
Modular Hard Wired Fuse & Relay Modules

MODULAR HARD WIRED FUSE & RELAY MODULES

- GENERELL PARTS, NOT RESTRICTED -

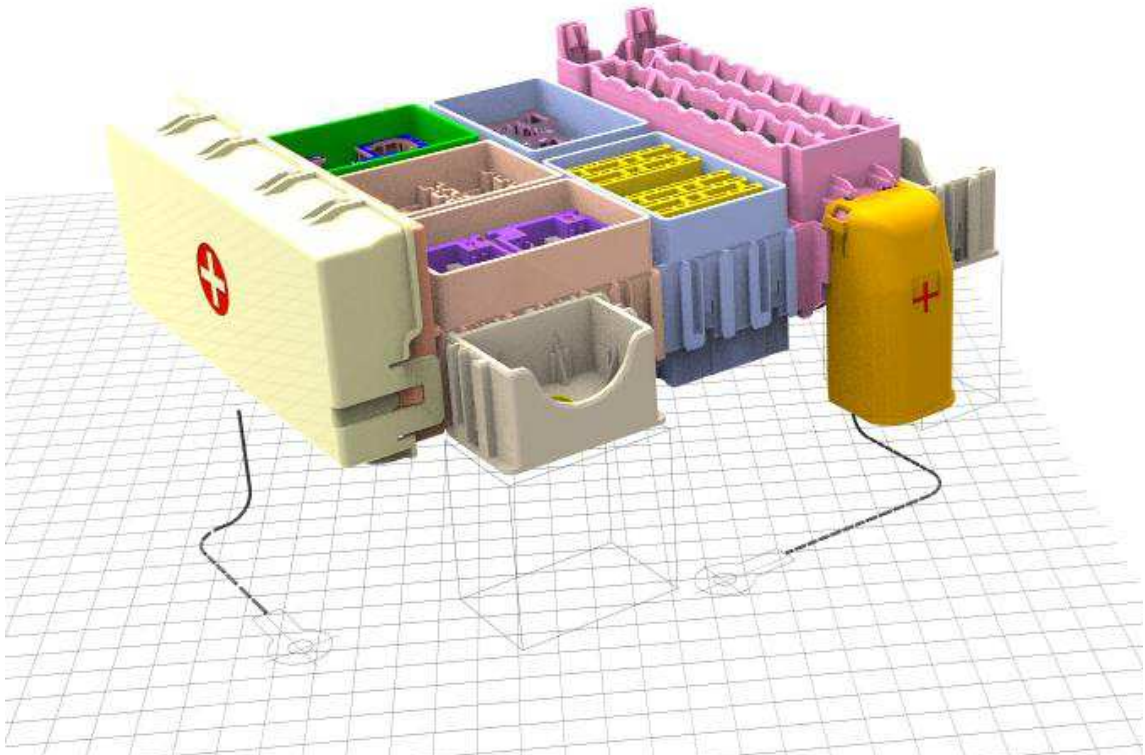


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1. GENERAL

1.1 Purpose

This specification describes the guidelines which have to be applied during:

- a) Assembly of tabs or receptacle to the module during the wiring harness manufacturing
- b) Assembly of B+ cable with eyelet
- c) Mating modules with modules
- d) Assembly of brackets
- e) Choosing position for brackets
- f) Opening and closing modules with cover
- g) Assembly of components, relays and fuses

1.2 Customer Drawings

This application specification based on the latest valid customer drawing of each module.

All available products are shown on overview drawing 114-94092

Item / Chapter	Module	Module PN	Applicable Contact/Tab PN	Contact Name / Supplier	Appl. Spec Contact
3	Maxi Relay	2141026-1	1355849	9,5mm MCP / TE	114-18269
3	Maxi Relay	2141026-1	361330-YF200	6,3mm / LEAR	-
4	Mini Relay	2141024-1	361330-YF200	6,3mm / LEAR	-
4	Mini Relay	2141024-1	361030-YF200	6,3mm / LEAR	-
5	Micro Relay	2141022-1	361430-YF200	6,3mm / LEAR	-
5	Micro Relay	2141022-1	33113-0003	4,8mm / Molex	-
5	Micro Relay	2141022-1	33113-0005	4,8mm / Molex	-
6	Medium Fuse (ATO*)	2141028-1	881572	Fuse Contact Busbar / TE	114-37000
6	Medium Fuse (ATO*)	2141028-1	880397	Fuse Contact Single / TE	114-37000
6	Medium Fuse (ATO*)	2141028-1	880398	Fuse Contact Single / TE	114-37000
6	Medium Fuse (ATO*)	2141028-1	880399	Fuse Contact Single / TE	114-37000
7	Miniature Fuse (Mini*)	2141029-1	1355844	Fuse Contact Busbar / TE	114-18148
7	Miniature Fuse (Mini*)	2141029-1	1355877	Fuse Contact Single / TE	114-18148
7	Miniature Fuse (Mini*)	2141029-1	1355833	Fuse Contact Single / TE	114-18148
7	Miniature Fuse (Mini*)	2141029-1	1355880	Fuse Contact Single / TE	114-18148
8	Type A Fuse (J-Case*)	2141040-1 / -2	1670225	6,3mm Busbar & Single Tab / TE	-
8	Type A Fuse (J-Case*)	2141040-1 / -2	963754	6,3mm Single Tab / TE	-
8	Type A Fuse (J-Case*)	2141040-1 / -2	963755	6,3mm Single Tab / TE	-
8	Type A Fuse (J-Case*)	2141040-1	-	Eyelet for M8	-
8	Cover for Type A Fuse	-2141039-1	-	-	-
9	Pre Fuse SF30 (Midi*)	2141034-1	1534968-2	M5 Square Head Screw / TE	-
9	Pre Fuse SF30 (Midi*)	2141034-1	-	Eyelet for M5	-
9	Pre Fuse SF 30(Midi*)	2141034-1	-	Eyelet for M8	-
9	Cover for Pre-Fuse	2141033-1	-	-	-
10	Brackets	2141031-1 /-2	-	-	-
11	Spare Fuse Module (for ATO & Mini Fuses)	1-2141095-1	-	-	-

Table 1

Please note!

The last drawing and specification of the above listed contacts has prior before this specification.

*Trademark by Littlefuse

1.3 Product Specification

This application specification is valid for the products specified in the product specification 108-94263. The product specification contains information of technical details and performances.

1.4 Note

Some of the named components within this specification are not scope of supply. The different kind of TE relays can be ordered at TE separately. Please visit www.te.com for more information about relays.

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

If contacts must be replaced it is necessary that neither the contacts nor the cavity are damaged during the process. Defect parts must be replaced.

All modules must process at ambient temperature and has to be stored sufficiently to get a moderate temperature.

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

2. PRODUCT DESCRIPTION

These products are designed to carry fuse and relay components to distribute current with a range of voltage. All parts from Table 1 are part of this total modular hard wired fuse & relay box concept.

All modules are combinable freely with one another. These are freely definable in orientation, order or quantity. The responsibility over the structure of the respective box is with the user. This specification serves as a guideline of the use of the modules. Restrictions must be considered accordingly as noted.

3. ISO MAXI RELAY MODULE

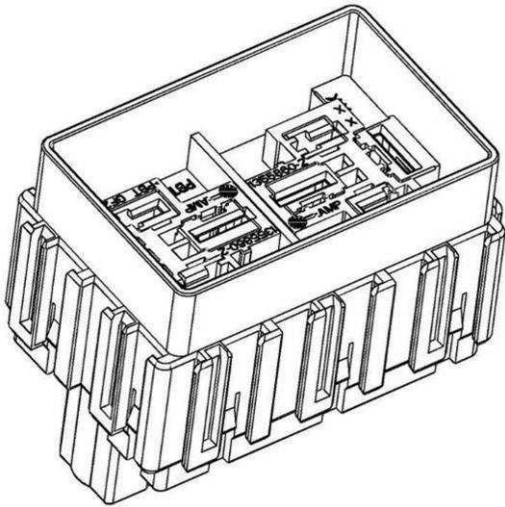


Fig.3.0

3.1 Terminal Loading

3.1.1 Female Contact 9,5mm TE MCP PN 1355849

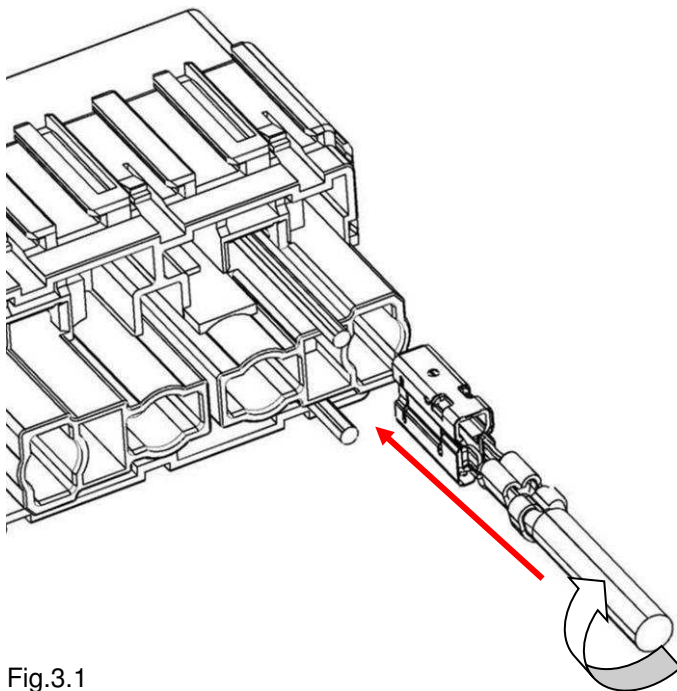


Fig.3.1

To Fig.3.1
Insert the contact orientated as shown into the cavity up to the end position. The contact locks with a click.

Contact orientation 180° turnable

3.1.2 Female Fuse Contact LEAR, 361330-YF200

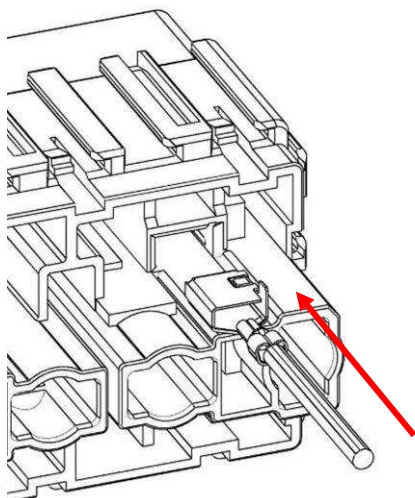


Fig.3.2

To Fig.3.2
Insert the contact orientated as shown into the cavity up to the end position. The contact locks with a click.

3.2 Secondary locking (Spacer)

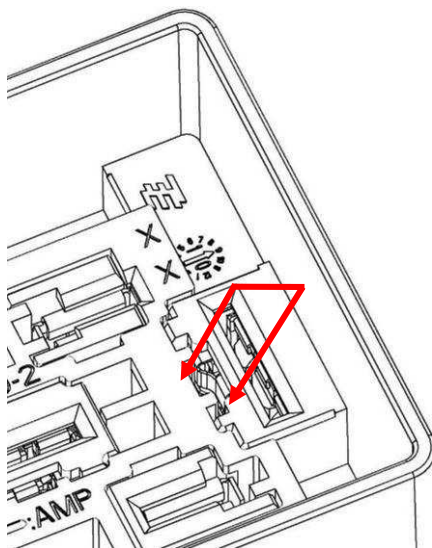


Fig.3.3

To Fig.3.3
After finishing the insertion of the contacts into the cavities both spacers must be pushed into the end position.
Housing and spacer must be at one level in the locked position!

3.3 Mounting Maxi Relay

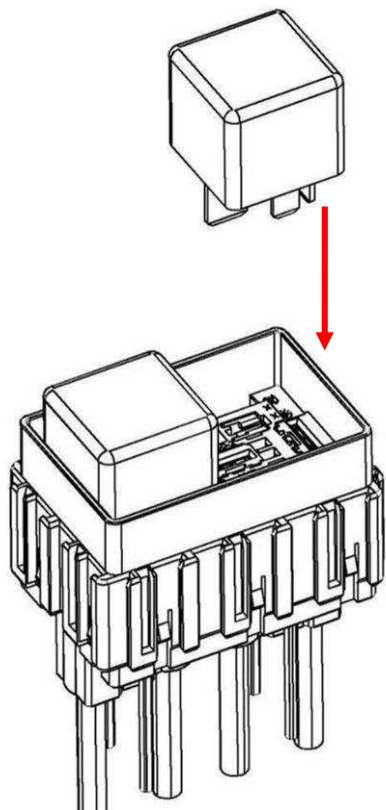


Fig.3.4

To Fig.3.4
Put the relay in front of the module above the contacts for pre fixation. Push the relay up to the end position as shown in Fig 3.5.

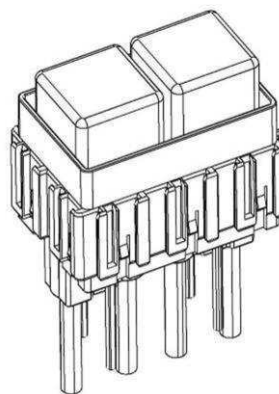


Fig3.5

3.4 Removal of Spacer

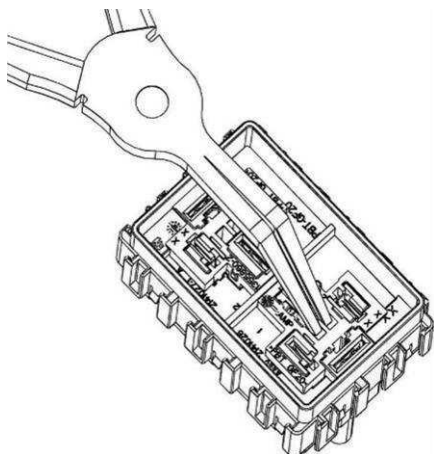


Fig. 3.6

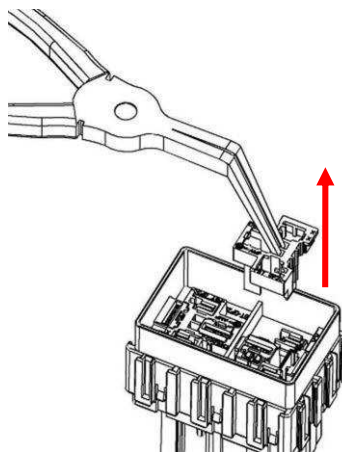


Fig. 3.7

After removal the relays an appropriate tool is needed to remove the spacer. Fig. 3.6 & 3.7 shows as an example a needle-nose plier to pull the spacer. Grasp the spacer in the middle and pull as shown in Fig. 3.7 to remove the spacer.



