to ABD0031 and FAR 25853



- ① Wings
- ② Cockpit
- ③ Fuselage
- ④ Passenger
- ⑤ Power Generation & Propulsors

CONNECTORS TO MATE

- ①
- ③
- ④
- ⑤



1900 / EN3545 Connectors Series

Composite rectangular connectors available with various contact arrangements. Includes sizes 22 to 8 crimp removable contacts for Copper and Aluminum cable, common with Mil-DTL-38999 Series connectors such as coax, twinax, triax and QuadraX. Standard and Overmolded rear grommet and interfacial seal. Configurable keying and locking posts providing 36 options. Especially suited for applications where shielding is not necessary.

- Lightweight and robust thermoplastic
- Overmolding technology offering excellent sealing performances
- Fire / Smoke / Toxicity conform to ABD0031 and FAR 25853

- ④



ASR Connectors

The ASR Connector is a compact and easy to use interconnect where shielding, sealing, and space / weight savings are prime requirements. ASR connectors use MIL-C-39029 contacts, feature a snap-locking mechanism and are available in both male and female versions, as well as with PCB or crimp contacts.

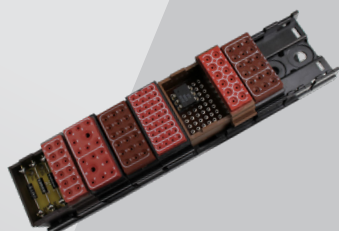
- Lightweight and robust thermoplastic
- Overmolding technology offering excellent sealing and dielectric performances
- Available in metallized versions for shielding applications
- Quick 'snap' locking mechanism
- D-shape and keying positions
- High temperature range: up to 175°C



CONNECTORS FOR DISTRIBUTION

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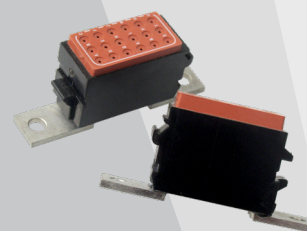
1750 Modules Series

1750 series consists of Quick junction modules for signal and low current distribution, where sealing (IP66 / IP68 and IP69K), space and weight savings are prime requirements. Specifically suited for wiring optimization, then offering weight and cost savings, these track-mounted modules (on metallic or composite track) are available from 8 contacts size 12 up to 36 contacts size 22 in different contact configurations. They also come in hybrid or ground versions, as well as PCB or component carrier versions. Fully REACH / RoHS compliant and conform to ABD0031 and FAR 25853 (Fire, Smoke and Toxicity).

- Overmolding technology offering excellent dielectric and sealing performances
- Compact design
- Suited to save cable linear meters, as well as cost and weight
- Versatility of mixing on metallic or composite tracks

1

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1758 Grounded Modules Series

Grounding modules for signal and low current distribution, where sealing, space and weight savings are prime requirements. Specifically suited for wiring optimization, while offering weight and cost savings, these modules come with individual mounting brackets or can be mounted on metallic tracks. Available from 36 contacts size 22 to 8 contacts size 12.

- Modules for grounding applications
- Very compact design and high contact density
- 2 versions: individual mounting brackets or mounted on metallic tracks
- Overmolding technology offering excellent sealing performances

2

3



1119 Splices Series

In-line junctions 1119 series are available in 1 to 4 contacts versions, for copper or aluminum cable contacts, and also exist in components carrier versions (diodes, resistors or fuses inserted). Fully sealed, compact, thin and easy to use, they are perfectly suited in a cable harness, to easily insert a component and change a signal, or simply to repair a damaged wire.

- Military & Commercial Aerospace specification
- Thin design
- Overmolding technology offering excellent sealing performances

2



Circular Ground Modules

Grounding modules for signal and low current distribution, where sealing (IP66 / IP68 and IP69K), space and weight savings are prime requirements. Specifically suited for grounding applications, including components or not, these modules can be screwed directly on the structure. They are available for 10 or 12 contacts size 20, male or female contacts, with or without components.

