

# Minitek® Crimp-to-Wire

## HOUSINGS AND CONTACTS

Minitek® is Amphenol FCI's brand for board-to-board and cable/wire-to-board connectors in 2.00mm (0.079in.) pitch. It is a fully modular system enabling all types of connections between PCBs, wires and flat cables. Its 2mm spacing allows up to 38% space saving compared to traditional modular systems.

Amphenol FCI is the leading supplier of this type of modular system and continues to grow and expand it.

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 勝特力電材超市-光復店 886-3-5729570  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
<http://www.100y.com.tw>



### TARGET MARKETS



### FEATURES

- Dual-beam contact design for highly reliable electrical performance

### BENEFITS

- Latching key assures proper alignment and friction retention

## TECHNICAL INFORMATION

### HOUSING AND CONTACTS

#### MATERIAL

- Housing: Black thermoplastic
- Flammability Rating: UL94V-0
- Contact: Phosphor-bronze
- Plating: Gold or tin over 1.27µm (50µin.) nickel

#### MECHANICAL PERFORMANCE

- Mating Cycles (Durability): 100
- Contact Retention to Housing: 7.83N (800gf) min.
- Mating Force per Contact: 1.77N (180gf) max.
- Unmating Force per Contact: 0.20N (20gf) min.

#### ELECTRICAL PERFORMANCE

- Current Rating: 2A continuous
- Insulation Resistance: 1 x 105MΩ min.
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 650V
- Voltage Rating: 200V

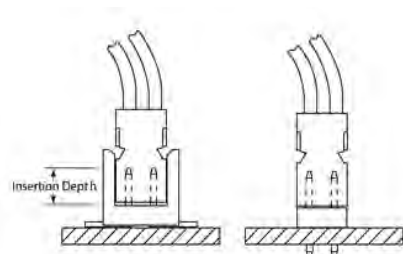
#### ENVIRONMENTAL

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

#### APPROVALS & CERTIFICATION

- This product is RoHS compatible according to the European Union Directive 2002/95/IEC

### TYPICAL APPLICATIONS



#### SPECIFICATIONS

- File no. E66906
- File no. LR46923
- Product drawing:
  - 77138 or 77139 – Contact
  - 69307, 90311 – Housing
- Product specification: 110-036
- Application specification: 100-006, TA-959

#### PACKAGING

- Reels – Contacts
- Bags – Housings

#### PROCESSING INFORMATION

- Compatible with wave, vapor-phase, and IR re-flow soldering processes

#### INSERTION DEPTH

- 2.40mm min. to 3.30mm max. [provides .381mm wipe]
- 3.63mm min. to 4.00mm max. [provides .381mm wipe in housing]

#### TARGET MARKETS/APPLICATIONS



Electronic Control Systems



Communications



Servers  
Communication Equipment



Industrial Automation  
Instrumentation

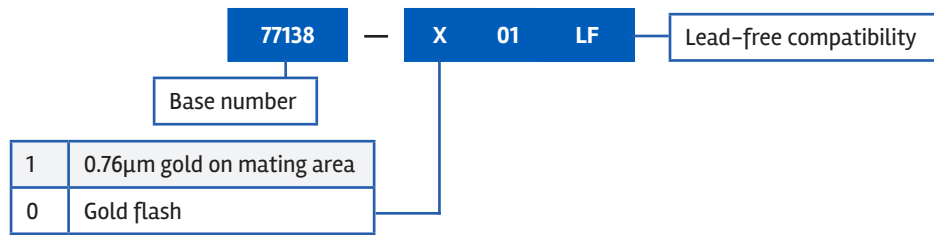


Vending Machines

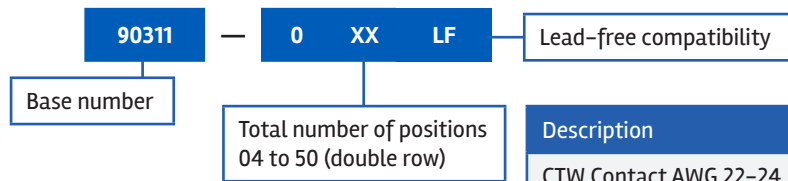
Description	Part Numbers
CTW Contact AWG 22-24	10044403
CTW Contact AWG 26-30	77138
CTW Housing with keying, Single Row	90312
CTW Housing with keying, Double Row	90311