During mounting and dismounting process of relays it is not allowed to bend the relays. This operation should be done only in straight direction to avoid damaging of the contacts.

3.5 Removal Contacts

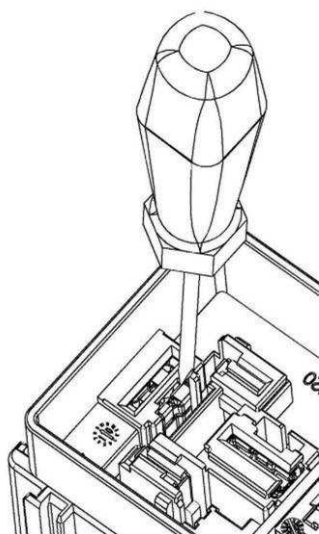


Fig 3.8

To Fig. 3.8
 To release a contact insert the tool from the front side of the module.
 The removal procedure can be only accomplished when the spacer has been removed.

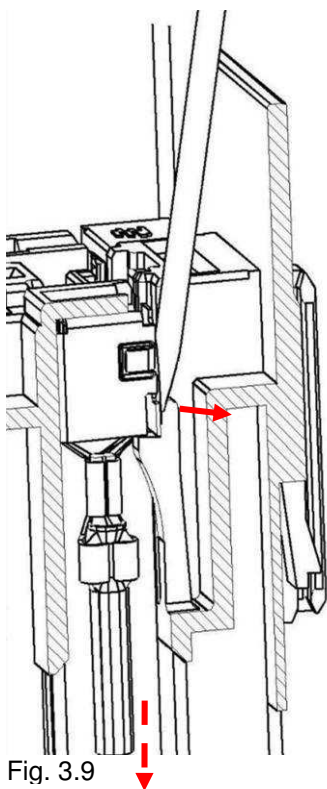


Fig. 3.9

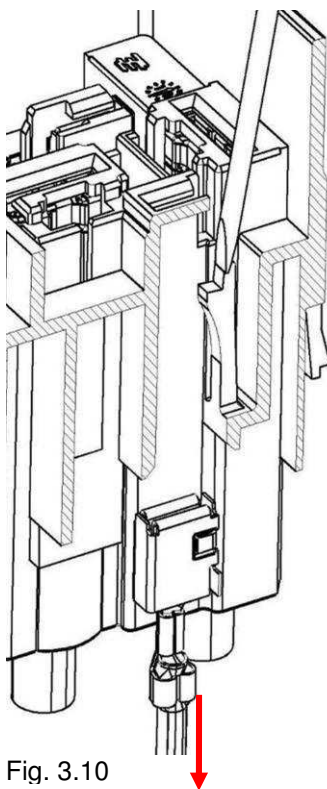


Fig. 3.10

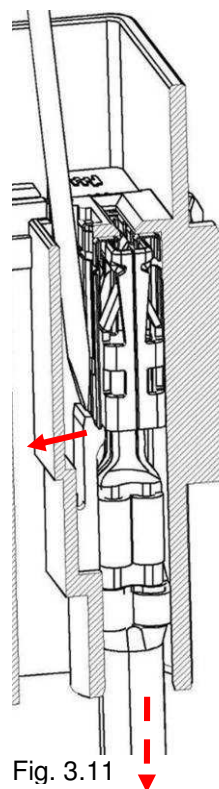


Fig. 3.11

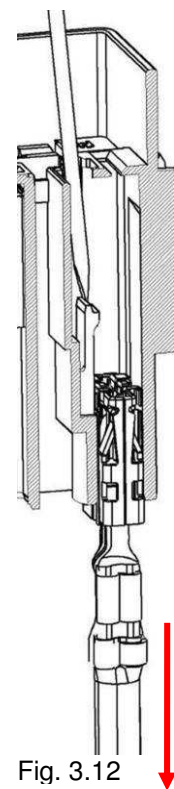


Fig. 3.12

To Fig. 3.9 & 3.11
 To remove contacts please use an appropriate tool.
 Insert the tool as shown and deflect the latch up to release of the contact. When the latch has been deflected the contact can be pulled out of the housing with a low force as shown in Fig. 3.10 & 3.12

4. ISO MINI RELAY MODULE

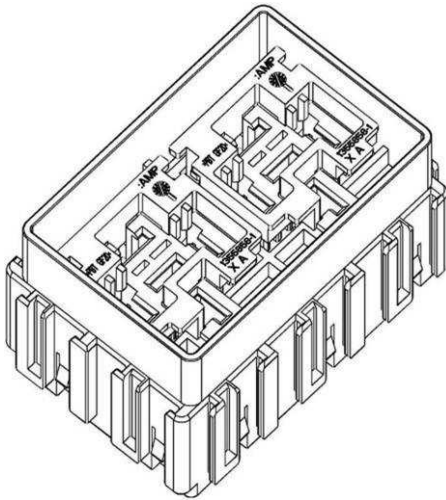


Fig. 4.0

4.1 Terminal Loading

4.1.1 Female Fuse Contact LEAR, 361330- & 361030-YF200

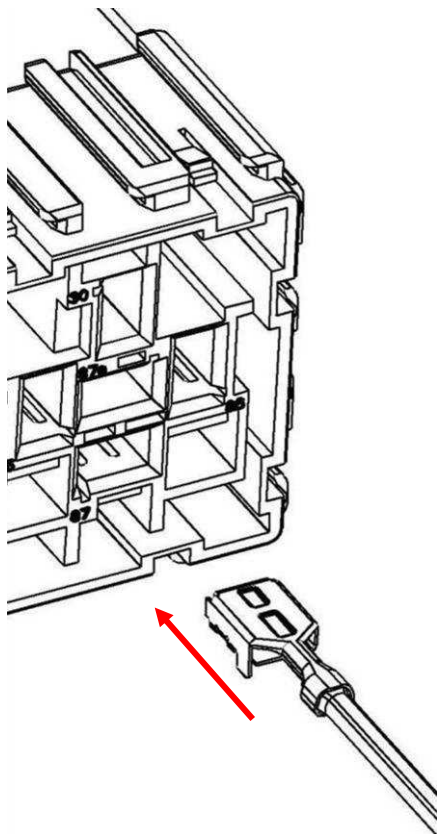


Fig. 4.1

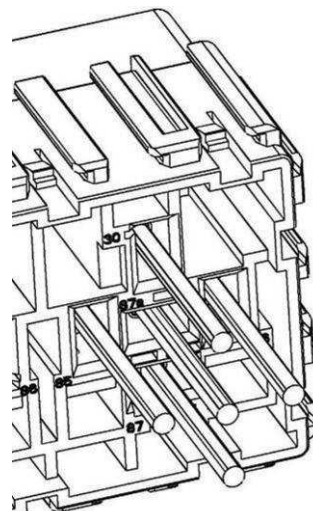


Fig. 4.2

To Fig.4.1

Insert the contact orientated as shown into the cavity up to the end position. The contact locks with a click.

Fig. 4.2 shows a fully loaded cavity with five contacts for a changeable relay type ISO MINI.

4.2 Secondary locking (Spacer)

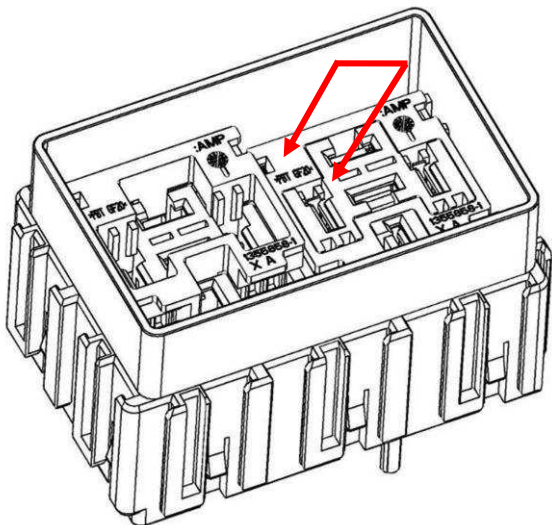


Fig. 4.3

To Fig. 4.3
 After finishing the insertion of the contacts and the correct locking of the contacts into the cavities both spacers must be pushed into end position.
 Housing and spacer must be at one level in the locked position!!

4.3 Mounting Mini Relay

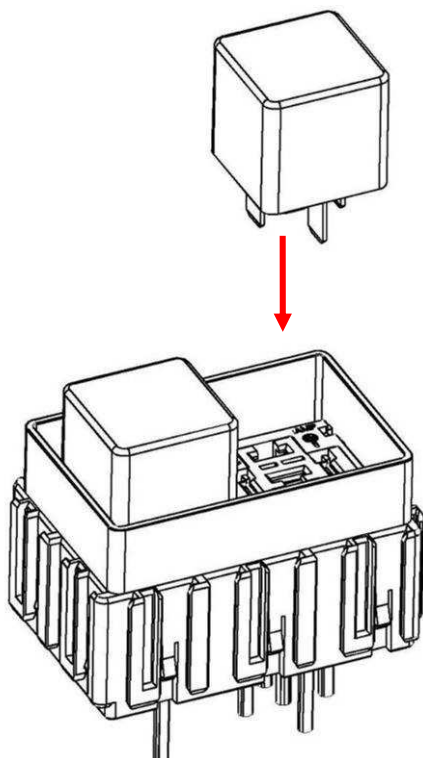


Fig. 4.4

To Fig.4.4
 Put the relay in front of the module above the contacts for pre fixation.
 Push the relay up to the end position as shown in Fig 4.5

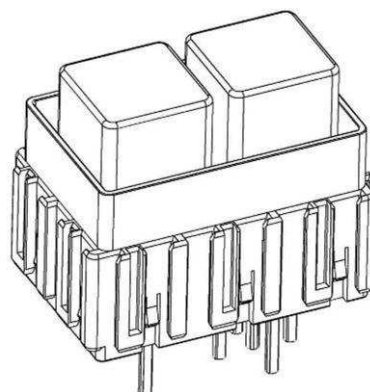


Fig.4.5



During mounting and dismanting process of relays it is not allowed to bend the relays. This operation should be done only in straight direction to avoid damaging of the contacts.

4.4 Removal of Spacer

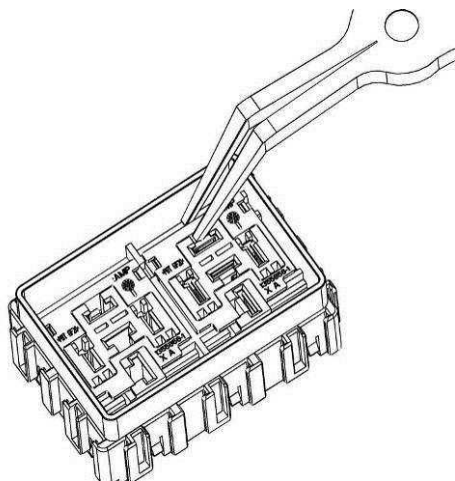


Fig. 4.6

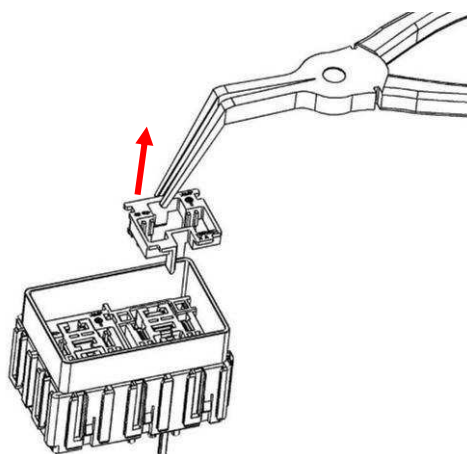


Fig. 4.7

After removal the relays an appropriate tool is needed to remove the spacer.

Fig. 4.6 & 4.7 shows as an example a needle-nose plier to pull the spacer. Grasp the spacer and pull as shown in Fig. 4.7 to remove the spacer.

4.5 Removal Contacts

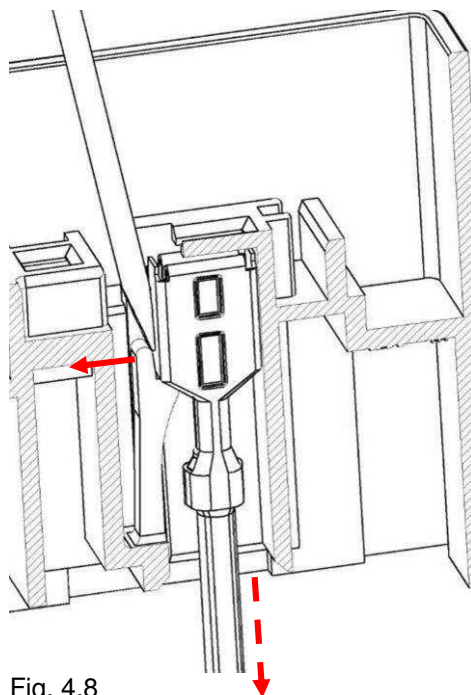


Fig. 4.8

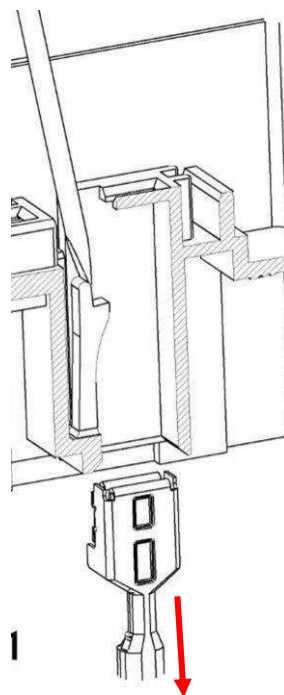


Fig. 4.9

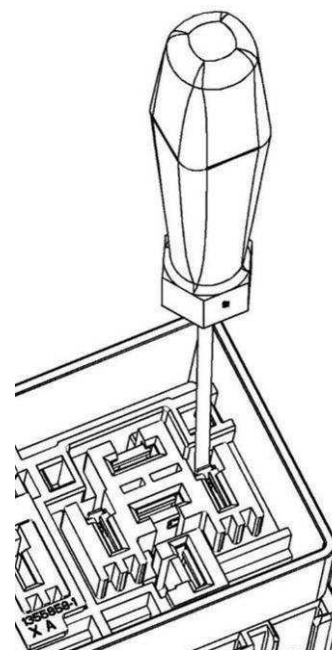


Fig 4.10

To remove contacts please use an appropriate tool.

