



NOTE

All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ± 0.13 [$\pm .005$] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

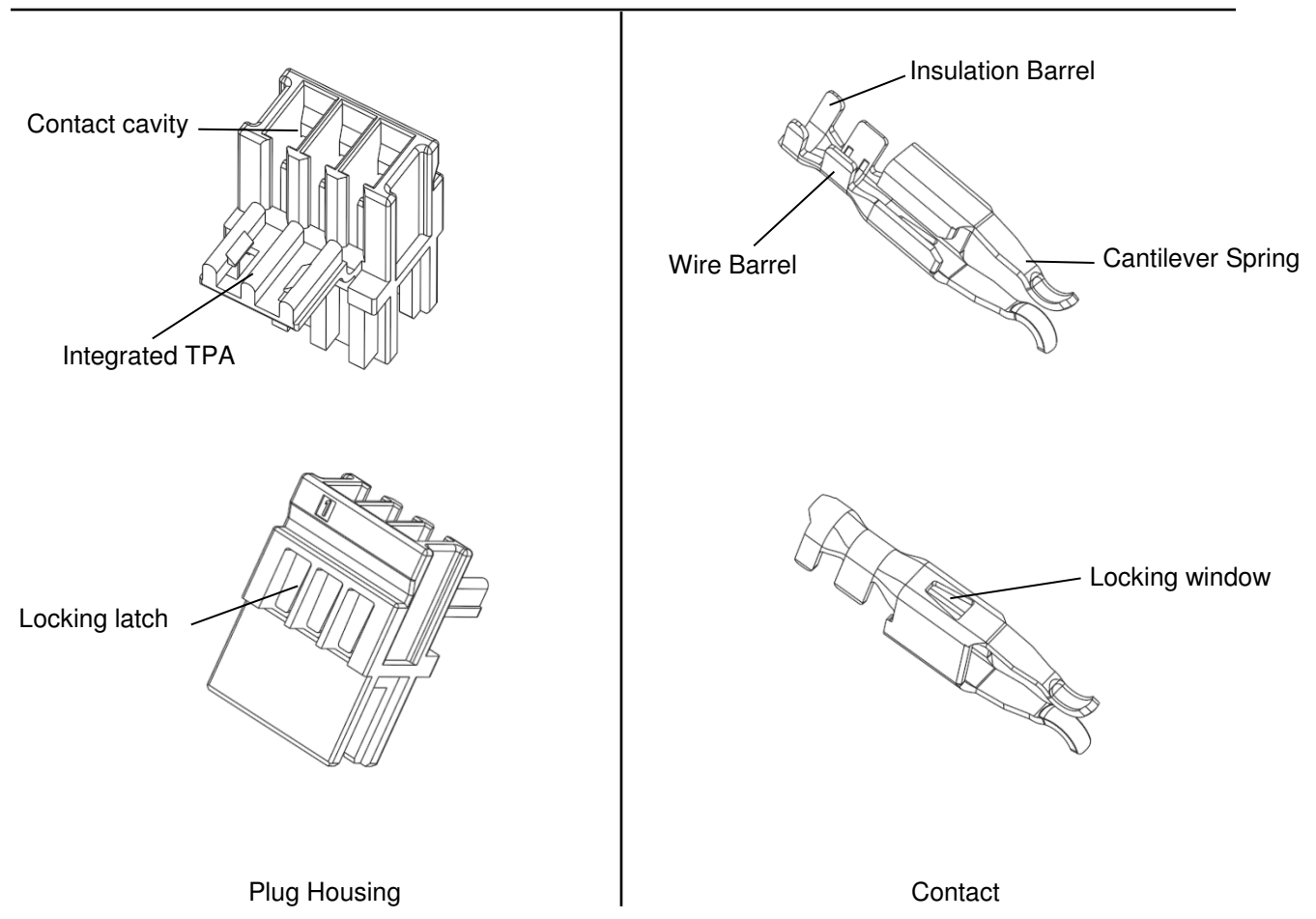
1. INTRODUCTION

This specification covers the requirements for application of RAST 2.5 Standard Timer Contact and Plug housing.

The contact features an insulation barrel, wire barrel and cantilever spring. The contact locking window is designed to lock with the housing locking latch to ensure proper depth of the contact in the housing.