## PART NUMBER SELECTOR CTW HOUSING AND CONTACTS

### CONTACT



### HOUSING



Description	Part Numbers
CTW Contact AWG 22-24	10044403
CTW Contact AWG 26-30	77138
CTW Housing with keying, Single Row	90312
CTW Housing with keying, Double Row	90311

# Minitek® Active Latch Housing

Minitek® is Amphenol FCI’s brand for board-to-board and cable/wire-to-board connectors in 2.00mm (0.079in.) pitch. It is a fully modular system enabling all types of connections between PCBs, wires and flat cables. Its 2mm spacing allows up to 38% space saving compared to traditional modular systems.

Amphenol FCI is the leading supplier of this type of modular system and continues to grow and expand it. We are now adding a new active latch housing and POKA YOKE feature to active latch for housing for wire-to-board applications. The latch ensures a secure mechanical connection in applications with high extraction forces or vibration. Unlike other systems on the market, the active latch housing mates with the standard headers from the Minitek® system. This ensures full modularity and interchangeability throughout the system.

The active latch housing is made with high temperature black plastic material which is able to withstand temperature up to 125°C. It is available in 15 versions from 2 x 3 to 2 x 17 positions.



### TARGET MARKETS



### FEATURES

- The POKA YOKE feature offered by new shape of header ensures right mating

### BENEFITS

- No pre-opening needed for mating

## TECHNICAL INFORMATION

### MATERIALS

- Housing: Polyamide
- Color: Black
- Flammability Rating: UL94V-0

### MECHANICAL PERFORMANCE

- Latching Retention Force: 15N min. (for 2x3 & 2x4)
- Latching Retention Force 25N min. (for 2x5 & 2x25)

### ELECTRICAL PERFORMANCE

- Insulation Resistance: 1000MΩ min.
- Dielectric Withstanding Voltage: 500V

### ENVIRONMENTAL



- Operating Temperature Range: -55°C to +125°C

### APPROVALS & CERTIFICATION

- This product is RoHS compatible according to the European Union Directive 2002/95/IEC

Description	Part Numbers
CTW Active Latch Housing, Double Row	10118940

### SPECIFICATIONS

-  File no. E66906
-  File no. LR46923
- Product Drawing: By 8-digit base part number
- Product Specification: GS-12-415

### PROCESSING INFORMATION

- Compatible with wave, vapor-phase, and IR re-flow soldering processes

### INSERTION DEPTH

- 2.40mm min. to 3.30mm max. [provides .381mm wipe]
- 3.63mm min. to 4.00mm max. [provides .381mm wipe in housing]

### TARGET MARKETS/APPLICATIONS



Electronic Control Systems



Communications



Servers  
Communication Equipment

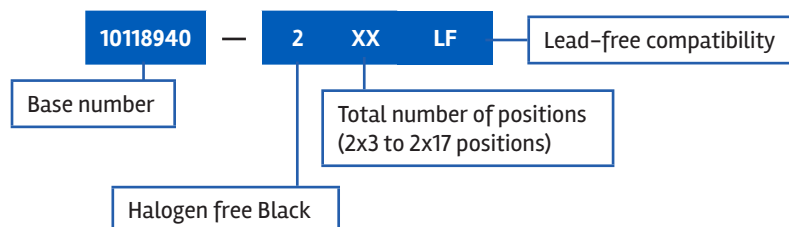


Industrial Automation  
Instrumentation



Vending Machines

## PART NUMBER SELECTOR ACTIVE LATCH HOUSING



# Minitek® Eject Latch Header

## CABLE-TO-BOARD CONNECTIONS

Minitek® is Amphenol FCI’s brand for board-to-board and cable/wire-to-board connectors in 2.00mm (0.079µin.) pitch. Amphenol FCI is the leading supplier of this type of modular system and continues to grow and expand it. A new eject latch header is now being added to this series. This header securely latches the receptacle in place and also enables simple ejection. Four walled shielding protects pins in unmated condition.

To prevent mismatching, the eject latch header is equipped with polarization keys. Recessed pins ensure proper alignment, eliminate damage during mating, and maintain high pin retention to the housing during repeated mating cycles.

