

## 2.0 MM PITCH AMP CT CONNECTOR SERIES

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### QUICK REFERENCE GUIDE

TE Connectivity's (TE) AMP CT connectors are a miniature wire-to-board and wire-to-wire interconnect solution.

The AMP CT connector series has proven performance in its harness making capability. A variety of harness-making machines are available ranging from hand tools for low volume production to high-speed automatic crimping machines for medium to high volume productions. AMP high-speed automatic crimping machines are easier to operate, eliminating the need for tedious work of changing parts inside the equipment to adapt to changes in harness styles. Two types of housings are available, including Crimp and Mass Terminated (MT), which are preloaded with insulation displacement contacts. The box or shrouded headers are highly resistant to scooping at mating/unmating.

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## FEATURES AND BENEFITS

- 2 kinds of termination method: IDC, Crimp
- Discrete wire interconnect
- Circuits range from 2-15 single row, 8-30 dual row
- AWG 22-30
- Kinks for self-retention on boards
- RoHS compliant
- Many components are recognized under the component program of Underwriters Laboratories Inc., file No. E28476
- Certified by Canadian Standards Association, File No. LR 7189

## PRODUCT APPLICATION

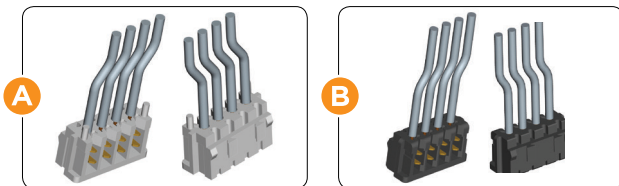
- Business Equipment
- Industrial Machines
- IoT / Smart Devices
- PC, Printer, and Fax
- C-TV
- Audio
- Air conditioner
- LED Lighting
- Where signals or power are routed

## HOW TO SELECT AN AMP CT CONNECTOR PART NUMBER

The charts on this page highlight the relationship between the number of contacts (positions) to the part number. Please see the sample chart below that was designed to help you select the correct part number for your needs. For single digit position to dash numbers, attach the digit to the end base number. For double digit position to dash numbers, attach the first digit to the front of the part number, add a dash and the base part number, then follow the base part number with a dash and the second digit.

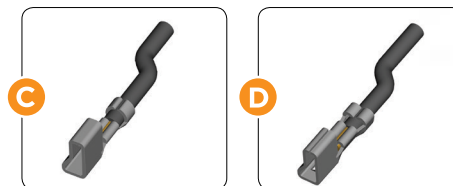
| Example Base Part Number | Your criteria                        | Example Position to Dash Selection |    |    |     |     | End Part Number Based On Criteria |            |
|--------------------------|--------------------------------------|------------------------------------|----|----|-----|-----|-----------------------------------|------------|
|                          |                                      | Position                           | 8  | 9  | 10  | 11  |                                   | 12         |
| 173977                   | You require an 8 position MT housing | Dash Number                        | -8 | -9 | -10 | -11 | -12                               | 173977-8   |
| 173977                   | You require a 12 position MT housing | Dash Number                        | -8 | -9 | -10 | -11 | -12                               | 1-173977-2 |

AMP CT MT Housing



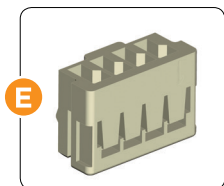
Shows unstripped wires inserted into an MT housing.

AMP CT Crimp Contact



Shows a contact crimped onto a stripped wire to be inserted into a crimp housing.

AMP CT Crimp Housing



| Description   | PN       | Photo | Specifications |
|---|----------|-------|----------------|
| Receptacle Contact - Strip - AWG : 26-30                    | 179609-1 | C     | D,Y            |
| Receptacle Contact - Loose Piece - AWG : 26-30              | 179610-1 | C     | D,Y            |
| Receptacle Contact - Strip - AWG : 22-26                    | 179227-1 | D     | D,Y            |
| Receptacle Contact - Strip - AWG : 22-26 - Gold plated      | 179227-4 | D     | D,Y            |
| Receptacle Contact - Loose Piece - AWG : 22-26 - receptacle | 179518-1 | D     | D,Y            |