The plug housing is available in 3, 4, 5, 7 and 9 positions with single row, features contacts cavities, a locking latch for each contact cavity and an integrated TPA. After all contacts are inserted into the housing, the TPA is designed to ensure that the contacts are fully inserted and prevent them from backing out.

When corresponding with TE Connectivity (TE) Personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of this product are provided in Figure 1.



2. REFERENCE MATERIAL

2.1. Revision Summary

- First preliminary version
- First active version

2.2. Customer Assistance

Reference Product Base Part Number 2391423 (Plug Housing) and 2391430 (Contact) are representative of RAST 2.5 Standard Timer housing and contact. Use of these numbers will identify the product line and help you to obtain product and tooling information when visiting www.te.com or calling TE Connectivity (TE) Personnel

Customer drawings for product part numbers are by request only. Information contained in the customer drawing takes priority.

2391423	Plug housing, RAST 2.5 Standard Timer
2391430	Contact, RAST 2.5 Standard Timer

2.3. Instructional Material

Instructional material that pertains to this product is:

- [408-10389](#) Ocean Side-Feed Applicators
- [409-5128](#) AMP-O-LECTRIC* Model "K" Terminator Machine 1-471273-2
- [409-5842](#) AMP-O-LECTRIC Model "G" Terminating Machines 354500-[]
- [409-10047](#) AMP 3K* Terminating Machines 1725950-[] and AMP 5K* Terminating Machines 1725900-[]
- [409-10099](#) AMP 3K/40* Terminating Machines 2119683-[] and AMP 5K/40* Terminating Machines 2119684-[]

2.4. Specifications

Product Specification 108-160359 provides product performance and test results.

3. REQUIREMENTS

3.1. Safety

Do not stack product shipping containers so high that the containers buckle or deform.

3.2. Storage

Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the product material.

Shelf Life

The product should remain in the shipping containers until ready for use to prevent deformation to components. The product should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

Reels

When using reeled contacts, store coil wound reels horizontally. When storing partial reeled contacts, the end of the strip should be secured to the flange using a wire tie or similar method.

Chemical Exposure

Do not store product near any chemical listed below as they may cause stress corrosion cracking in the material.

Alkalies	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur Nitrites		Tartrates

3.3. Wire Selection and Preparation

One of the contacts accept a single stranded copper wire sizes 0.22 mm² to 0.35 mm² [24 AWG to 22AWG] with an insulation diameter range of 1.4 mm to 1.6 mm.

Another of the contacts accept a single stranded copper wire size 0.50mm² [20AWG] with an insulation diameter range of 2.0mm ~2.2mm.

Each wire must be stripped to the dimension given in Figure 2. The insulation must be clean and free of contamination.



CAUTION

Care must be taken to not nick, scrape or cut any part of the wire during the stripping operation.

Note: Not to Scale

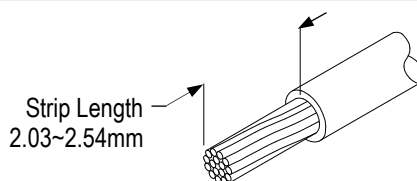


Figure 1

3.4. Crimp Requirements

Contact must be terminated according to the instructions packaged with the tooling.

Cutoff Tab and Burr

The cutoff tab is the remaining portion of the carrier strip after the contact is cut from the strip, and the burr is the result from the cutoff tab shearing. The cutoff tab and burr must not exceed the dimension given in Figure 3.

Crimp Height

The crimp applied to the wire portion of the contact is the most compressed area and is most critical in ensuring optimum electrical and mechanical performance of the crimped contact. The wire barrel crimp height and width and insulation barrel crimp width must be within the dimensions provided in Figure 3.

Effective Crimp Length

Effective crimp length shall be defined as that portion of the wire barrel, excluding the rear bellmouth, fully formed by the crimping tool. Refer to Figure 3.

Wire Barrel Flash

Wire barrel flash is the formation that may appear on both sides of the wire barrel as the result of the crimping process. It must not exceed the dimension provided in Figure 3.

Twist and Roll

There shall be no twist, roll, deformation, or other damage to the mating portion of the crimped contact that will prevent proper mating.

Bellmouths

The rear bellmouth shall be evident and conform to the dimensions given in Figure 3.

Cantilever Spring

The Cantilever Spring must not be deformed.