The eject latch header has a very compact product design. It is made from thermoplastic compatible with reflow applications. The latches are specifically designed to minimize space requirements on the printed circuit board. The part mates with the Minitek® IDC receptacle.



### TARGET MARKETS



### FEATURES

- Secure latching of cable connector
- Works with IDC connectors with or without strain relief

### BENEFITS

- Easy ejection when required
- Low profile

## TECHNICAL INFORMATION

### MATERIALS

- Housing: Body, cream-colored LCP, Latch black PA
- Flammability Rating: UL94V-0
- Pin: Phosphor-bronze
- Plating: Gold/GXT over 1.27µm (50µin.) nickel

### MECHANICAL PERFORMANCE

- Latching retention force: 30 N min.

### ELECTRICAL PERFORMANCE

- Current Rating: 2A continuous
- Insulation Resistance: 1 x 105MΩ min.
- Contact Resistance: 25mΩ max.
- Dielectric Withstanding Voltage: 650V
- Voltage Rating: 200V



### ENVIRONMENTAL

- Latching Retention Force: 30 N min.

### APPROVALS & CERTIFICATION

- This product is RoHS compatible according to the European Union Directive 2002/95/IEC

### SPECIFICATIONS

-  File no. E66906
-  File no. LR46923
- Product Drawing: By 8-digit part number
- Product Specification: GS-12-469

### PACKAGING

- Standard: Tubes

### PROCESSING INFORMATION

- Compatible with wave, vapor-phase, and IR ref-low soldering processes

### TARGET MARKETS/APPLICATIONS



Electronic Control Systems



Communications



Servers  
Communication Equipment



Industrial Automation  
Instrumentation

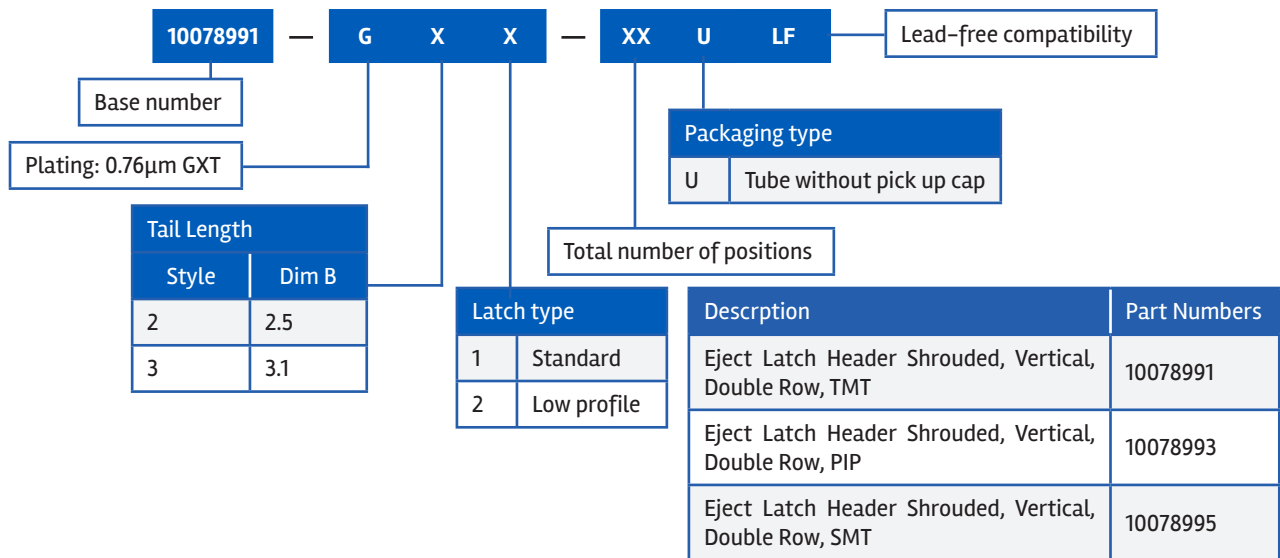


Vending Machines

## PART NUMBERS

Description	Part Numbers
Eject Latch Header Shrouded, Vertical, Double Row, TMT	10078991
Eject Latch Header Shrouded, Vertical, Double Row, PIP	10078993
Eject Latch Header Shrouded, Vertical, Double Row, SMT	10078995