## CRIMP TYPE CONNECTORS : HOUSING

| Description   | PN     | Photo | Position to Dash |    |    |    |    |    |    |    |     |     |     |     |     |     |
|---|--------|-------|------------------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
|   |        |       | 2                | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11  | 12  | 13  | 14  | 15  |
| Receptacle Housing  | 179228 | E     | -2               | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 | -13 | -14 | -15 |
| <b>Mating PNS :</b> 292253; 292161; 292250; 292164; 292133; 292132; 292165; 292173; 292171; 292172; 292134; 176394; 292138; 292252; 292141; 292254; 292156; 292204; 292177; 292178; 292185; 292182; 292181<br><b>Specifications :</b> D,Y |        |       |                  |    |    |    |    |    |    |    |     |     |     |     |     |     |

## MASS TERMINATION (MT) CONNECTORS : PRE-LOADED RECEPTACLE HOUSING

| Description   | PN     | Photo | Position to Dash |    |    |    |    |    |    |    |     |     |     |     |     |     |
|---|--------|-------|------------------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
|   |        |       | 2                | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11  | 12  | 13  | 14  | 15  |
| MT receptacle housing<br>AWG : 26-28  | 179228 | A     | -2               | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 | -13 | -14 | -15 |
| <b>Mating PNS :</b> 292253; 292161; 292250; 292164; 292133; 292132; 292165; 292173; 292171; 292172; 292138; 292252; 292141; 292254; 292156; 292204; 292178; 292182; 175133; 179608<br><b>Specifications :</b> C,X |        |       |                  |    |    |    |    |    |    |    |     |     |     |     |     |     |
| MT receptacle housing<br>AWG : 26-28  | 179228 | A     | -2               | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 | -13 | -14 | -15 |
| <b>Mating PNS:</b> 292134; 176394<br><b>Specifications :</b> C,X  |        |       |                  |    |    |    |    |    |    |    |     |     |     |     |     |     |

## CABLE SIDE CONNECTORS : TOOLING OPTIONS

### APPLICATION TOOLING

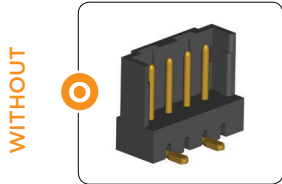
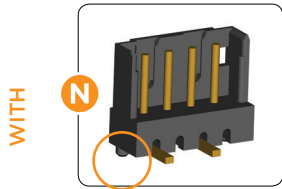
Automated tooling options are also available. Call Tooling Sales at 800-722-1111 (717-810-2082) for more information.

| Connector PN       | Tooling PN | Description                   | Application Specification |
|--------------------|------------|-------------------------------|---------------------------|
| 1385047-3*         | 1385047-3* | Applicator                    | 408-8040                  |
| 1739772-2 thru -15 | 58074-1    | Manual Handle without Head    | 408-6790                  |
|                    | 58372-1    | AMP CT 2mm (IDC) Head         | 408-9426                  |
| 176392-2 thru -15  | 1729069-1  | AMP CT MT Mini Air Terminator | -                         |
| 179610-1           | 1385047-3* | Applicator                    | 408-8040                  |
| 179227-1           | 680216-3*  | Applicator                    | 408-8040                  |
| 179227-4           | 680216-3*  | Applicator                    | 408-8040                  |
| 179518-1           | 91572-1**  | CERTI-CRIMP Hand Tool         | 408-8547                  |

# AMP CT CONNECTOR STYLES

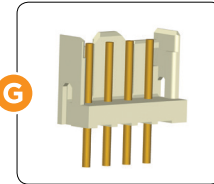
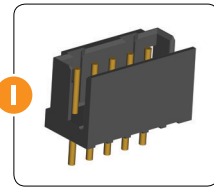
## COMMON TERMINOLOGY

Locating Boss



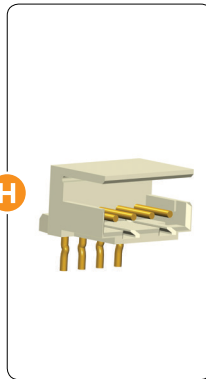
A boss is a mechanical feature that helps orient the headers onto the PCB.

Without Kinked Leg

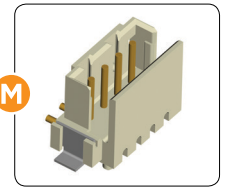
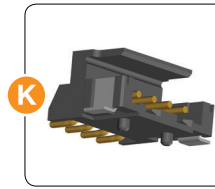


Kinked legs are designed to secure the thru-hole (T/H) headers onto the PCB.

