

# AUTOMOTIVE POWER DISTRIBUTION

# INNOVATIVE TECHNOLOGIES

TE Connectivity (TE) is a leader in automotive connectivity and sensor technology. Our engineers are always working to meet complex requirements. We connect nearly every electronic function in the vehicle – from alternative power systems to infotainment and sensor technologies. Our technologies withstand harsh environments and tolerate high temperature, vibration, shock, pressure and long-life in electronic control systems.



## INTERCONNECTION SYSTEMS

Our electrical and electronic interconnection products and solutions are used to electrically and mechanically connect wires and cables, printed circuit boards, integrated circuit packages, batteries and more.



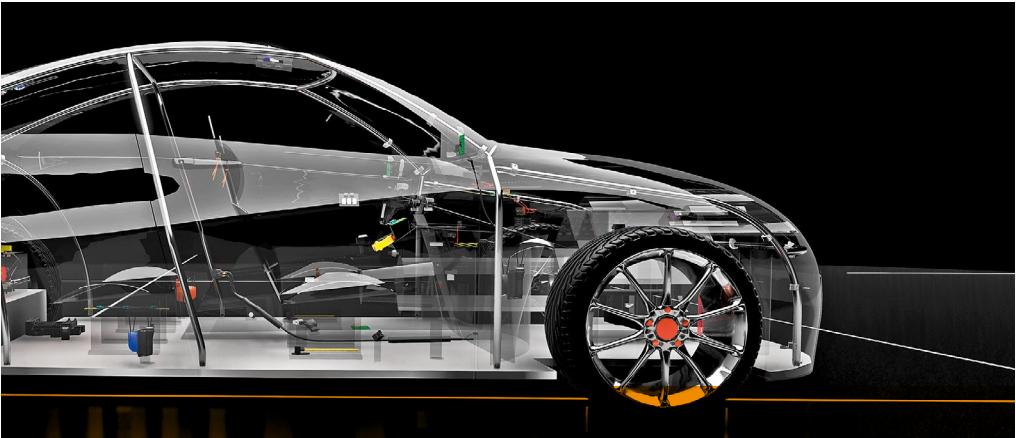
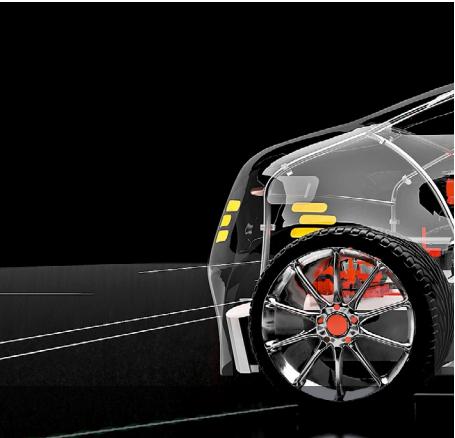
## CABLE ASSEMBLIES

TE is your partner for vehicle-specific cable assemblies. We offer research and development capabilities, prototypes and samples, as well as manufacturing facilities.



## HYBRID & ELECTRIC MOBILITY SOLUTIONS

Our technologies leverage decades of innovation and experience with high-voltage transmission and distribution. Our hybrid and electric mobility solutions include a complete line of connectors, terminals, sensors, cable assemblies, contactors, and battery connection protection to help safeguard the flow of power in hybrid and electric vehicles. Connection after connection, you can count on TE for smaller, greener, lighter and smarter solutions you can trust.



## SENSOR SOLUTIONS

Data is critical for making vehicles safer, greener, smarter and more connected. Customers rely on our sensor technology to provide data for control, adaptation and response of vehicle functions and features that increase safety, comfort, efficiency, and more. We collaborate to provide solutions for demanding and harsh applications such as automated transmissions, engines, chassis, clutch, brake and exhaust. Our products can be found in vehicles traveling the world's roads and highways.



## INFOTAINMENT

Our wide range of infotainment solutions are ideal for consumer port connections, high data rate applications, next-generation harness architecture, board-to-board connections and vehicle-to-vehicle communication.



## RELAYS

From passenger comfort and infotainment to higher DC voltages and power levels to harsh environments, our relays and contactors provide critical switching functions in multiple vehicle applications. With increased contact gaps and other key design features, our relays are ideal for harsh environments such as shock and vibration.

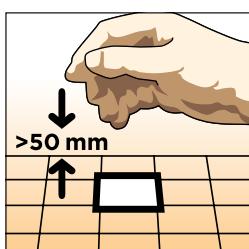
**1st Digit**      **Against Foreign Objects (incl. Dust)**

**0**



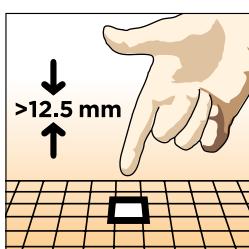
Not protected.

**1**



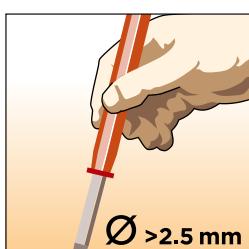
Protected against solid objects greater than 50 mm (ex. back of hand).

**2**



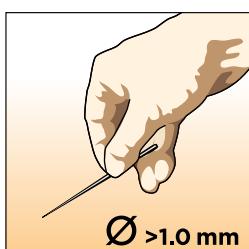
Protected against solid objects greater than 12.5 mm (ex. finger).

**3**



Protected against solid objects greater than 2.5 mm (ex. tool).

**4**



Protected against solid objects greater than 1.0 mm (ex. wire).

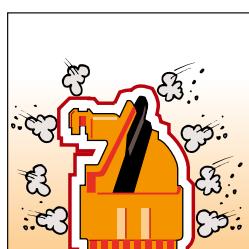
**1st Digit**      **Against Foreign Objects (incl. Dust)**

**5K**



Dust protected.

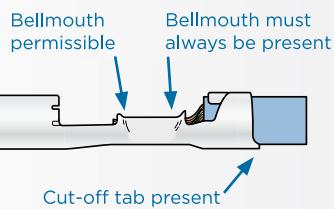
**6K**



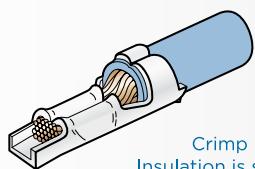
Dust tight.

2nd Digit	Against Water	2nd Digit	Against Water		
0		Not protected.		5	Protected against jetting water.
1		Protected against vertically dripping water.		6	Protected against powerfully jetting water.
2		Protected against dripping water when tilted up to 15°.		6K	Protected against powerfully jetting water with increased pressure (Automotive).
3		Protected against spraying water (up to 60° inclination).		7	Protected against the temporary effects of immersion up to 1 meter.
4		Protected against splashing water.		8	Protected against continuous submersion agreed with customer, but more severe than code 7.
4K		Protected against splashing water with increased pressure.		9K	Protected against high-pressure/steam-jet cleaning (Automotive).

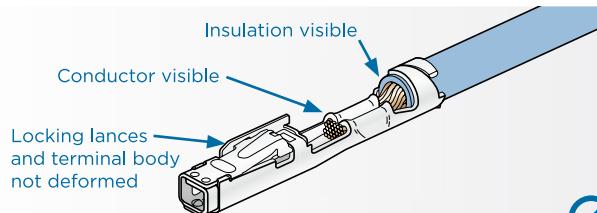
# Good Crimp Quality



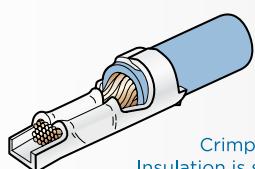
F-CRIMP



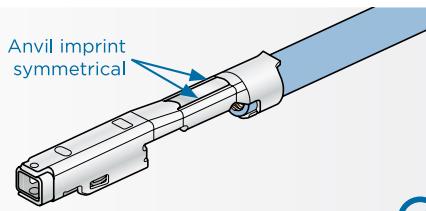
Crimp barrel closed  
Insulation is securely held



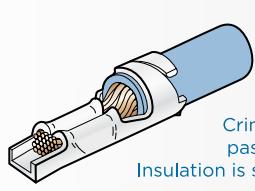
OVERLAP CRIMP



Crimp legs overlap  
Insulation is securely held



WRAP OVER CRIMP



Crimp legs must pass each other  
Insulation is securely held



Correct selection



**of wire, terminal and applicator**  
Crimp barrel is closed, legs support each other, sufficient gap between legs and bottom of crimp, all strands are equally distributed and deformed



## Test

WIRE CRIMP

Crimp heights and tolerances

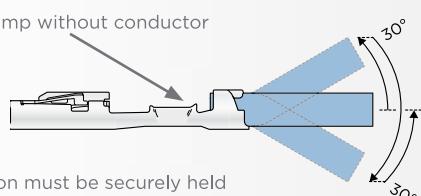
For crimp height tolerances for any given contact, please refer to the relevant application specification.

