

Dubox®

Product Presentation

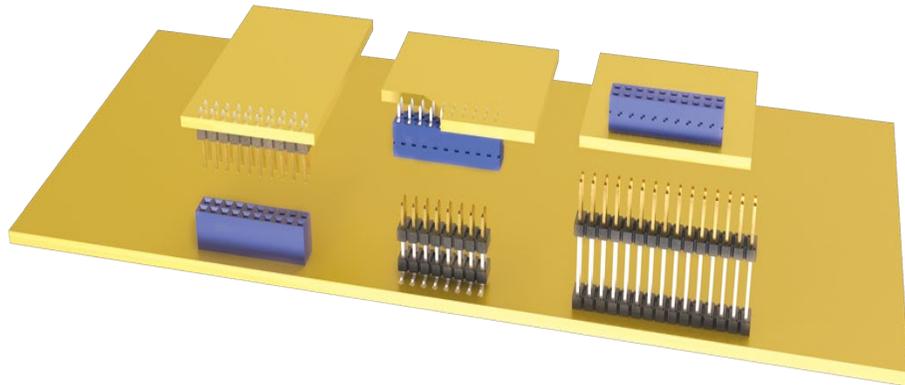
**Amphenol Information Communications
and Commercial Products**

≡FCi Basics

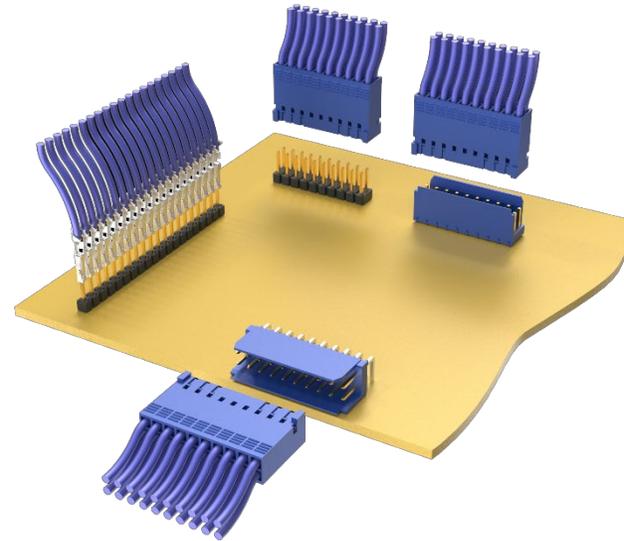
Amphenol ICC

- The Dubox® connector system is designed for reliable connection in demanding applications
- The Dubox® connector system is built around a dual-beam box contact design to enable low insertion force
- Mates with very short pins (5 mm)
- The Dubox® connector family offers industry broadest range of reliable solutions for Board-to-Board and Wire-to-Board connections on 2,54mm pitch and is designed around a proven, dual beam box contact system
- Dubox® connector family includes through-hole and surface-mount options in single or double-row, right-angle or straight configurations with optional solder pegs and different housing profiles with 2 up to 50 positions
- The Dubox® connector solution can carry 3A per contact maximum current rating and supports up to 200 mating cycles (plating dependent).