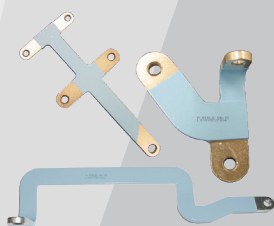
- Modules for grounding applications
- Very compact design
- 2 versions: for male and female crimp contacts
- 2 versions: with or without integrated components
- Available in sealing versions or not



- ① Wings
- ② Cockpit
- ③ Fuselage
- ④ Passenger
- ⑤ Power Generation & Propulsors

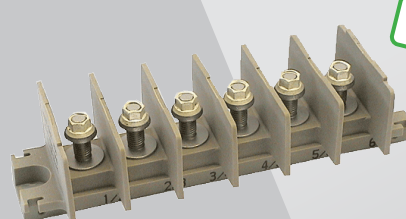
CONNECTORS FOR DISTRIBUTION & INTERFACE CONNECTORS

①
④
⑤



POWER

①
④
⑤



POWER

Bus Bars

AALBF's bus bars provide a means of power distribution between power generator boxes, terminal blocks, and smaller terminal block interconnects. Bus bars are available in various standard sizes and shapes as well in custom designs. Bus bars present high mechanical resistance and are resistant to high temperatures.

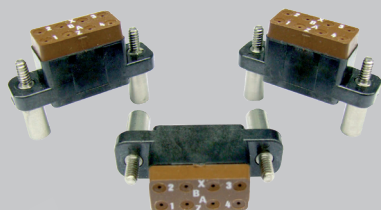
- Military & Commercial Aerospace specification
- Lightweight aluminum
- Perfectly suited for custom design

Monobloc Assemblies

Designed for power distribution purposes, the monoblock assemblies are made of terminal junction block, for copper or aluminum cable connections. Monoblock assemblies are available with individual or shunted terminals, from 1 to 12 terminals, in different diameters. The protective cover fixing, as well as the terminal assembly's fixing on structure are ensured by pillar bolts.

- PEEK Polymer
- High temperature range
- High current up to 350Amps
- Fire / Smoke / Toxicity conform to ABD0031 and FAR 25853

②

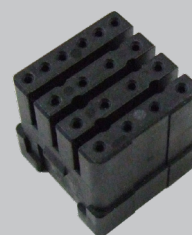


Relay Sockets

Adaptation device between a Relay and a Cable harness, our relay sockets are widely used by European aircraft manufacturers.

- Overmolding technology
- Lightweight composite & compact design
- For 8, 14 or 16 cts size 20 / 16 (crimp contacts)
- Contacts as per ASNE standard or NFC 93422 model HE310A contacts
- Polarization provided by specific contact configuration or polarized mounting devices

②
③



Socket for Light

Adaptation device between a lighting device and a cable harness for commercial aerospace applications.

- Lightweight composite
- 18 contacts size 22 (EN3155)
- Fire / Smoke conform to ABD0031 and FAR 25853



ATTACHMENT SYSTEMS

3



CC1339 Light Clamps

CC1339 Light Clamps provide routing, support and fixing for cable harnesses of various diameters. They are used in the wing sections of aircrafts, in the fuselage for power and electrical cables, as well as inside the cabin for in-flight entertainment or cabin service systems. Derived from legacy ABS1339 standard clamps, they offer up to 18% more weight saving.

- Pre-installation feature
- Greater wire bundle diameter variance
- High grade material
- Impressive weight savings vs. metal clamps
- 8 sizes available

3

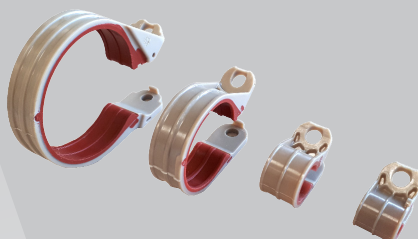


CC5516 Clamps

CC5516 series is a new line of lightweight Cable Clamps, in composite and silicone, derived from the legacy NSA5516 metallic clamps. They are designed to keep the cable harnesses or hydraulic pipes securely maintained on a structure. They are closed and fixed on the structure by screw (not supplied), in one simple operation.

- Up to 65% lighter than metal clamps
- Overmolding technology
- PEEK Polymer offering high temperature range up to 435F
- 37 sizes available
- Fire / Smoke / Toxicity conform to ABD0031 and FAR 25853

3



CC5516 Light Clamps

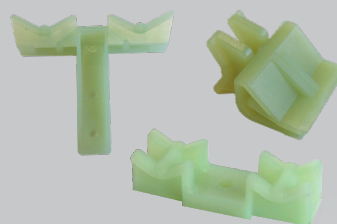
Lightweight alternative to metal cable clamp offering a versatile solution for reduced weight and installation time, while offering cable protection over time.