Wire Location

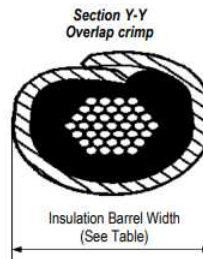
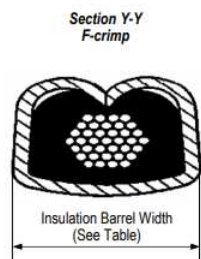
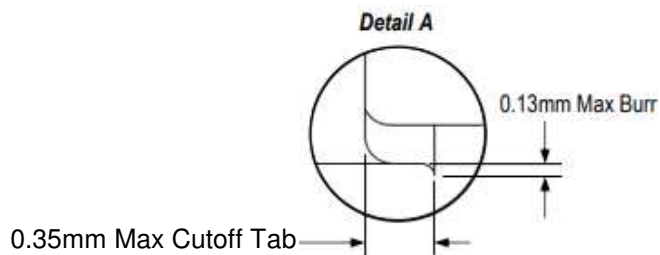
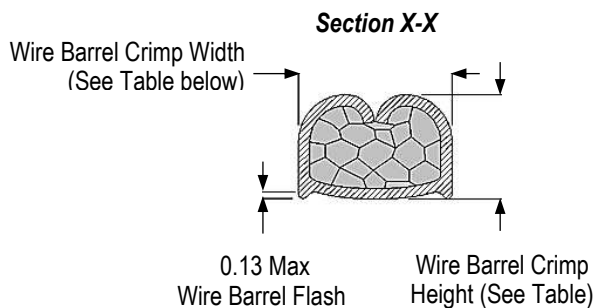
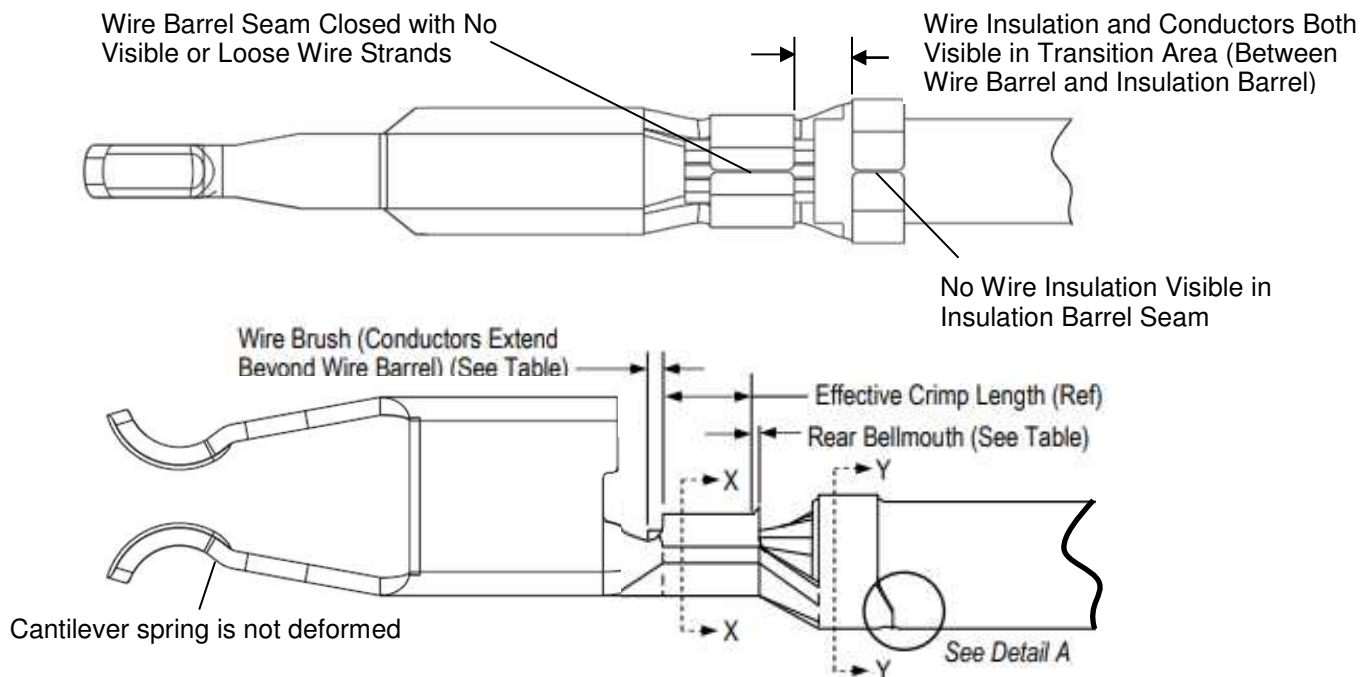
The wire insulation and conductors must be visible in the transition area between the wire barrel and insulation barrel. See Figure 3

Wire Brush

The conductors may extend beyond the wire barrel within the dimensions given in Figure 3.