Receptacles



Shrouded headers



CTW contacts & housings



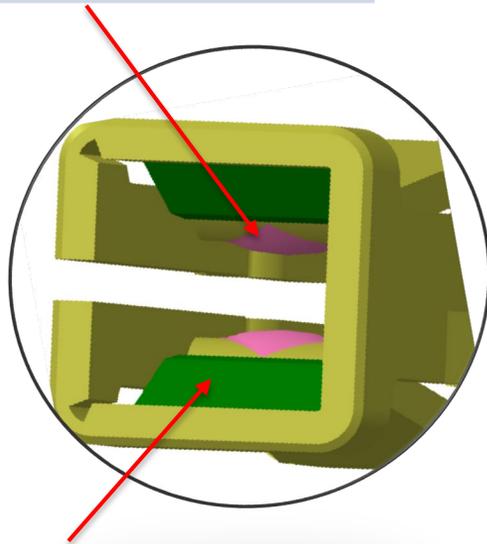
Dubox[®] contact system

Technical focus

FCi Basics

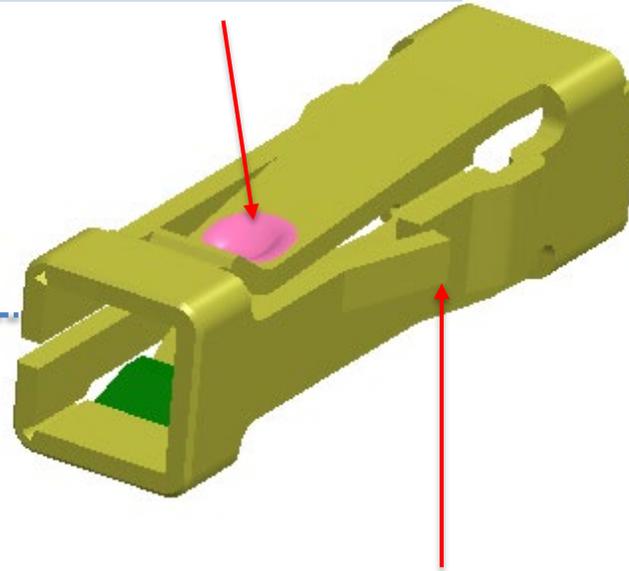
Symmetrical dual beams

- 👍 Optimized compatibility with square-shaped pin
- 👍 Limited risk of scratching for the inserted pin



Selective spot plating

- 👍 Adequate amount of plating
- 👍 Improved cost efficiency (as opposed to tuning fork contacts)



Prestressed contacts with guidance

- 👍 Facilitated insertion
- 👍 Low insertion force
- 👍 Protection of the beams (200 mating cycles)

Terminal latching

- 👍 Locks the contact within the housing

Generic contact form

- 👍 Uniform design
- 👍 Reliability across the range



Features	Benefits
Floating solder tails self center on the solder pads	Ensures tight coplanarity and reliable solder joints
Dual beam contact design	High reliable electrical performance
Pre-loaded contacts	Guarantees low insertion force and high normal force
PCB Receptacles mate with short (5mm) pins and are stackable end to end and side by side	Meets specific needs and offers flexible stacking height possibilities
Selective gold plated contacts	Cost efficient, reliable contact surface
High temperature performing materials	Allow for high operating temperatures (up to 125°C)

Features	Benefits
Walled shrouded headers	Protect pins in unmated condition and prevents misalignment
Selective gold-plated contacts and pins	Cost efficient, reliable contact surface
Pre-loaded contacts	Ensure a low insertion force
Dual beam contacts	Protection of the contact beams and prevention from stubbing
According to DIN 41651, HE10 and BT D2632	Industry qualified , proven products

Dubox® - Board-to-Board configuration

Overview - Vertical configuration

BergStik® Vertical Unshrouded Header Single Row

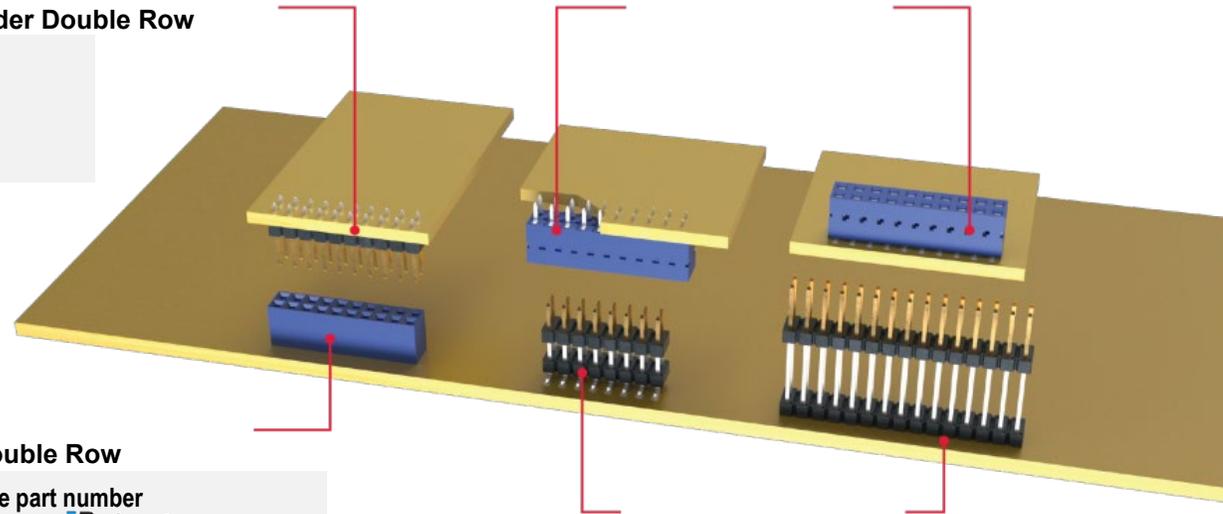
Type	Base part number
Single Row TMT	77311
Single Row SMT	95293
Single Row Press-Fit	93689