Examples

Contact	P/N	Wire Range	Tolerance	Spec.
JPT	927775	0.50 - 1.00 mm <sup>2</sup>	±0.05 mm	114-18050
JPT	927773	1.50 - 2.50 mm <sup>2</sup>	±0.05 mm	114-18050
MQS	962885	0.20 - 0.50 mm <sup>2</sup>	±0.03 mm	114-18025

INSULATION CRIMP

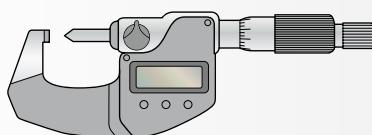
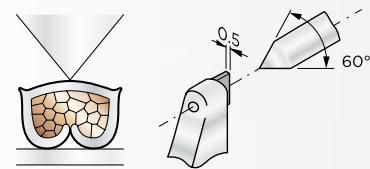
Wire crimp without conductor



Insulation must be securely held after bend test (one bend cycle)

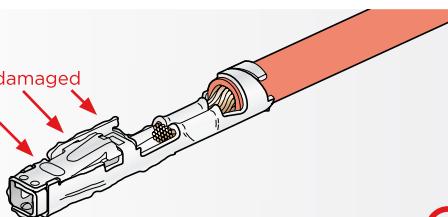
WIRE CRIMP

Digital crimp height micrometer (0.001 mm increments) according to DIN ISO 9001 Part number: 547203-1

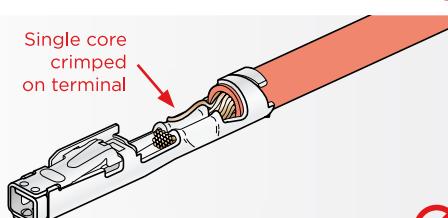


# Incorrect Crimp Quality

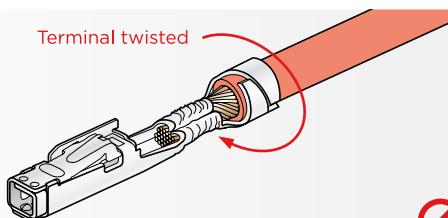
Terminal body damaged



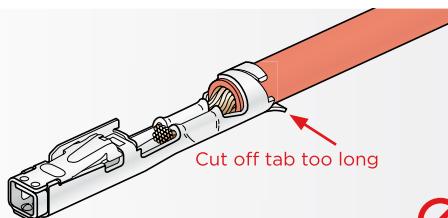
Single core crimped on terminal



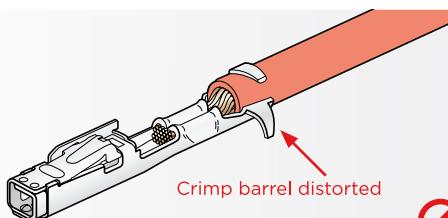
Terminal twisted



Cut off tab too long



Crimp barrel distorted



Crimp legs are not closed



Insulation is pierced

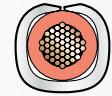


F-CRIMP

INSULATION CRIMP

OVERLAP CRIMP

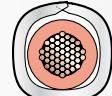
WRAP OVER CRIMP



Crimp legs do not overlap



Insulation is pierced



Insulation is not securely held



Insulation is over crimped



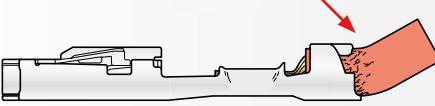
Conductor brush protrudes into terminal body



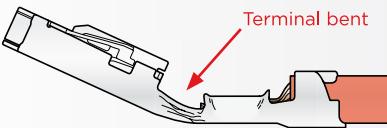
Insulation inside the wire crimp



Wire bent



Terminal bent



Correct

Incorrect

Test

At TE Connectivity, we support your RoHS requirements. We've assessed more than 1.5 million end items/components for RoHS compliance, and issued new part numbers where any change was required to eliminate the restricted materials. Part numbers in this catalog are identified as:

## **RoHS Compliant**

Part numbers in this catalog are RoHS Compliant, unless marked otherwise. These products comply with European Union Directive 2002/95/EC as amended 1 January 2006 that restricts the use of lead, mercury, cadmium, hexavalent chromium, PBB, and PBDE in certain electrical and electronic products sold into the EU as of 1 July 2006.

Note: For purposes of this Catalog, included within the definition of RoHS Compliant are products that are clearly "Out of Scope" of the RoHS Directive such as hand tools and other non-electrical accessories.

## **Non-RoHS Compliant**

These part numbers are identified with a "t" symbol. These products do not comply with the material restrictions of the European Union Directive 2002/95/EC.

## **5 of 6 Compliant**

A "l" symbol identifies these part numbers. These products do not fully comply with the European Union Directive 2002/95/EC because they contain lead in solderable interfaces (they do not contain any of the other five restricted substances above allowable limits). However, these products may be suitable for use in RoHS applications where there is an application-based exception for lead in solders, such as the server, storage, or networking infrastructure exemption.

Note: Information regarding RoHS compliance is provided based on reasonable inquiry of our suppliers and represents our current actual knowledge based on the information provided by our suppliers. This information is subject to change. For latest compliance status, refer to our website referenced below. So whatever your questions when it comes to RoHS, we've got the answers at <http://www.TE.com/customersupport/rohssupportcenter/>

## **Getting the information you need**

Our comprehensive on-line RoHS Customer Support Center provides a forum to answer your questions and support your RoHS needs. A RoHS FAQ (Frequently Asked Questions) is available with links to more detailed information. You can also submit RoHS questions and receive a response within 24 hours during a normal work week. The Support Center also provides:

- Cross-Reference from Non-compliant to Compliant Products
- Ability to browse RoHS Compliant Products in our on-line catalog:  
[www.TE.com/commerce/alt/RohsAltHome.do](http://www.TE.com/commerce/alt/RohsAltHome.do)
- Downloadable Technical Data Customer Information Presentation
- More detailed information regarding the definitions used above

<b>AWG Code</b>	<b>Diameter (Inch)</b>	<b>Diameter (mm)</b>	<b>F (mm<sup>2</sup>)</b>
000000	0.5800	14.733	170.0
00000	0.5165	13.13	135.0
0000	0.4600	11.684	103.8
000	0.4096	10.40	79.0
00	0.3648	9.27	67.5
0	0.3249	8.25	53.4
1	0.2893	7.34	42.2
2	0.2576	6.55	33.7
3	0.2294	5.82	26.6
4	0.2043	5.18	21.0
5	0.1819	4.62	16.9
6	0.1620	4.115	13.25
7	0.1443	3.66	10.25
8	0.1285	3.26	8.34
9	0.1144	2.90	6.6
10	0.1019	2.59	5.27
11	0.0907	2.30	4.15
12	0.0808	2.05	3.3
13	0.0720	1.83	2.63
14	0.0641	1.63	2.08
15	0.0571	1.45	1.65
16	0.0508	1.29	1.305
17	0.0453	1.14	1.01
18	0.0403	1.02	0.79
19	0.0359	0.91	0.65
20	0.0320	0.81	0.51
21	0.0285	0.72	0.407
22	0.0253	0.64	0.32
23	0.0226	0.57	0.255
24	0.0201	0.51	0.205
25	0.0179	0.455	0.162
26	0.0159	0.40	0.125
27	0.0142	0.36	0.102
28	0.0126	0.320	0.08
29	0.0113	0.287	0.0646
30	0.0100	0.254	0.0516
31	0.0089	0.226	0.04
32	0.0080	0.203	0.0324
33	0.0071	0.180	0.0255
34	0.0063	0.160	0.02
35	0.0056	0.142	0.0158
36	0.0050	0.127	0.0127
37	0.0045	0.114	0.01
38	0.0040	0.101	0.008
39	0.0035	0.089	0.0062
40	0.0031	0.079	0.0049
41	0.0028	0.071	0.00395
42	0.0025	0.064	0.00321
43	0.0022	0.056	0.00246
44	0.00198	0.050	0.00196
45	0.00176	0.045	
46	0.00157	0.040	
47	0.00140	0.036	
48	0.00124	0.031	
49	0.00110	0.028	
50	0.00099	0.025	

Remark: Starting from 0.03 mm<sup>2</sup> (AWG 32) a wire can be crimped.

