

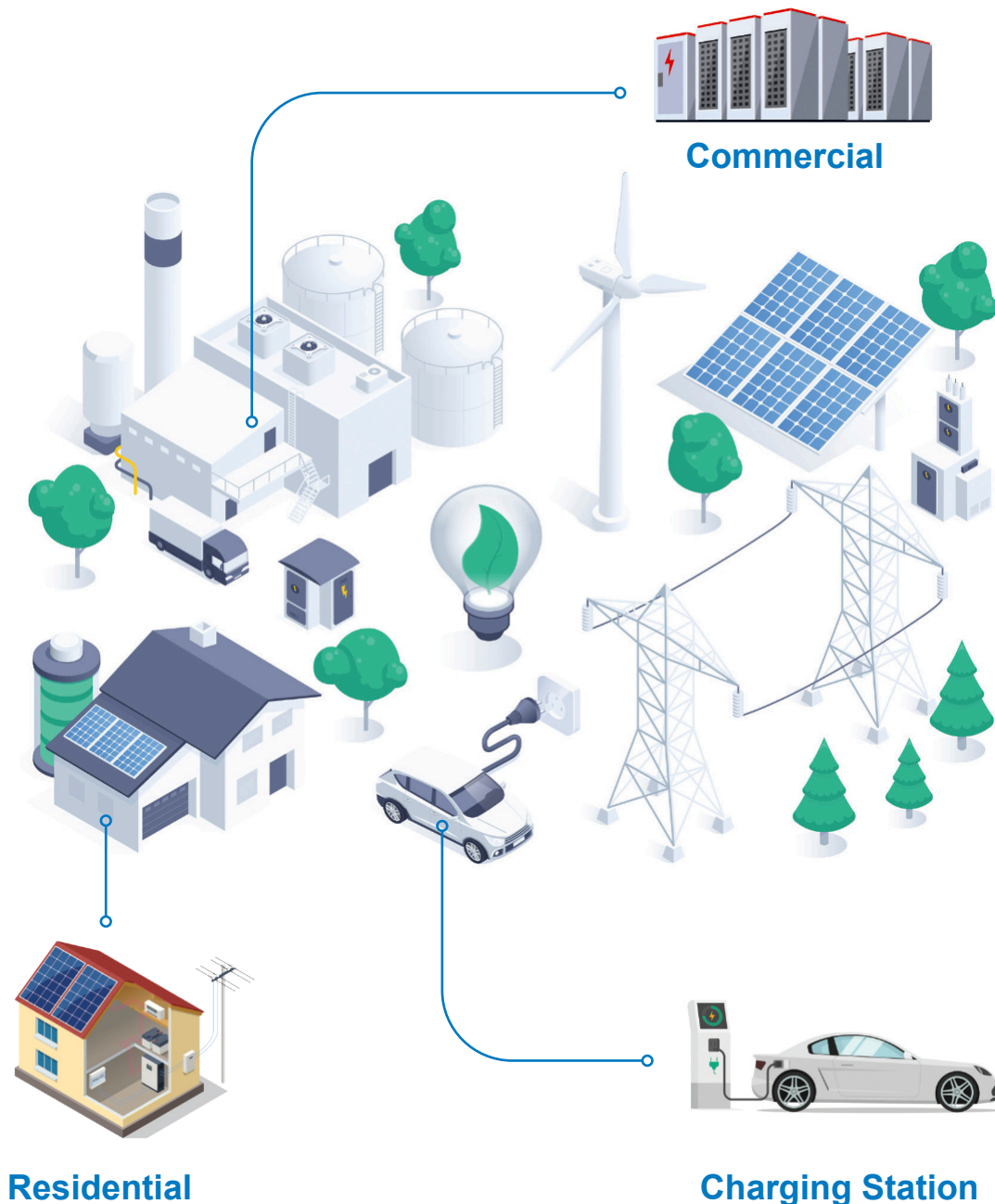


## Interconnect Solutions for Energy Storage Systems

## ***FCI Basics***

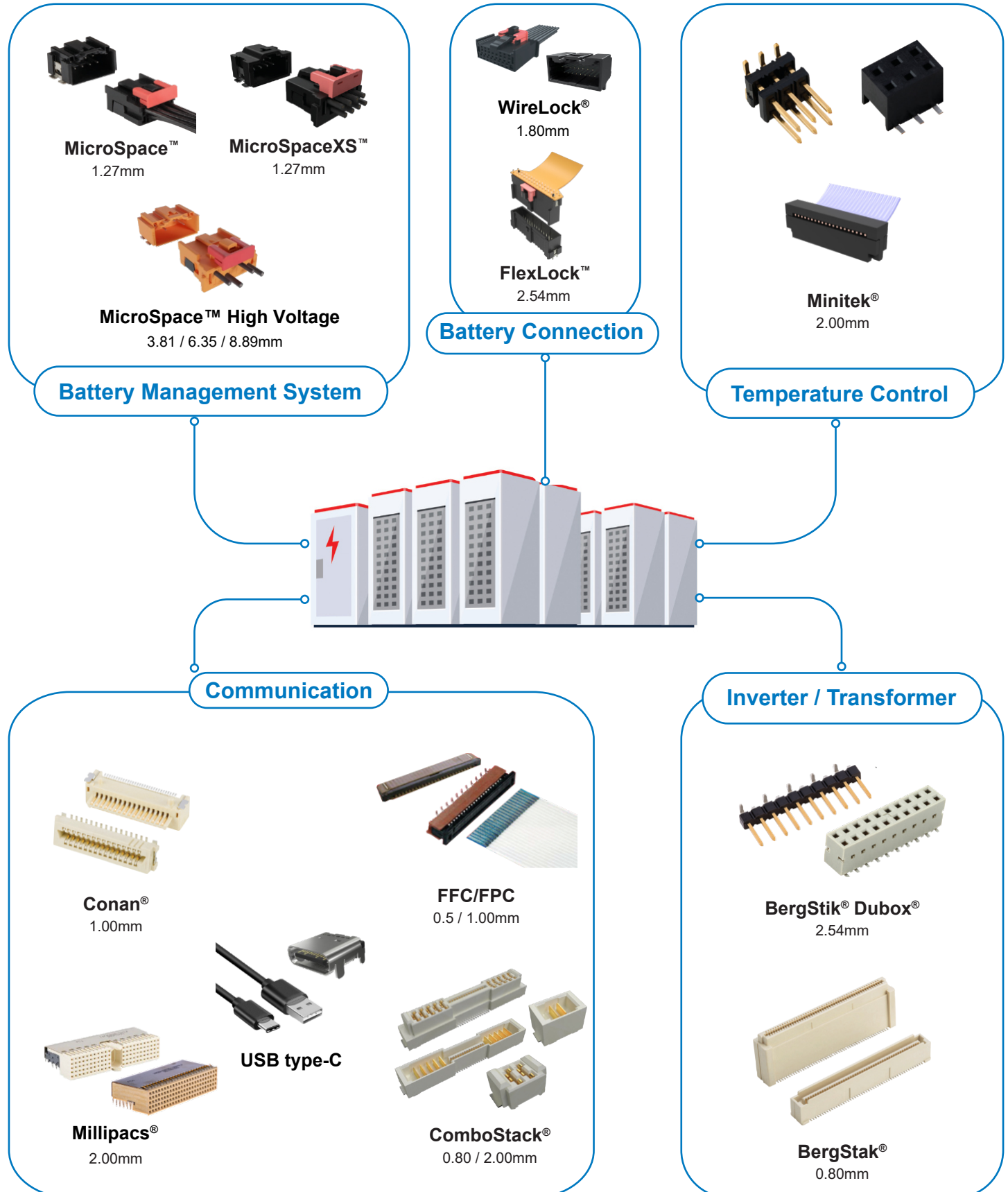
# Energy Storage Systems (ESS)

Energy Storage Systems (ESS) store energy and stabilize electrical performance in large grid installations as well as medium commercial to residential establishments. Lithium-ion batteries are the basic building blocks of ESS and together with inverters or Power Conditioning Systems (PCS) help the ESS manage peak and off-peak power requirements of the locality or household. Residential ESS found in smart homes come with wall-mounted batteries or modules and are coupled with AC/DC Inverters. For commercial or industrial establishments, several of these modules stack up to form racks while multiple such racks are arranged within a container which works as the commercial ESS for large smart grids. The excess power produced by renewable energy resources like solar and wind power are captured by ESS, avoiding massive frequency fluctuations, thereby boosting the reliability and power quality of the grid. Amphenol provides a range connectors and many more advanced interconnects for ESS.



