

8P Mini Fuse and Relay Box

- GENERAL PARTS, NOT RESTRICTED -



A	New Release	20-MAY-2020	TEJUS KIRAN	DAVID KLEIN
LTR	Revision Record	Date	DWN	APVD

TABLE OF CONTENTS

1.	General	3
1.1	Purpose	3
1.2	Customer Drawings	3
1.3	Product Specification	3
1.4	Note	3
2.	Product Description	4
2.1	MOUNTING CLIPS	4
2.1.1	DT CLIPS	4
2.1.2	AMP SEAL 16 CLIPS	4
3.	8P Minifuse and relay housing assembly	5
3.1	Terminal Insertion	5
3.2	Mini Fuse and Relay Insertion	6
3.2.1	Mini Fuse Insertion	6
3.2.2	Relay insertion	6
3.3	Mini Fuse Removal	7
3.4	Cover Mounting	7
3.5	Cover Un-Mounting	9
3.6	Terminal Extraction	10
3.7	Fuse Box Mounting	11
3.8	Fuse Box Clips Mounting	11
3.8.1	Sheet metal clips mounting	12
3.8.2	Plastic clips mounting	14
4.	Applicable Relay	17

1. GENERAL

1.1 Purpose

This specification describes the guidelines which must be followed during:

- a) Assembly of receptacle terminal into the housing assembly.
- b) Extraction of receptacle terminal from housing assembly with proper extraction tool.
- c) Mounting and Un-mounting of cover.
- d) Mounting of fuse and relay housing assembly.
- e) Assembly and disassembly of Fuse and relay.
- f) Applicable relays.

1.2 Customer Drawings

This application specification is based on the latest valid customer drawing as per below table.

Item No.	Part No.	Description
1	2319023-1 & -2	8P Minifuse and Relay Housing Assembly
2	2319021-1 & -2	Cover, 8P Minifuse and Relay Housing Assembly
3	1355036	AMP MCP 2.8 Flat Type Receptacle (Group Drawing)

Table 1

Part Description	Part No	Applicable Cover P/N	Applicable Terminal Part No	Terminal Description	Applicable Wire Size	Applicable wire seal	Terminal Application spec.
8P Mini Fuse Housing Assembly	2319023-1	2319021-1, -2	1-968882-1, -3 1-1719506-1, -3	AMP MCP 2.8 Flat Type Receptacle	0.35 mm ² to 3 mm ²	828904-1, 828905-1	114-18148
8P Mini Fuse and Relay Housing Assembly	2319023-2	2319021-2	1-968882-1, -3 1-1719506-1, -3	AMP MCP 2.8 Flat Type Receptacle	0.35 mm ² to 3 mm ²	828904-1, 828905-1	114-18148

Table 2

1.3 Product Specification

This application specification is valid for the products specified in the product specification 108-94650. The product specification contains information about technical details and performances. For this product, the temperature rating: -40°C to +125°C.

1.4 Note

Some of the named components within this specification are not scope of supply. These components include fuses, fuse puller and relay. The harness maker can separately order fuses, fuse puller and relay.

All work on terminals must be accomplished considering the appropriate processing specifications of the respective terminals.

If terminals are to be replaced, it is necessary that neither the contacts nor the cavity are damaged during this process. Use TE recommended extraction tool wherever specified. Defective parts must be replaced.

All parts must be processed at ambient temperature.

The harness or the cable itself must be affixed to protect the assembly and contacts against additional force.

2. PRODUCT DESCRIPTION

8P Mini Fuse and Relay Housing Assembly consists of a sealed housing which can be assembled with AMP MCP 2.8 sealed contacts.

The Sealed Housing Assembly 2319023-1 can hold 4 Active Fuses.
 The Sealed Housing Assembly 2319023-2 can hold 1 Active Fuse + 1 Relay.

It is coupled with a top cover which seals the Fuses/ Relay to avoid water ingress inside the housing.

Snap mounting arrangement has been provided on the housing to ensure that the fuse and relay housing assembly remains intact in its position during vehicle operation.

For 2319023-1/ -2, the mounting arrangement is provided which can be used with DT and AMP Seal 16 mounting clips.

2.1 MOUNTING CLIPS

2.1.1 DT CLIPS

Part Number	Material	Description
1027-003-1200	Stainless steel	Metal clip, 11mm Hole Mounting bracket DT/DTM/DTP/DTHD
1027-004-1200	Zn Plated Steel	Metal clip, 13mm Hole Mounting bracket DT/DTM/DTP/DTHD
1027-005-1200	Stainless Steel	Metal clip, 13mm Hole Mounting bracket DT/DTM/DTP/DTHD
1027-008-1200	Zn Plated steel	Metal Clip, 11mm Hole Side Mounting Bracket DT/DTM/DTP/DTHD
1027-009-1200	Zn Plated steel	Metal Clip, 13mm Hole Side Mounting Bracket DT/DTM/DTP/DTHD
1027-017-1200	Zn Plated steel	Metal Clip, 8.2mm Hole Side Mounting Bracket DT/DTM/DTP/DTHD
1011-026-0205	PA6/6 GF13-15	Attachment Clip DT Series
1011-030-0205	Nylon 6/6	Attachment Clip 'T-Stud' mount, DT Series
1011-310-0205	Nylon 6/6	Attachment Clip, Fir Tree Stud Mount DT & DTM Series

Table 3

2.1.2 AMP SEAL 16 CLIPS

Part Number	Material	Description
1924487-1	Nylon 6/6	Retainer Clip, Ampseal 16
1924487-2	Nylon 6/6	Retainer Clip, Ampseal 16, With Anti Rotational Post
1924487-3	Nylon 6/6	Retainer Clip, Ampseal 16, Small Tree with Bowl and Rails

Note: Refer mounting clip customer drawings for recommended thread types and panel thickness.