## Automotive Power Distribution

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### Automotive Power Distribution

Introduction

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#### 1 Hardwired Power Distribution Boxes

MFINITY Fuse and Relay Box

3

##### 1.1 Battery Distribution Unit

Introduction

5

Fuse and Relay Holder 3 / 5 / 7 -  
High Current Fuses

●	●	●	✗	●	6
---	---	---	---	---	---

MFINITY - Pre-Fuse SF 30 Module,  
8 Positions

●	●	●	✗	●	7
---	---	---	---	---	---

MFINITY - Type A Fuse Module,  
14 Positions - Busbar Version

●	●	●	✗	●	8
---	---	---	---	---	---

MFINITY - Type A Fuse Module,  
14 Positions - Wire-by-wire Version

●	●	●	✗	●	9
---	---	---	---	---	---

##### 1.2 Module Components: Fuse and Relay Holder

Introduction

11

10 Miniature Fuses Holder

●	●	●	✗	●	12
---	---	---	---	---	----

MFINITY - Miniature Fuse Module,  
16 Positions

●	●	●	✗	●	13
---	---	---	---	---	----

Fuse Holder for Miniature Fuse  
(8 Miniature Fuses)

●	●	●	✗	●	14
---	---	---	---	---	----

High Current Fuses Holder, 2 Positions

●	●	●	✗	●	15
---	---	---	---	---	----

High Current Fuses Holder, 2 Positions

●	●	●	✗	●	16
---	---	---	---	---	----

MFINITY - Medium Fuse Module, 12 Positions

●	●	●	✗	●	17
---	---	---	---	---	----

Medium Fuse Holder, 4 Positions

●	●	●	✗	●	18
---	---	---	---	---	----

MFINITY - Mini Relay Module, 2 Positions

●	●	●	✗	●	19
---	---	---	---	---	----

Relays Holder Gen1 (1 Mini Relay 35-40 A)

●	●	●	✗	●	20
---	---	---	---	---	----

Modular Relays Holder Gen2 (Relay 35-40 A)

●	●	●	✗	●	21
---	---	---	---	---	----

MFINITY - Micro Relay Module, 4 Positions

●	●	●	✗	●	22
---	---	---	---	---	----

Modular Relays Holder Gen2 (2 Micro Relays)

●	●	●	✗	●	23
---	---	---	---	---	----

Relays Holder Gen1 (2 Micro Relays)

●	●	●	✗	●	24
---	---	---	---	---	----

MFINITY - Maxi Relay Module (2 Positions)

●	●	●	✗	●	25
---	---	---	---	---	----

Modular Relays Holder Gen 2 (Relay 50-70 A)

●	●	●	✗	●	26
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## Automotive Power Distribution

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## Automotive Power Distribution

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### 2 PCB Terminals and Holders

#### 2.2 2.8 mm Contacts

2.8 mm Cross Contact for Stamped Circuit 0.8	●	●	●	✗	●	50
Minifuse Contact - Plated	●	●	●	✗	●	51
PCB 2.8 Terminal - SN	●	●	●	✗	●	52
Tab 2.8 x 0.6 mm	●	●	●	✗	●	53
Tab 2.8 x 0.8 mm	●	●	●	✗	●	54
Tab 2.8 x 0.8 mm - Plated	●	●	●	✗	●	55
AMP MCP Tab 2.8 x 0.8 mm - Plain	●	●	●	✗	●	56

#### 2.3 6.3 mm Contacts

6.3 Cross Contact for Stamped Circuit 0.63	●	●	●	✗	●	57
6.3 Cross Contact for Stamped Circuit 0.8	●	●	●	✗	●	58
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9.5 Cross Contact for Stamped Circuit	●	●	●	✗	●	60
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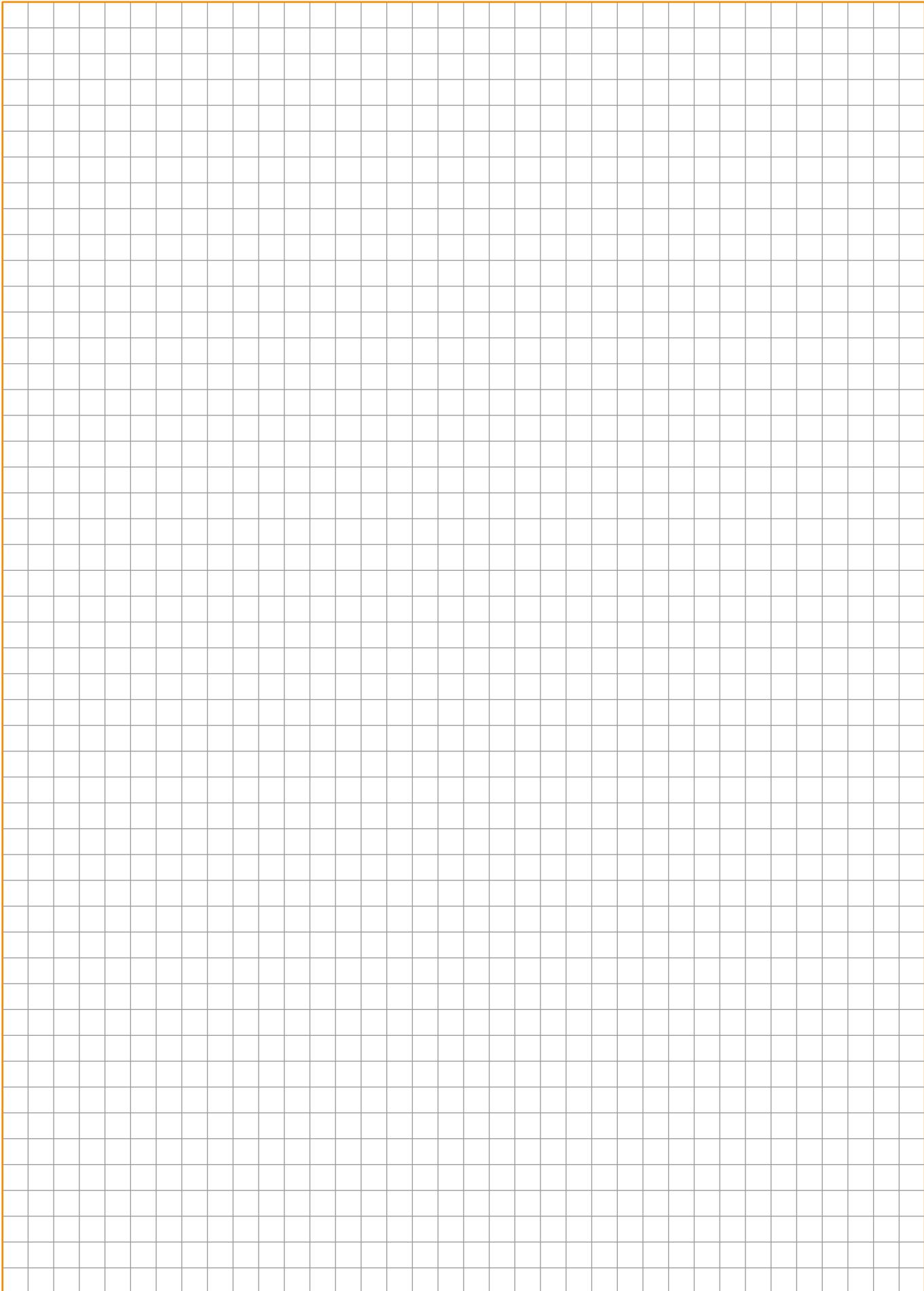
Fuse Contact Busbar	●	●	●	✗	●	71
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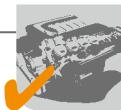
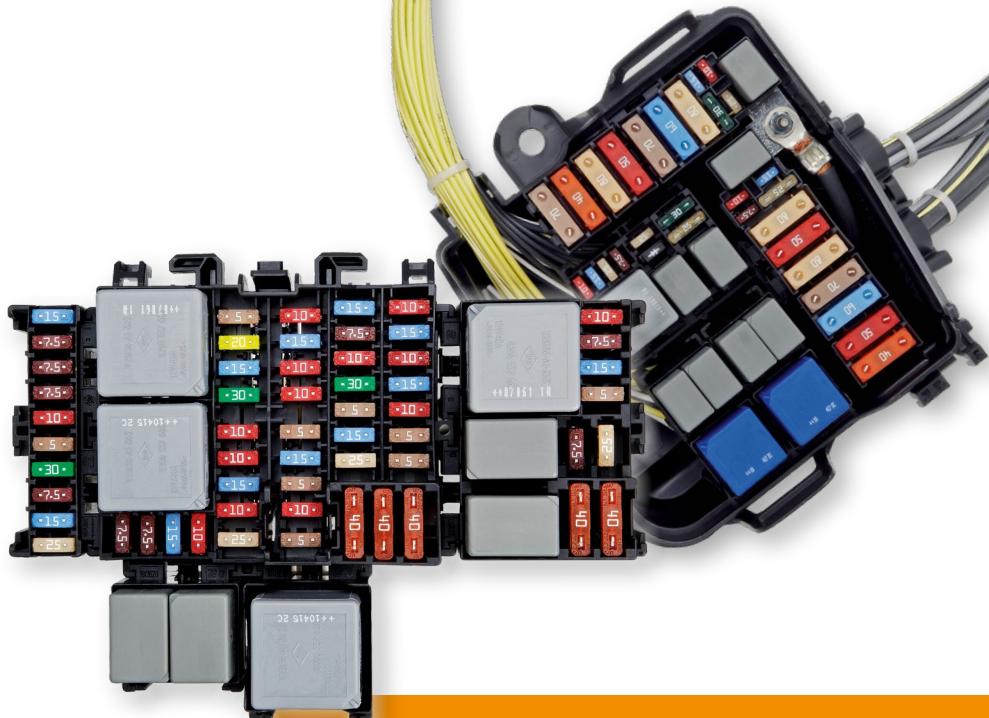
## Automotive Power Distribution

