

Sentrality High-Current Pin and Socket Interconnect System >



Molex's Sentrality Pin and Socket Interconnect System offers high-current board-to-board, busbar-to-board and busbar-to-busbar connectors and provides a $\pm 1.00\text{mm}$ radial self-alignment to overcome tolerance stack-up issues

FEATURES AND ADVANTAGES

Low contact resistance

Provides multiple contact beams to minimize heat generation at the contact interface, resulting in optimized electrical performance



Compact conical socket design

Allows for tighter board-to-board stack heights with shorter socket assemblies than most market equivalents using hyperbolic sockets



Sentrality 8.00mm socket assembly using COEUR conical socket to achieve 10.00mm overall height

Competitor 8.00mm socket assembly using hyperbolic socket to achieve 24.00mm overall height

Self-aligning sockets float between wave springs

Allow the socket to freely move radially $\pm 1.00\text{mm}$ within the socket assembly during mating, to help ensure no contact beam deformation



Socket in nominal position, centered relative to socket assembly outer housing



Socket position after self-aligning to the left 1.00mm relative to socket assembly outer housing

The screw-mount pins attach to both printed circuit boards and busbars; the surface-mount pins attach to printed circuit boards; the knurled press-fit pins attach to busbars

Offer design flexibility for attaching pins to various substrates

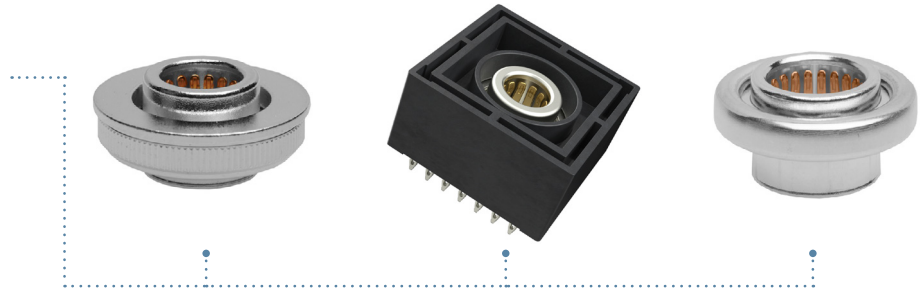


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FEATURES AND ADVANTAGES

The eye-of-needle sockets and the surface-mount sockets attach to printed circuit boards; the knurled press-fit sockets attach to busbars

Offer design flexibility for attaching sockets to different substrates the contact interface, resulting in optimized electrical performance



Top-entry socket assemblies and bottom-entry socket assemblies

Offer design flexibility, allowing designers to stack substrates top-of-board to top-of-board configurations or top-of-board to bottom-of-board configurations, based on application-specific requirements

Sentrality Top-Entry Socket Assembly



Sentrality Bottom-Entry Socket Assembly



Example of top-of-board to top-of-board stacking using top-entry socket assembly



Example of top-of-board to bottom-of-board stacking using bottom-entry socket assembly

Surface-mount pins with pick-and-place caps placed in trays

Allow for manufacturing flexibility with high-speed automated placement



Knurled press-fit pins and screw-mount pins packed in trays

Allow for manufacturing flexibility with manual placement options



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FEATURES AND ADVANTAGES



Surface-mount sockets with pick-and-place caps are packed in tape-and-reel arrangements