Table 4

3. 8P MINIFUSE AND RELAY HOUSING ASSEMBLY

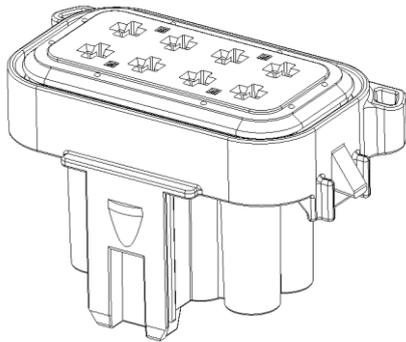


Figure 1
2319023-1
8P Mini Fuse Housing Assembly

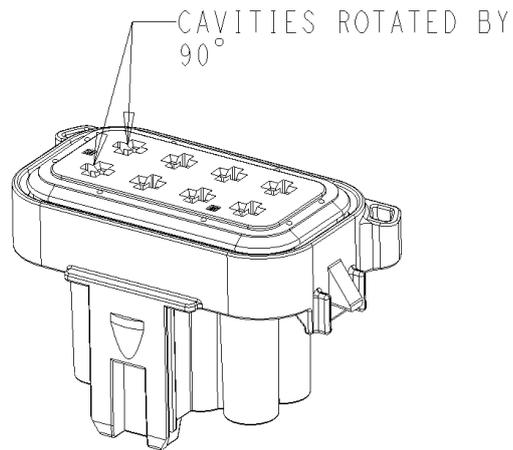


Figure 2
2319023-2
8P Mini Fuse and Relay Housing Assembly

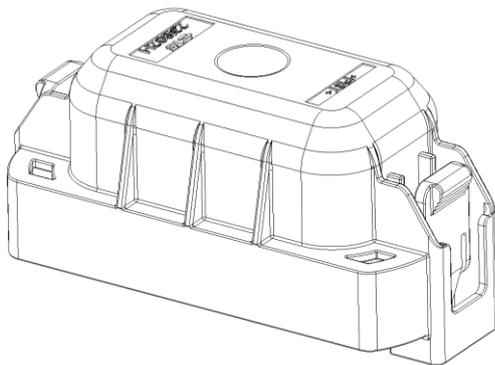


Figure 3
2319021-1
Cover, 8P Mini Fuse Housing Assembly

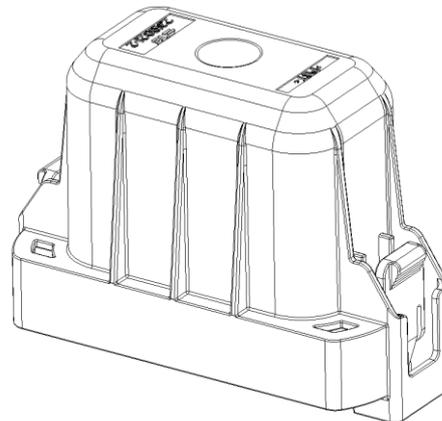
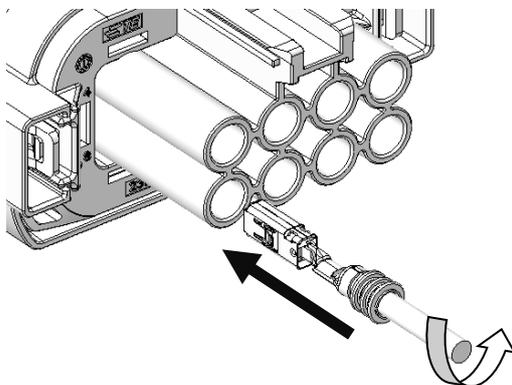


Figure 4
2319021-2
Cover, 8P Mini Fuse and Relay Housing Assembly

3.1 Terminal Insertion

AMP MCP 2.8 Flat Type Receptacle (TE P/N as mentioned in Table 2)



Orient the terminal as shown in figure 5 and insert it in the housing cavity. The terminal locks with a click sound.

Contact Orientation 180° Turn able

Figure 5

3.2 Mini Fuse and Relay Insertion

3.2.1 Mini Fuse Insertion

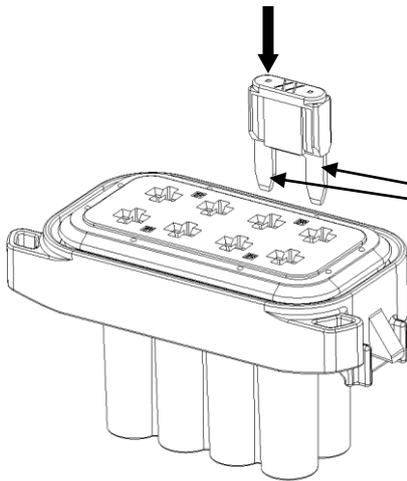


Figure 6

Orient the Fuse as shown in Figure 6 and push the Fuse in the shown direction.
Housing Assembly to use: 2319023-1