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**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS**

## Automotive Power Distribution

### INTRODUCTION

TE Connectivity (TE) has developed a wide panel of switching and protection holder devices suitable for different terminal families, linked to our terminal and connector competency.

TE can propose stand-alone module or modular architecture philosophies which allow us to offer a solution for each customer need.

In addition, TE Connectivity can support you for specific requirements. Thanks to our engineering competency and expertise, TE can offer you cost effective solutions for each of your requirements.

### Products

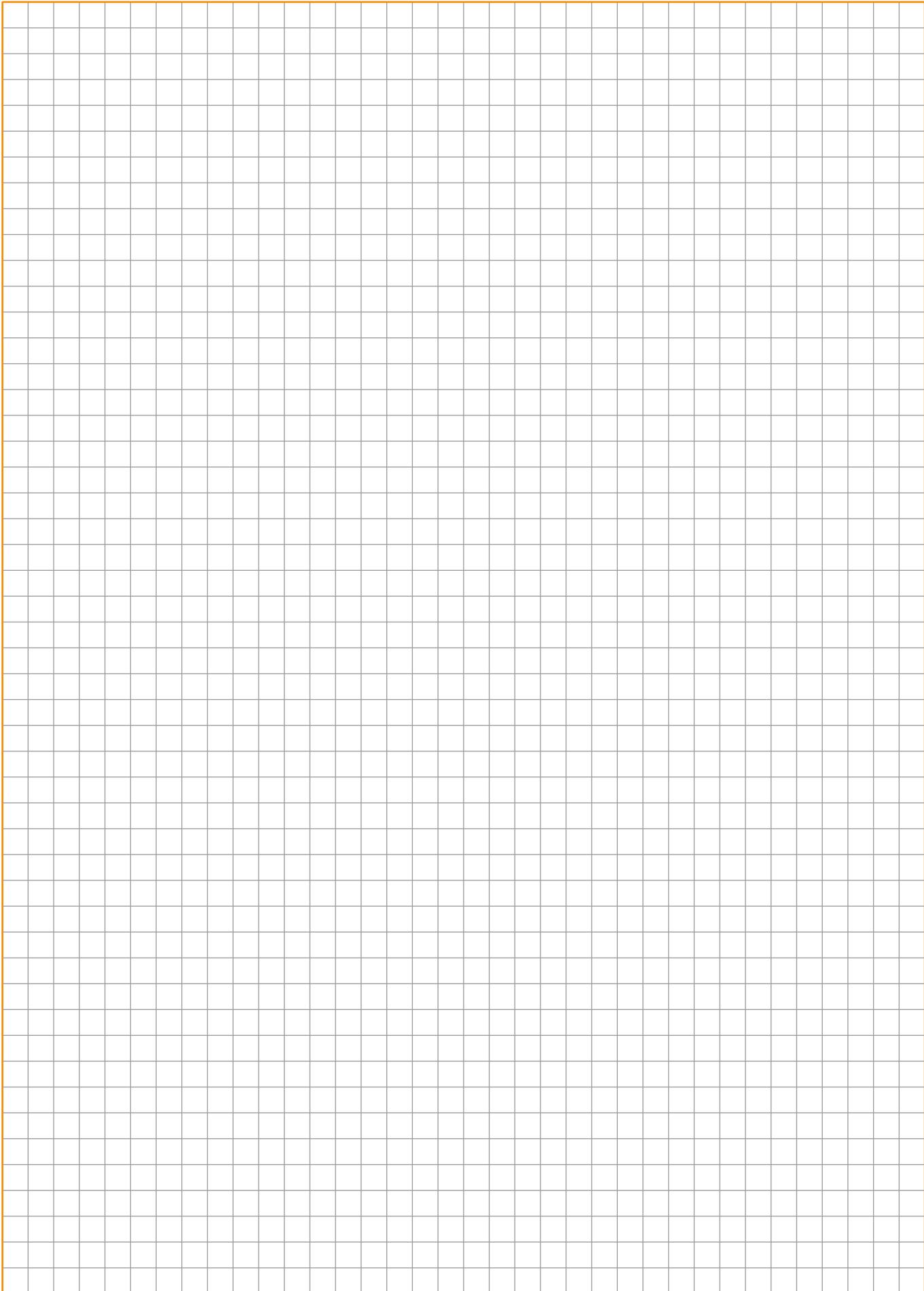
- Fuse Holders
- Relay Holders
- Holder Guides
- Fuse and Relay Boxes
- Modular Concept - MFINITY Fuse and Relay Box
- Printed Circuit Board (PCB) Terminals and Holders

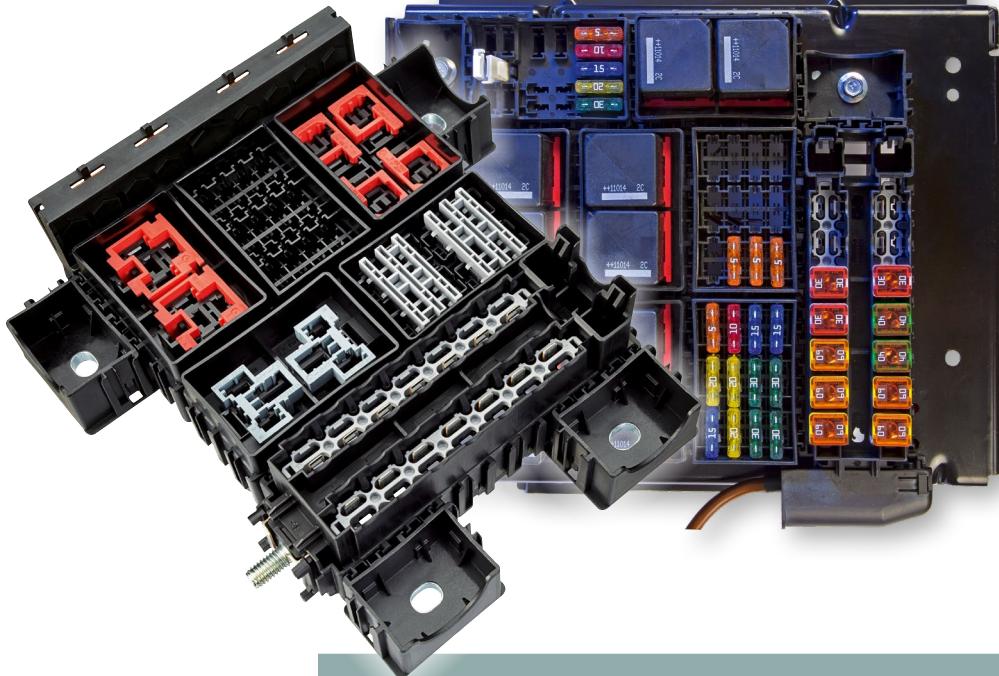
### Applications

- Convenience Harness
- Engine Harness
- Battery Departure Unit
- Fuse and Relay Box

