

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.



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

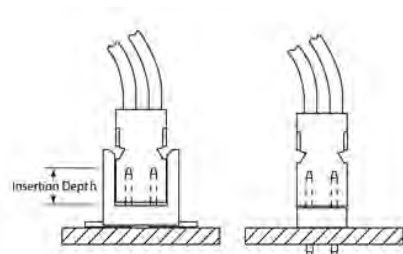
ENVIRONMENTAL

- 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

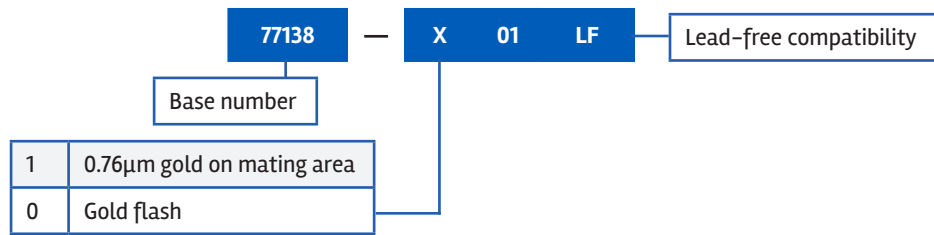


Vending Machines

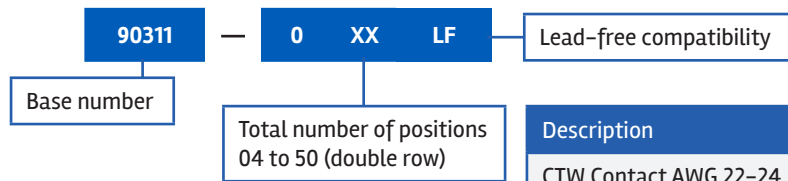
| Description | Part Numbers |
|-------------------------------------|--------------|
| CTW Contact AWG 22-24 | 10044403 |
| CTW Contact AWG 26-30 | 77138 |
| CTW Housing with keying, Single Row | 90312 |
| CTW Housing with keying, Double Row | 90311 |