## Energy Storage Systems

# Commercial System Components – Key Connector Solutions





## Energy Storage Systems

# Residential System Components: Battery, Inverter, Smart Meter

**Battery**



**Inverter**



**Smart Meter**

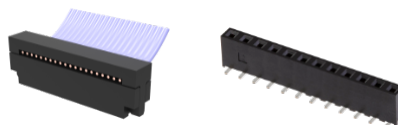


**Key components**

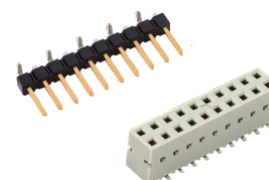


**USB Type C**

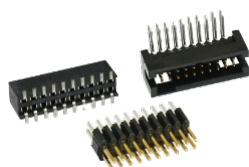
**Key components**



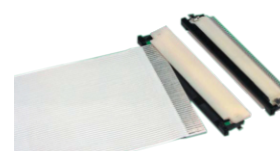
**Key components**



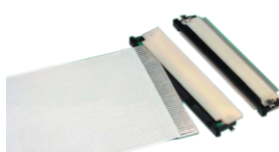
**BergStik® Dubox®**  
2.54mm



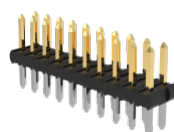
**Minitek127®**  
1.27mm



**FFC FPC**  
0.50 / 1.00mm



**FFC FPC**  
0.50 / 1.00mm



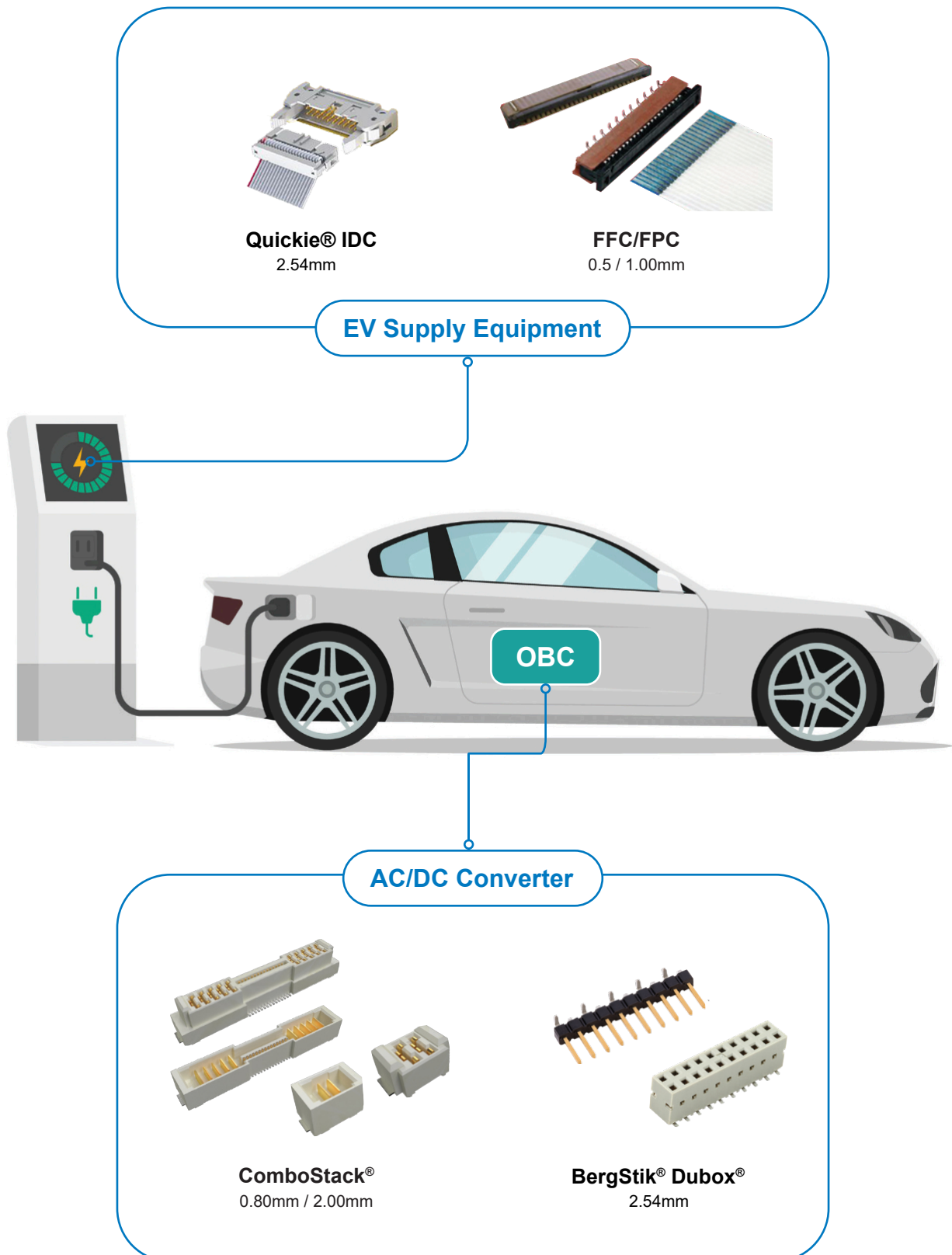
**Minitek®**  
2.00mm



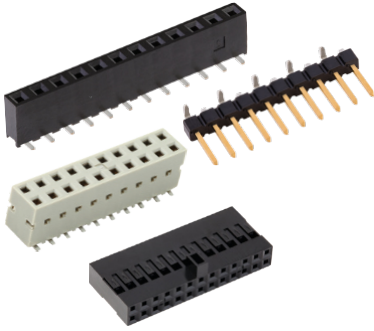
**SIM Card connectors**

## Energy Storage Systems

# Charging Station Components – Key Connector Solutions

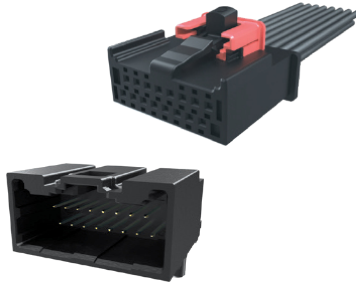


## FCI Basics



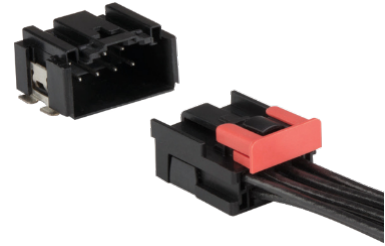
### BergStik® Dubox® Quickie® Minitek®

- 2.54 / 2.00mm pitch
- Modular Connector System
- Single and Double row, 2 to 72 positions
- 3 - 2A per contact



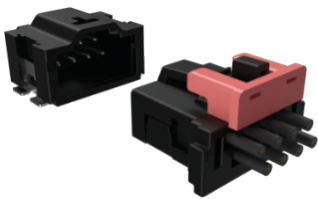