### Product Features

- Product dedicated to most types of fuse applications available in the market
- Product dedicated to plug-in relay: Micro, Iso, Power
- Direct wire fuse and relay solutions
- Protection and switching devices
- Stand-alone solution or coupling solution



**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS**

## Hardwired Power Distribution Boxes

### MFINITY Fuse and Relay Box

TE Connectivity (TE) has developed a complete modular hard wired box family called MFINITY.

The MFINITY Fuse and Relay Box offers limitless combinations with various modules, easily assembled into a complete power distribution panel, without any tooling cost.

All modules and accessories shown in this catalogue are standard products. Upon request, TE will design and manufacture custom modules, wire dress, frame or cover to meet specific customer requirements. With its proven technology, the MFINITY Fuse and Relay Box offers flexible, off the shelf products targeting low volume customers to create their own configurations.

#### Products

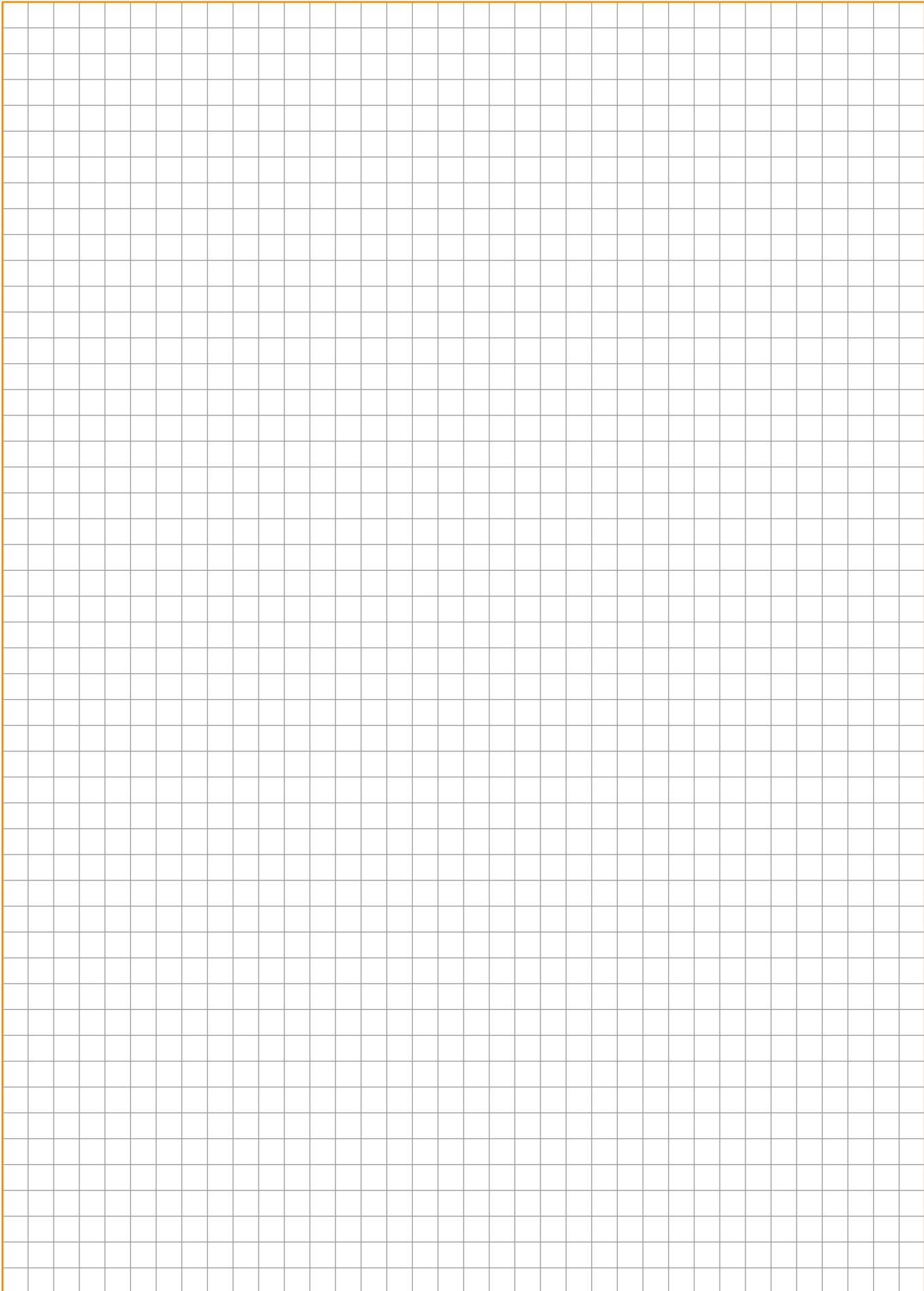
- Fuse Holders
- Relay Holders
- Holder Guides
- Fuse and Relay Boxes
- Modular Concept – MFINITY

#### Applications

- Body Harness
- Engine Harness

#### Product Features

- Direct wire fuse and relay solutions
- Pre-fuse modules
- ISO standard
- Modular design
- Temperature class -40°C to +85°C



**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS**

## Battery Distribution Unit

### INTRODUCTION

TE Connectivity (TE) has developed pre-fuse modules which protect main wires in the harness and allow battery life time increase.

Our modules are compliant with most of automotive OEM requirements and offer a high reliability level.

**Fuse and Relay Holder 3 / 5 / 7 – High Current Fuses**
**Applications**

- Convenience Harness
- Engine Harness

**Technical Features**

- Busbar technology supplying up to 7 high current fuses
- Compliant with MAXI, MINI and ATO fuse technology