Allow for manufacturing flexibility with high-speed automated placement

Knurled press-fit and eye-of-needle sockets are packed in trays

Allow for manufacturing flexibility with manual placement

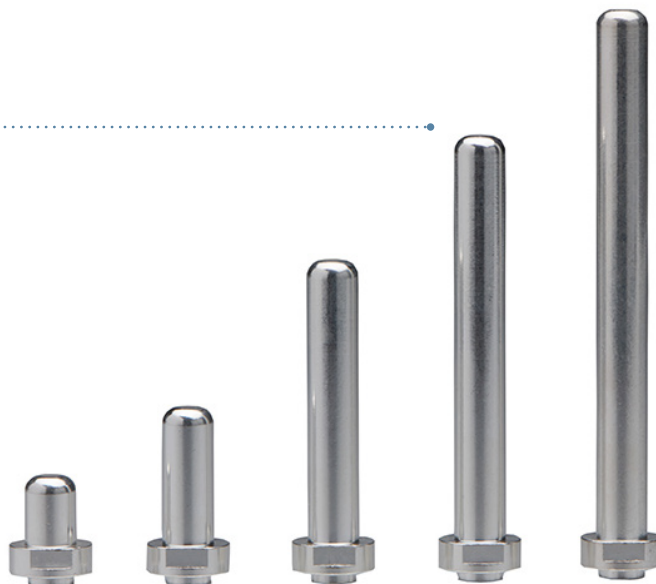
Socket assembly's flange can be positioned anywhere along the side of the part

Allows for easy customization in achieving the optimum application-specific protrusion above and/or below the substrates



Pin length can be set

Allows for easy customization in achieving the optimum application-specific desired board-to-board or busbar-to-board stack height



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MARKETS AND APPLICATIONS

Telecommunication/Networking

Servers
Data storage units
Power distribution units (PDUs)
Uninterruptible power supplies
Digital cross-connect switches
Network routers

Data Centers

Enterprise switches
Servers
Data storage units
Power shelves
Power distribution units (PDUs)
Uninterruptible power supplies
Environmental control equipment

Industrial Automation

Battery charging stations
DC-to-AC inverters
AC-to-DC rectifiers
Robotics



Uninterruptible Power Supply



Data Center Servers



DC-to-AC Inverters

SPECIFICATIONS

REFERENCE INFORMATION

Packaging: Tape and reel, tray or bag
depending on part number; see packaging
specifications for details

UL File No.: E29179

CSA File No.: 70184994

Use With: Printed circuit boards and busbars

Designed In: Millimeters

RoHS: Yes

Halogen Free: Yes

ELECTRICAL (3.40MM SIZE)

Voltage (max.): 600V

Current (max.): 75.0A

Contact Resistance (max.): 0.25 milliohms

MECHANICAL (3.40MM SIZE)

Mating Force (max.): 20.0N

Unmating Force (min.): 6.0N

OmniGlide Alignment Force (max.): 10.0N

Durability (min.): 200 mating cycles

ELECTRICAL (8.00MM SIZE)

Voltage (max.): 600V

Current (max.): 200.0A

Contact Resistance (max.): 0.20 milliohms

MECHANICAL (8.00MM SIZE)

Mating Force (max.): 40.0N

Unmating Force (min.): 10.0N

OmniGlide Alignment Force (max.): 15.0N

Durability (min.): 200 mating cycles

PHYSICAL

Eye-of-Needle Socket Housing: LCP (black)

Contact: High-performance Copper (Cu) Alloy

Plating:

Socket Contact Area—Gold (Au)

Eye-of-Needle Socket Compliant Tail—Silver (Ag)

Pin - Silver (Ag)

PCB Thickness (min.): 1.58mm

Busbar Thickness (min.): 1.50mm

Operating Temperatures: -40 to +125°C

ELECTRICAL (6.00MM SIZE)

Voltage (max.): 600V

Current (max.): 120.0A

Contact Resistance (max.): 0.20 milliohms

MECHANICAL (6.00MM SIZE)

Mating Force (max.): 30.0N

Unmating Force (min.): 7.0N

OmniGlide Alignment Force (max.): 10.0N

Durability (min.): 200 mating cycles

ELECTRICAL (11.00MM SIZE)

Voltage (max.): 600V

Current (max.): 350.0A

Contact Resistance (max.): 0.40 milliohms

MECHANICAL (11.00MM SIZE)

Mating Force (max.): 55.0N

Unmating Force (min.): 10.0N

OmniGlide Alignment Force (max.): 70.0N

Durability (min.): 200 mating cycles

www.molex.com/link/Sentrality.html