Wire Barrel Seam

The wire barrel seam must be closed with no evidence of loose wire strands visible in the seam.

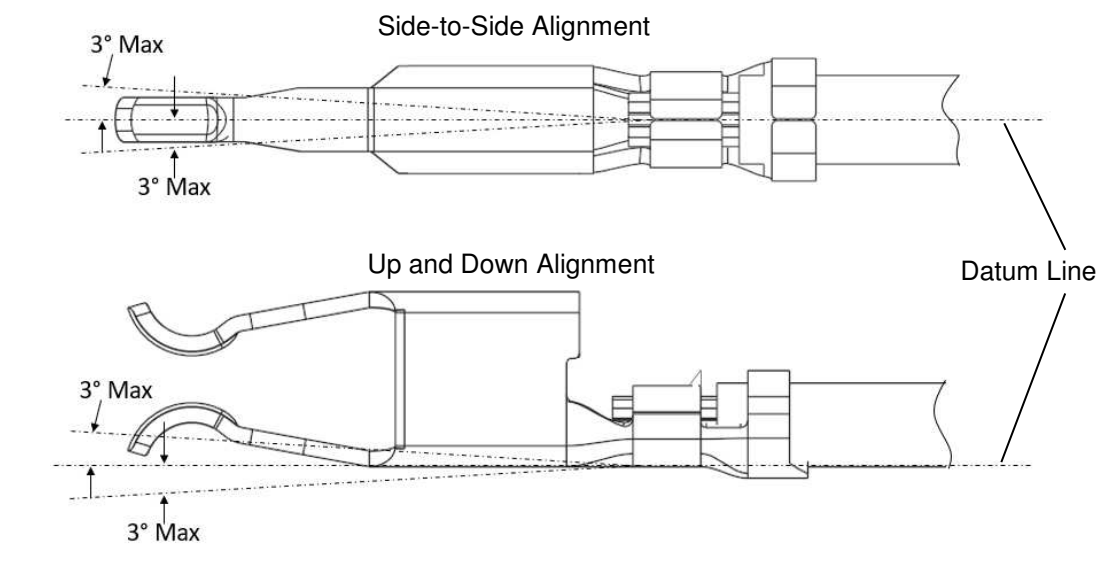


WIRE SIZE		CONTACT								
mm ²	AWG	Part Number	WIRE BARREL CRIMP		INSULATION BARREL CRIMP		WIRE BRUSH		REAR BELLMOUTH	
			HEIGHT (mm)	WIDTH (mm)	WIDTH (mm)	CRIMP CONFIGURATION	HAND TOOL (mm)	APPLICATOR (mm)	HAND TOOL (mm)	APPLICATOR (mm)
0.22	24	2391430-1	0.98±0.05	1.57	1.90 max	F crimp or Overlap crimp	0.7 Max	0.5 Max	0.05-0.4	0.1-0.4
0.35	22		0.99±0.05							
0.50	20	2391430-2	1.24±0.03	1.57	2.65 max					

Figure 2 (end)

Straightness

The force applied during crimping may cause some bending between the crimped wire barrel and the mating portion of the contact. Such deformation is acceptable within the following limits: The side-to-side bending of the contact may not exceed the limits provided in Figure 4. The crimped contact, including cutoff tab and burr, shall not be bent above or below the datum line more than the amount given in Figure 4.



NOTE: Angles are drawn for clarification only and are not to scale.

Figure 3

3.5. Assembly

Contact Insertion

The crimped contact must face the contact cavity from the wire end of the plug housing so that the locking window is aligned with the plug housing locking latch. The contact must be inserted into contact cavity until it bottoms. The wire should be pulled back lightly to ensure retention of the crimped contact. See Figure 5.