Orientation to insert Fuse in Housing assembly 2319023-2 is as shown in Figure 9

3.2.2 Relay insertion

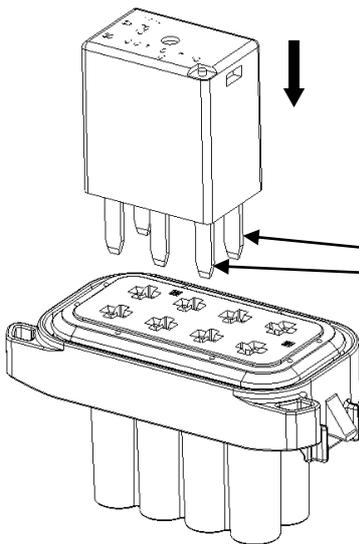


Figure 7

Orient the Relay as shown in Figure 7 and push the Relay in the shown direction.
Housing Assembly to use: 2319023-2

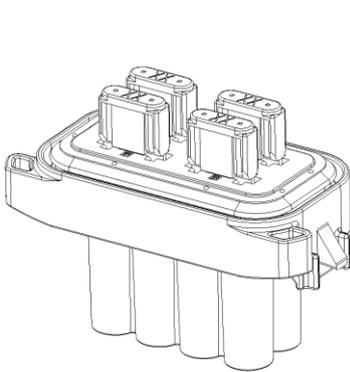


Figure 8
2319023-1

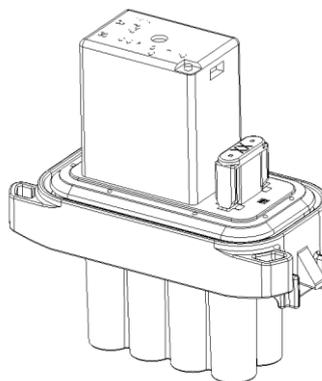


Figure 9
2319023-2

After inserting both active fuses and relays, final assembly will look as shown in Figure 8 & 9.

3.3 Mini Fuse Removal

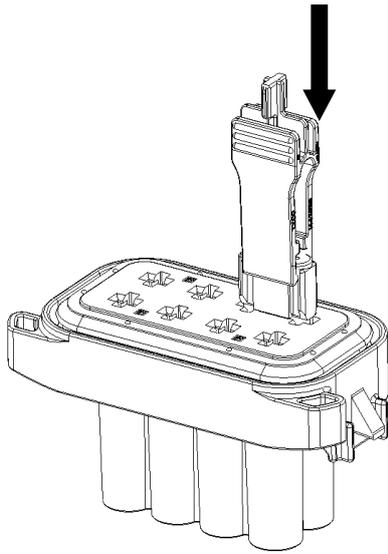


Figure 10

For replacement of faulty fuses, it is recommended to use a fuse puller. Insert the fuse puller on the fuse as shown in Figure 10.

Note: Fuse puller is not a part of fuse box kit.
Fuse puller part number: 1443998-1

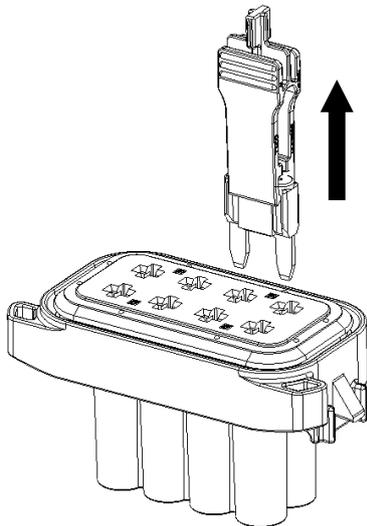


Figure 11

Pull the fuse puller in the upward direction to disengage the fuse from the terminals as shown in Figure 11.

3.4 Cover Mounting

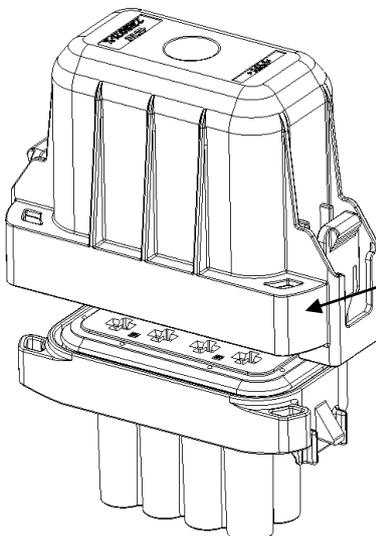


Figure 12

Poka-Yoke designed on cover will not allow the insertion of the cover in reverse direction. See Figure 12.

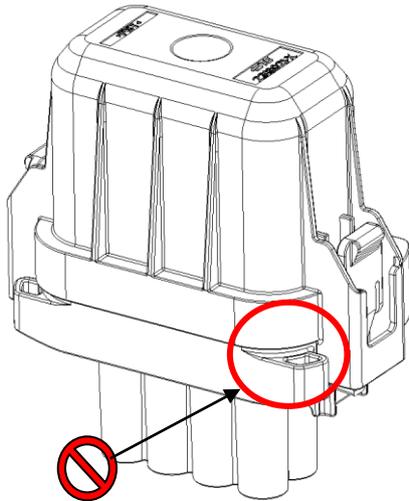


Figure 13

Figure 13 shows wrong orientation of cover during assembly.