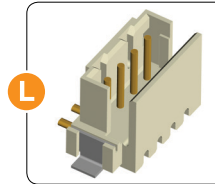
With Kinked Leg



Solder Tabs



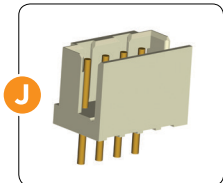
With Boss



Solder tabs are designed to secure the SMT headers onto the PCB.

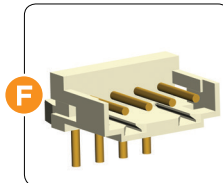
## Header Styles

Box



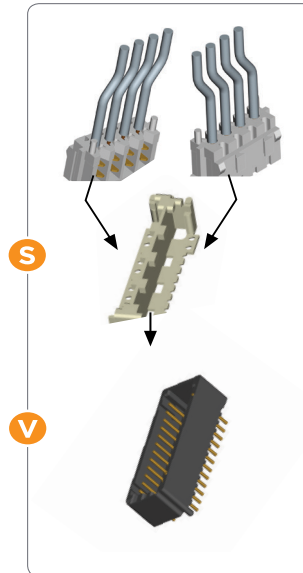
Box headers offer a front and back wall for polarization of the connector.

Standard



Standard headers offer only a single wall for polarization of the connector.

## Dual Row Assemblies



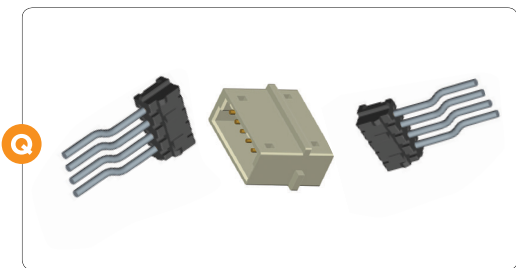
Two Single Row Housings

Appealing Holder

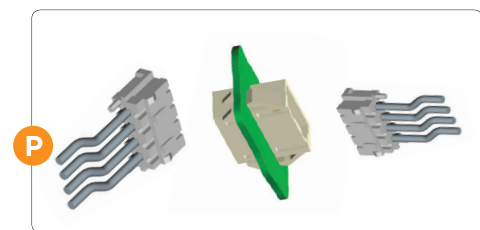
Dual Row Header

Requires a holder to be used along with two single row housings.

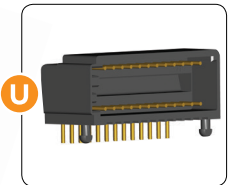
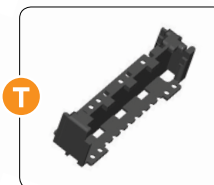
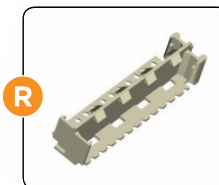
## Free Hanging