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

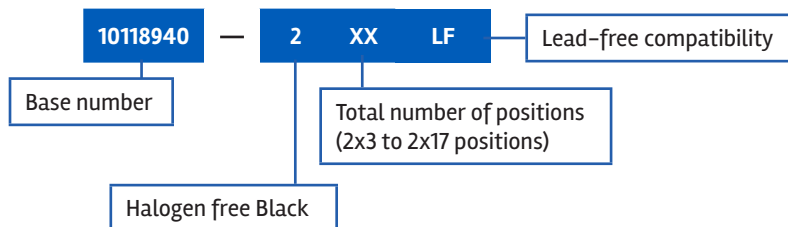


Industrial Automation
Instrumentation



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

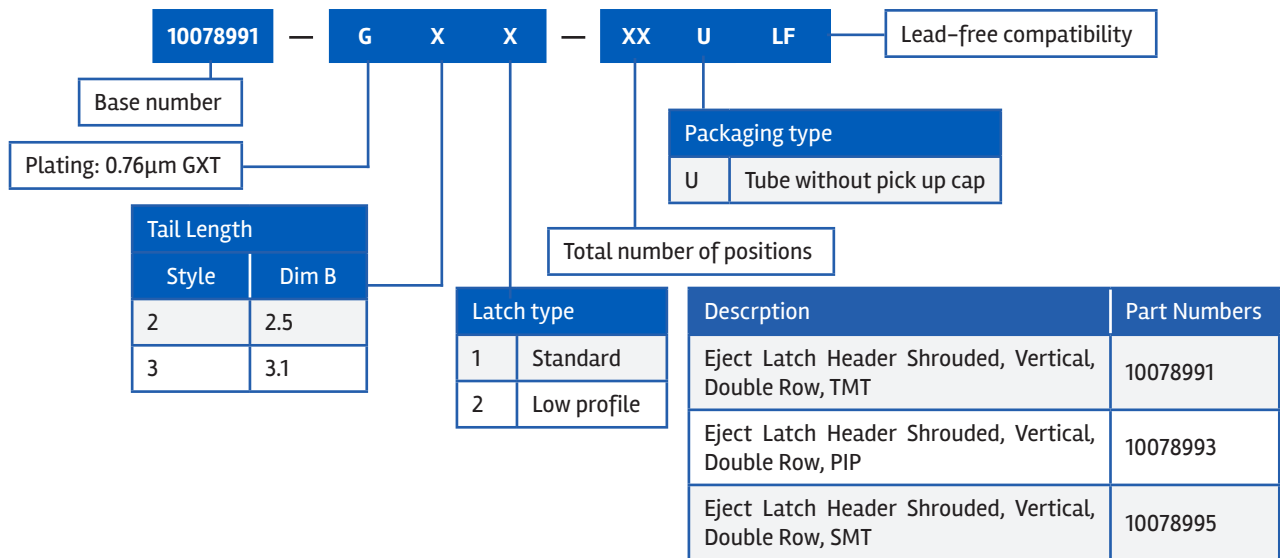


Vending Machines

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

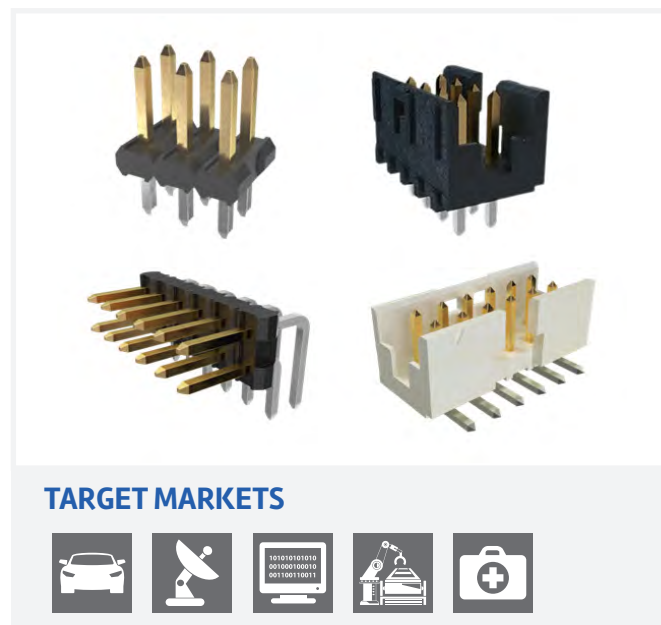
2.00mm pitch

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.

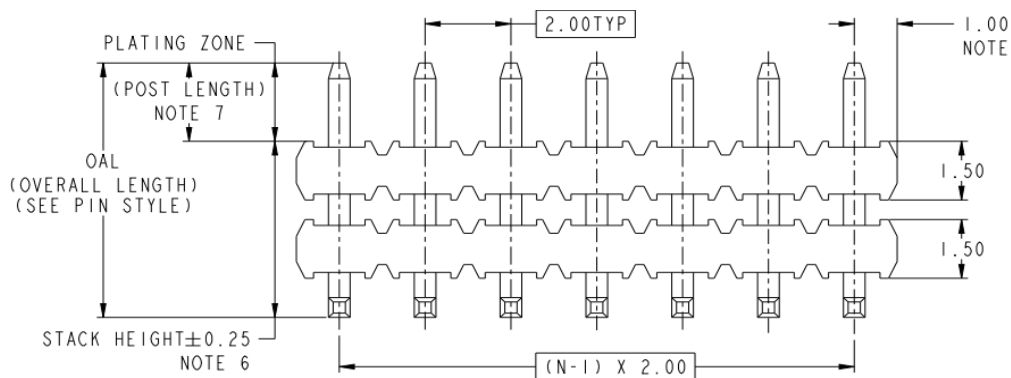
HOUSING DESIGN

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.