Insert the tool as shown from the front side of the module to release the contact Fig.4.10. This procedure can only be accomplished when the spacer has been removed.

Deflect the latch up to release the contact Fig. 4.8. When the latch has been deflected the contact can be pulled out of the housing with a low force as shown in Fig. 4.9

5. ISO MICRO RELAY MODULE

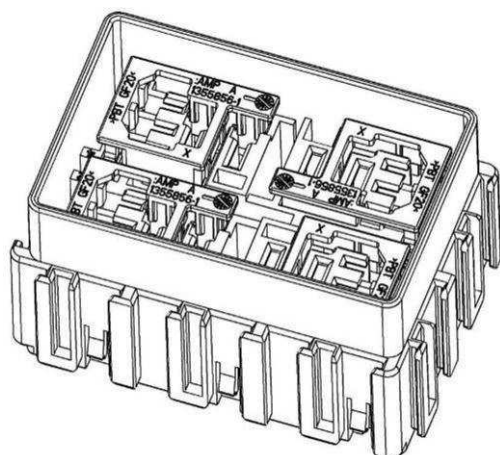


Fig. 5.0

5.1 Terminal Loading

5.1.1 Female Fuse Contact LEAR, 361430-YF200

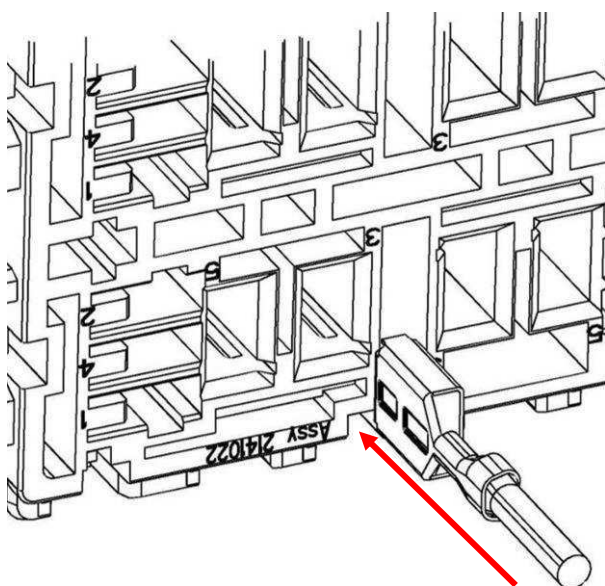


Fig. 5.1

To Fig.5.1
 Insert the contact orientated as shown into the chamber up to the end position. The contact locks with a click.

5.3 Mounting Micro Relay

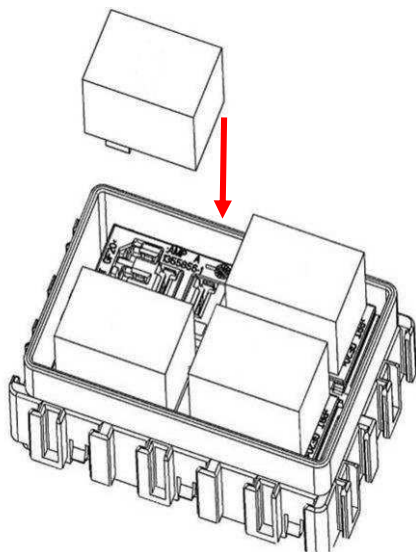


Fig. 5.5

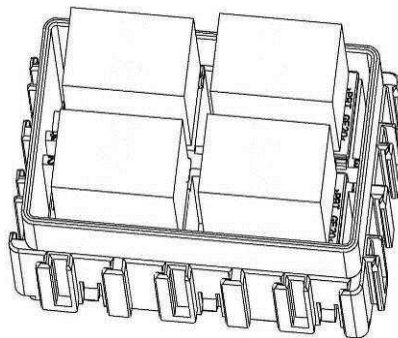


Fig. 5.6

To Fig. 5.5
Put the relay in front of the module above the contacts for pre fixation. Push the relay up to the end position as shown in Fig 5.6

5.4 Removal of Spacer

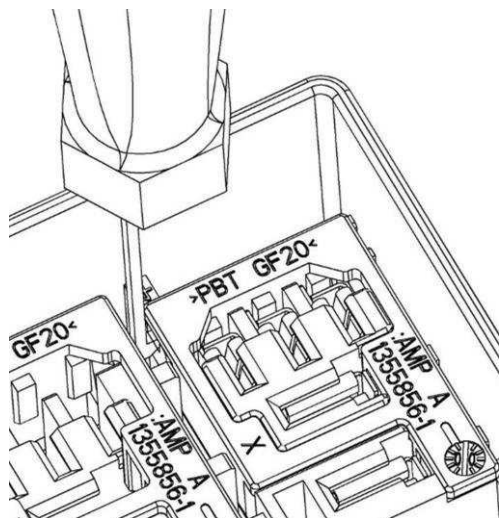


Fig. 5.7

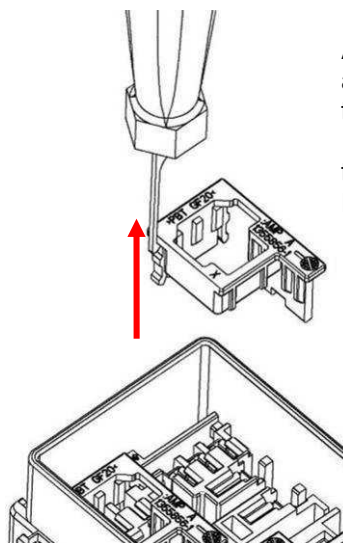


Fig. 5.8

After removal the relays an appropriate tool is needed to remove the spacer. Insert the tool to remove the spacer as shown Fig. 5.7 & Fig. 5.8.



During mounting and dismounting process of relays it is not allowed to bend the relays. This operation should be done only in straight direction to avoid damaging of the contacts.

5.5 Removal Contacts

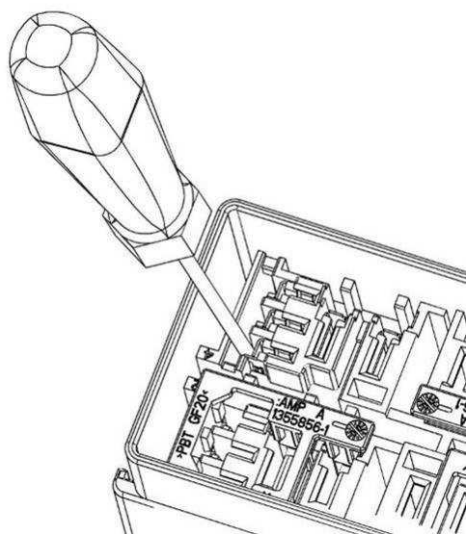


Fig. 5.9

To Fig. 5.9
To release a contact insert the tool from the front side of the module. This procedure can only be accomplished when the spacer has been removed.

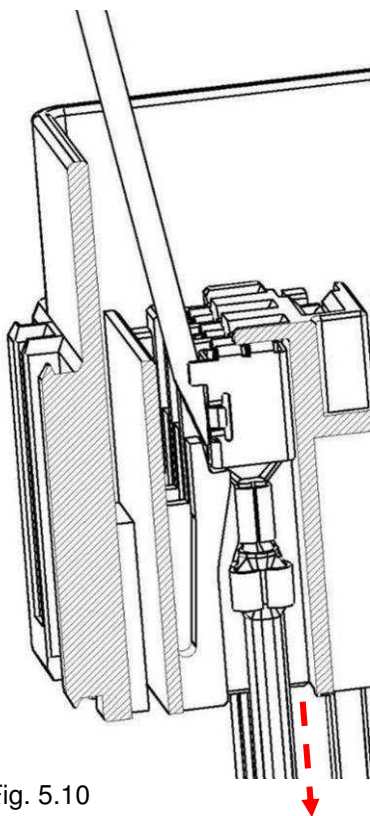


Fig. 5.10

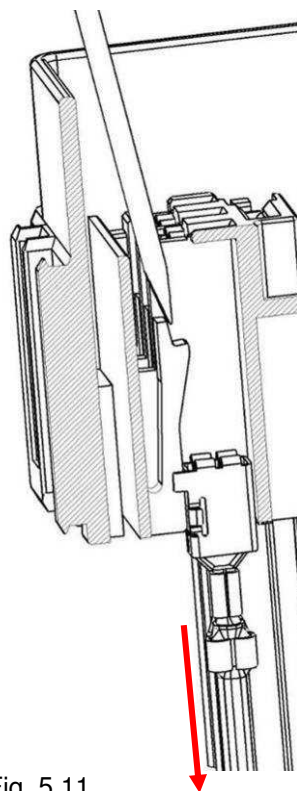


Fig. 5.11

To Fig. 5.10
To remove contacts please use an appropriate tool. Insert the tool as shown and deflect the latch up to release the contact. When the latch has been deflected the contact can be pulled out of the housing with a low force as shown in Fig. 5.15

6. MEDIUM (ATO*) FUSE MODULE

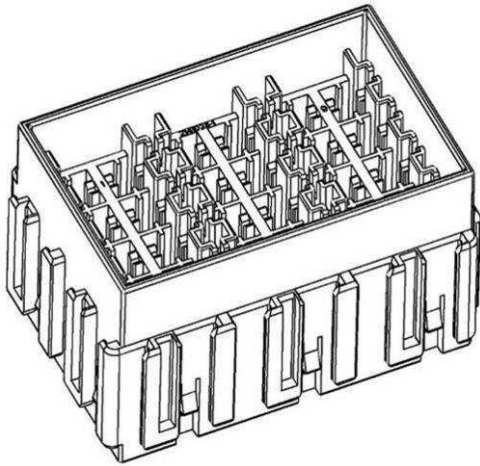


Fig. 6.0

6.1 Terminal Loading

6.1.1 Female Fuse -BUSBAR- Contact TE PN 881572

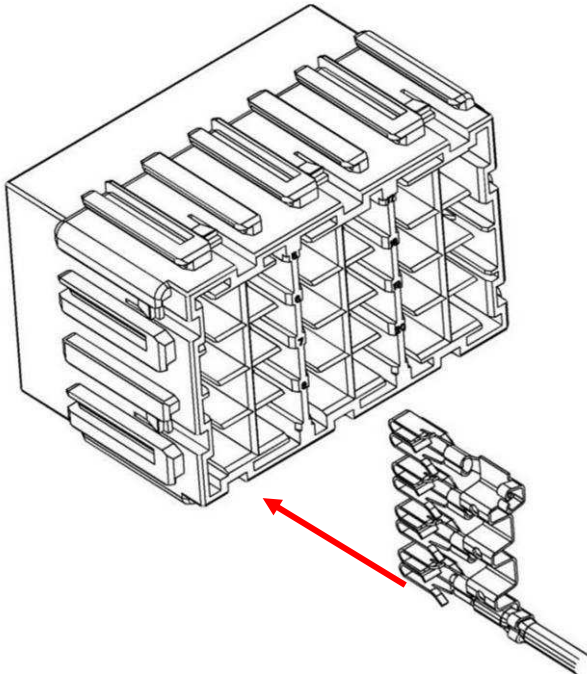


Fig.6.1

To Fig. 6.1:
Insert the busbar into the cavity up to the end position. The busbar locks with a click. Please check that all contacts of the busbar are locked.

There must to be ensure that only one side of the double chamber is used for a busbar. The second chambers are used for single contacts (see Fig.6.4).



Maximum length of the crimped busbar is given by the free space of the housing.

6.1.2 Female Fuse -SINGLE- Contact TE PN 880397 – 880399

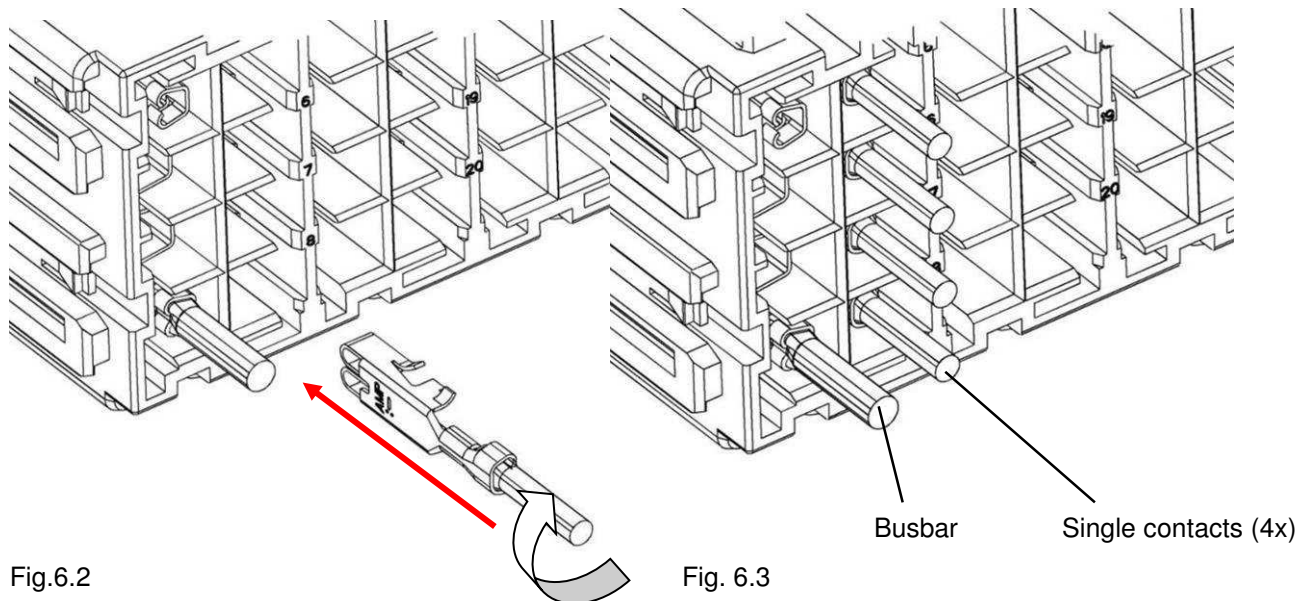


Fig.6.2

Single contact orientation is 180° turnable

Fig. 6.3

Busbar

Single contacts (4x)

To Fig.6.2

Insert the contact into the chamber as shown up to the end position. The contact locks with a click.

Fig.6.3 shows on the left cavity the busbar and on the right side four single contacts.

Please note that this kind of module is without spacer!