## Panel Mount



## Additional Parts



## SINGLE ROW POST HEADER ASSEMBLIES : PANEL-MOUNT

| Description   | PLATING | PN     | Photo | Position to Dash                                  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|---|---------|--------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|   |         |        |       | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  |  |
| T/H Std Type - Horizontal Mount w/ Kink                               | TIN     | 292253 | F     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  | -10 | -11 | -12 | -13 | -14 | -15 |  |
| T/H Std Type - Vertical Mount w/ Kink                                 | TIN     | 292161 | G     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  | -10 | -11 | -12 | -13 | -14 | -15 |  |
| T/H Box Type - Horizontal Mount w/ Kink                               | TIN     | 292250 | H     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  | -10 | -11 | -12 | -13 | -14 | -15 |  |
| T/H Box Type - Vertical Mount w/o Kink                                | TIN     | 292133 | I     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  | -10 | -11 | -12 | -13 | -14 | -15 |  |
| T/H Box Type - Vertical Mount w/ Kink                                 | TIN     | 292132 | J     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  | -10 | -11 | -12 | -13 | -14 | -15 |  |
| SMT Box Type - Horizontal Mount Type w/ Solder Tab, w/o Boss          | TIN     | 292173 | K     | -22   | -23 | -24 | -25 | -26 | -27 | -28 | -29 |     |     |     |     |     |     |  |
| SMT Box Type - Horizontal Mount Type w/ Solder Tab, w/ Boss           | TIN     | 292173 | K     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  |     |     |     |     |     |     |  |
| SMT Box Type - Vertical Mount Type w/ Solder Tab, w/o Boss            | TIN     | 292175 | L     | -22   | -23 | -24 | -25 | -26 | -27 | -28 | -29 |     |     |     |     |     |     |  |
| SMT Box Type - Vertical Mount Type w/ Solder Tab, w/ Boss (Natural)   | TIN     | 292174 | M     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  |     |     |     |     |     |     |  |
| SMT Box Type - Vertical Mount Type w/ Solder Tab, w/ Boss (Black)     | TIN     | 292174 | M     | -22   | -23 | -24 | -25 | -26 | -27 | -28 | -29 |     |     |     |     |     |     |  |
| SMT Std Type - Vertical Mount w/ Boss                                 | TIN     | 292171 | N     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  |     |     |     |     |     |     |  |
| SMT Std Type - Vertical Mount w/o Boss                                | TIN     | 292172 | O     | -2  | -3  | -4  | -5  | -6  | -7  | -8  | -9  |     |     |     |     |     |     |  |
| <b>Mating PNS :</b> (MT) 173977; 179694 or (Crimp) 179228 w/ contact  |         |        |       | <b>Specifications :</b> A, D                      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| T/H Box Type - Vertical Mount w/ Kink                                 | Gold    | 292134 | J     | -2  | -3  | -4  | -5  | -6  |     |     | -9  | -10 |     | -12 |     |     | -15 |  |
| T/H Box Type - Horizontal Mount w/ Kink                               | Gold    | 176394 | H     | -2  | -3  | -4  | -5  | -6  |     | -8  |     | -10 |     |     |     |     |     |  |
| <b>Mating PNS :</b> (MT) 173977; 179694 or (Crimp) 179228 w/ 179227-4 |         |        |       | <b>Specifications :</b> A (292134)/ C (176394), D |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

## RECEPTACLE CONNECTOR HOLDERS FOR DUAL ROW HEADERS

| Description   | PN     | Photo | Position to Dash |     |     |     |     |     |     |     |     |     |  |  |
|---|--------|-------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|   |        |       | 8                | 12  | 16  | 18  | 20  | 22  | 24  | 26  | 28  | 30  |  |  |
| Receptacle Housing Captivating Holder (MT)  | 175133 | R     | -8               | -12 | -16 | -18 | -20 | -22 | -24 | -26 | -28 | -30 |  |  |
| Receptacle Housing Captivating Holder - Reinforced Retention (MT)                 | 179608 | S     |                  |     | -16 | -18 | -20 | -22 | -24 | -26 | -28 | -30 |  |  |
| <b>Mating Part Numbers:</b> (MT) 353293 or (Crimp) 353908 w/ 353907-1 or 353918-1 |        |       |                  |     |     |     |     |     |     |     |     |     |  |  |
| <b>Specifications:</b> A, X   |        |       |                  |     |     |     |     |     |     |     |     |     |  |  |
| Receptacle Housing Captivating Holder - Reinforced Retention (Crimp)              | 179472 | T     |                  | -12 | -16 | -18 | -20 | -22 | -24 | -26 | -28 | -30 |  |  |
| <b>Mating PNS :</b> 2 x (Crimp) 179228 w/ contact                                 |        |       |                  |     |     |     |     |     |     |     |     |     |  |  |
| <b>Specifications :</b> B   |        |       |                  |     |     |     |     |     |     |     |     |     |  |  |

## SINGLE ROW PANEL-MOUNT HEADERS

| Description  | PN     | Photo | Position to Dash |    |    |    |    |    |    |    |     |     |     |     |     |     |
|--|--------|-------|------------------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
|  |        |       | 2                | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11  | 12  | 13  | 14  | 15  |
| Panel Mount Header   | 292254 | P     | -2               | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 | -13 | -14 | -15 |
| <b>Mating PNS :</b> (MT) 173977; 179694 or (Crimp) 179228 w/ contact |        |       |                  |    |    |    |    |    |    |    |     |     |     |     |     |     |
| <b>Specifications :</b> A,D  |        |       |                  |    |    |    |    |    |    |    |     |     |     |     |     |     |