Dubox® Vertical Receptacle Single Row

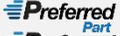
Type	Base part number
Single Row TMT	75915
Single Row SMT	91601 
Single Row SMT (w/ pegs)	91614

BergStik® Vertical Unshrouded Header Double Row

Type	Base part number
Double Row TMT	77313
Double Row SMT	95278
Double Row Press-Fit	93690



Dubox® Vertical PCB Receptacle Double Row

Type	Base part number
Double Row TMT	87606 
Double Row SMT	89898 
Double Row SMT (w/ pegs)	91618

BergStik® Vertical Unshrouded Stacking Header

Type	Base part number
Single Row Stacking, TMT	54121
Double Row Stacking, TMT	54122
Double Row Stacking, SMT	54242



-  Available at distributors
-  Shortest lead-times
-  Industrial standard & proven solutions

Dubox® - Board-to-Board configuration

Overview – Right-Angle configuration

Dubox® Horizontal PCB Receptacle Single Row

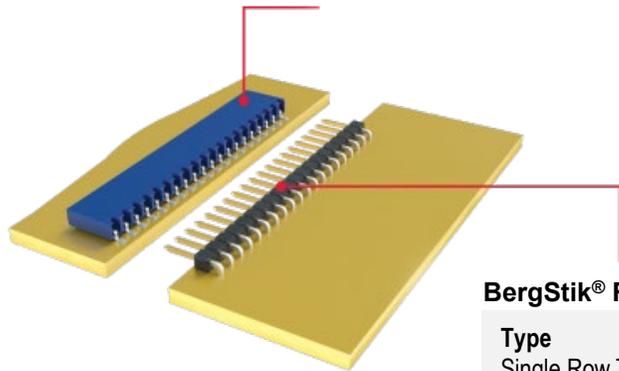
Type	Base part number
Single Row TMT	89882
Single Row SMT	71607
Single Row SMT (w/ pegs)	10119678

Dubox® Horizontal PCB Receptacle Double Row

Type	Base part number
Double Row TMT	89883
Double Row SMT	71609

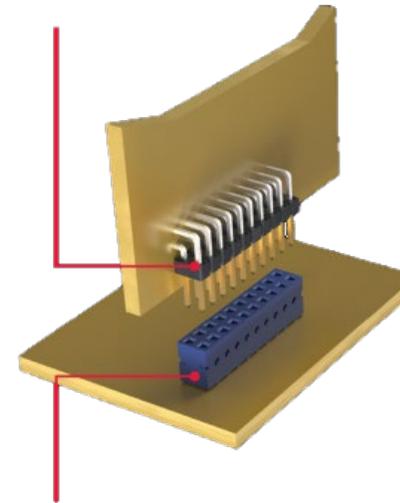
BergStik® Right-Angle Unshrouded Header Single Row

Type	Base part number
Single Row TMT	77315
Single Row PiP	10082201
Single Row SMT	10119333
Single Row SMT (w/ pegs)	10119332



BergStik® Right-Angle Unshrouded Header Double Row

Type	Base part number
Double Row TMT	77317
Double Row PiP	10082202
Double Row SMT	10118084
Double Row SMT (w/ pegs)	10118085



Dubox® Vertical Receptacle Single Row

Type	Base part number
Single Row TMT	75915
Single Row SMT	91601 
Single Row SMT (w/ pegs)	91614

Dubox® Vertical PCB Receptacle Double Row

Type	Base part number
Double Row TMT	87606 
Double Row SMT	89898 
Double Row SMT (top entry w/ pegs)	91618

Preferred Part

-  Available at distributors
-  Shortest lead-times
-  Industrial standard & proven solutions

Dubox[®] - Board-to-Board configuration

Product Specifications - Receptacles

Material

- Housing: High Temperature Thermoplastic
- Contact: phosphor bronze
- Plating: 0.76 μm (30 $\mu\text{\"}$) Gold / GXT[®] over 1.27 μm (50 $\mu\text{\"}$) nickel