6.2 Mounting Medium Fuse

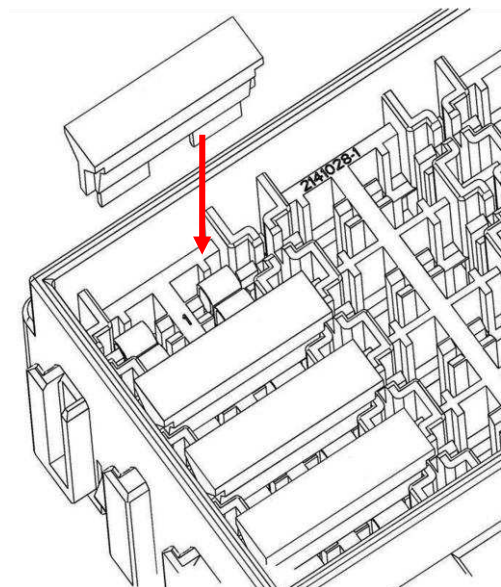


Fig. 6.4

To Fig.6.4

Put the fuse in front of the module above the contacts for pre fixation. Push the fuse up to the end position.

6.3 Removal Medium Fuse

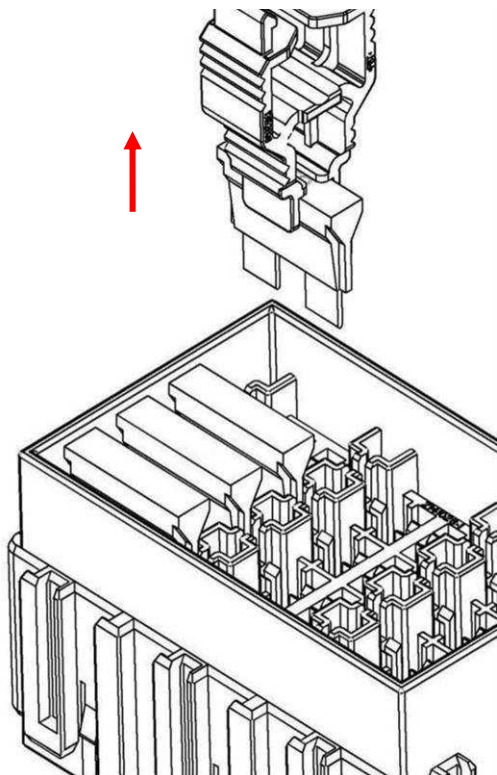


Fig.6.5

To Fig. 6.5:

An appropriate tool must be used to remove the fuse.
Don't bend the fuse during the disassemble process.

6.4 Removal Contacts

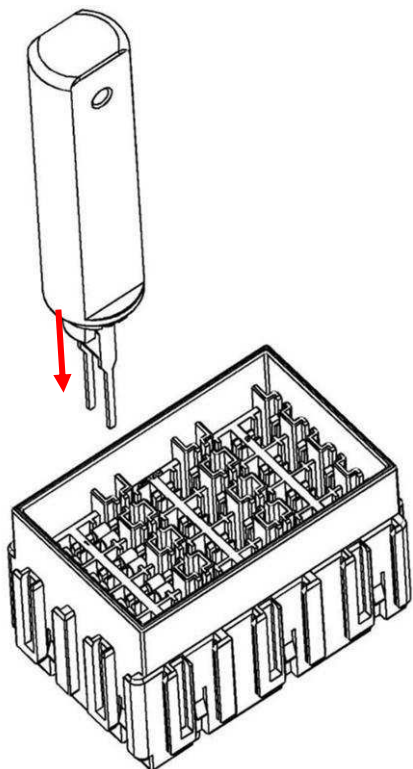


Fig. 6.6

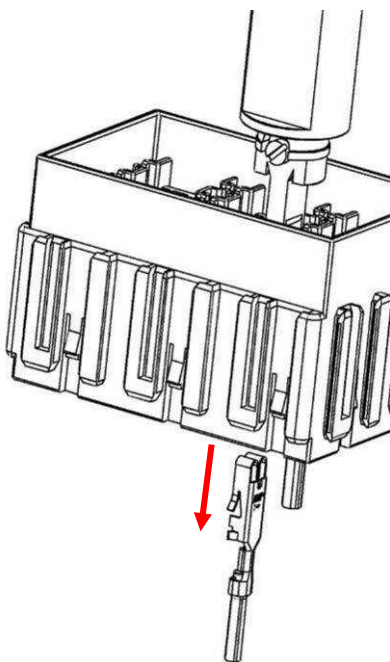


Fig. 6.7

To Fig. 6.6 & 6.7:

An appropriate tool must be used to remove the contacts.
Insert the tool into the cavity up to release the contact as shown.

7. MINIATURE (MINI*) FUSE MODULE

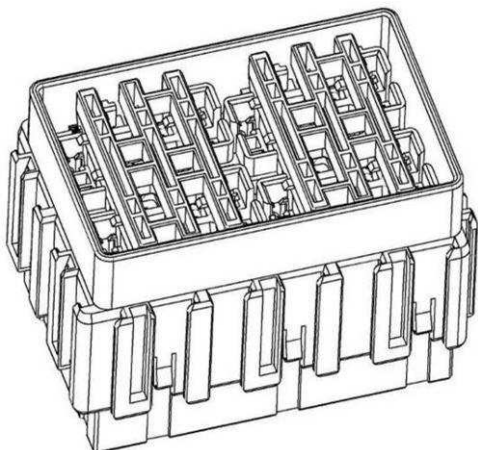


Fig. 7.0

7.1 Terminal Loading

7.1.1 Female Fuse -BUSBAR- Contact TE PN 1355844

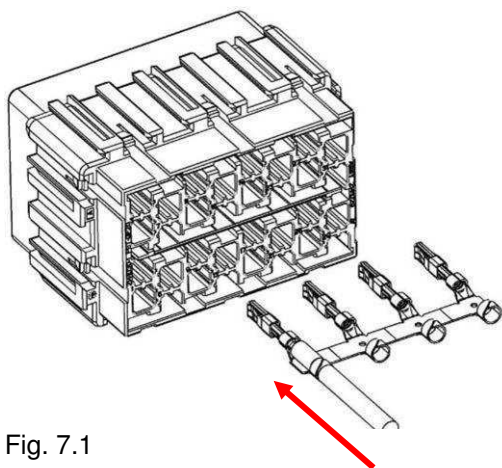


Fig. 7.1

To Fig. 7.1:

Insert the busbar into the correct cavity up to the end position. The busbar locks with a click.

This module has four cavity rows for busbars as shown.

Fig. 7.2 shows the finally inserted busbar in cavity row 2.

Please check that all contacts of the busbar are locked.

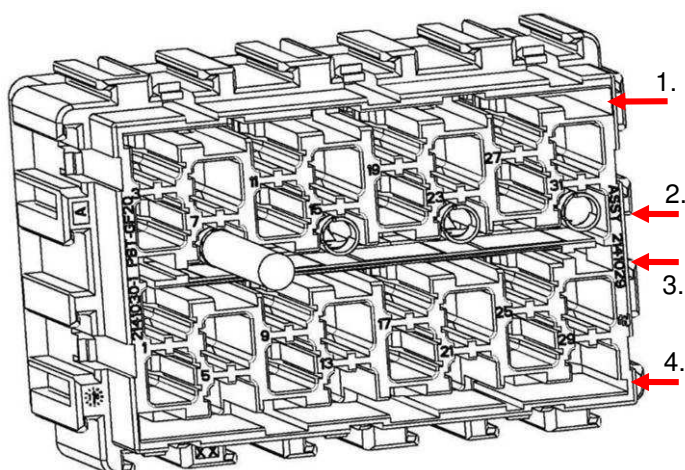


Fig. 7.2



Maximum length of the crimped busbar (1355844) is given by the free space of the housing. For calculation 50.2mm will be the range for inspection.

7.1.2 Female Fuse -SINGLE- Contact TE PN 13558- 77/ 33/ 80/

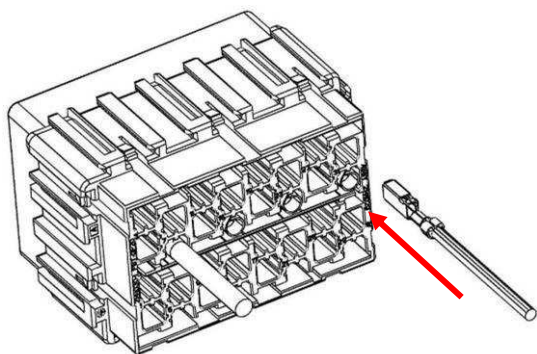


Fig. 7.3

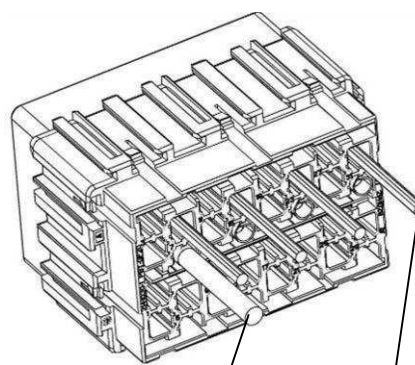


Fig 7.4

Busbar

Single contacts (4x)

To Fig. 7.3

Insert the single contact into the cavity as shown up to the end position. The contact locks with a click.

Fig. 7.4 shows one busbar and four single contacts.

7.2 Secondary locking (Spacer)

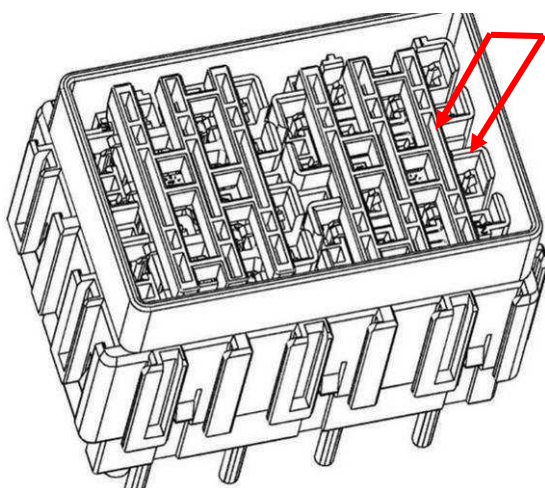


Fig. 7.5

To Fig. 7.5

 After verifying the insertion of the contacts and busbars and correct locking into the cavities both spacers must be pushed into end position.

The end locked spacer must be at one level with the housing!

7.3 Mounting Miniature Fuse

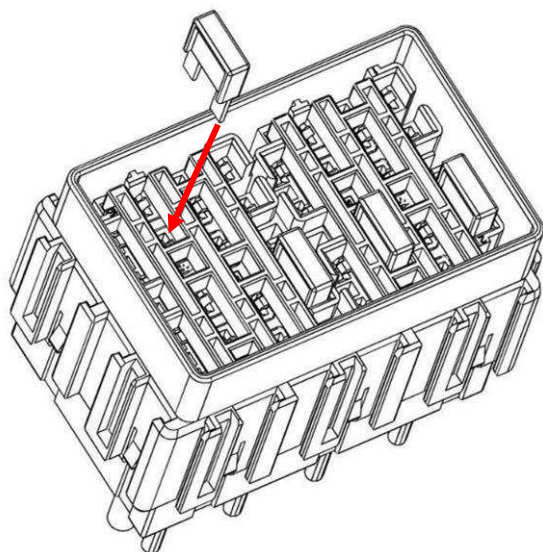


Fig. 7.6

To Fig. 7.6
Put the fuse in front of the module above the contacts for pre fixation. Push the fuse up to the end.

7.4 Removal of Medium Fuse

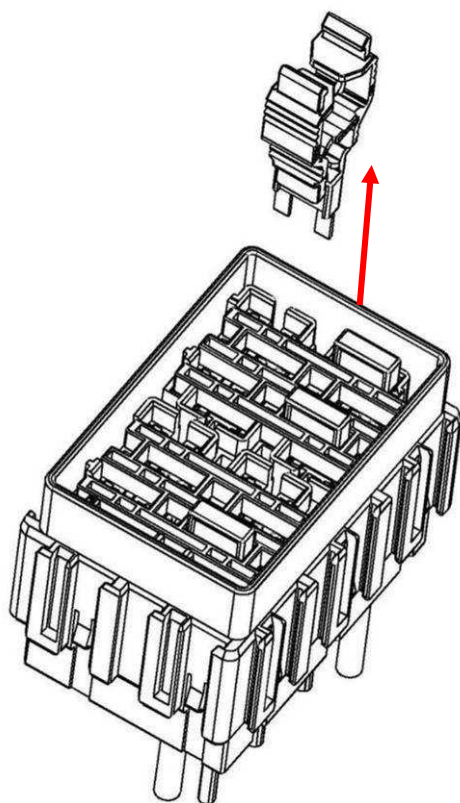


Fig. 7.7

To Fig. 7.7:

An appropriate tool must be used to remove the fuses.
Don't bend the fuse during the disassemble process.

7.5 Removal of Spacer

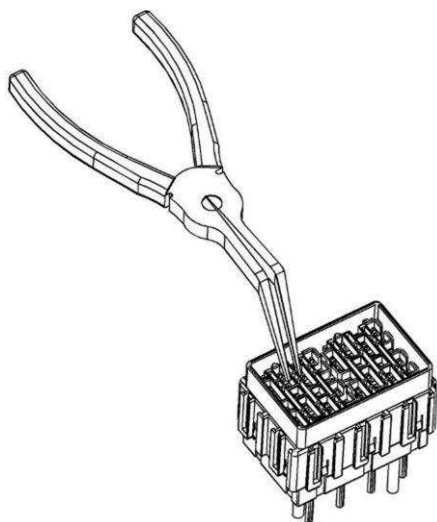


Fig. 7.7

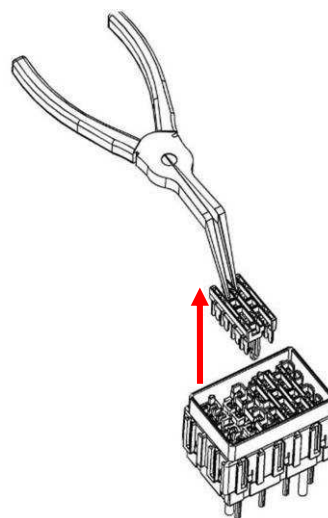


Fig. 7.8

After removal the fuses an appropriate tool is needed to remove the spacer.
 At Fig. 7.7 shows as an example a needle-nose plier to pull the spacer. Grasp the spacer and pull as shown in Fig. 7.8 to remove the spacer.