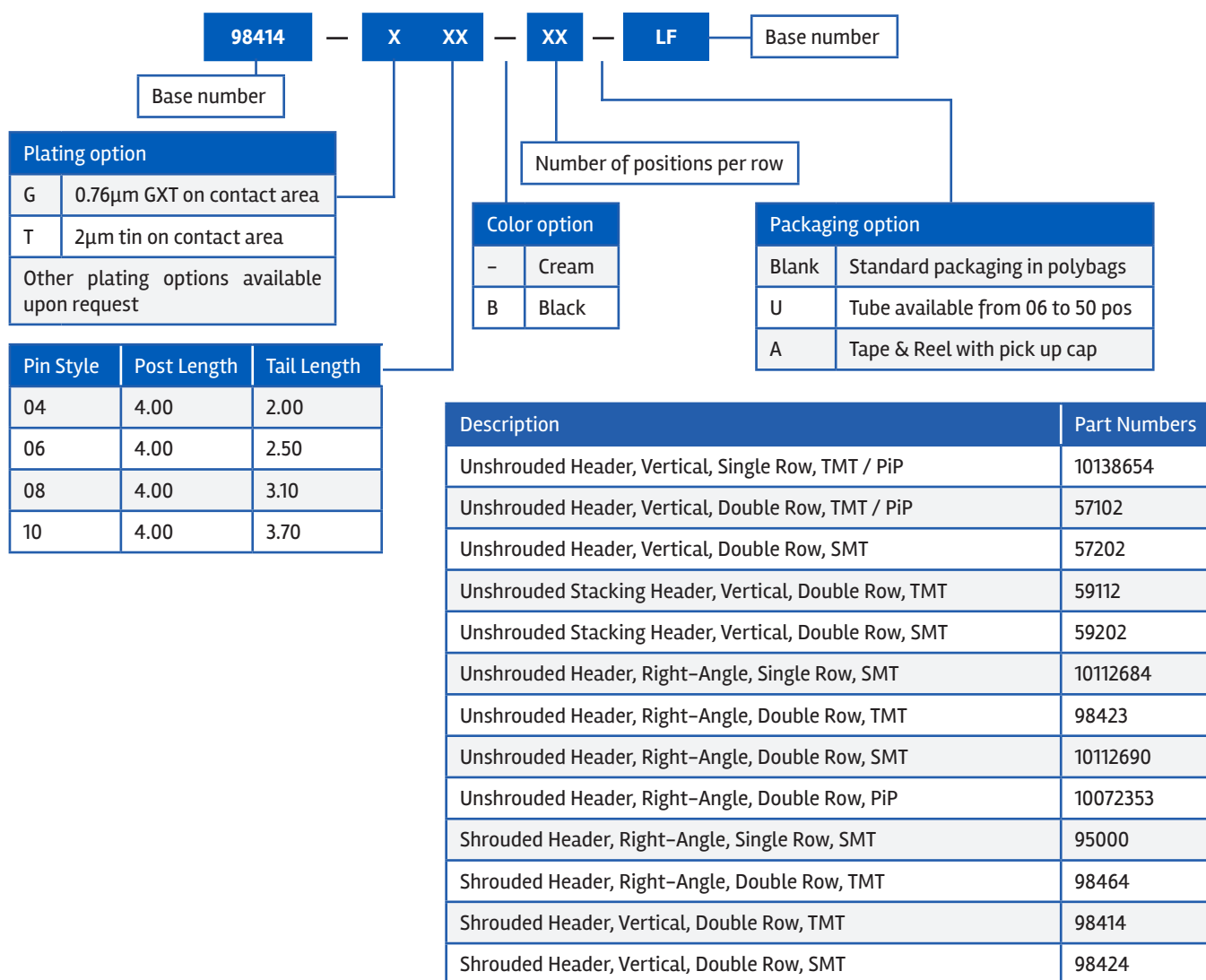
PACKAGING

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

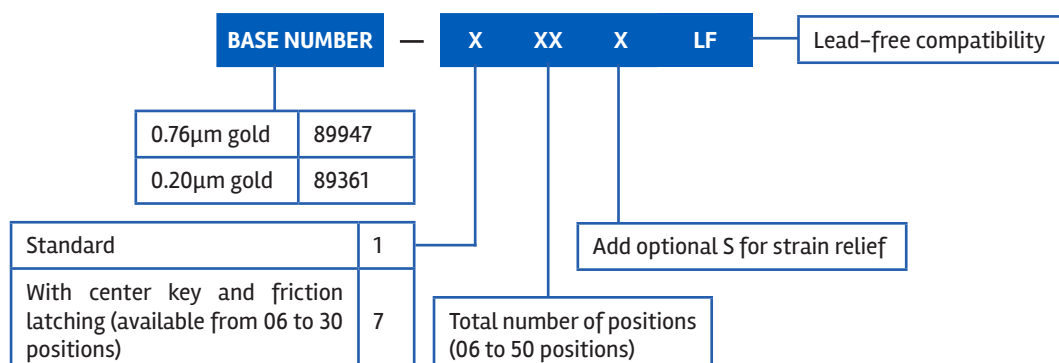


Vending Machines

PART NUMBERS

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

PART NUMBER SELECTOR IDC RECEPTACLE



BASICS/MTK/WTB0422EA4