



# SheerPwr™ Circular Product Presentation



**PCB – to – Busbar and PCB – to – PCB  
connectors**

**Amphenol  
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# SheerPwr™ Circular

## What is it?

SheerPwr™ Circular is a high-current, low-resistance interface designed for connecting busbars to circuit boards. It uses a robust and compliant power contact assembled in a circular orientation.

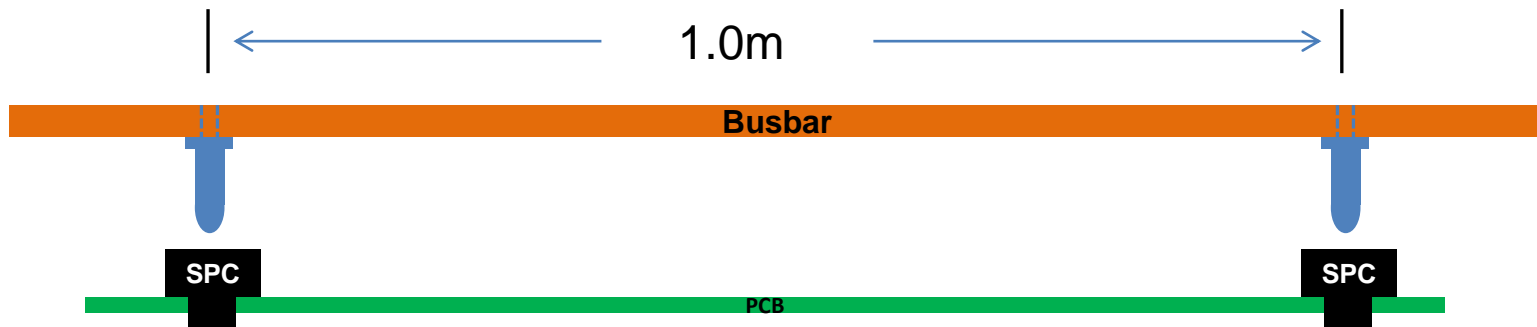
The result is a power socket, designed to mate with traditional machined pins, which provides repeated low resistance, high mis-alignment and high current carrying capabilities.



# SheerPwr™ Circular

## Advantages when mating with Busbars

- Redundant contact points = improved reliability – And lower resistance
- Low profile socket – regardless of pin size
- Permanent misalignment capability - +/-0.64mm
- Provides a minimum of 4.0mm of gatherability, increases with pin diameter
- AGT® Silver-based - for maximum efficiency

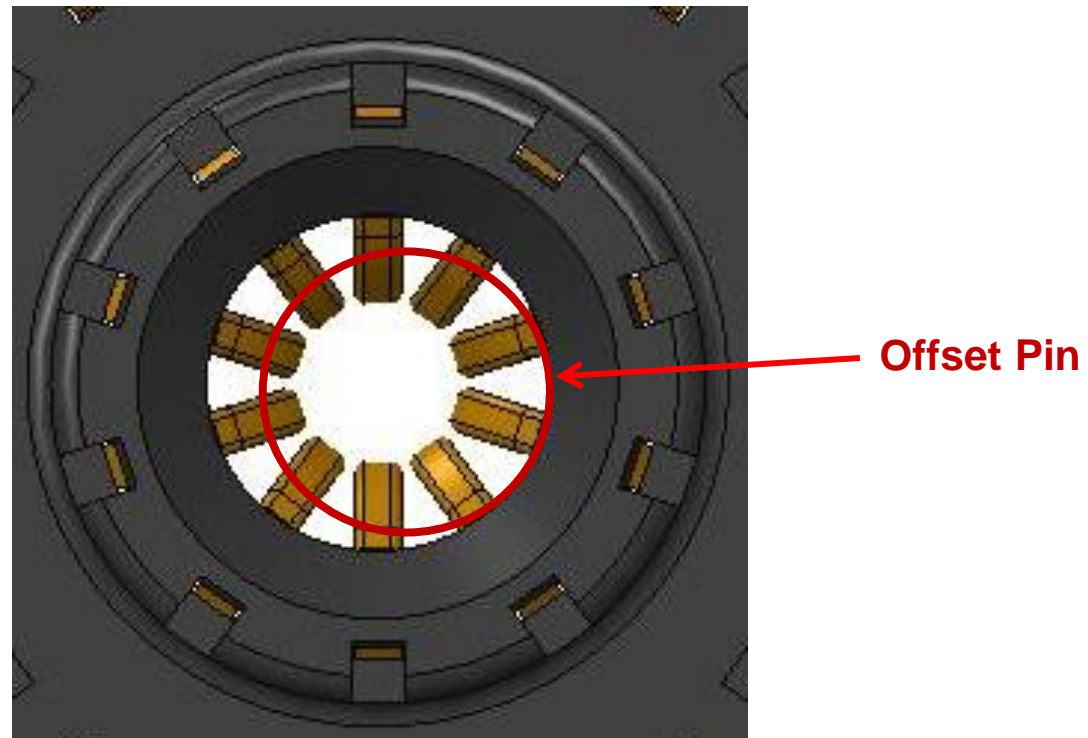


Permanent misalignment can be as high as 0.5mm – due to thermal coefficient of expansion differences

# SheerPwr™ Circular

## Design Advantage: Permanent Misalignment

- Large beam deflection range handles up to +/-0.64mm permanent misalignment. When fully misaligned, all of the beams still make contact with the pin. Alternate products, at 0.64mm misalignment lose contact with several spring beams.