7.6 Removal of Contacts

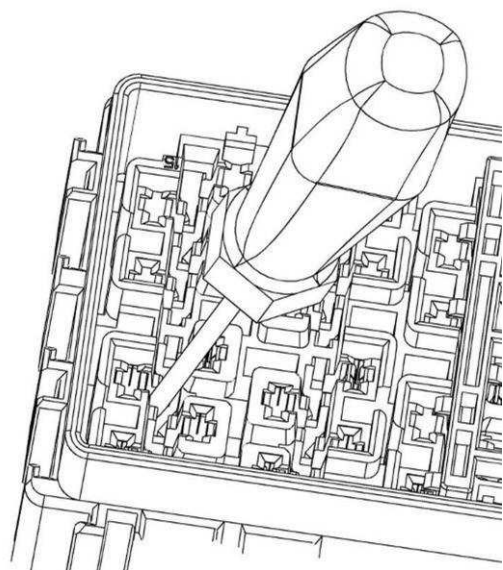


Fig. 7.9

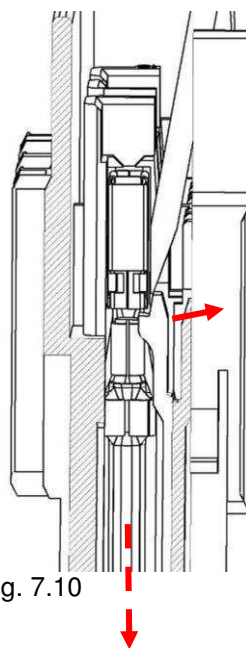


Fig. 7.10

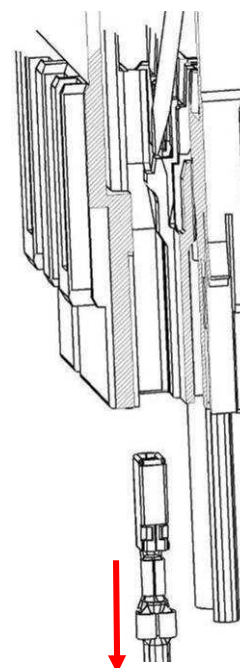


Fig. 7.11

To Fig. 7.9

To release a contact insert the tool from the front side of the module. The removal procedure can be only accomplished when the spacer has been removed.

To Fig. 7.10

To remove contacts please use an appropriate tool.

Insert the tool as shown and deflect the latch up to release of the contact. When the latch has been deflected the contact can be pulled out of the housing with a low force as shown in Fig. 7.11

8. TYPE A (J-CASE*) FUSE MODULE

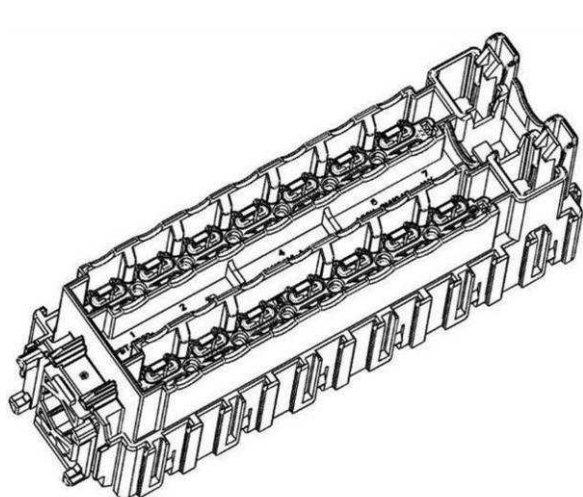
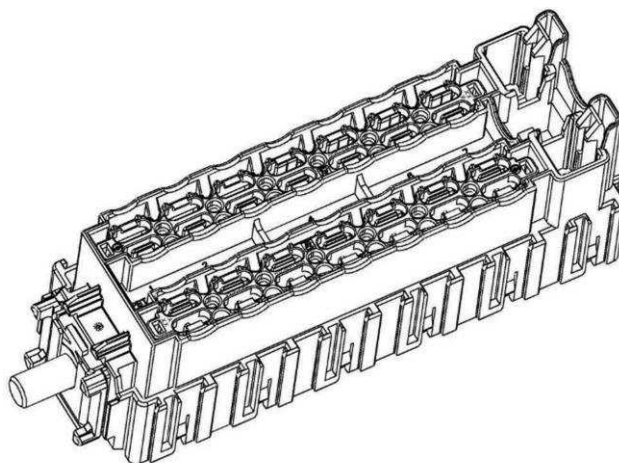


Fig. 8.0 PN 2141040-2



PN 2141040-1

8.1 Terminal Loading PN 2141040-2

8.1.1 6,3mm BUSBAR Tab TE PN 1670225

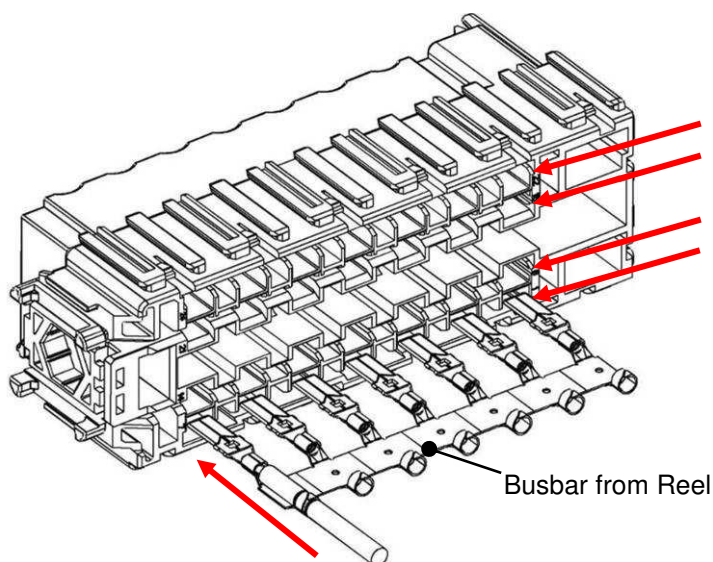


Fig.8.1

To Fig.8.1:

1. Insert the whole busbar at once into the housing. Therefore are allocated the outer cavities 1 or 4 as shown.
- 2.
3. Don't twist or bend the busbar during the insertion process.
4. Please check that all tabs of the busbar are locked. Therefore you can use an appropriate tool and push on the back side of the

8.1.2 6,3mm SINGLE Tabs TE PN 963754, 963755 & 1670225

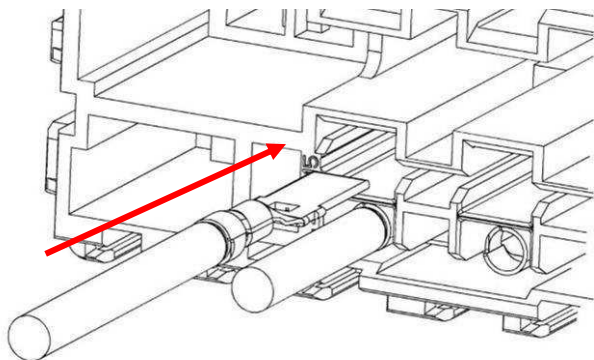


Fig.8.2

To Fig. 8.2:
Insert the single tab 963754 or 963755 into the inner cavities as shown. The tab locks with a click.

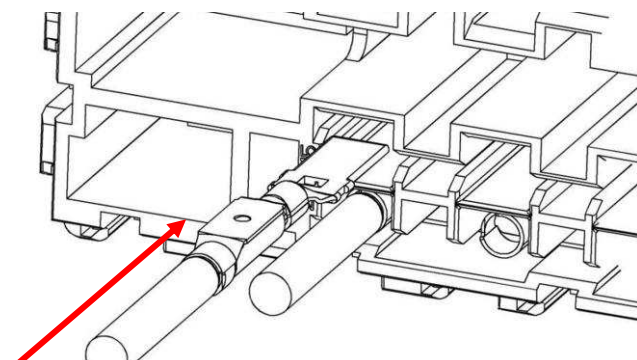


Fig. 8.3

To Fig. 8.3
Insert the single tab 1670225 into the inner cavities as shown. The tab locks with a click.

8.2 Terminal Loading PN 2141040-1

8.2.1 6,3mm SINGLE Tabs TE PN 963754, 963755 & 1670225

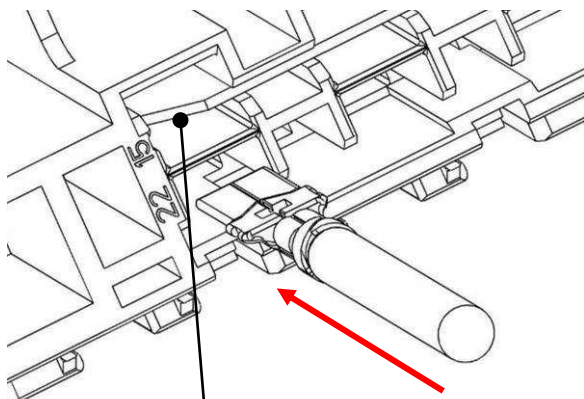


Fig. 8.4 Metal Sheet Busbar

To Fig. 8.4:
Insert the single tab 963754 or 963755 into the outer cavities as shown. The tab locks with a click.

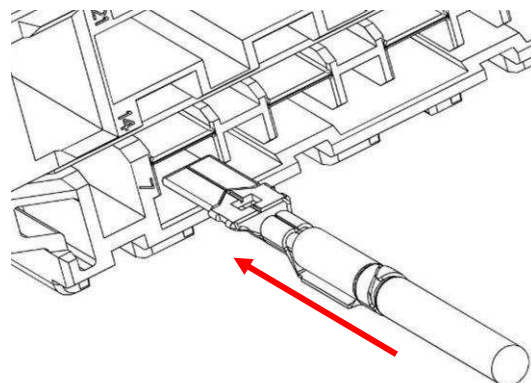


Fig. 8.5

To Fig. 8.5
Insert the single tab 1670225 into the outer cavities as shown. The tab locks with a click.

8.3 Secondary locking device (Spacer)

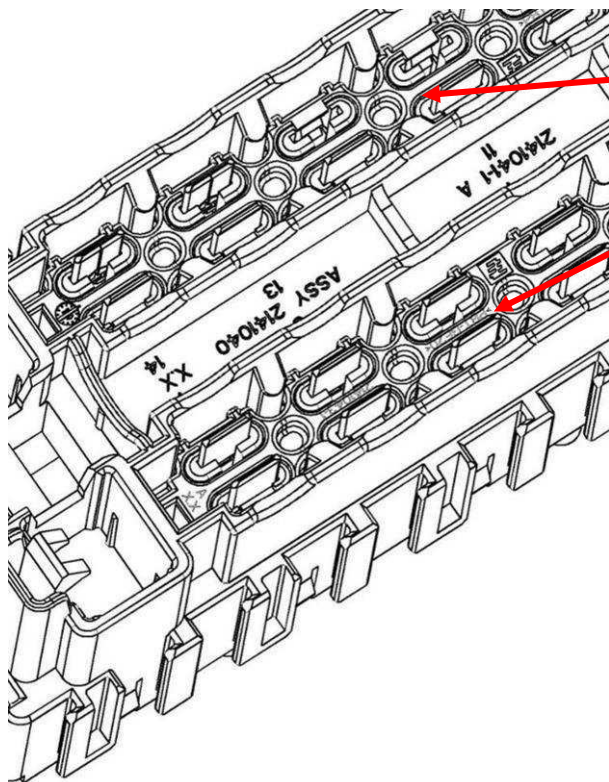


Fig. 8.6

To Fig.8.6
After finishing the insertion of the tabs and the correct locking of the tabs into the cavities both spacers must be pushed into end position by hand or an appropriate tool.

To Fig 8.7
Housing and spacer must be at one level in the locked position!!

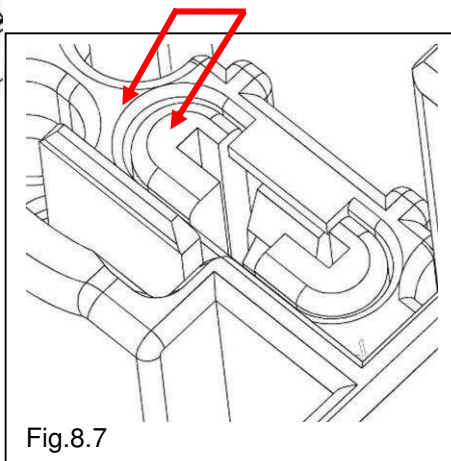


Fig.8.7

8.4 Mounting Type A Fuses

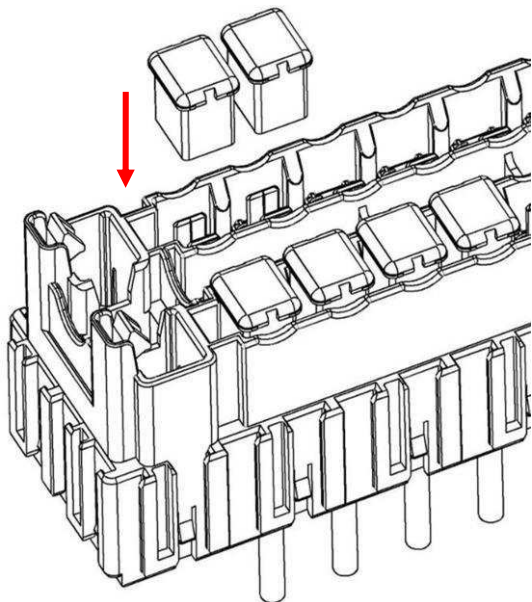


Fig. 8.8

To Fig.8.8
Put the fuse in front of the module above the tabs for pre fixation. Push the fuse into the end position.

8.5 Mounting B+ Cable

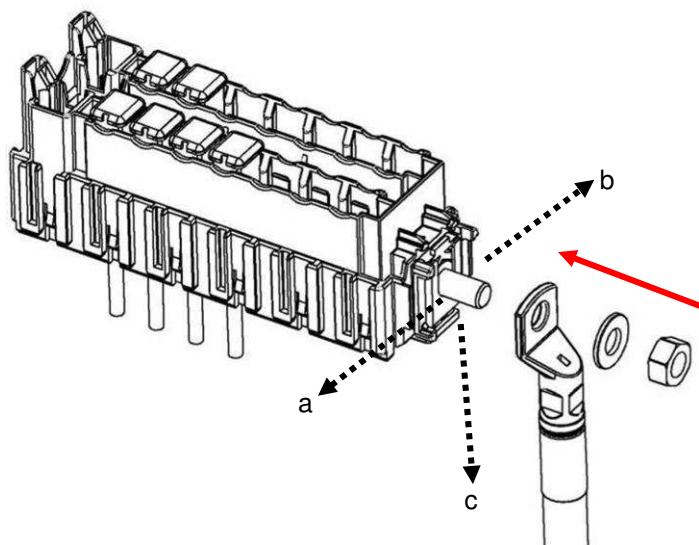


Fig.8.9

To Fig.8.9

The eyelet can be mounted at the module in different directions a, b & c. Put the eyelet onto the bolt followed by washer and nut.