**Contact used:**

Timer and NG family

**Housing Material:**

PBT GF 10

**Can contain up to:**

3 to 7 high current fuses

1 Micro relay

1 Medium fuse

3 Miniature fuses

**Temperature Class:**

-40°C to +100°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

Unsealed

**Product Specification:**

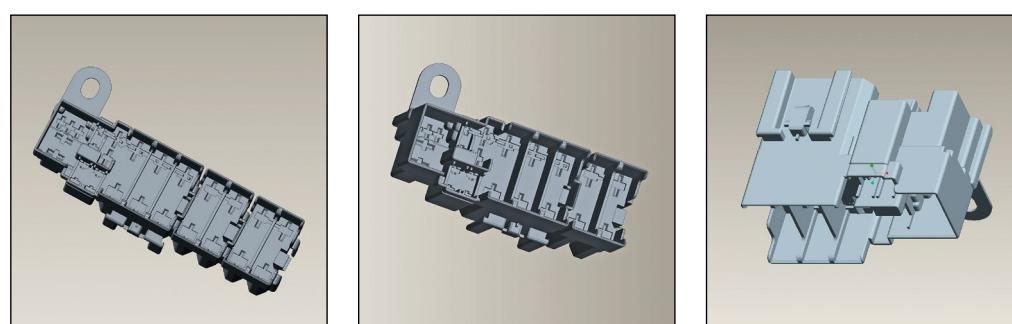
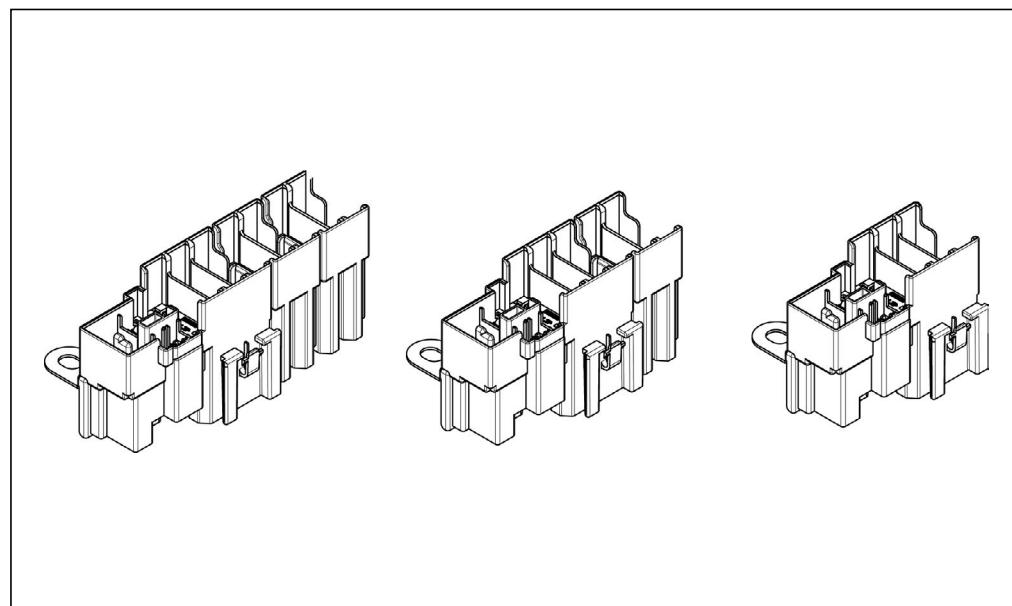
108-15407

**Application Specification:**

408-15006

**Can be used as stand-alone**
**module or in association with:**

PN 1801627-2

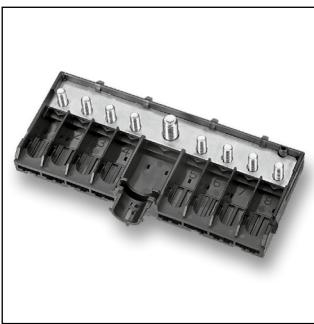

 PN 1801628-6  
 Represented

 PN 1801628-5  
 Represented

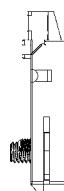
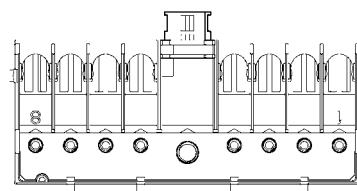
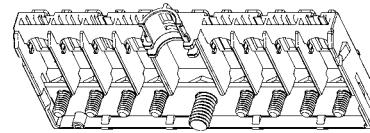
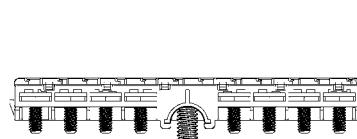
 PN 1801628-4  
 Represented

**Fuse and Relay Holder 3 / 5 / 7 – High Current Fuses**

Part Number	Housing Color	Material	Receptacles	Mating Contacts	Wire Size Range (mm <sup>2</sup> )	OCEAN Applicator
<a href="#">1801628-4</a>			JPT Receptacle	<a href="#">964280-2</a> <a href="#">964284-2</a> <a href="#">965999-2</a> <a href="#">1241978-2</a>	0.2 – 0.5 0.5 – 1.0 1.0 – 2.5 2.5 – 4.0	<a href="#">2151065</a> <a href="#">2151099</a> <a href="#">2151062</a> <a href="#">2266277</a>
<a href="#">1801628-5</a>	Black	PBT GF 10	SPT Receptacle	<a href="#">927831-2</a> <a href="#">144617-1</a> <a href="#">144433-1</a>	0.5 – 1.0 1.0 – 3.0 3.0 – 5.0	<a href="#">2151176</a> <a href="#">2151989</a> <a href="#">2266635</a>
<a href="#">1801628-6</a>			NG Receptacle	<a href="#">1801431-1</a> <a href="#">1801432-1</a> <a href="#">1801433-1</a>	3.0 – 5.0 6.0 – 7.0 7.0 – 10	<a href="#">2266645</a> <a href="#">2266646</a> <a href="#">2266647</a>



**MFINITY – Pre-Fuse SF30 Module, 8 Positions**



### Technical Features

#### Material:

PBT

#### Product Specification:

108-94263

#### Application Specification:

114-94090

### Order Information

Screw M8 for B+ Connection  
with wire up to 35mm<sup>2</sup>  
Part Number 2141034-1

Used with 8 x M5 Bolt  
Part Number 1534968-2

**Can be used as stand-alone  
module or in association with:**

PN 2141022-1

PN 2141024-1

PN 2141026-1

PN 2141028-1

PN 2141029-1

PN 2141040-x

PN 2141031-x

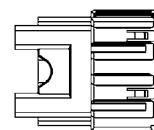
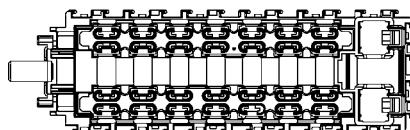
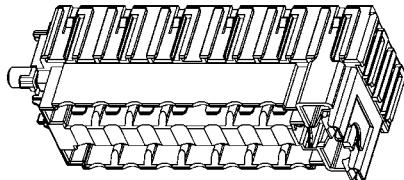
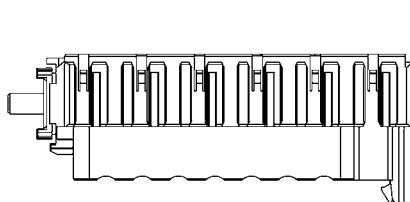
**MFINITY Pre-Fuse SF30 Module, 8 Positions**

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141034-1</a>	Pre-fuse SF30 Module	137 x 70 x 24.1

Mating Cover  
Part Number

[see page 42](#)  
2141033-1




**MFINITY – Type A Fuse Module, 14 Positions – Busbar Version**

**Technical Features**
**Material:**

PA6

**Product Specification:**

108-94263

**Application Specification:**

114-94090

**Order Information**

Screw M8 for B+ Connection  
with wire up to 35mm<sup>2</sup>

14x Type A Fuse (J-Case)  
Part Number 2141040-1

2x Spare Fuse places

**Can be used as stand-alone  
module or in association with:**

PN 2141022-1

PN 2141024-1

PN 2141026-1

PN 2141028-1

PN 2141029-1

PN 2141034-x

PN 2141031-x

**Type A Fuse Module, 14 Positions – Busbar Version**

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141040-1</a>	Type A Fuse Module (Busbar Version)	155.55 x 47 x 57.3

**Suitable Terminals**

Part Number	Description	Plating	Wire Size Range (mm <sup>2</sup> )
<a href="#">1670225-1</a>	6.3 Busbar & Single Tab	Tin Hot Dipped	4 – 6
<a href="#">963755-1</a>	6.3 Single Tab	Pre-Tinned	2.5 – 4

Mating Cover  
Part Number

[see page 43](#)  
2141039-1





### Technical Features

#### Material:

PA6

#### Product Specification:

108-94263

#### Application Specification:

114-9409

### Order Information

B+ Connection via  
wire to busbar – Tab

14x Typ A Fuse (J-Case)  
Part Number 2141040-2

2x Spare Fuse places

#### Can be used as stand-alone module or in association with:

PN 2141022-1

PN 2141024-1

PN 2141026-1

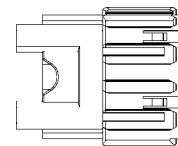
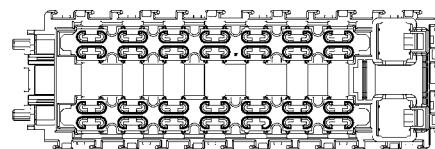
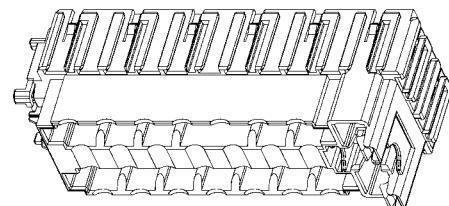
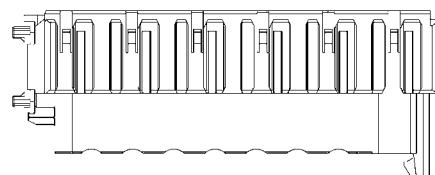
PN 2141028-1