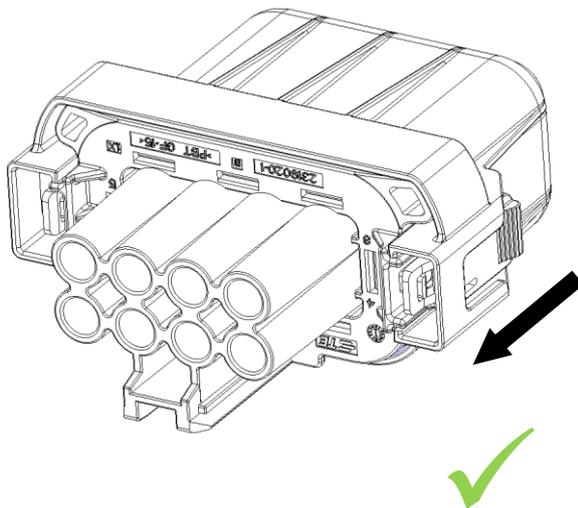


Figure 14

Figure 14 shows correct orientation of cover during assembly. In this orientation, push the cover up to end position until the Cover locks with a click sound.

*Ensure both snaps are locked. See Fig. 15.

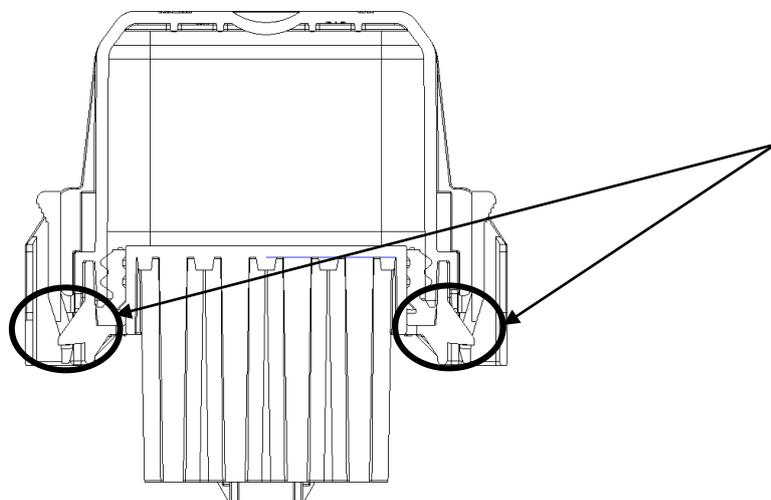


Figure 15

Cover Locking with Fuse Box housing. Both snaps are locked.

3.5 Cover Un-Mounting

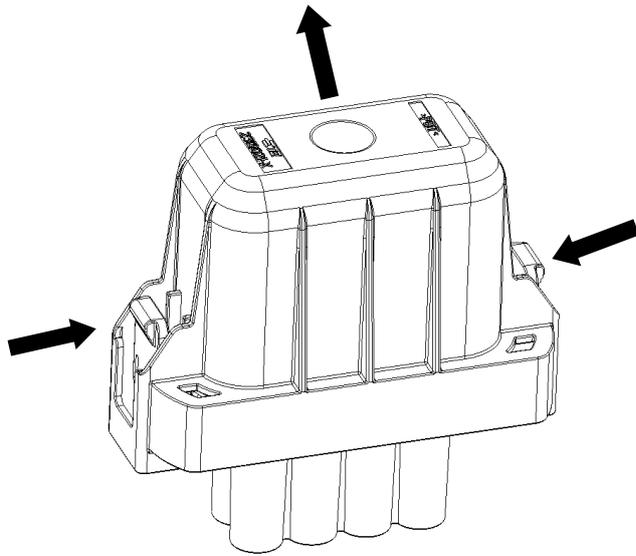


Figure 16

Press both the cover snap locks simultaneously as shown in figure 16 and pull the cover in the upward direction to release it completely.

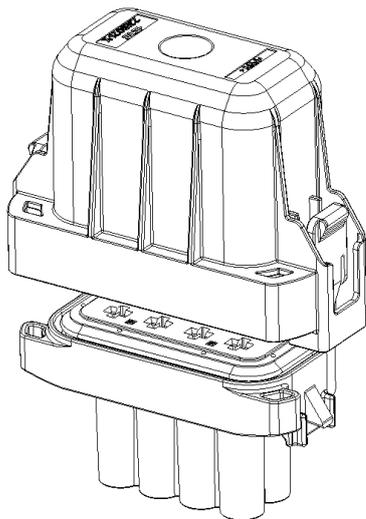


Figure 17

Figure 17 shows cover released completely.