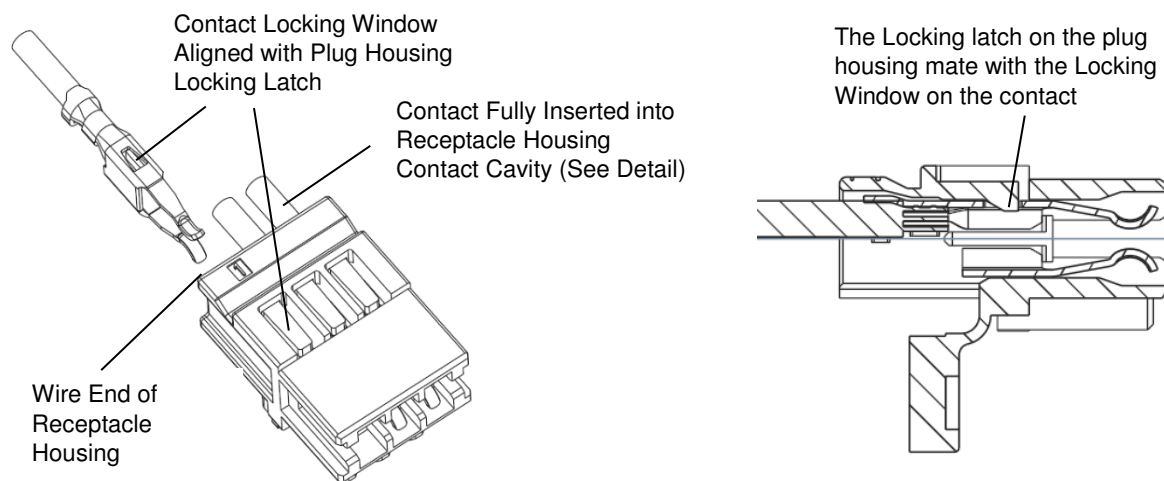


Figure 5

B. TPA Closure

After inserting all the crimped contacts, the TPA must be closed to mate with the main body of the plug housing and to stop the crimped contacts backing out of the housing. See Figure 6.

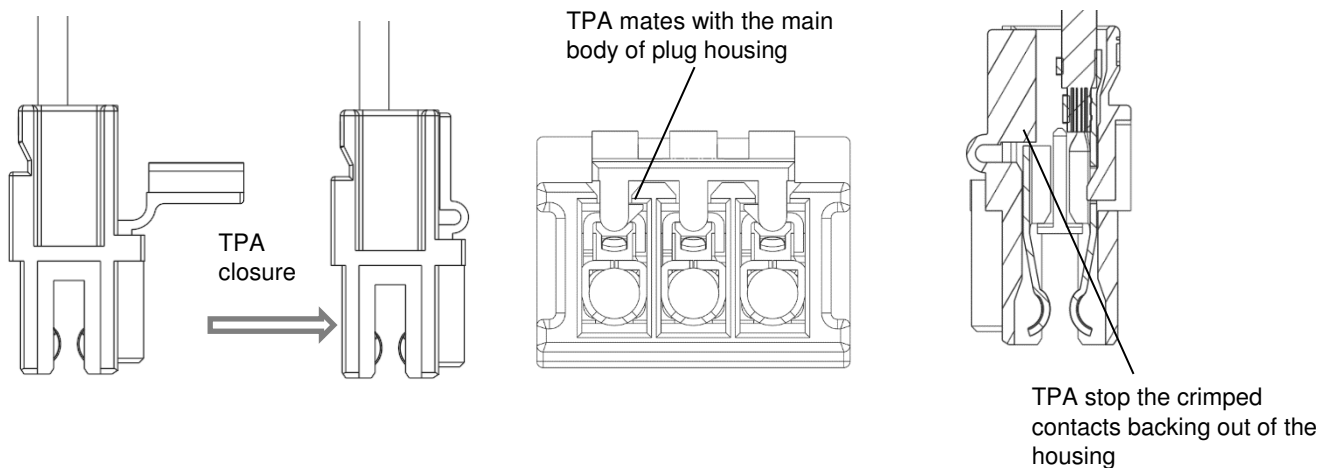


Figure 6

4. TOOLING

Tooling part numbers and instructional material packaged with the tooling are given in Figure .

4.1. Machine (Power Unit)

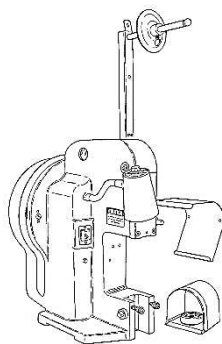
The machine provides the force required to drive an applicator for crimping the contacts. These machines can be set up to automatically measure, cut, strip, and terminate the wire.