To Fig 8.10

The module must be well fastened while screwing to get a correct connection and torque over lifetime. To prevent electrical failure over lifetime the bolt needs to be screwed with the applicable torque. An additional washer as shown supports the B+ connection with the box.

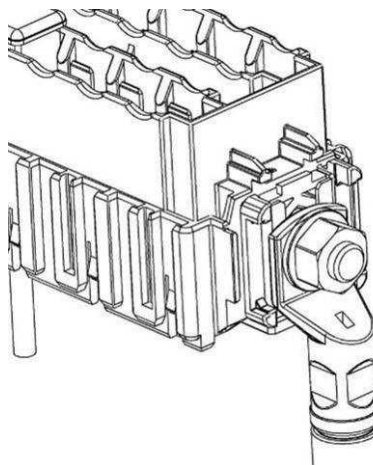


Fig.8.10

8.6 Mounting Cover Type A Fuse Module

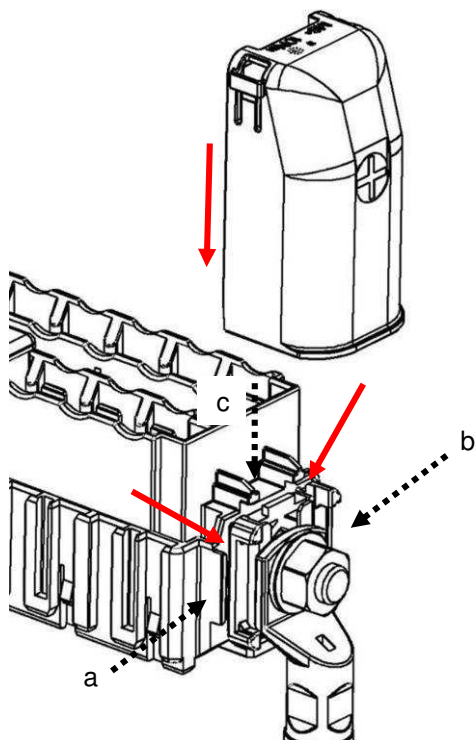


Fig. 8.11

To Fig 8.11

The cover can be mounted in three different directions (arrows a, b & c). To insert the cover the two ribs in the inner side of the cover need to be inserted into the gouge from the module. When the cover reaches the end position it locks with the latches.

Fig.8.12 shows the cover in end position

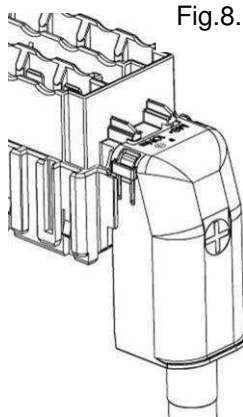


Fig. 8.12

8.7 Remove of Cover

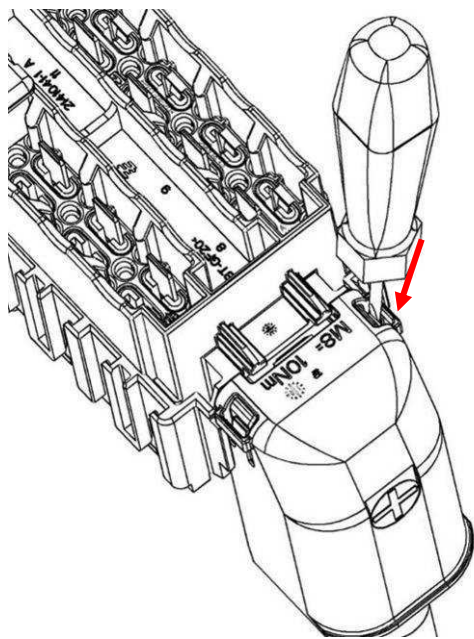


Fig. 8.13

To remove the cover from the module inserts an appropriate tool as shown in Fig.8.13. Both cover latches must be deflected to remove the cover. Therefore the tool must be positioned behind the latches as shown in Fig.8.14

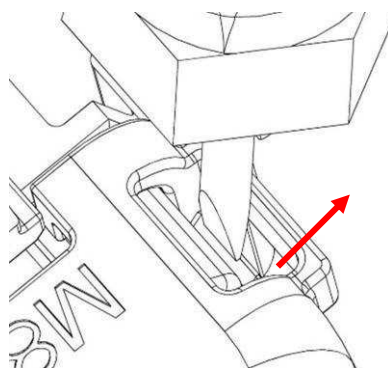


Fig. 8.14

8.8 Remove of Type A Fuses

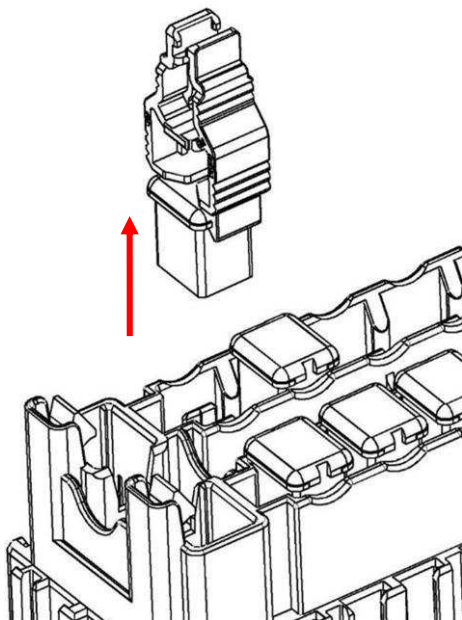


Fig8.15

To Fig. 8.15:

An appropriate tool must be used to remove the fuse. Don't bend the fuse during the disassemble process.

8.9 Remove of Secondary Locking Device

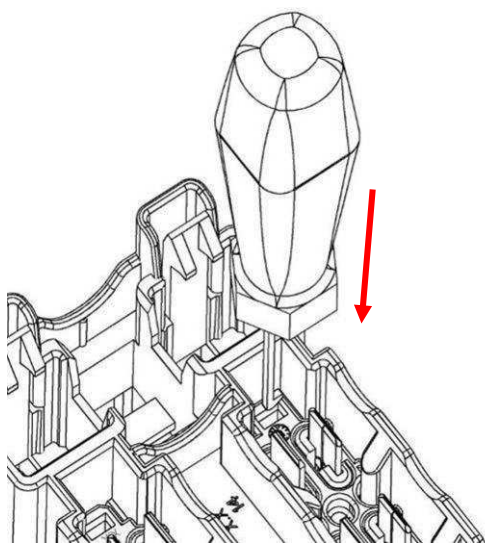


Fig.8.16

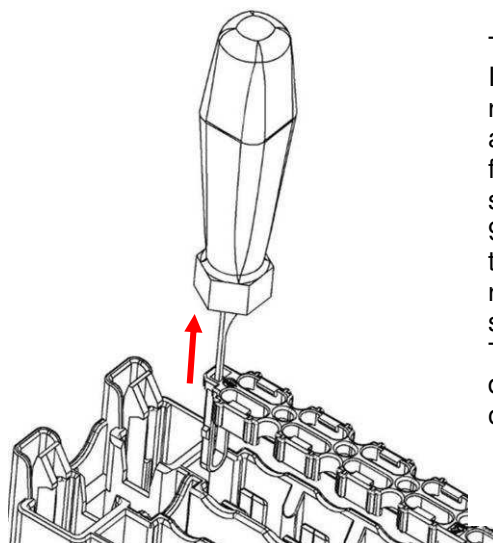


Fig.8.17

To Fig.8.16
 Insert the tool to
 remove the spacer
 as shown. After
 feed in the tool
 should be turned
 90 degree to
 clasp the retainer
 and remove it as
 shown in Fig.8.17.
 This has to be
 done on both sides
 of the retainer.

8.10 Remove of Tab's

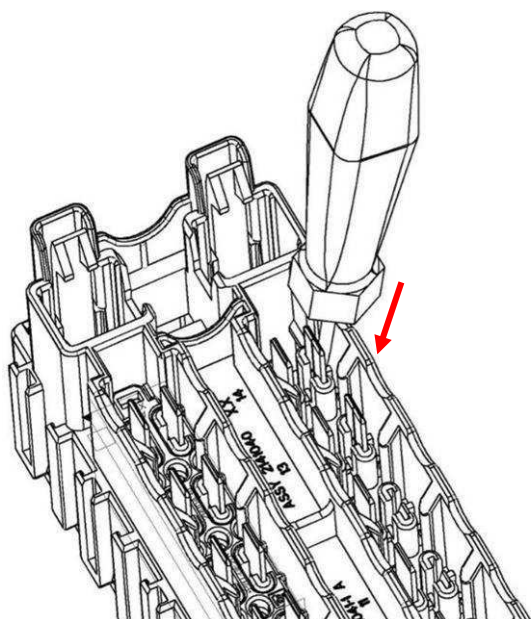


Fig.8.18

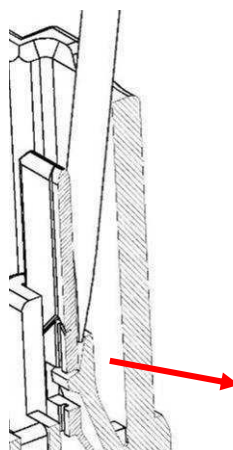


Fig.8.19

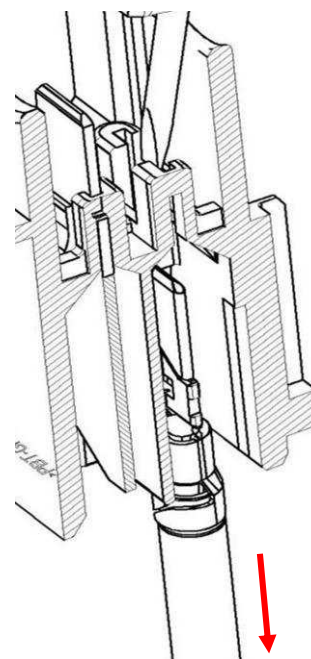


Fig.8.20

To Fig. 8.18 - 8.20:

To remove the tabs please uses an appropriate tool as shown. Insert the tool as shown and deflect the latch Fig. 8.19 up to release of the tab. When the latch has been deflected the tab can be pulled out of the housing with a low force as shown in Fig.8.20

8.11 Spare Fuses at Type A Fuse Module

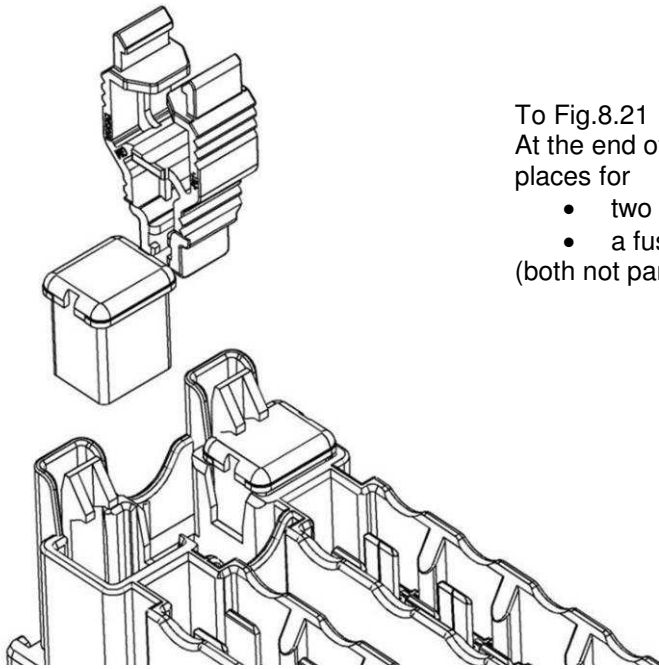


Fig. 8.21

To Fig.8.21

At the end of the module you can find additional places for

- two spare fuses (type low profile) and
 - a fuse puller
- (both not part of this module)

9. SF30 (MIDI*) PRE FUSE MODULE

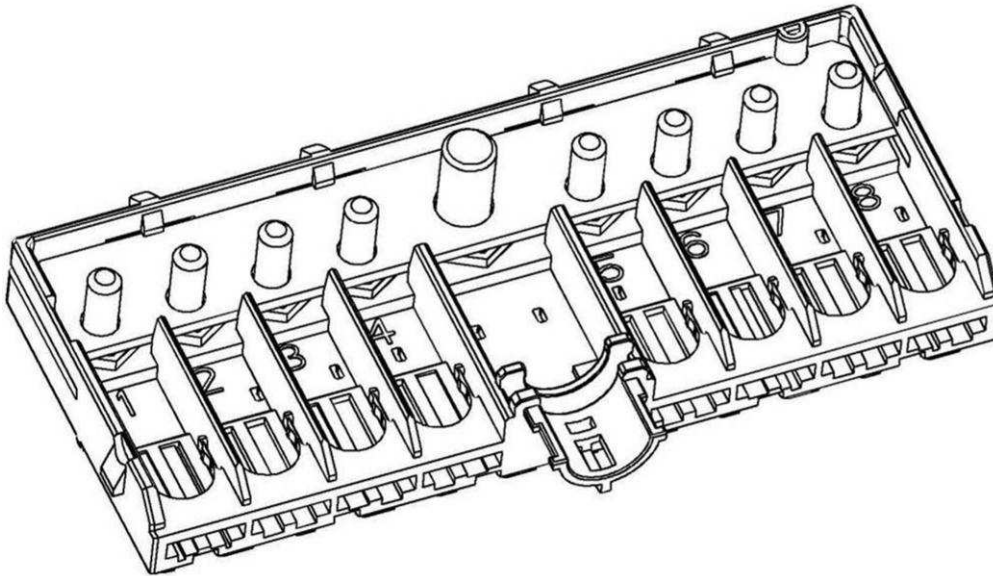


Fig. 9.0

9.1 Loading M5 Square Screw

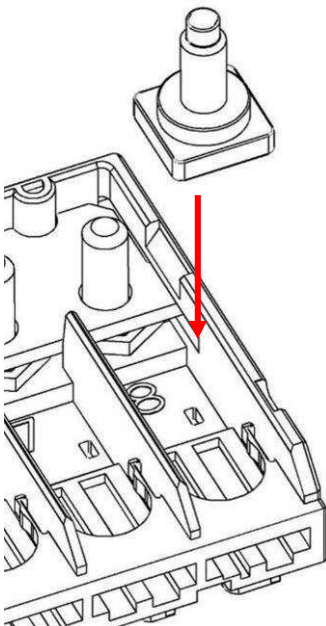


Fig. 9.1

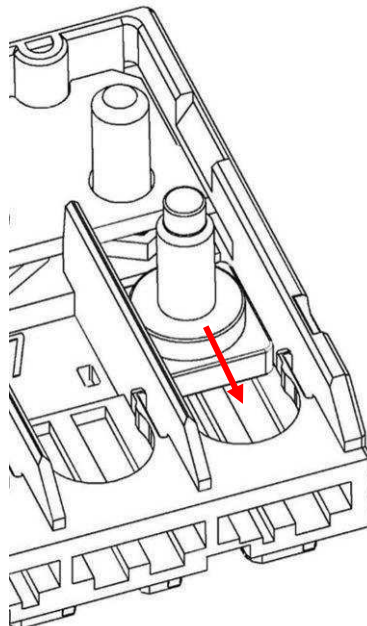


Fig. 9.2

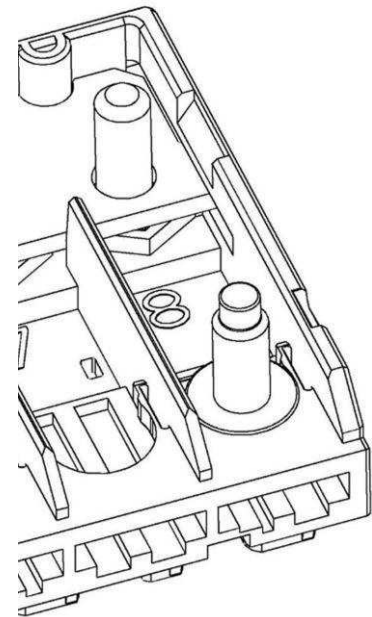


Fig. 9.3

The M5 screw must be prepositioned into the middle of the module (Fig. 9.1 & 9.2) before it can be inserted into the slot. Move the screw as shown in Fig. 9.2 up to the end position as shown in Fig. 9.3.