3.6 Terminal Extraction

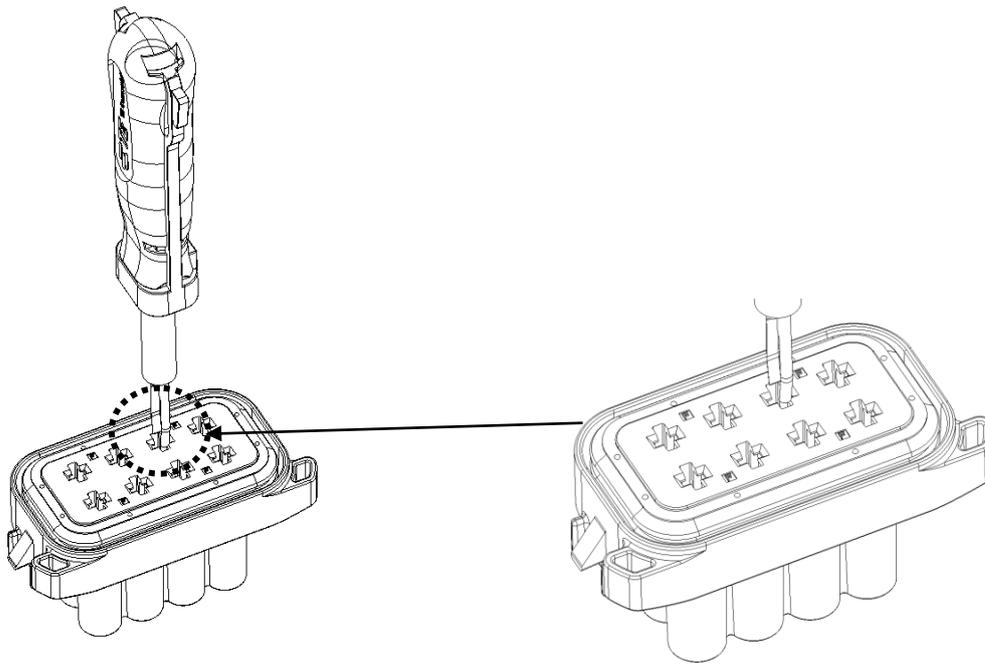


Figure 18

For replacement of fuse box contacts, it is highly recommended to use extraction tool P/N: 1579007-1 to avoid damage to terminal or the housing cavity. Insert the extraction tool in the housing cavity as shown in figure 18. Below figures show sectional view of the extraction tool & housing cavity indicating removal process.

Figure 19 – Extraction tool entering the terminal cavity.

Figure 20 – Extraction tool fully engaged and terminal latch closed for removal.

Figure 21 – Pull the contact in the downward direction. It releases from the housing cavity as seen in figure.

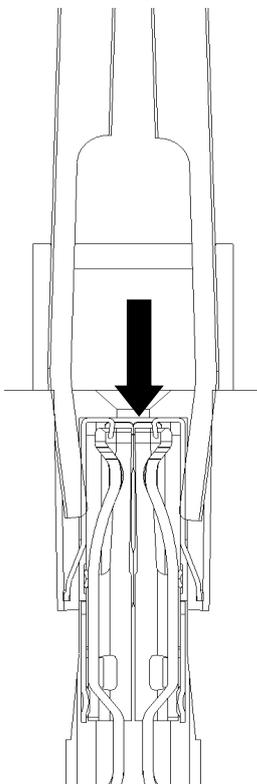


Figure 19

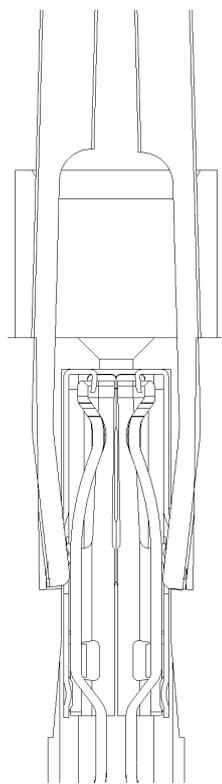


Figure 20

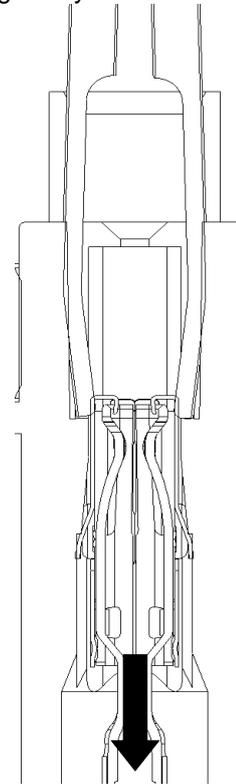


Figure 21

3.7 Fuse Box Mounting

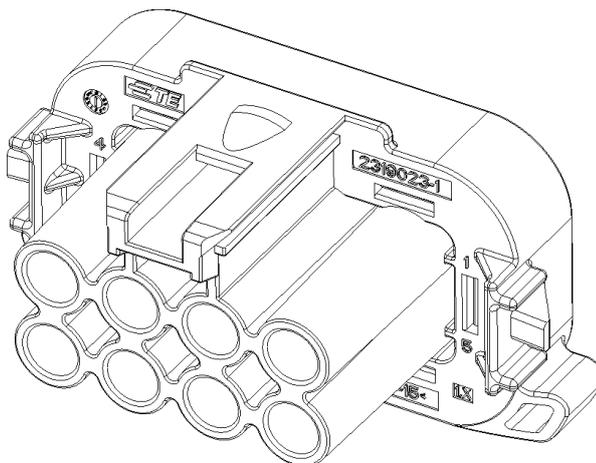


Figure 22

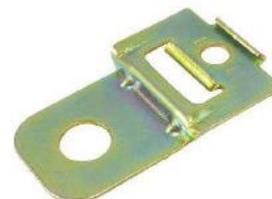
3.8 Fuse Box Clips Mounting

Mounting clips are installed on the fuse holder to mount the connector. To meet design needs, the clips are available for several configurations and in plastic, stainless steel, or steel with zinc plating.