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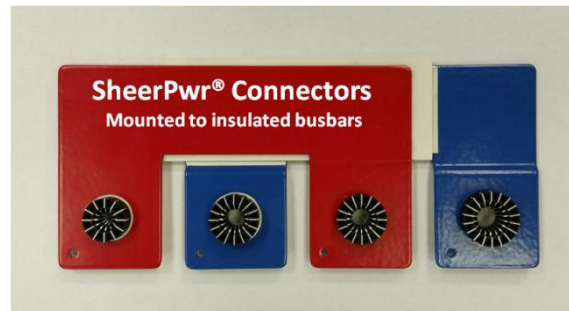
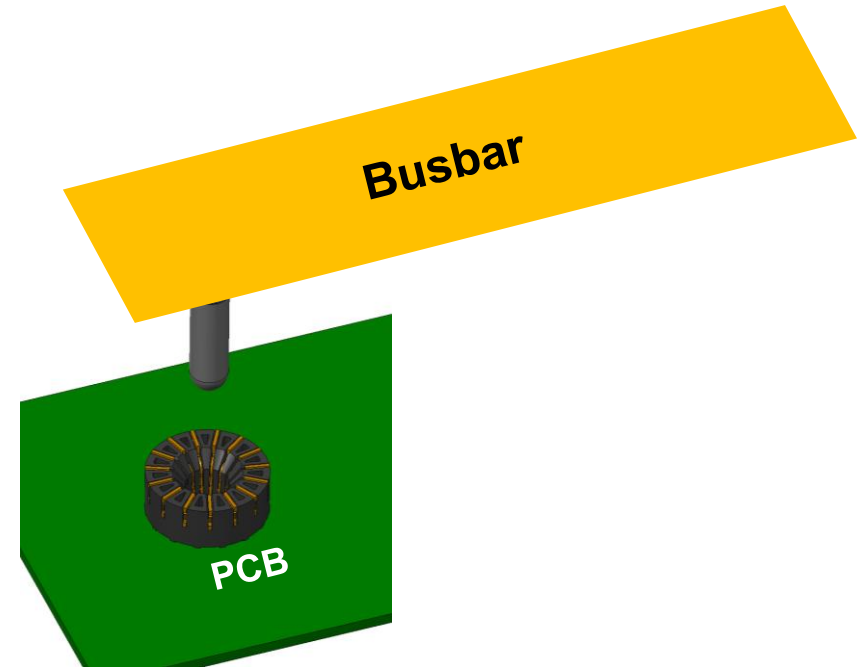
## Features and Benefits

Features	Benefits
Redundant contact points	Low and stable resistance
Large gatherability	For blind-mate applications
Large beam deflection range	+/-0.64mm permanent misalignment
AGT® Silver plated contacts	Lower resistance
-40°C to 105°C operating temperature	Serves many applications/ environments
3.6mm, 6mm, and 8mm mating pin sizes	70 amps, 120 amps, or 160 amps per contact
Low 6.8mm connector height	Compact size fits in many applications and allows for greater airflow
Low Halogen materials	Meets JEDEC JS709 Electronics Industry Standards

# SheerPwr™ Circular

## Features and Benefits

- **Communications**
  - AC/DC pluggable power supplies
  - Pluggable circuit breakers
  - Networking equipment
  - Switches
- **Data**
  - Servers
  - Storage
- **Industrial & Instrumentation**
  - Circuit Breakers
- **Medical**



# SheerPwr™ Circular

## Typical Applications

- **Communications**
  - AC/DC pluggable power supplies
  - Pluggable circuit breakers
  - Networking equipment
  - Switches
  