### WireLock®

- 1.80mm pitch
- Highly vibration resistant, low mating force
- USCAR-2 V2 compatible
- 2A per contact, TPA and CPA



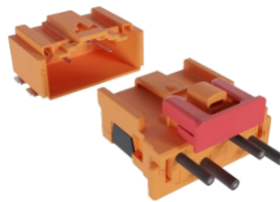
### MicroSpace™

- 1.27mm pitch
- Compact, robust and versatile
- LV214 S2 compatible
- 4A per contact, TPA and CPA



### MicroSpaceXS™

- Pitch 1.27mm
- Crimp to Wire / Wire to Wire solutions
- LV214 S2, USCAR-T2V2 compatible
- 4A per contact, TPA and CPA



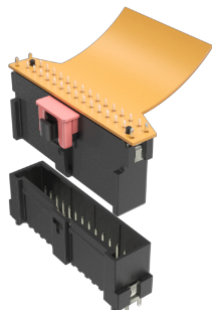
### MicroSpace™ High Voltage

- 3.81 / 6.35 / 8.89mm pitch
- Compact, robust and versatile
- LV214 S2 compatible
- 400V, 800V and 1200V



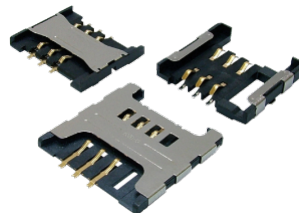
### Minittek127® 1.27mm

- 1.27mm pitch
- IDC and Board to Board solution
- Dual beam contact system
- 1A per contact



### FlexLock™

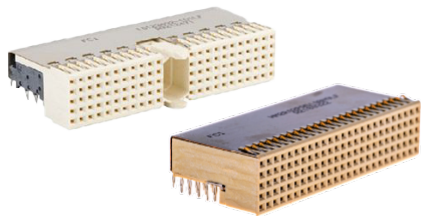
- 2.54 / 3.20mm pitch
- Easier assembly, less weight, lower cost
- USCAR-T2V2 compatible
- 3A per contact, TPA and CPA



### SIM Card connectors

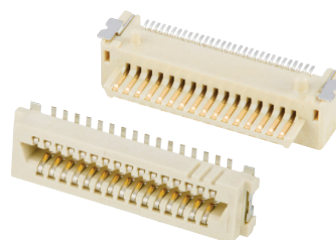
- Available in both open and full-cover versions
- Blade switch to enable card detection
- Hinge covers available in "with window" and "without window" options