Part Number	Mounting direction	Material	Plating Colour	Mounting Hole
1027-003-1200	Straight	Stainless steel	None	11mm
1027-005-1200				13mm
1027-004-1200		Steel	Zinc	13mm
1011-026-0205		PA6/6 GF13-15	Gray	5.08mm
1011-030-0205		Nylon 6/6	Black	T Stud Mount
1011-310-0205		Nylon 6/6		Fir Tree Stud mount
1027-008-1200	Side	Steel	Zinc	11mm
1027-009-1200				13mm
1027-017-1200				8.2mm



Straight Hole Mount



Side Hole Mount



Straight Hole Mount



T-Stud Mount

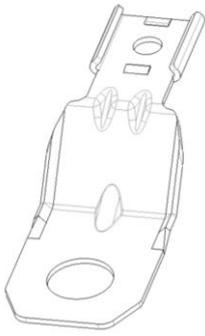
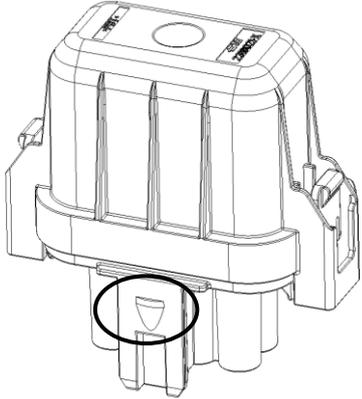
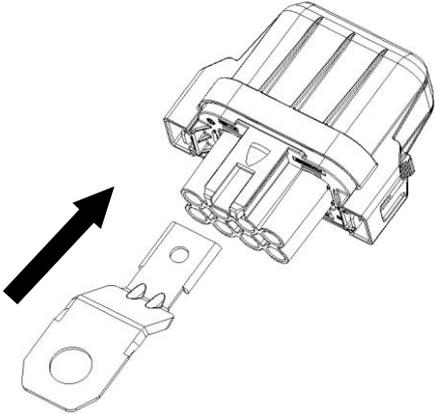
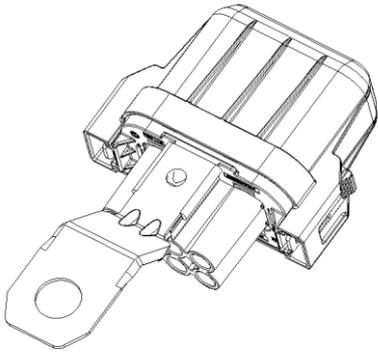
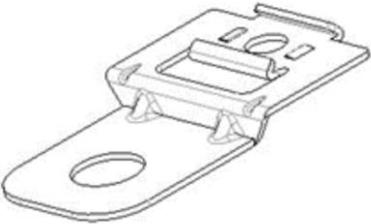
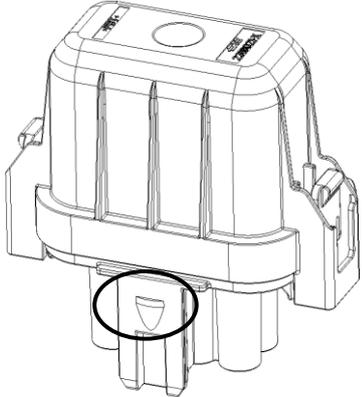


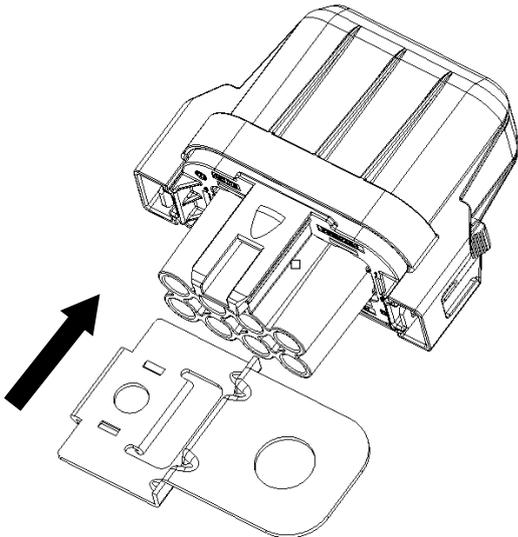
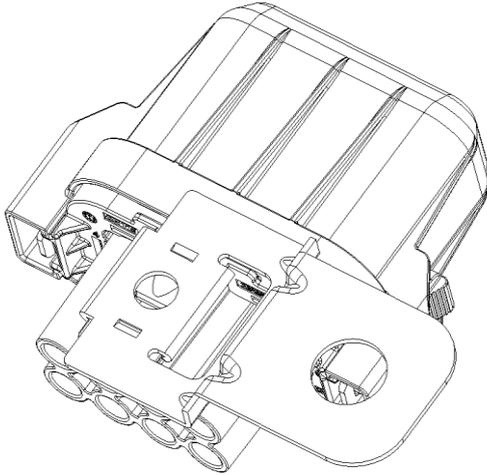
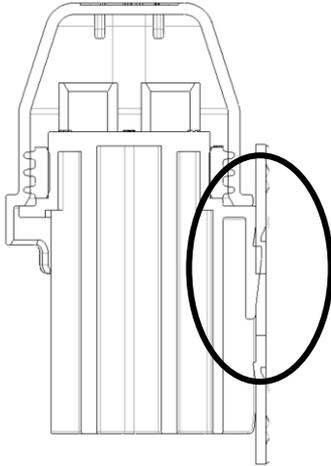
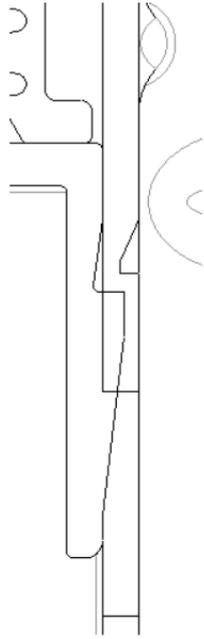
Fir-Tree Mount