9.2 Mounting BF1 Fuse

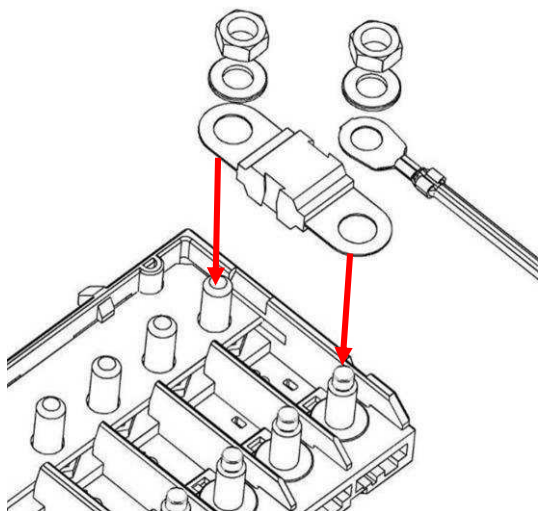


Fig. 9.4

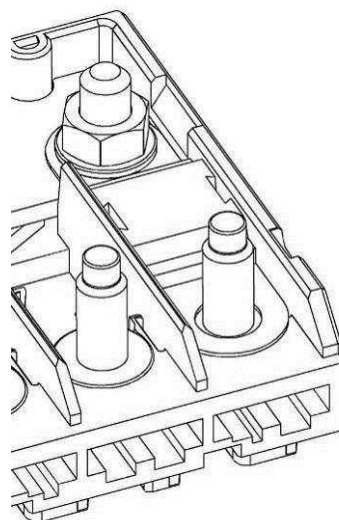


Fig. 9.5

Fig. 9.4 shows the mounting of the Fuse include all needed parts. Put the Fuse onto the bolts at the correct slot. The slots are marked from 1 to 8. It is mandatory to use a nut and a washer for fixation and for the correct connection between busbar and fuse Fig.9.5. The correct torque according the specification must be applied.

9.3 Ring - Terminal Loading

9.3.1 Eyelet M5

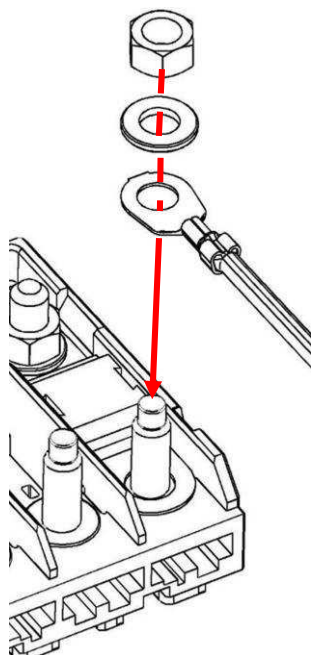


Fig. 9.6

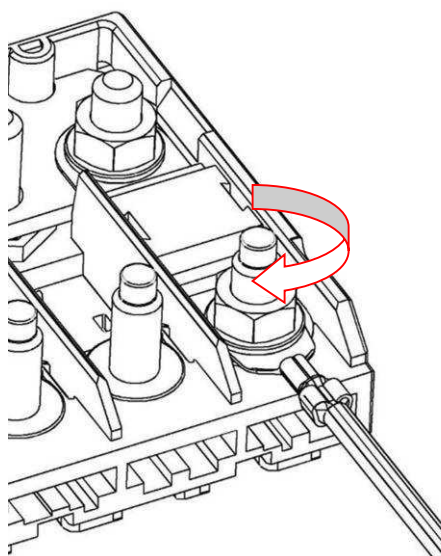


Fig. 9.7

To Fig. 9.6 & 9.7
Put the eyelet onto the bolt followed by washer and nut. It is mandatory to use a nut and a washer for fixation and for the correct connection between eyelet and fuse.

The correct torque according the specification must be applied.

9.3.2 Eyelet M8

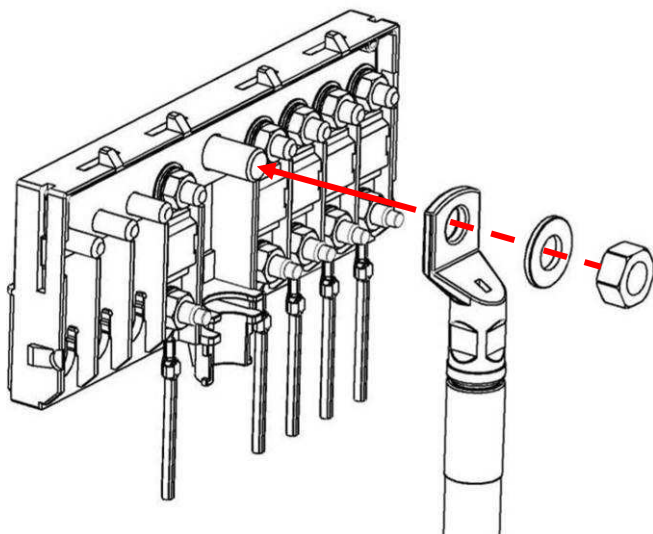


Fig. 9.8

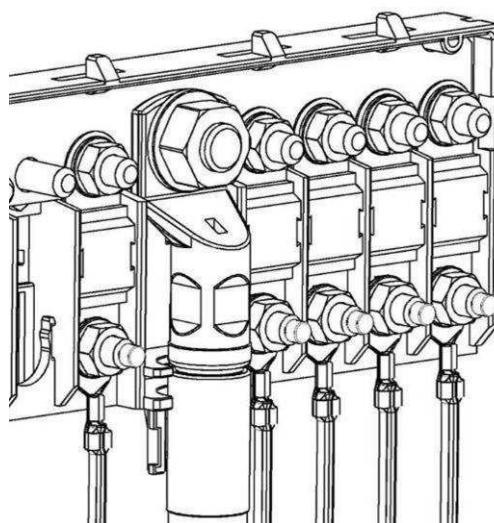


Fig. 9.9

To Fig.9.8

Put the eyelet onto the bolt followed by washer and nut as shown. The washer reduces the stress of the module while screwing on.

The nut should screw on by hand for pre-fixation as shown at Fig. 9.9. before screwing on with force. Followed by Fig.9.10

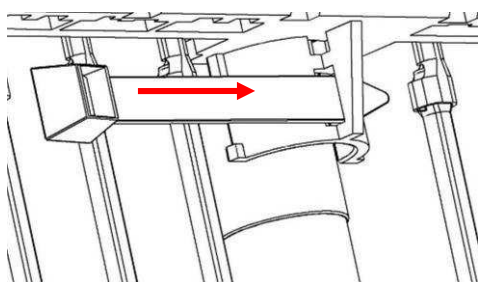


Fig. 9.10

To Fig 9.10

Bind the B+ cable with a cable tie onto the module to minimize the torque to the module while screwing on! Move the cable tie through the slot as shown Fig. 9.10. Position the head of the cable tie as shown at Fig. 9.11.

Attention! If the head of the cable tie is positioned of the back side of the module, the module can't be mounted onto other modules.

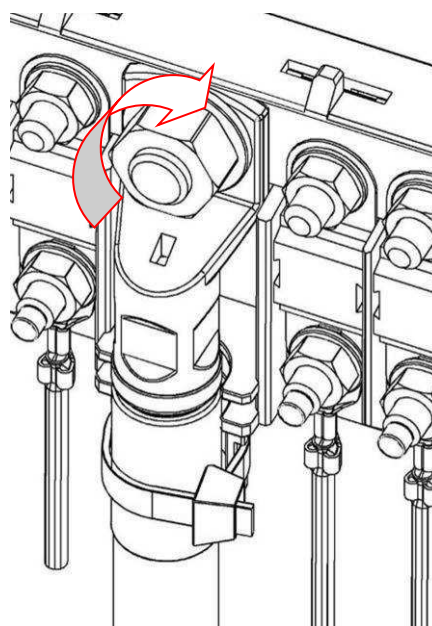


Fig. 9.11

Fig 9.11

The correct torque according the specification must be applied.

9.4 Mounting Pre Fuse Module Cover

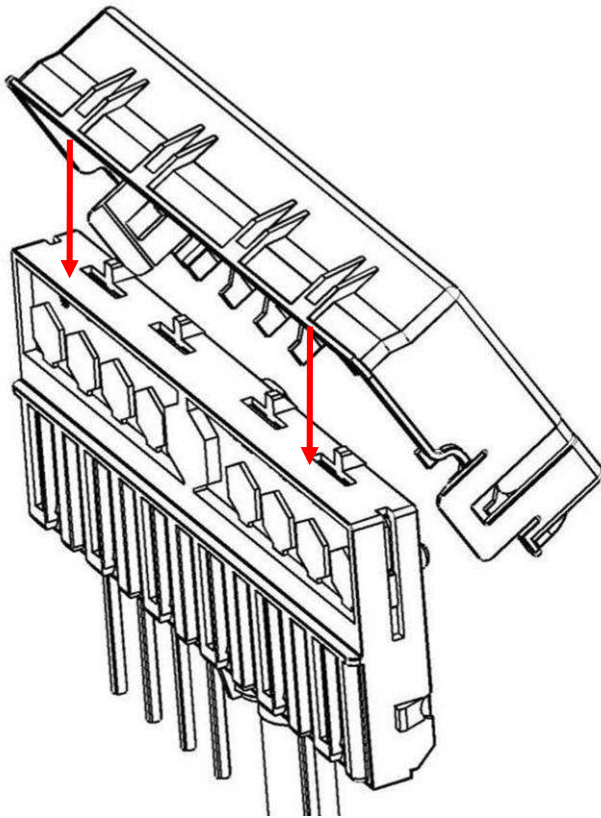


Fig. 9.12

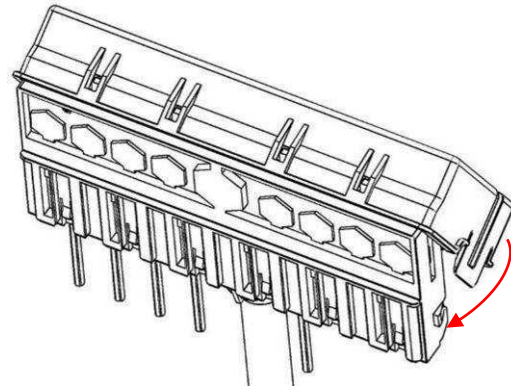


Fig. 9.13

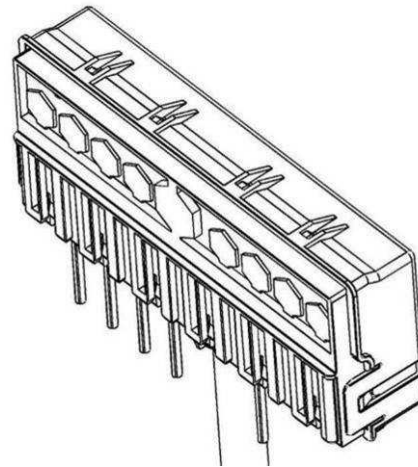


Fig. 9.14

To assemble the cover set the cover from the top of the module onto the four knobs as shown at Fig. 9.12. Close the cover as shown at Fig. 9.13. The cover locks with a click. Fig. 9.14 shows a finally assembled cover in end position.

9.5 Remove of Cover

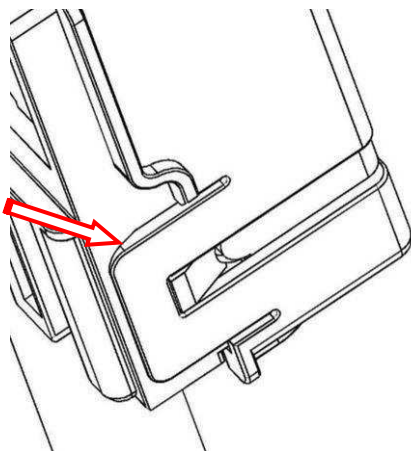


Fig. 9.15

To Fig. 9.15

To remove the cover from the module inserts an appropriate tool as shown behind the latches.

It is necessary to unlock the latches on both sides. Therefore the tool must be positioned behind the latches and turned up to release the cover.