4.2. Applicator

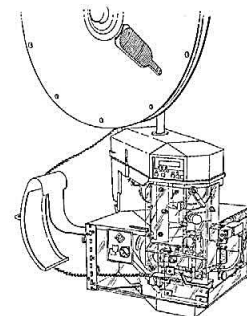
The applicators are designed to crimp strip-fed, precision formed contacts onto pre-stripped wire, and provides for high volume, heavy duty production requirements. The applicator must be installed onto a power unit.



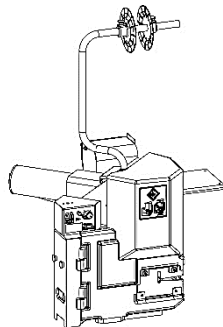
Ocean Side-Feed Applicators
(Atlantic Style) 2266976-2 and
2266977-2 (408-10389)



AMP-O-LECTRIC Model "K"
Terminator Machine
1-471273-2 (409-5128)



AMP-O-LECTRIC Model "G"
Terminating Machines
354500-[] (409-5842)



AMP 3K Terminating Machines
1725950-[] and
AMP 5K Terminating Machines
1725900-[] (409-10047)



AMP 3K/40 Terminating Machines
2119683-[] and
AMP 5K/40 Terminating Machines
2119684-[] (409-10099)

Figure 7

5. VISUAL AID

The illustration below shows typical applications of this product. This illustration should be used by production personnel to ensure a correctly applied product. Applications which do not appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

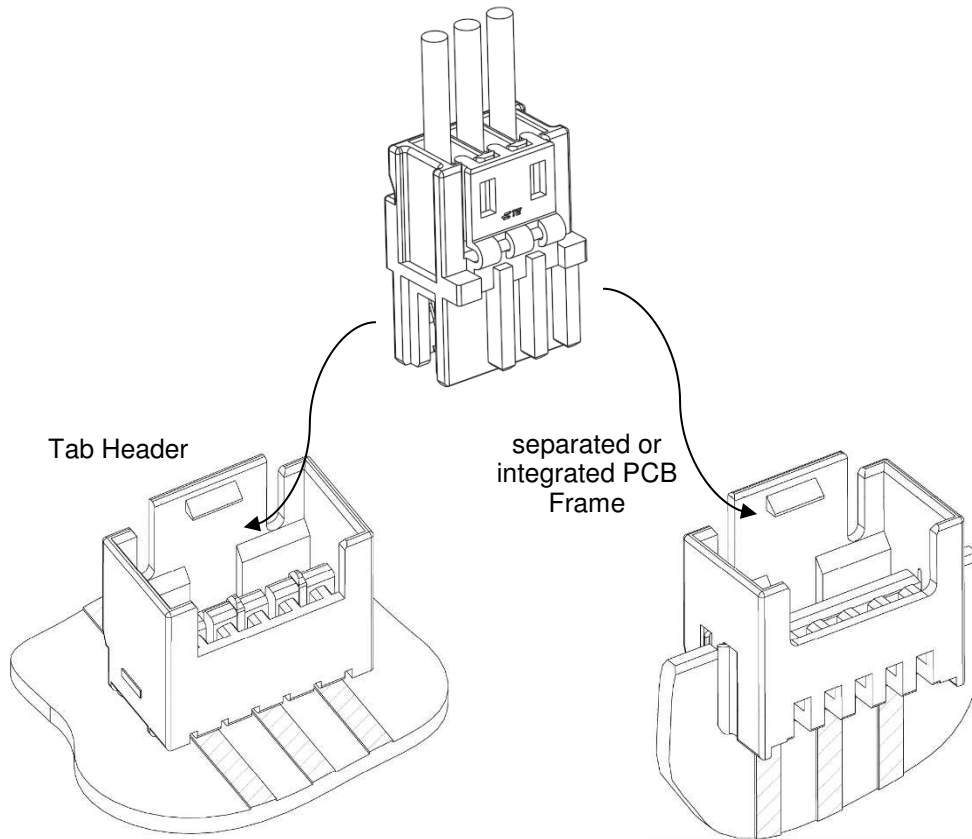


Figure 8: Female connector system can mate with Tab Header or PCB frame