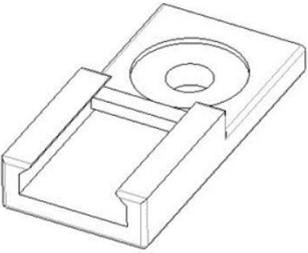
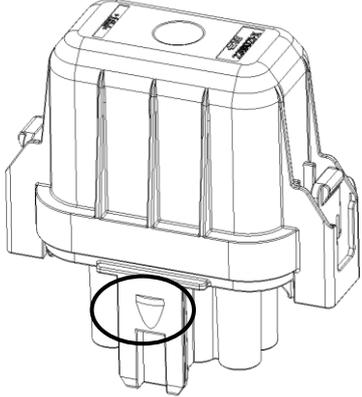
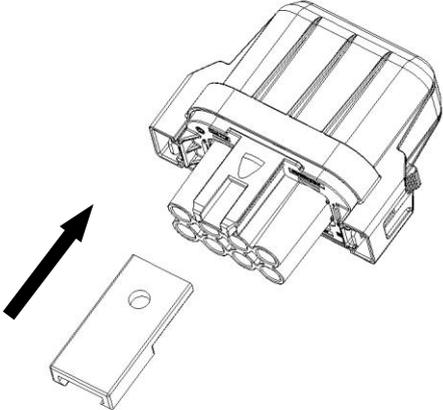
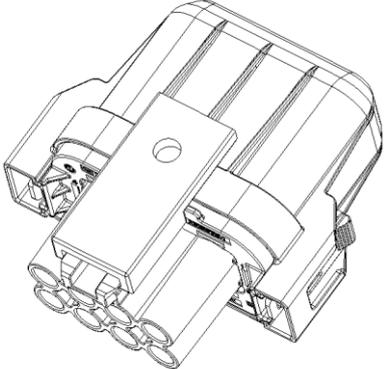
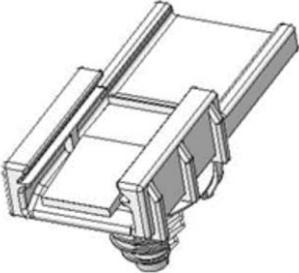
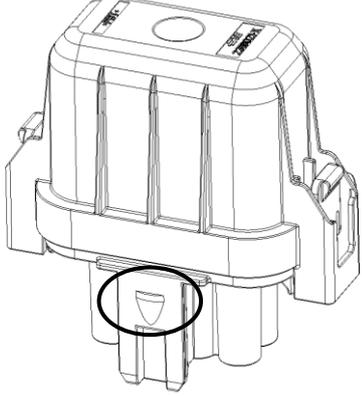
AS16 Fir-Tree Mount

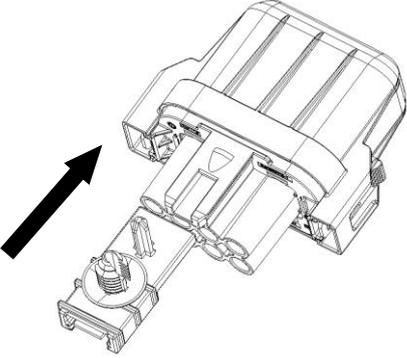
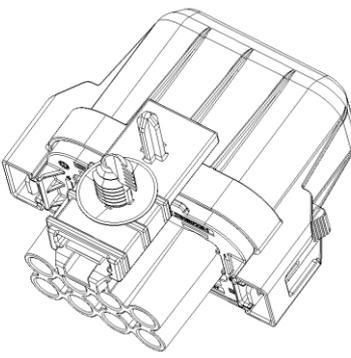
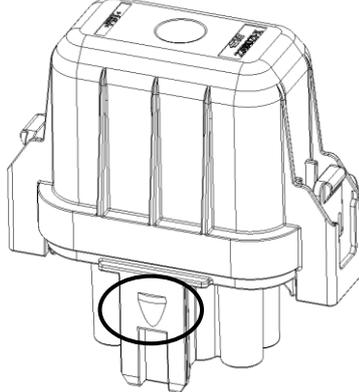
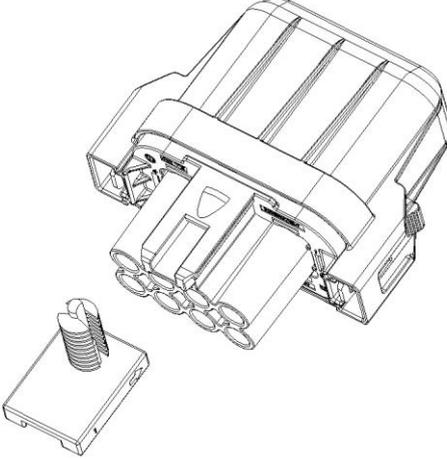
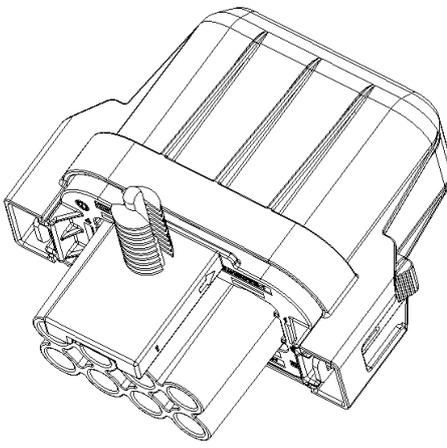
3.8.1 Sheet metal clips mounting

	
<p>Figure 23 1027-003-1200 1027-004-1200 1027-005-1200</p>	<p>Figure 24 Raised bump lock. One-time installation. Cannot be removed after installation.</p>
	