Environmental

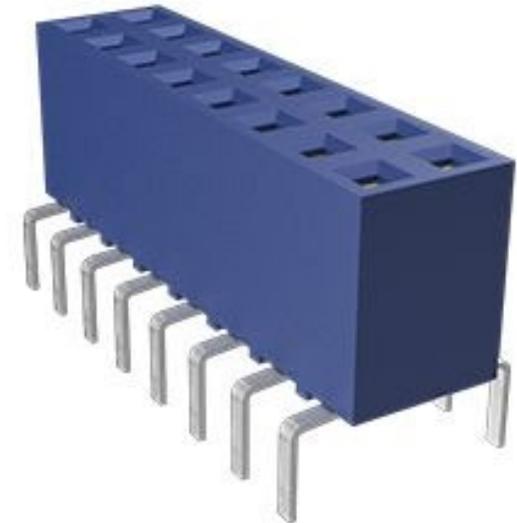
- Operating Temperature: -65°C to +125°C

Electrical Performance

- Current Rating: 3 A continuous
- Contact Resistance: 15m Ω max.
- Contact Dielectric Withstanding Voltage: 1000 V rms

Mechanical Performance

- Mating Cycles (durability): 200 - Gold
- Insertion Force gold finish contact: 1.3 N
- Withdrawal Force (min) gold finish contact: 0.3 N
- Contact Normal Force: 0.6N
- Contact Wiping Length: 1.5mm



Dubox® - Wire-to-Board configuration

Overview

Dubox® CTW Housing

Dubox® CTW Housing

BergStik® Vertical Unshrouded Header Double Row

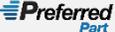
Type	Base part number
Double Row TMT	77313
Double Row SMT	95278
Double Row Press-Fit	93690

Type	Base part number
Single Row	65240 
Double Row	65239 

Dubox® Vertical Shrouded Header

Type	Base part number
Single Row	76384 
Double Row	76385 

Dubox® CTW Contact

Wire Gauge	Base part number
30 to 22	76347 
22 to 20	76347 

Type	Base part number
Single Row	76382 
Double Row	76383 

Dubox® Right Angle Shrouded Header

Dubox® CTW Housing

Type	Base part number
Single Row	65240 
Double Row	65239 

BergStik® Vertical Unshrouded Header Single Row

Type	Base part number
Single Row TMT	77311
Single Row SMT	95293
Single Row Press-Fit	93689



-  Available at distributors
-  Shortest lead-times
-  Industrial standard & proven solutions

Dubox[®] - Wire-to-Board configuration

Product Specifications – CTW Housings

Material

- Housing: High Temperature Thermoplastic
- Flammability Rating: UL94V-0
- Contact: Phosphor-bronze
- Plating: 0.76µm Gold or GXT[®] on contact, Tin on solder tail

Environmental

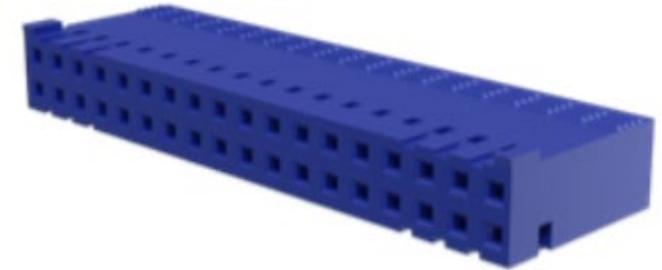
- Operating Temperature: -65°C to +105°C

Electrical Performance

- Current Rating: 3A continuous
- Insulation Resistance: 1 x 10⁵ MΩmin.
- Dielectric Withstanding Voltage: 1000Vrms min.
- Contact Resistance: 15mΩ max

Mechanical Performance

- Contact Normal Force: 0.6N
- Insertion Force per Gold Contact : 1.50N (150gf) max
- Withdrawal Force per Gold Contact : 0.30N (30gf) min
- 200 Mating Cycles
- Contact Wiping Length: 1.5mm
- Insertion Depth: 3.6-6.81mm



Dubox[®] - Wire-to-Board configuration

Product Specifications – Shrouded Headers

Material

- Housing: High Temperature Thermoplastic
- Contact: copper alloy
- Plating: 0.76 μm (30 $\mu\text{''}$) Gold / GXT[®] over 1.27 μm (50 $\mu\text{''}$) nickel