## SINGLE ROW POST FREE-HANGING WIRE TO WIRE HEADERS

| Description  | PN     | Photo | Position to Dash |    |    |    |    |   |   |   |    |    |    |    |    |    |
|--|--------|-------|------------------|----|----|----|----|---|---|---|----|----|----|----|----|----|
|  |        |       | 2                | 3  | 4  | 5  | 6  | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Free Hanging Header  | 292156 | Q     | -2               | -3 | -4 | -5 | -6 |   |   |   |    |    |    |    |    |    |
| <b>Mating PNS :</b> (MT) 173977; 179694 or (Crimp) 179228 w/ contact |        |       |                  |    |    |    |    |   |   |   |    |    |    |    |    |    |
| <b>Specifications :</b> A,D  |        |       |                  |    |    |    |    |   |   |   |    |    |    |    |    |    |

# PRODUCT/APPLICATION SPECIFICATION

## RATINGS

| Product Specs |           | Voltage       | Operating Current (Amps) |        |        |        |        |
|---------------|-----------|---------------|--------------------------|--------|--------|--------|--------|
|               |           |               | 22 AWG                   | 24 AWG | 26 AWG | 28 AWG | 30 AWG |
| A             | 10860016  | 125 V (AC DC) |                          | 3      | 2      | 1      |        |
| B             | 10860020  | 125 V (AC DC) |                          |        | 1      | 1      |        |
|               |           |               |                          |        | 2      | 1      |        |
| C             | 108-5218  | 125 V AC      |                          |        | 2      | 1      |        |
| D             | 10860029  | 125 V AC      | 4                        |        | 2.5    | 1.5    | 1      |
| E             | 10860024  | 125 V AC      |                          |        | 1      |        |        |
| F             | 108-60021 | 125 V AC      |                          |        | 1      |        |        |

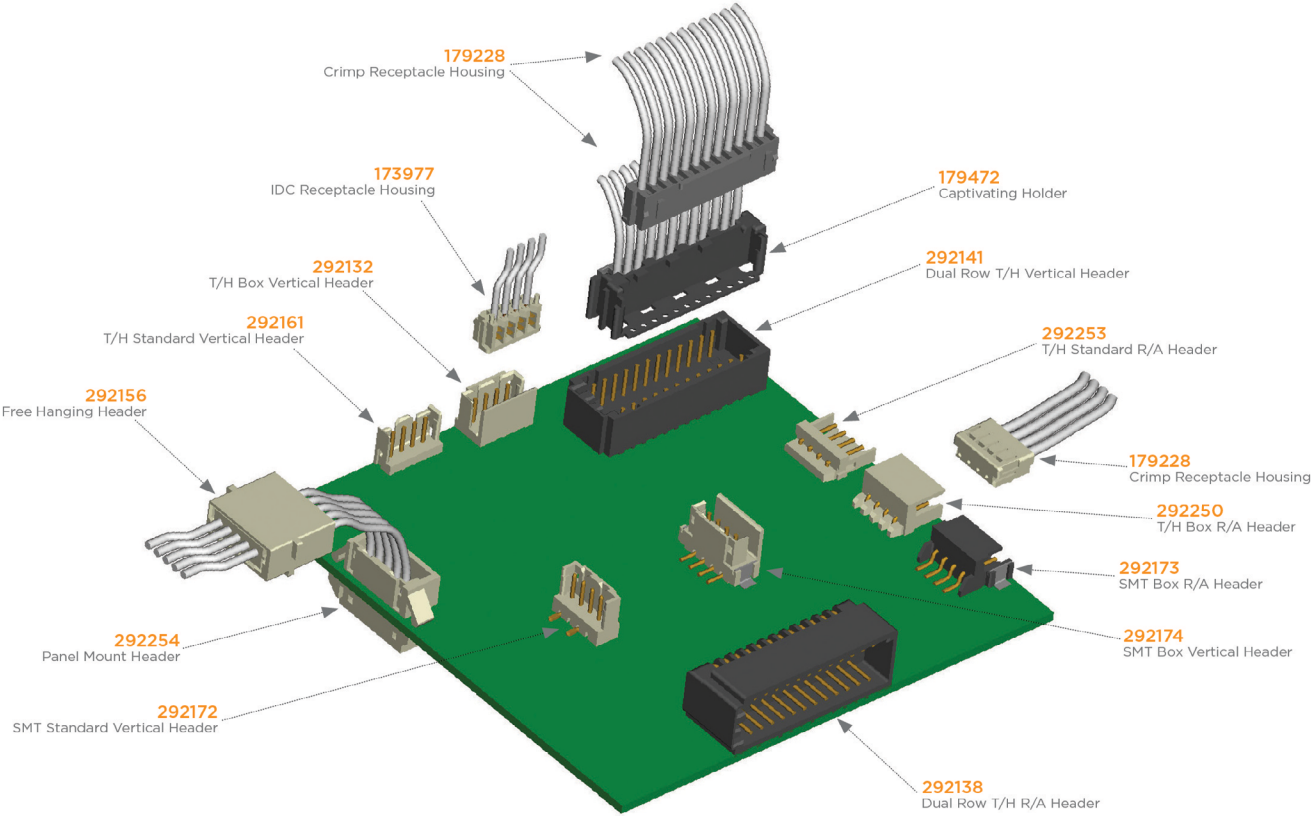
| Application Specs |          |
|-------------------|----------|
| X                 | 114-5014 |
| Y                 | 114-5179 |
| Z                 | 114-5103 |