<p>Figure 25 Insert the fuse box housing assembly on the sheet metal mounting clip as shown. The clip is fixed on the vehicle body.</p>	<p>Figure 26 Figure 26 shows the fuse box housing assembly mounted on the sheet metal mounting clip</p>
	
<p>Figure 27 1027-008-1200 1027-009-1200 1027-017-1200</p>	<p>Figure 28 Raised bump lock. One-time installation. Cannot be removed after installation.</p>

	
<p align="center">Figure 29 Insert the fuse box housing assembly on the sheet metal mounting clip as shown. The clip is fixed on the vehicle body.</p>	<p align="center">Figure 30 Figure 30 shows the fuse box housing assembly mounted on the sheet metal mounting clip</p>
	
<p align="center">Figure 31 Cross sectional view of the housing assembly mounted to the clip.</p>	<p align="center">Figure 32 shows the engaged position of mounting clip to the raised bump in the housing.</p>

3.8.2 Plastic clips mounting

	
<p>Figure 33 1011-026-0205</p>	<p>Figure 34 Raised bump lock. One-time installation. Cannot be removed after installation.</p>
	
<p>Figure 35 Insert the fuse box housing assembly on the plastic clip as shown. The clip is fixed on the vehicle body.</p>	<p>Figure 36 Figure 36 shows the fuse box housing assembly mounted on the plastic clip.</p>
	
<p>Figure 37 1011-310-0205</p>	<p>Figure 38 Raised bump lock. One-time installation. Cannot be removed after installation.</p>

	
<p>Figure 39 Insert the fuse box housing assembly on the plastic clip as shown. The clip is fixed on the vehicle body.</p>	<p>Figure 40 Figure 40 shows the fuse box housing assembly mounted on the plastic clip.</p>
	
<p>Figure 41 1924487-1, 2 and 3</p>	<p>Figure 42 Raised bump lock. One-time installation. Cannot be removed after installation.</p>
	
<p>Figure 43 Insert the fuse box housing assembly on the plastic clip as shown. The clip is fixed on the vehicle body.</p>	<p>Figure 44 Figure 44 shows the fuse box housing assembly mounted on the plastic clip.</p>

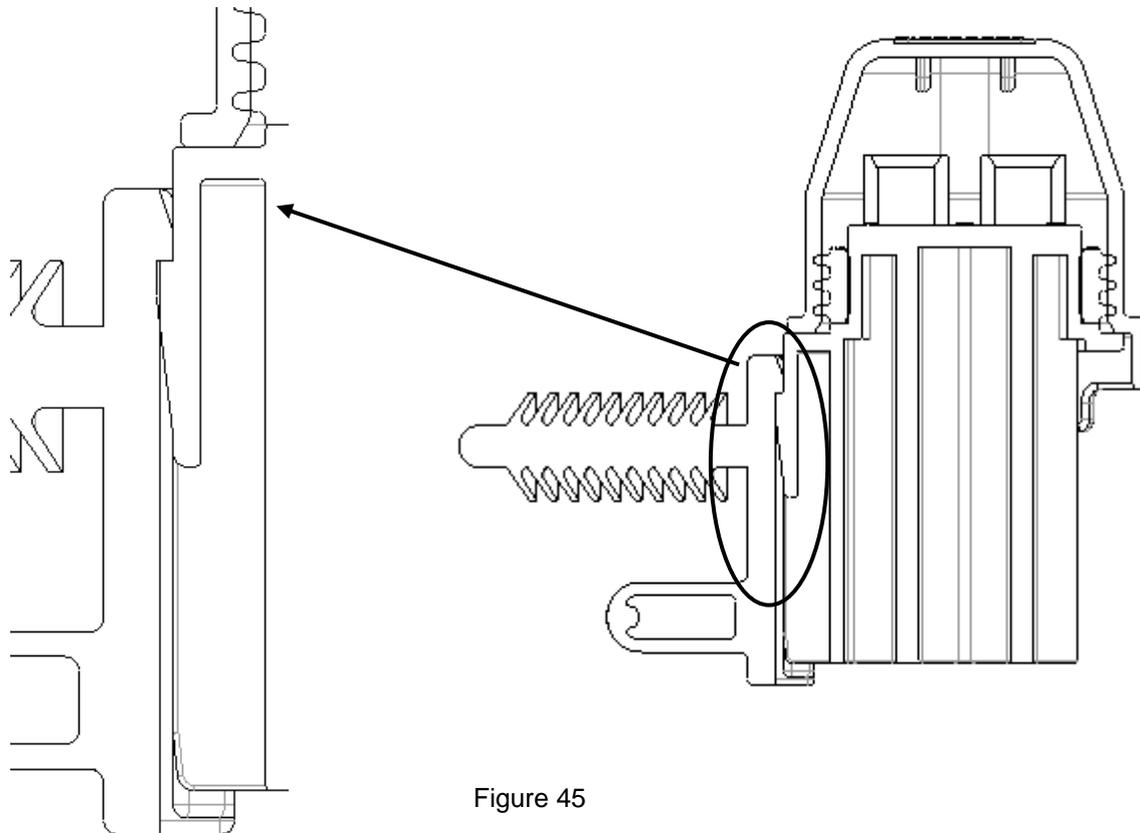


Figure 45

Figure 45 shows the engaged position of mounting clip to the raised bump in the housing.

4. APPLICABLE RELAY

ISO 280 Micro Relay and ultra-micro Relay is applicable with 2319023-2 Fuse and Relay Housing Assembly.