## PART NUMBER SELECTOR EJECT LATCH HEADER





# Minitek® Headers

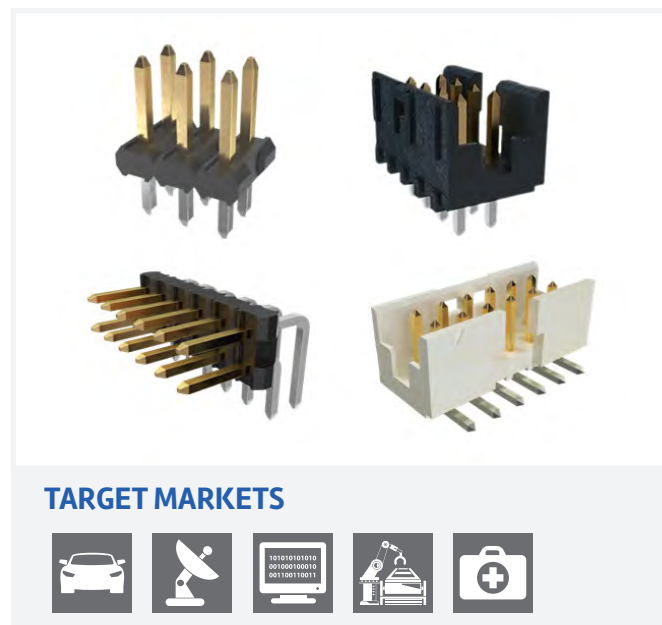
## 2.00mm pitch

### PRODUCTS FOR SOLDER-TO-BOARD APPLICATIONS

Minitek® is Amphenol FCI's brand for board-to-board and wire/cable-to-board connectors in 2.00mm pitch. The Minitek® product range includes PCB Card Connectors, Shrouded and Unshrouded headers and IDC/CTW receptacles.

Amphenol FCI is adding five new series of Minitek® Headers to its product range, dedicated to Pin-in-Paste soldering processes. This brochure gives additional information for the correct use of Minitek® PIP connectors in the application process.

- Easy to operate and strong FFC/FPC retention makes it vibration-proof
- Ensures high solderability and high durability
- Operating temperature range of -55°C to +85°C



### FEATURES

- Modular System
- 2mm pitch available
- Lowest co-planarity at 0.1mm
- 0.5mm square drawn wire pin
- High raw material temperature range

### BENEFITS

- Ensures interchangeable solution for flexible design
- 38% less board space compared with 2.54mm
- Facilitates automatic placement
- Provides four smooth mating surfaces
- Withstands re-flow soldering process

## TECHNICAL INFORMATION

### UNSHROUDED/STACKING

#### MATERIAL

- Housing: High temperature thermoplastic
- Color: Black
- Flammability Rating: UL94V-0
- Pin: Phosphor bronze
- Plating: Gold and tin over 1.27µm nickel

#### MECHANICAL PERFORMANCE

- Pin Retention: 7N min.

#### ELECTRICAL PERFORMANCE

- Current Rating: 1A continuous
- Insulation Resistance: 1000WM min.
- Dielectric Withstanding Voltage: 650V

#### ENVIRONMENTAL

- Operating Temperature Range: -55°C to +125°C

#### APPROVALS & CERTIFICATION

- RoHS compatible according to the European Union Directive 2002/95/IEC

#### SPECIFICATIONS

- File Number: E66906
- File Number: LR46923
- Product Drawing: By 8-digit base part number
- Product Specification: DPS-12-011 and GS-12-163
- Application Specification: TA-895
- Re-flow Profile: TA-842

#### PROCESSING INFORMATION

- Compatible with IR re-flow soldering processes

#### TARGET MARKETS/APPLICATIONS



Automotive



Communications



Data



Industrial & Instrumentation



Medical

## TECHNICAL INFORMATION

### SHROUDED

#### MATERIAL

- Housing: High temperature thermoplastic
- Color: Black
- Flammability Rating: UL94V-0
- Pin: Phosphor bronze
- Plating: Gold and tin over 1.27µm nickel

#### MECHANICAL PERFORMANCE

- Pin Retention: 7N min.