- Up to 73% lighter than metal clamps
- Quick installation
- Pre-locking
- Overmolded product: safety over time
- Stackable
- 10 sizes available

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Cable & Stringer Supports

Designed to secure and guide wire bundles throughout an aircraft, these wiring accessories were designed with strength, stability, and weight reduction in mind. They come with a large variety of sizes, shapes and materials. They are able to support large bundles and high stress requirements.

- Cable harness maintained on the cable accessory by cable tie
- Variety of sizes and shapes: accommodates different cable routing requirements
- Lightweight and durable: simplifies wire bundle installation & maintenance
- Fixing on structure (by screw), on shaped supports or bended supports
- Operating temperature: -55°C to +135°C (permanent)



- ① Wings
- ② Cockpit
- ③ Fuselage
- ④ Passenger
- ⑤ Power Generation & Propulsors

ATTACHMENT SYSTEMS

①

④



ABS1694/5 Pipe Clamps Series

Designed to help guide ventilation conduits through aircraft and vehicles, these composite mounting tracks were designed with strength, stability, and weight reduction in mind. They are made with black thermoplastic and conform to ABD0031 and FAR 25853 flammability standards.

- Lightweight thermoplastic
- Operating temperature: -55°C to + 85°C
- Suited for different structure thicknesses

③

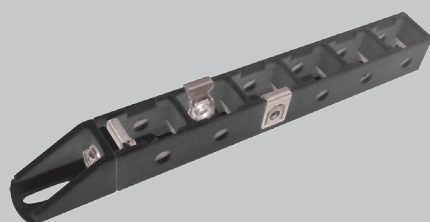


ABS1424 Series

Designed to help guide wire bundles through aircraft and vehicles, these standoffs were designed with strength, stability, and weight reduction in mind. They are made with black thermoplastic and conform to ABD0031 and FAR 25853 flammability standards. Two versions available : with screw mount, or with tie-down mount.

- Lightweight thermoplastic
- Suited for different structure thicknesses
- 2 functions in 1 product (depending on the PN):
 - Fixing on structure (by screw or with removable locking pin)
 - Cable clamp (ex ABS1339) are fixed by screw

③

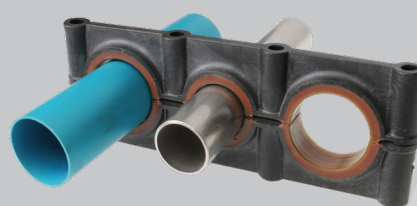


ABS2225 Wiring Accessories

Designed to help guide wire bundles, AirLBF's composite mounting tracks were designed with strength, stability, and weight reduction in mind. They are made with black thermoplastic and conform to ABD0031 and FAR 25853 flammability standards.

- Lightweight thermoplastic
- Operating temperature: -55°C to + 85°C
- Wide range of track length (1 up to 24 parts)
- 4 mounting positions on structure (0° / 90° / 180° / 270°)
- Cable accessories (ex ABS1339) can be fixed on 3 sides of tracks
- Conform to ABD0031 and FAR 25853

③



ABS14** Pipe Clamps Series

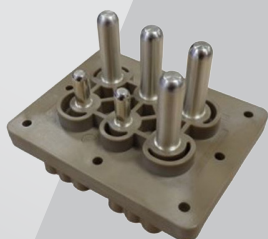
ABS14xx monoblock pipe clamps allows the perfect fixing of hydraulic pipes on structure. These pipe clamps are fully designed in composite with silicone overmolding, providing a perfect protection to the pipes from shocks and vibrations. Multiple versions are available, for general (brown silicone) or fuel zone use (blue silicone), with 1 to 5 holes from various and mixed diameters (from 6.3 to 19 mm). ABS14xx pipes clamps are closed and fixed on structure by screws.

- Overmolding technology
- High grade material
- Lightweight composite
- Fire / Smoke / Toxicity conform to ABD0031 and FAR 25853



SPECIFIC PRODUCTS

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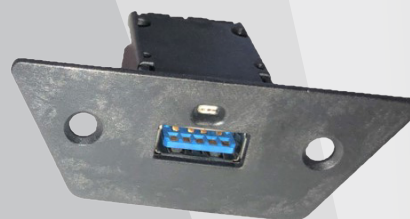
POWER

Ground Power Receptacle

This Amphenol Air LB France's Power feed receptacle connector is originally installed on commercial airliners and is fully intermateable with Ground based SAE AS 25486 power plugs installed around the world. It powers the aircraft while docked at the gate.