PN 2141029-1

PN 2141034-x

PN 2141031-x

### MFINITY – Type A Fuse Module, 14 Positions – Wire-by-wire Version



### Type A Fuse Module, 14 Positions – Wire-by-wire Version

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141040-2</a>	Type A Fuse Module	144.55 x 47 x 57.3

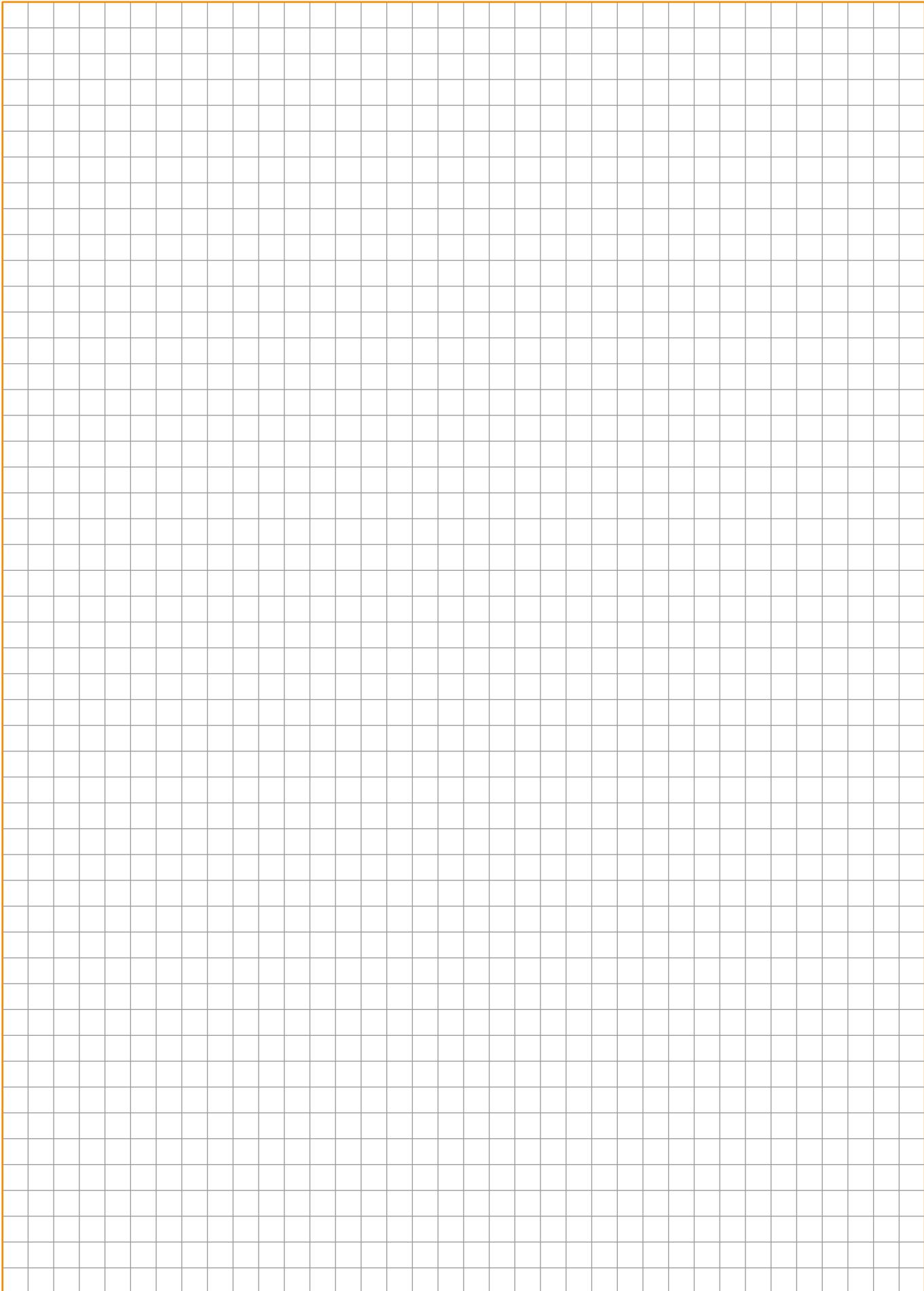
### Suitable Terminals

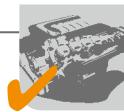
Part Number	Description	Plating	Wire Size Range (mm <sup>2</sup> )
<a href="#">1670225-1</a>	6.3 Busbar & Single Tab	Tin Hot Dipped	4 – 6
<a href="#">963755-1</a>	6.3 Single Tab	Pre-Tinned	2.5 – 4

Mating Cover  
Part Number

[see page 43](#)  
2141039-1





**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS**

## Module Components: Fuse and Relay Holder

### INTRODUCTION

TE Connectivity proposes module components holder for basic protection or switching devices. It can combine different protection technologies or different plug-in relay types.

They can be a stand-alone module or mechanically/electrically assembled with other devices in order to create a complete power distribution device.

### 10 Miniature Fuses Holder

#### Applications

- Convenience harness
- Engine harness

#### Technical Features

- Compliant with  
MINI fuse technology

#### Contact used:

Timer family

#### Housing Material:

PP GFM 25/15

#### Can contain up to:

10 Miniature fuses

#### Temperature Class:

-40°C to +100°C

#### Vibration Class:

3G

#### Sealed / Unsealed:

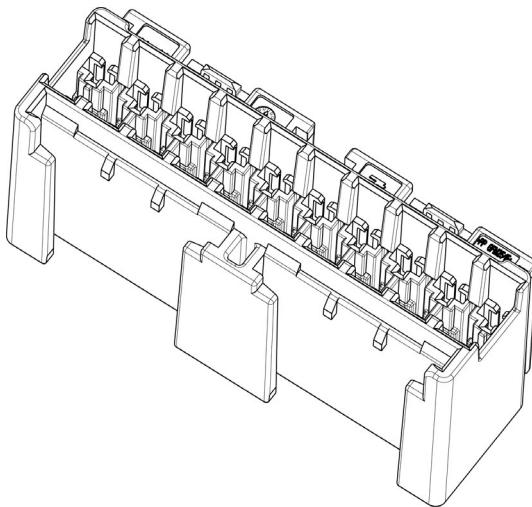
Unsealed

#### Product Specification:

108-15406

#### Application Specification:

408-15008



#### Can be used as stand-alone module or in association with:

PN 1801617

PN 1801618

PN 1801619

PN 1801620

PN 1801764

PN 1801627

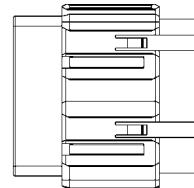
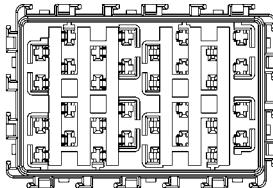
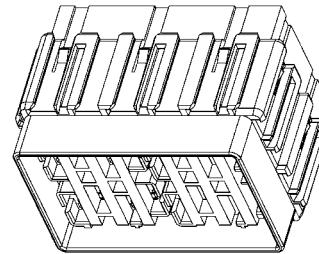
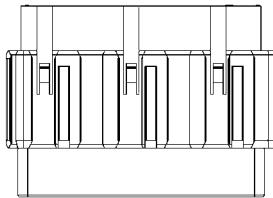
PN 1801773

### 10 Miniature Fuses Holder

Part Number	Housing Color	Material	Mating Contacts	Wire Size Range
			JPT Receptacle	(mm <sup>2</sup> )
			<a href="#">964280-2</a>	0.2 – 0.5
<a href="#">1801616-1</a>	Black	PP GFM 25/15	<a href="#">964284-2</a>	0.5 – 1.0
			<a href="#">965999-2</a>	1.0 – 2.5
			<a href="#">1241978-2</a>	2.5 – 4.0