- **Data**
  - Servers
  - Storage
  
- **Industrial & Instrumentation**
  - Circuit Breakers
  
- **Medical**

# SheerPwr™ Circular

## Specifications

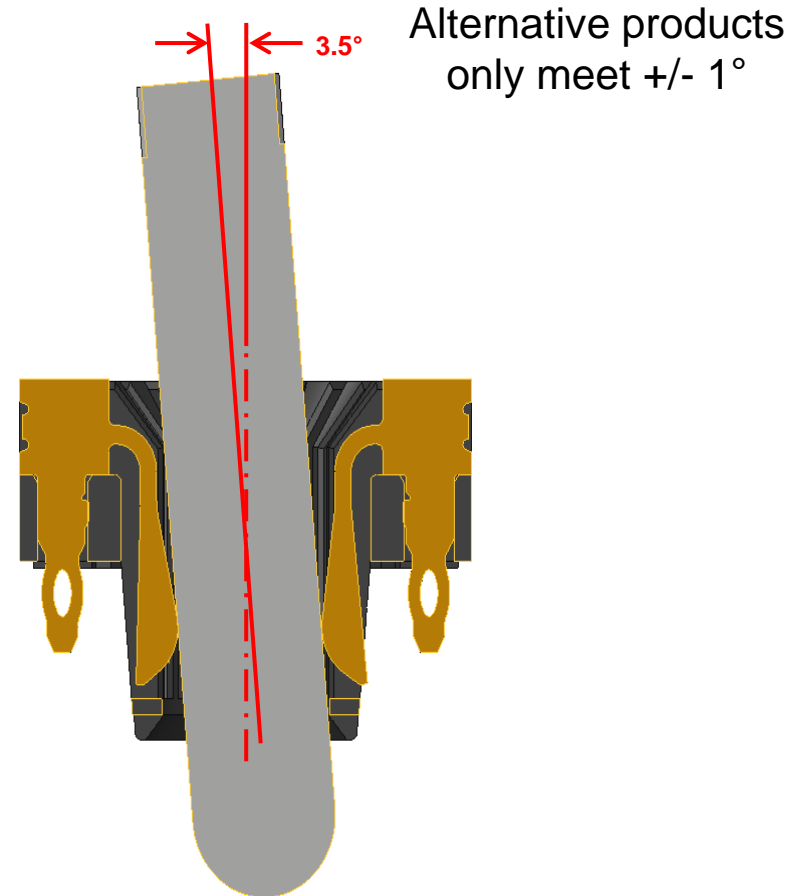
- Current Ratings (30°C T-rise in still air):
  - 3.6mm – 70amps
  - 6mm – 120 amps
  - 8mm – 160 amps
- Contact Resistance: 0.05 – 0.1mΩ (depending on size)
- Durability: 100 mating cycles
- Mating force: 20 – 50N (depending on pin diameter)
- Unmating force: 10 -20N (depending on pin diameter)
- Operating Temperature: -40°C to 105°C
- RoHS compliant



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## Application Advantage: Angular Misalignment

- Total Angular Misalignment
  - 3.6mm & 6.0mm Sockets = 3.5°
  - Solves mating force problems resulting from angled mating.
  - Compliancy of springs make for easier installation of busbars to mating circuit boards.

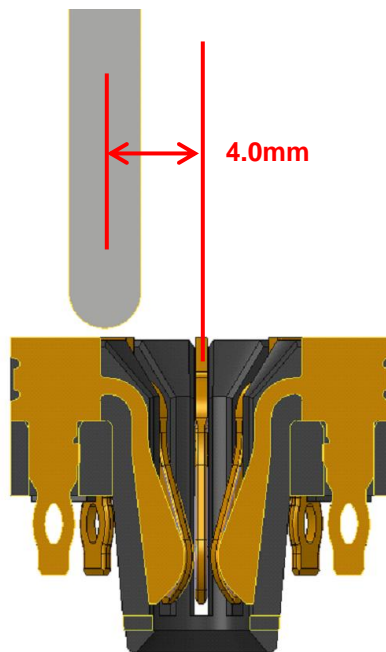


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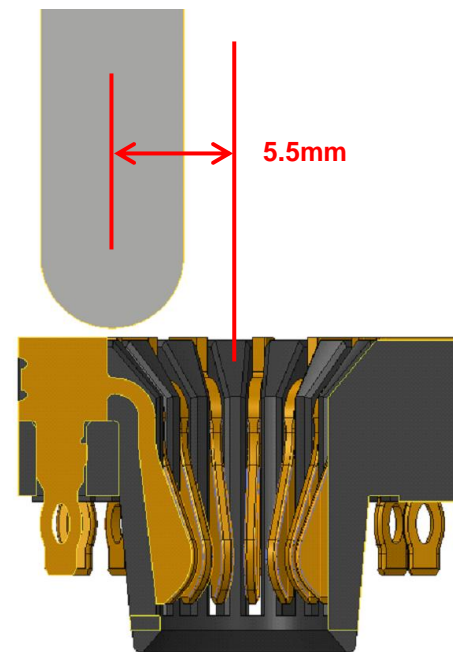
## Application Advantage: Gatherability

- Total Gather-ability for application
  - 3.6mm Socket=4.0mm
  - 6.0mm Socket=5.5mm
  - 8.0mm Socket=6.5mm

Alternative products have  
25%-50% less gatherability



3.6mm Socket



6.0mm Socket

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## Part Numbers

### Receptacles

Pin Diameter	Style A Press-fit to PCB
3.6mm	10132381-20360LF
6.0mm	10132381-20600LF
8.0mm	10132381-20800LF



Style A

Style B

### Mating Plugs

Pin Diameter	Style A Press-fit to PCB	Produces Mezzanine stack height *	Style B Press-fit to Busbar	Produces Mezzanine stack height *
3.6mm	10140847-3601LF	42mm	10137675-012LF	15mm
6.0mm	10140553-6001LF	18mm	10139665-2314LF	18mm
8.0mm	10140847-8001LF	18mm	10139665-2422LF	26mm

\* Other stack heights available upon request



**THANK YOU**

**Amphenol**  
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