## FCI Basics



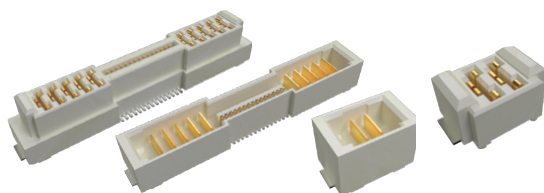
### Millipacs®

- 2.00mm pitch
- High Temperature range from -65°C to 175°C
- Hot Swapping and EMI Protection
- Speed up to 25Gb/s



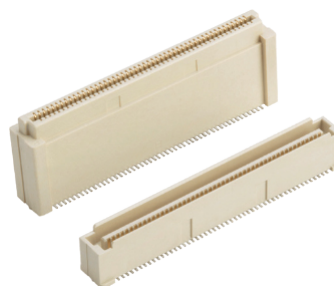
### Conan®

- 1.00mm pitch
- Wide range of stack heights ,positions
- Audible “click” sound during mating
- Lock feature on contacts



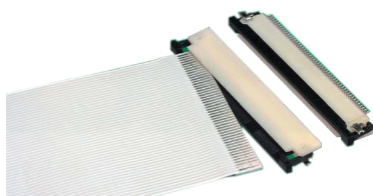
### ComboStack®

- Pitch Power 2.0mm ; Signal 0.50 / 0.80mm
- Hybrid and Medium Power solution
- Current rating: Power 25 / 20A; Signal 0.5 / 0.8A
- Speed: up to 20 / 12Gb/s



### BergStak®

- 0.80mm pitch
- Wide range of stack heights and positions
- 0.8A per contact
- Speed up to 12Gb/s



### FFC/FPC

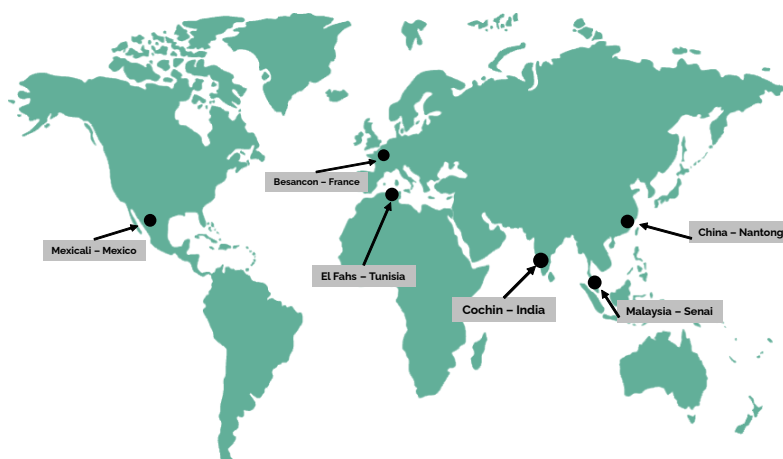
- Pitch 0.50 / 1.00mm
- ZIF, Non-ZIF
- Contact direction: Top, Bottom, Vertical
- 0.4 / 0.5 / 1A per contact



### USB type C

- Small form factor
- Up to 10,000 mating cycle
- Cable assemblies
- Speed up to 40Gb/s

# R&D Sites & Manufacturing Footprint



## FCI Basics, the Amphenol PCB interconnect specialist

### BASICS

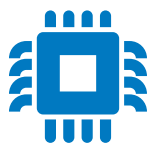
The brand BASICS was established at Amphenol in the early 2000s, when a portfolio of industry leading Wire-to-Board and Board-to-Board connectors was brought together in a global Amphenol business unit. With industry recognized brand names like Dubox®, BergStik®, Quickie®, Minitek® and BergStak®, BASICS has developed itself into a global leader in PCB interconnect.

### EXPANDED PRODUCT RANGE

Today, BASICS offers a broad, modular interconnect platform of high quality and innovative solutions for all main industries and applications. The BASICS portfolio offers the right mix between industry-proven solutions and state-of-the art connector technology.

Our solutions include :

- Wire-to-Board
- Board-to-Board
- Input/output
- FFC/FPC
- Hybrid Wire-to-Board
- Backplane
- Hybrid Board-to-Board
- Customized solutions
- Cable Assemblies



#### Modular & Flexible Product Range

With millions of configurable options, we have the products to meet your performance and quality requirements for your specific application.



#### In Stock

Our global and regional distribution partners are stocking the most popular connectors for your designs, with over 6,000 products ready to ship.



#### Easy Design-In

Instant online access to all related info, a fast Sample Service, crimped leads and stocked items: it's very easy to complete your design with BASICS!



#### Customized Solutions

Partner with us for your customized connection needs. With advanced engineering and fast prototyping, we provide solution proposals in a week or less.