Environmental

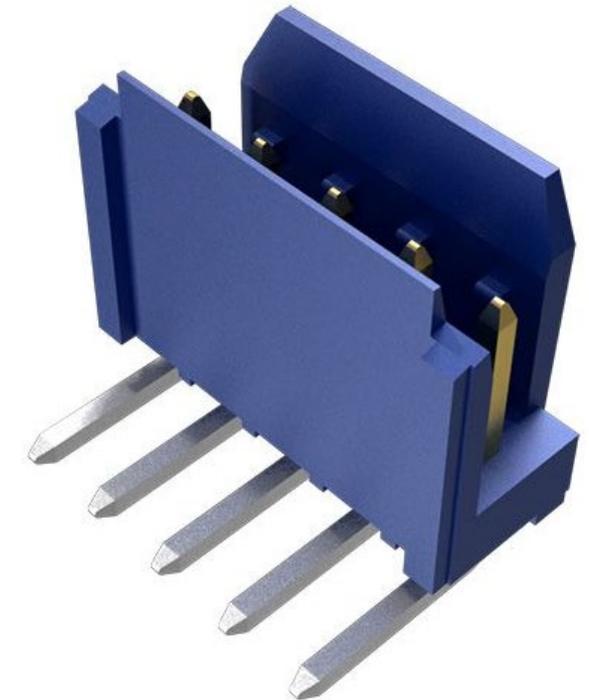
- Operating Temperature: -40°C to +125°C

Electrical Performance

- Current Rating: 3 A continuous
- Insulation Resistance: 1 x 10⁵ M Ω min
- Dielectric Withstanding Voltage: 1000Vrms min
- Contact Resistance: 15m Ω max.

Mechanical Performance

- Mating Cycles (durability): 200 - Gold
- Pin Retention to Housing: 20N min



Dubox[®] - Crimp-to-Wire configuration

Product Specifications

Material

- Contact: Phosphor-bronze
- Plating: 0.76µm Gold or GXT[®] on contact, Tin on contact area
- 2 pre-stressed contacts
- 30cm wire

Environmental

- Operating Temperature: -65°C to +125°C

Electrical Performance

- Current Rating: 3A continuous
- Dielectric Withstanding Voltage: 1000Vrms min.
- Contact Resistance: 15mΩ max

Mechanical Performance

- Contact Retention Force to Housing: 15N per contact
- Insertion Force Per Gold contact : 1.30N
- Withdrawal Force per Gold contact : 0.30N (30gf) min
- Insertion Depth: 3.6-5.6mm (discrete wire) / 5.1-6.2mm (crimp-to-wire housing)

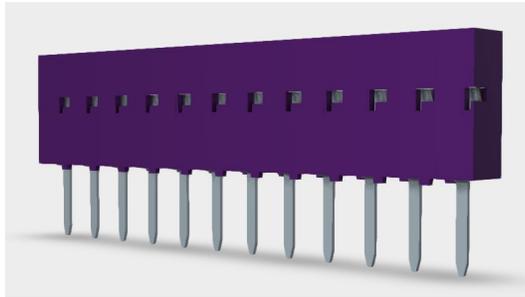


Specific PN for fast prototyping

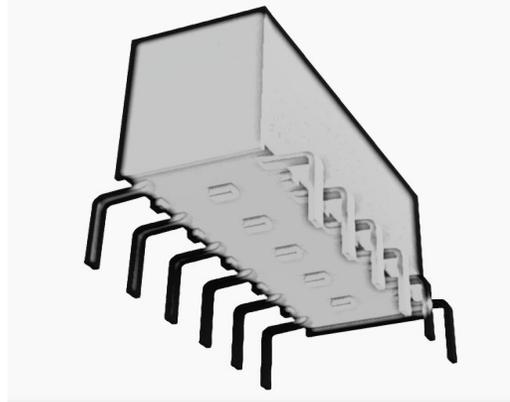
- Available at our sample room or a selection of distributors
- Compatible with most common wire gages