#### ELECTRICAL PERFORMANCE

- Current Rating: 2A continuous
- Insulation Resistance: 1000WM min.
- Dielectric Withstanding Voltage: 650V

#### ENVIRONMENTAL

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

#### APPROVALS & CERTIFICATION

- RoHS compatible according to the European Union Directive 2002/95/IEC

#### SPECIFICATIONS

- File Number: E66906
- File Number: LR46923
- Product Drawing: By 8-digit base part number
- Product Specification: DPS-12-011 and GS-12-163
- Application Specification: TA-896
- Re-flow Profile: TA-842

#### PROCESSING INFORMATION

- Compatible with IR re-flow soldering processes

#### TARGET MARKETS/APPLICATIONS



Electronic Control Systems



Communications



Servers  
Communication Equipment



Industrial Automation  
Instrumentation



Vending Machines

## PART NUMBERS

Description	Part Numbers
Unshrouded Header, Vertical, Single Row, TMT / PiP	10138654
Unshrouded Header, Vertical, Double Row, TMT / PiP	57102
Unshrouded Header, Vertical, Double Row, SMT	57202
Unshrouded Stacking Header, Vertical, Double Row, TMT	59112
Unshrouded Stacking Header, Vertical, Double Row, SMT	59202
Unshrouded Header, Right-Angle, Single Row, SMT	10112684
Unshrouded Header, Right-Angle, Double Row, TMT	98423
Unshrouded Header, Right-Angle, Double Row, SMT	10112690
Unshrouded Header, Right-Angle, Double Row, PiP	10072353
Shrouded Header, Right-Angle, Single Row, SMT	95000
Shrouded Header, Right-Angle, Double Row, TMT	98464
Shrouded Header, Vertical, Double Row, TMT	98414
Shrouded Header, Vertical, Double Row, SMT	98424

## ▶ Minitek® Headers

### PIN-IN-PASTE

Pin-in-Paste (PiP) technology allows the use of TMT products in SMT manufacturing processes. The connectors are automatically or manually placed on the board, then soldered in the same operations the SMT components. Despite this, the mechanical strength of the TMT soldering is maintained – still an important requirement for connectors nowadays in many industrial or automotive applications.

### CONNECTOR DESIGN

In order to achieve optimum soldering results, Amphenol FCI launches dedicated Pin-in-Paste connectors in the basics+ product range. These connectors are fully adapted to Pin-in-Paste processing in all aspects, including plastic material, housing design, pin length, and packaging.

#### PLASTIC MATERIAL

Minitek® PIP headers are molded in high temperature thermoplastic and are able to withstand exposure to 260°C peak temperature for 30 seconds maximum in a convection, infra-red or vapour phase re-flow oven.

#### PIN LENGTH

The connector lead length beyond the bottom of the PCB is shorter than for traditional TMT products. Thus, the risk of pushing out the solder paste when inserting the pin into the PCB hole is very much limited. The solder paste will not stick on the pin tip or even fall off completely, but stays around the pin for free flow during soldering. Amphenol FCI uses a solder tail length of  $2 \pm 0.2\text{mm}$  for Minitek® Headers for a standard PCB of 1.6mm thickness.

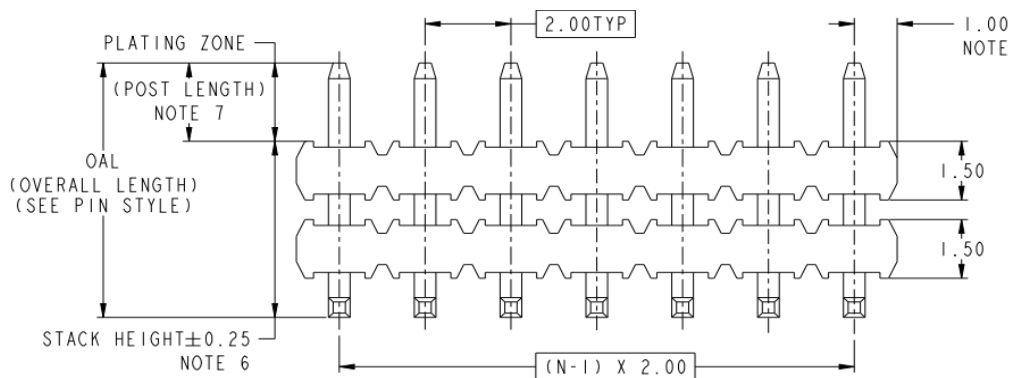
#### HOUSING DESIGN

Standoffs raise the housing body slightly above the PCB surface and thus allow the molten solder paste to flow freely from its printed position into the board hole and around the pin. The standoffs are correctly positioned for a good solder paste deposit around the pin. Please respect the stencil design guidelines below in order to avoid paste deposit around the standoffs.