- Robust thermoplastic with glass fiber
- Operating temperature: -55°C to +125°C
- Associated products available: shield cover and Lightning Protection Unit (LPU)

4



USB Charging Socket

This USB type A charging socket allowing travelers to charge their electronic devices.

- Interface connector between smartphone and voltage converter
- Connection indicator via blue LED on front panel
- Rear connection made by 2 Faston type lugs
- Customizable design

5



Mini MRP

Composite or metallic box ARINC 836 / Mini MRP equipped with a multi-cavities interface derived from the standard EN4165, accepting all module types (optical, electrical...).

4



POWER

Battery Adaptor

Custom power solutions integrating bus bars that are designed for high current and are easy to integrate in an interconnection system.



- ① Wings
- ② Cockpit
- ③ Fuselage
- ④ Passenger
- ⑤ Power Generation & Propulsors

OTHER AMPHENOL PRODUCTS



Luminus Connector
Amphenol PCD



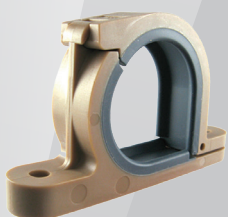
Pegasus Connector
Amphenol PCD



Solaris Connector
Amphenol PCD



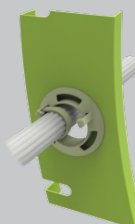
M12883 Relay Sockets
Amphenol PCD



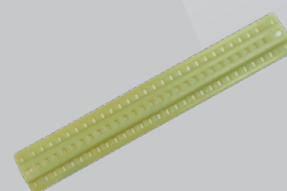
Omega Clamps
Amphenol PCD



Stand Offs
Amphenol PCD



Hole Bushings
Amphenol PCD



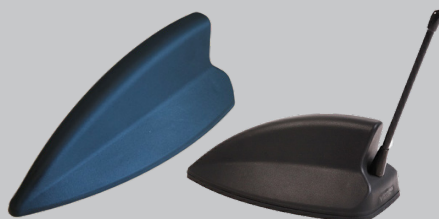
Harness & Hat Supports
Amphenol PCD



Bus Bars
Amphenol Auxel



Harnessing
Amphenol Sefee



Sharkfin Antenna
Amphenol Procom

OUR COMPANY / CAPABILITIES

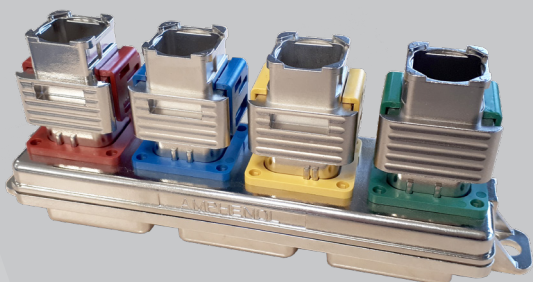
VISIT OUR NEW WEBSITE!

www.amphenol-airlb.fr



ELECTRONIC PACKAGING & CABLE ASSEMBLIES

1 We extend our expertise in the fields of **Electronic Packaging** offering an integrated solution combining passive components within connector shells.



2 We can also offer you our **Electrical and Optical Cable Assemblies** capabilities. Consult us with:

- your Cable Assemblies plans/drafts
- your specifications



Advantages:

1 • Optimization of space requirements (design) -> **Space saving**

1 2 • Reduced integration time -> **Time saving**

1 2 • One part number and one provider only to manage -> **Supply chain simplification**

1 2 • **Customized and stable solutions**



ENVIRONMENT

A proactive approach regarding environment matters.

Amphenol Air LB
is focused on the respect of
the environmental standards, especially
REACH and **RoHS**
regulations.



Registration, Evaluation, Authorization of Chemicals

- Continuous survey
- Regular and systematic information of customers on the conformity of our products with the last SVHC list issue (Substance of Very High Concern)



Restriction Of Hazardous Substances

- For Aeronautic and Military markets which are part of the RoHS exemption domain: survey & proposition of “material substitutes” to customers
- For Railway and Industrial markets:
Our products are 100% RoHS compliant



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