Accessories & options

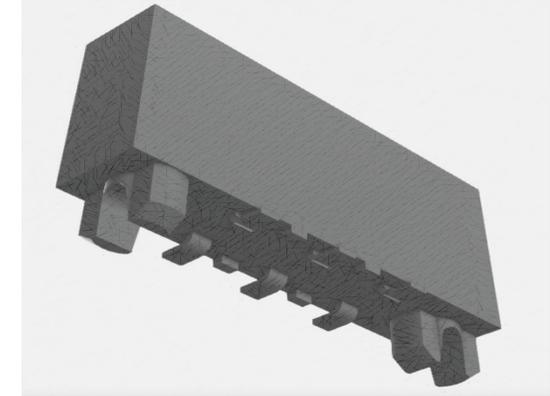
Dubox® range



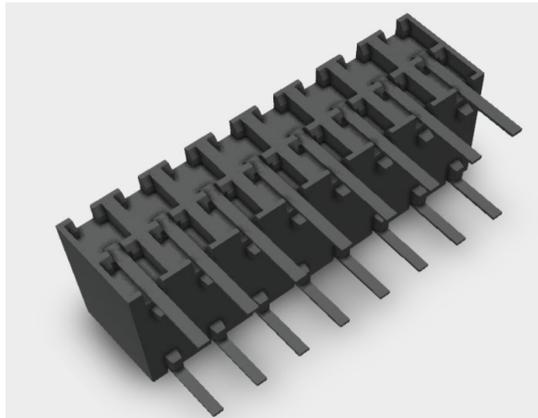
Long tails



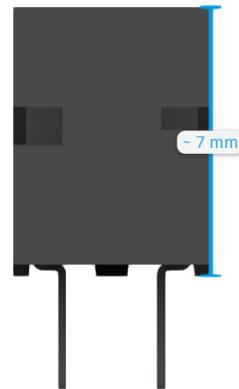
Spread solder legs



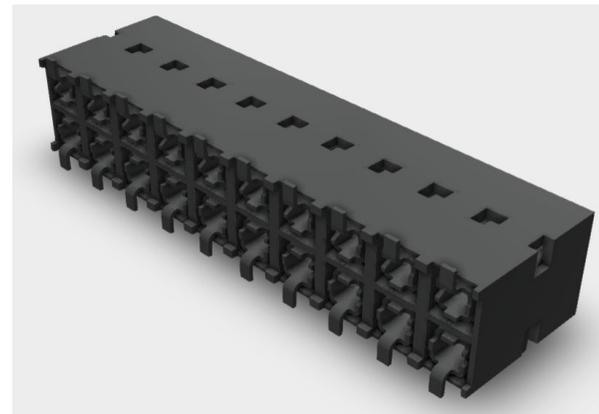
Locating pegs



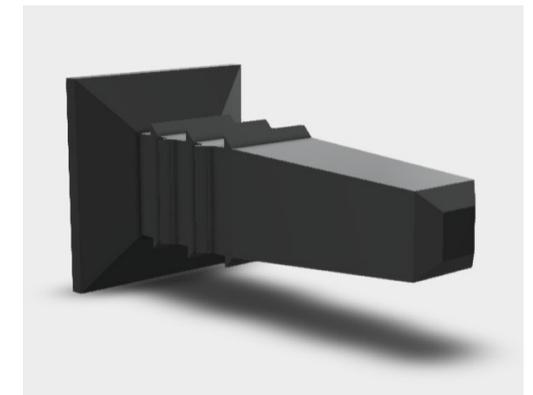
High-temperature housing



Low profile



Dual entry



Polarizing plug (65307-001LF)

Industrial

- Industrial Automation
- Instrumentation
- Medical
- Vending Machines

IT/Datacom

- Servers
- Communication Equipment

Automotive

- Electronic Control Systems

- Where to find information :

DUBOX® web [product landing page](#)

DUBOX® [datasheet](#)

DUBOX® [product specification](#)

DUBOX® Single Row Vertical SMT [product configurator](#)

DUBOX® Double Row Vertical SMT [product configurator](#)

DUBOX® Single Row Vertical TMT [product configurator](#)

DUBOX® Double Row Vertical TMT [product configurator](#)

DUBOX® Single Row Right-Angle SMT [product configurator](#)

DUBOX® Single Row Right-Angle TMT [product configurator](#)

DUBOX® Double Row Right-Angle TMT [product configurator](#)

DUBOX® Wired Board Connector [product specification](#)

DUBOX® Low Profile Jumper Tin/Lead [product specification](#)

DUBOX® Low Profile Jumper Gold/GXT [product specification](#)

- Header *Housing with pins (male connector)*
- Receptacle *Female housing*
- Terminal *Crimp-to-Wire contact*
- Vertical *Connection axis perpendicular to the board*
- Horizontal *Connection axis parallel to the board*
- SMT  *Surface-Mount Technology*
- TMT  *Through-Mount Technology*
- PiP *Pin-in-Paste*
- Low-profile *Connector with small height dimensions*
- Bottom entry *Connection through the lateral side of the receptacle*
- Top entry *Connection through the upper side of the receptacle*
- Locating peg *Feature to be positioned on PCB holes for better alignment*

The top portion of the slide features a complex, low-poly geometric pattern in various shades of blue, ranging from dark navy to light sky blue. The pattern consists of numerous overlapping triangles and polygons, creating a textured, crystalline effect.

Thank you