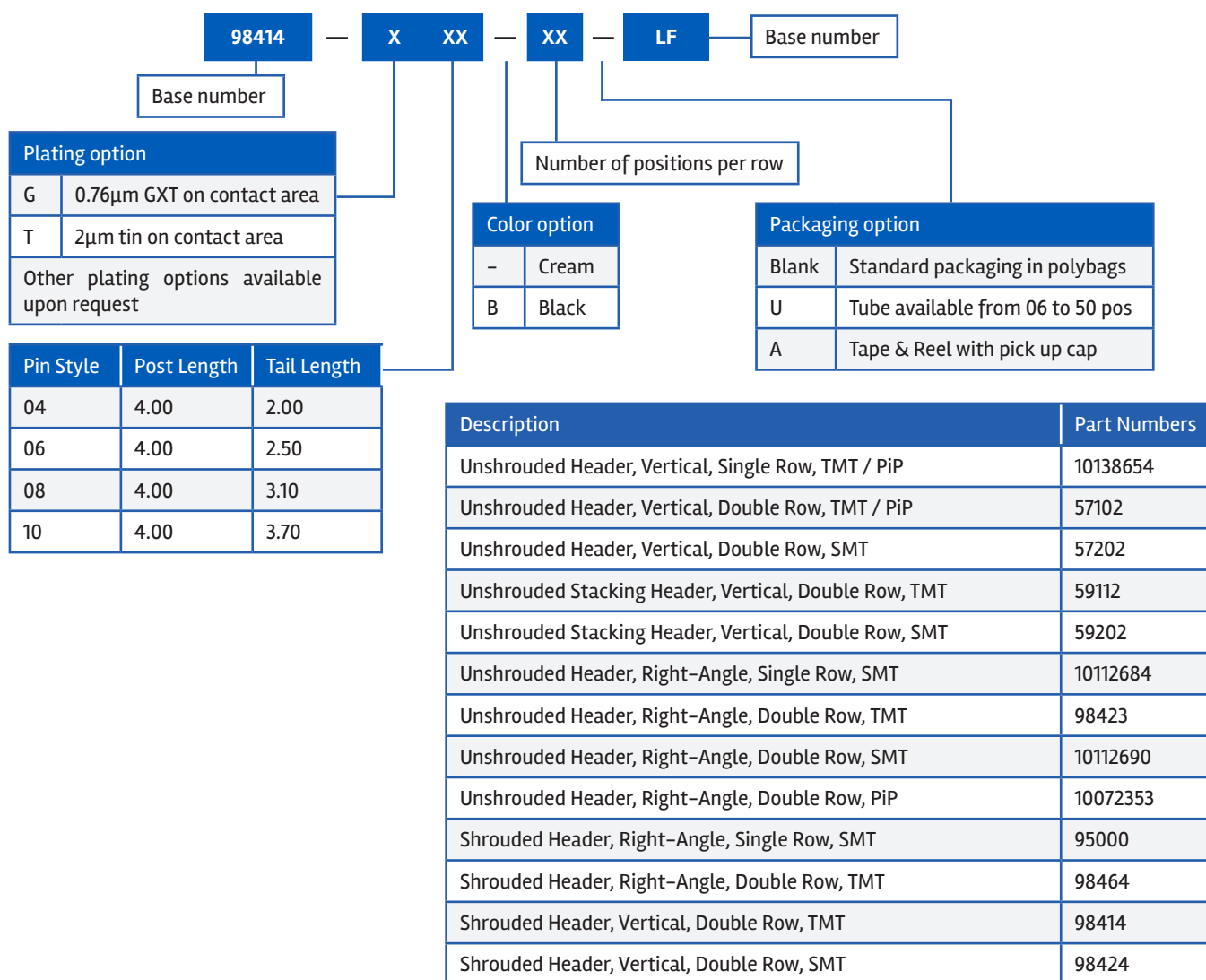
#### PACKAGING

For combining SMT and TMT components not only in the soldering process, but also in the assembly process, Amphenol FCI proposes a choice of pick-and-place packaging for PIP connectors. The most common part numbers are available in tape-on-reel packaging, all others in tube.