## CABLE ASSEMBLIES

For convenience, a selection of double-ended cable assemblies is available. These cable assemblies are useful for prototyping or for small production runs. For additional sizes, lengths or connector styles, please reach out to the TE sales team or to customer care.

| PN        | Description                                | Length | Positions | Housing PN | Contact PN | Wire Gauge | Wire Temp Rating | Wire Voltage Rating | Wire Color |
|-----------|--|--------|-----------|------------|------------|------------|------------------|---------------------|------------|
| 2405869-1 | AMP CT 2P 300MM CABLE ASSEMBLY 2-179228-2  | 300 mm | 2         | 2-179228-2 | 179227-1   | 24 AWG     | 80° C            | 300 V               | Orange     |
| 2405869-3 | AMP CT 3P 300MM CABLE ASSEMBLY 2-179228-3  | 300 mm | 3         | 2-179228-3 | 179227-1   | 24 AWG     | 80° C            | 300 V               | Orange     |
| 2405869-4 | AMP CT 4P 300MM CABLE ASSEMBLY 2-179228-4  | 300 mm | 4         | 2-179228-4 | 179227-1   | 24 AWG     | 80° C            | 300 V               | Orange     |
| 2405869-5 | AMP CT 5P 300MM CABLE ASSEMBLY 2-179228-5  | 300 mm | 5         | 2-179228-5 | 179227-1   | 24 AWG     | 80° C            | 300 V               | Orange     |
| 2405869-6 | AMP CT 6P 300MM CABLE ASSEMBLY 2-179228-6  | 300 mm | 6         | 2-179228-6 | 179227-1   | 24 AWG     | 80° C            | 300 V               | Orange     |
| 2405869-7 | AMP CT 7P 300MM CABLE ASSEMBLY 2-179228-7  | 300 mm | 7         | 2-179228-7 | 179227-1   | 24 AWG     | 80° C            | 300 V               | Orange     |
| 2405869-8 | AMP CT 8P 300MM CABLE ASSEMBLY 2-179228-8  | 300 mm | 8         | 2-179228-8 | 179227-1   | 24 AWG     | 80° C            | 300 V               | Orange     |
| 2405869-2 | AMP CT 10P 300MM CABLE ASSEMBLY 3-179228-0 | 300 mm | 10        | 3-179228-0 | 179227-1   | 24 AWG     | 80° C            | 300 V               | Orange     |

# AMP CT CONNECTOR MOUNT STYLES





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## FREQUENTLY ASKED QUESTIONS

### What wire gauge will you be using?

More flexibility with wire gauge when using Crimp vs. MT. Crimp housings accept 22-30 AWG and MT housings accept 24-28 AWG.

### Are the connectors available for IDC?

Yes, we offer a MT version that is preloaded with IDC contacts.

### Where can I find information on current rating, voltage and operating temperatures?

Please see Product Specification Information on page 5 of this Quick Reference Guide.

### Which is a more standard header, with or without a locating boss?

The most standard headers tend to have a locating boss as it makes it easier for the customer to align the connector onto their board.

### What special retention mechanisms are available to help ensure PCB stability?

Most of the T/H headers have kinked legs, and the SMT headers have solder tabs to help ensure PCB stability.

### What are my tooling options?

TE offers comprehensive tooling options including Manual Pistol-Grips, manual Mini-Press, Pneumatic Mini-press, Semi-Auto DECAM and an Automatic DECAM tool. For more information, please visit [te.com](http://te.com) or call the tooling assistance center at 800-722-1111 or 717-810-2082.

### What is the benefit of choosing Box over Std type headers?

Box type headers have an extra wall, that is a more reliable connector design intended to prevent stubbing.

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