10. BRACKETS

10.1 Version of Brackets

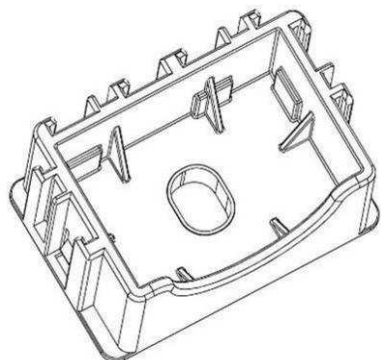


Fig 10.1 PN 2141031-2

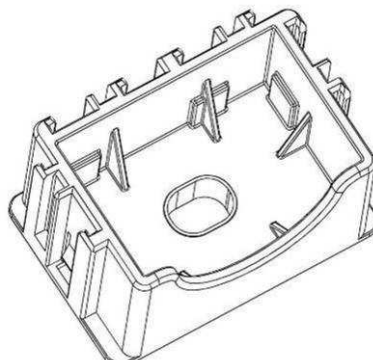


Fig 10.2 PN 2141031-1

For this product line are brackets in two versions available.

Fig. 10.1 & 10.2 shows these versions with a 90° & 180° degree orientated oblong hole.

These brackets are designed to fix a complete assembled fuse and relay box into a vehicle system.

Use the appropriate version as needed or according your tolerance analyse of your system.

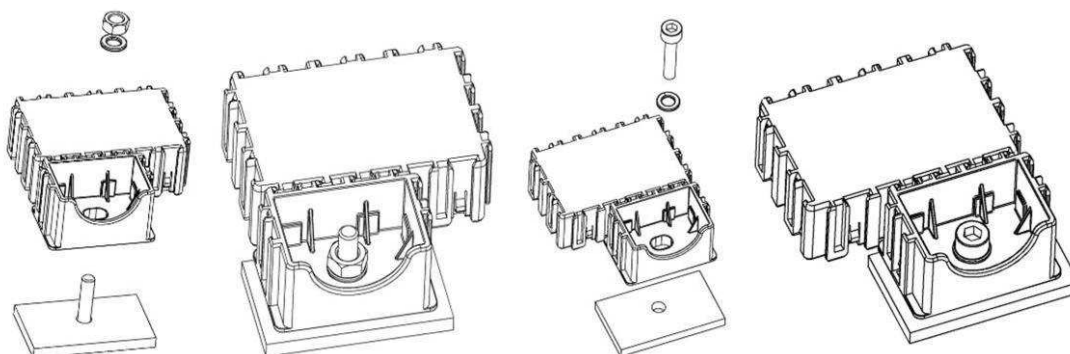


Fig. 10.3 – 10.6

Fig. 10.3 to 10.6 shows the different type of screwing a bracket onto the vehicle.

The surface under the bracket must be flat and should be enough space to support the bracket.

The supporting surface should be in minimum the size of the bracket.

There should be used a washer for all variation of this attachment.

11. MOUNTING MODULE TO MODULE

The Mounting of a module to each other can be done in total modular way.

All modules can be mounted in both directions from the top and from the bottom. Only the brackets and the pre-fuse module can be mounted only in one direction dependent on there construction (see chapter 11.2 & 11.3). Every module has a different amount of slots.

PLEASE NOTE: It is not allowed to use only one slot for mounting modules.

A Slot is one segment of the mounting features around every module. Each slot consists two guide ways with one latch and one stop (Fig. 11.0). To reduce the mounting force it is simpler to press in turn on different corner than with a higher force in the centre of the module (Fig. 11.1). See at product specification 108-94263 for more details about the mounting force.

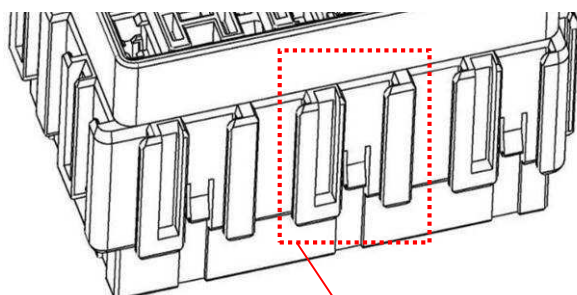


Fig. 11.0

One Slot

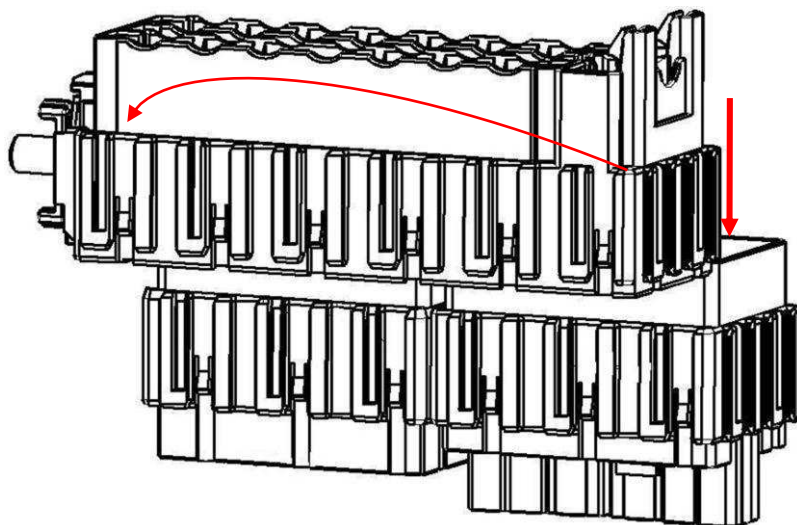


Fig. 11.1

Fig. 11.1 shows the mounting process from the top side.

The slots of the modules must be prepositioned together. It is easier to fix the module on one side of the modules at first. If one slot is fixed the complete module can be mounted with a turn all slots will be slide into its counter part.

Press the module up to the end position. The module locks with clicks of the locking latches.

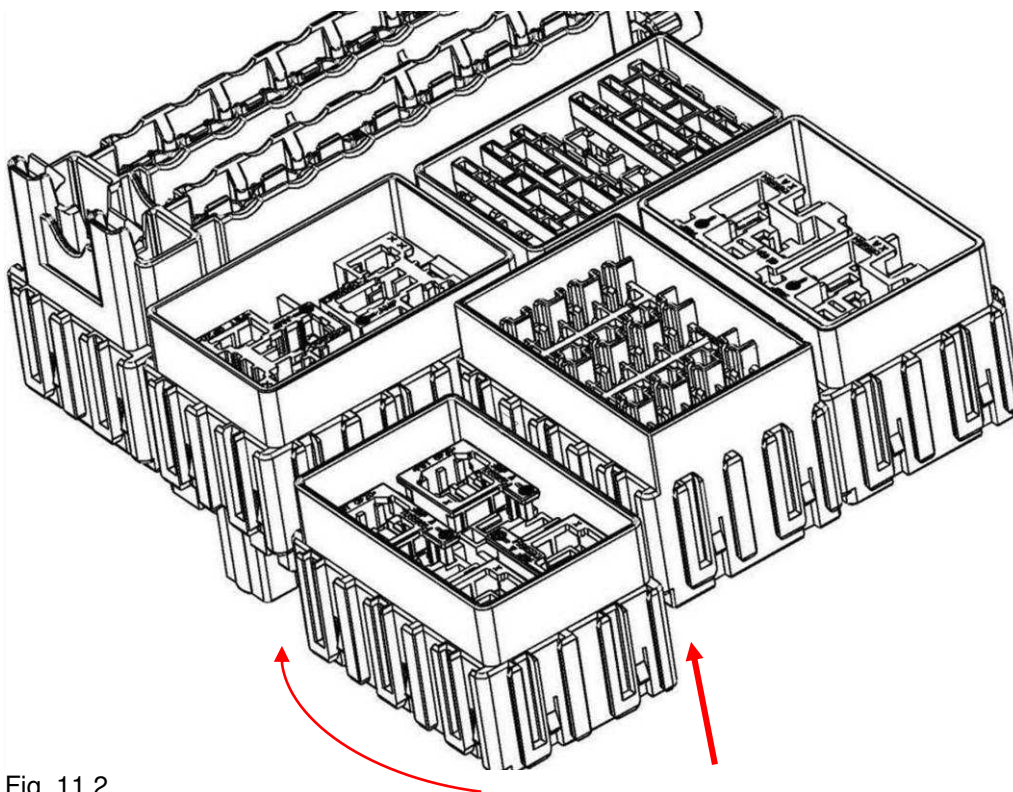


Fig. 11.2

Fig. 11.2 shows the mounting process from the down side. At this example the slots are arranged with an angle. Proceed as described above to fix the slots in turn.

11.1 Mounting of Pre-Fuse Module

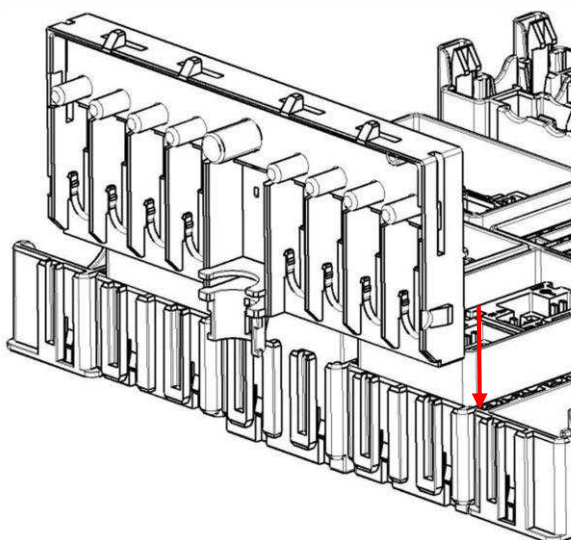


Fig. 11.3

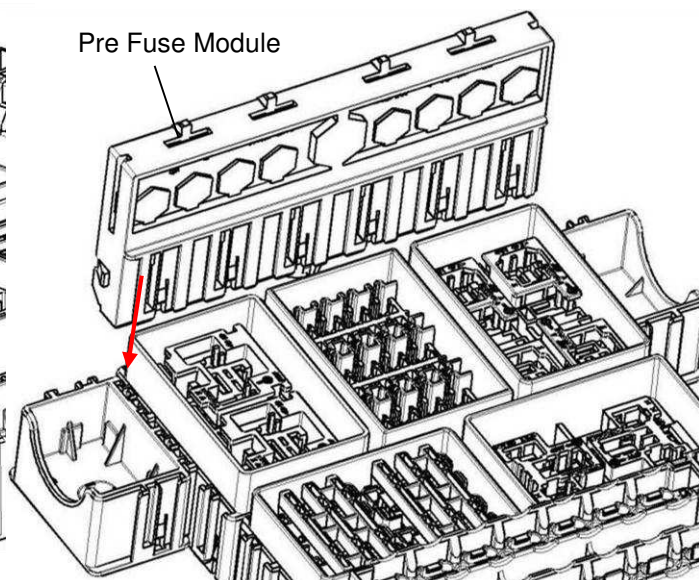


Fig. 11.4

Fig. 11.3 & 11.4 shows the mounting process of the Pre Fuse Module from the down side at an assembled box with other modules. This module can be mounted only in direction as shown. Proceed as described above to fix the slots in turn.

11.2 Mounting of Brackets

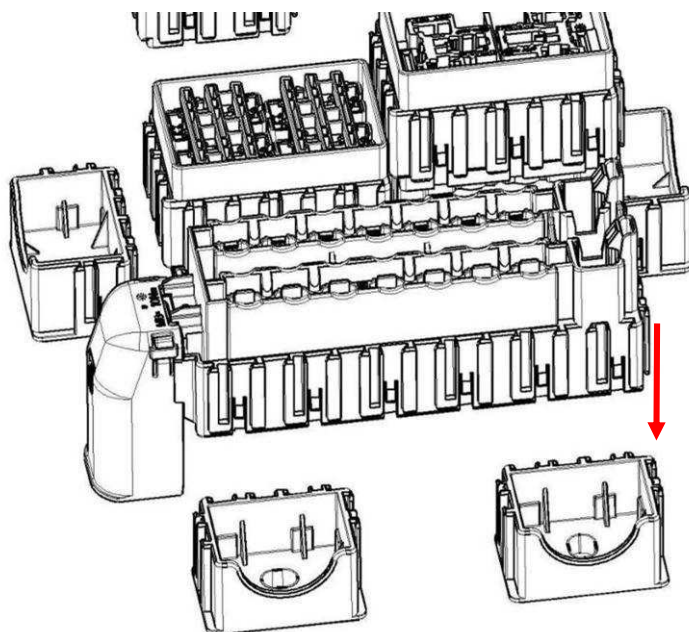


Fig. 11.5

The brackets can be mounted only from the top side as shown in Fig. 11.5.

Please note it is **not** allowed to use only a single slot of a bracket to couple the modules into a vehicle. Minimum of two slots is mandatory!

11.3 Choosing position for brackets

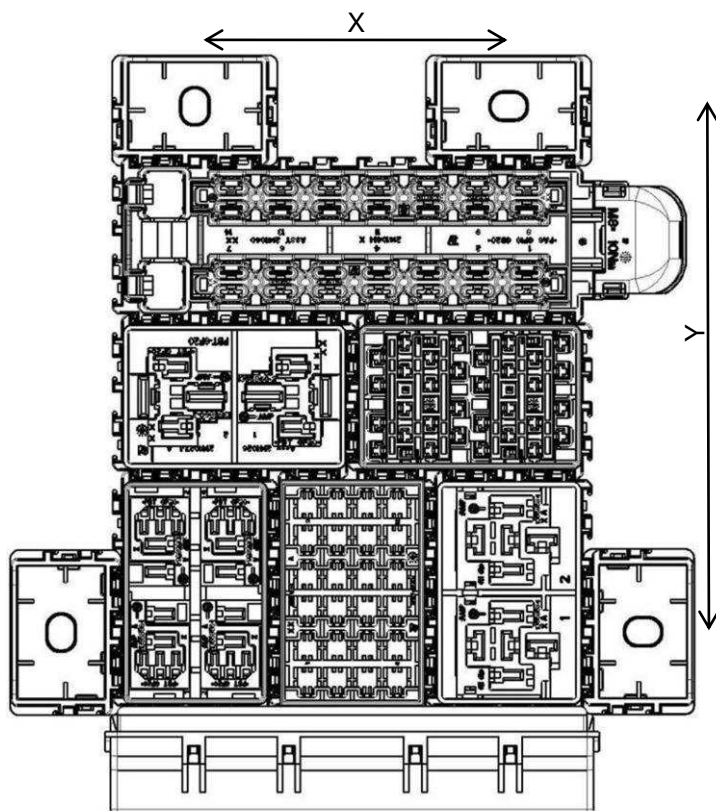


Fig. 12.0

Fig. 12.0 shows for example a box with different modules.

The correct positioning and number of brackets is dependent on:

- to be expected force by mounting of components
- to be expected mechanical loads (e.g. vibration / shock)
- amount of modules in X and Y direction
- structure of the mounted modules
- structure of the harness

All fixation points at the vehicle must be at one level and flat.