### SHROUDED



## PART NUMBER SELECTOR HEADER



# Minitek® IDC Receptacle

## BOARD/ WIRE-TO-BOARD CONNECTORS

Minitek® is Amphenol FCI’s brand for board-to-board and cable/wire-to-board connectors in 2.00mm (0.079µin.) pitch. Amphenol FCI is the leading supplier of this type of modular system and continues to grow and expand it. A new eject latch header is now being added to this series. This header securely latches the receptacle in place and also enables simple ejection. Four walled shielding protects pins in unmated condition.

To prevent mismatching, the eject latch header is equipped with polarization keys. Recessed pins ensure proper alignment, eliminate damage during mating, and maintain high pin retention to the housing during repeated mating cycles.

The eject latch header has a very compact product design. It is made from thermoplastic compatible with re-flow applications. The latches are specifically designed to minimize space requirements on the printed circuit board. The part mates with the Minitek® IDC receptacle.

### FEATURES

- Early entry, single-beam contacts provide long wiping action for reliable electrical contact



### TARGET MARKETS



### BENEFITS

- Center key polarization and friction latch options

## TECHNICAL INFORMATION

### MATERIALS

- Housing: Black thermoplastic
- Flammability Rating: UL94V-0
- Contact: Phosphor-bronze
- Plating: Gold over 1.27µm (50µin.) nickel

### MECHANICAL PERFORMANCE

- Mating Cycles (Durability): 100

### ELECTRICAL PERFORMANCE

- Current Rating: 1A continuous
- Insulation Resistance: 1 x 105MΩ min.
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 650V



### ENVIRONMENTAL

- Operating Temperature Range: -40°C to +105°C

### APPROVALS & CERTIFICATION

- This product is RoHS compatible according to the European Union Directive 2002/95/IEC

### SPECIFICATIONS

-  File no. E66906
-  File no. LR46923
- Product Drawing: 89947 or 89361
- Product Specification: BUS-12-115

### PACKAGING

- Tubes

### INSERTION DEPTH

- 2.55mm min. to 4.57mm max. [provides .381mm wipe]

### TARGET MARKETS/APPLICATIONS



Electronic Control Systems



Communications



Servers



Communication Equipment



Industrial Automation  
Instrumentation



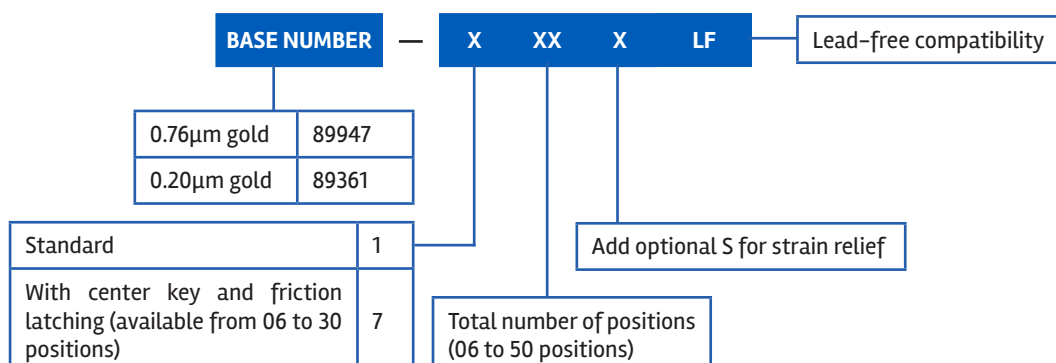
Vending Machines

## PART NUMBERS

Description	Part Numbers
IDC receptacle, Double Row	89947
IDC receptacle, Double Row	89361

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 勝特力電材超市-光復店 886-3-5729570  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
<http://www.100y.com.tw>

## PART NUMBER SELECTOR IDC RECEPTACLE



BASICSMTKWKCTB0422EA4