### MFINITY – Miniature Fuse Module, 16 Positions



#### Technical Features

##### Material:

PBT

##### Product Specification:

108-94263

##### Application Specification:

114-94090

#### Order Information

16x Miniature (Mini) Fuse  
Part Number 2141029-1

##### Can be used as stand-alone module or in association with:

PN 2141022-1

PN 2141024-1

PN 2141026-1

PN 2141028-1

PN 2141034-1

PN 2141031-x

PN 2141040-x

### Miniature Fuse Module, 16 Positions

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141029-1</a>	Miniature Fuse Module	69.3 x 47 x 43

#### Suitable Terminals

Part Number	Description	Material	Plating	Wire Size Range (mm <sup>2</sup> )
<a href="#">1-1355844-1</a>	Fuse Contact Busbar			4 – 6
<a href="#">1-1355877-1</a>				1 – 2.5
<a href="#">1-1355833-1</a>	Fuse Contact Single	CuNiSi	Pre-Tinned	0.5 – 1.0
<a href="#">1-1355880-1</a>				2.5 – 4

**Fuse Holder for Miniature Fuse (8 Miniature Fuses)**

**Applications**

- Convenience harness
- Engine harness

**Technical Features**

- Compliant with MINI fuse technology

**Contact used:**

AMP MCP family,

**Housing Material:**

PA 66

**Can contain up to:**

8 Miniature fuses

**Temperature Class:**

-40°C to +85°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

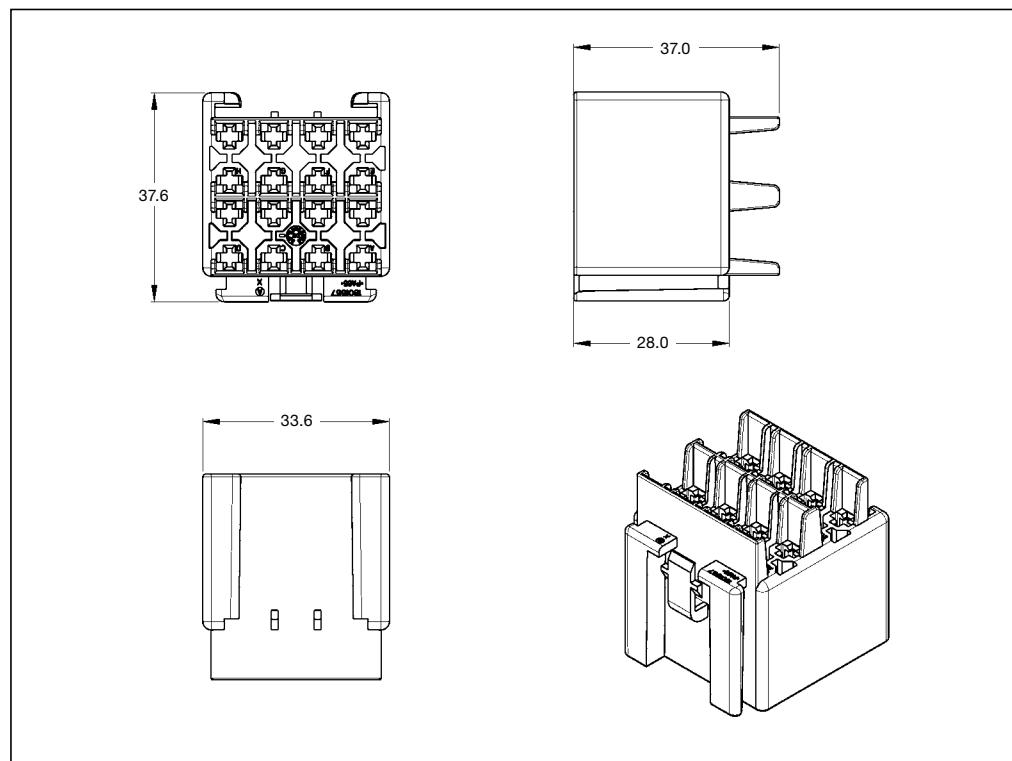
Unsealed

**Product Specification:**

108-15399

**Application Specification:**

411-15744



**Fuse Holder for Miniature Fuse (8 Miniature Fuses)**

Part Number	Housing Color	Material	Package Quantity	Mating Contacts AMP MCP 2.8 Terminals	Wire Size Range (mm²)
<a href="#">1-968880-1</a>				<a href="#">1-968880-3</a>	0.2 – 0.5
<a href="#">1-968849-1</a>				<a href="#">1-968849-2</a>	0.5 – 1.0
<a href="#">1-968849-3</a>				<a href="#">1-968851-1</a>	1.5 – 2.5
<a href="#">1801567-1</a>	Natural	PA66	550	<a href="#">1-968851-2</a> <a href="#">1-968851-3</a>	<a href="#">1-968853-1</a> <a href="#">1-968853-3</a>
					2.5 – 4.0
					<a href="#">See Table Drawing 1355036</a>

### High Current Fuses Holder - 2 Positions

#### Applications

- Convenience harness
- Engine harness

#### Technical Features

- Compliant with MAXI fuse technology

#### Contact used:

NG family

#### Housing Material:

PBT GF10

#### Can contain up to:

2 Medium fuses

#### Temperature Class:

-40°C to +100°C

#### Vibration Class:

3G

#### Sealed / Unsealed:

Unsealed

#### Product Specification:

108-15411

#### Application Specification:

408-15011

#### Can be used as stand-alone module or in association with:

PN 1801616

PN 1801617

PN 1801618

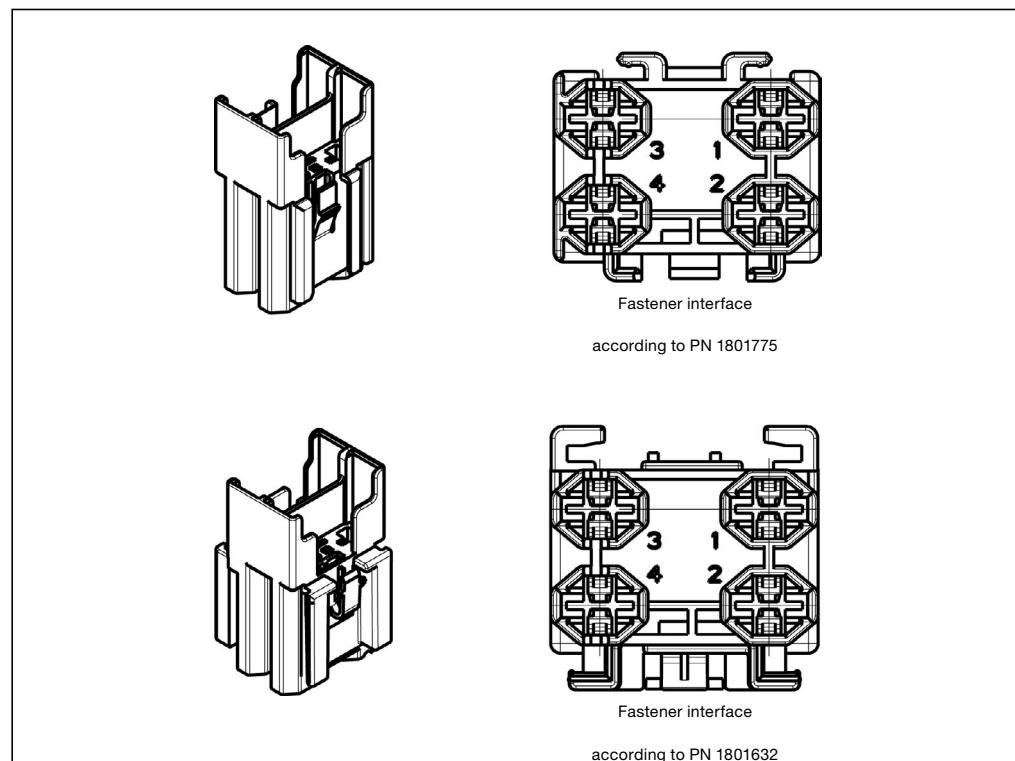
PN 1801619

PN 1801620

PN 1801628

PN 1801764

PN 1801773



### High Current Fuses Holder – 2 Positions

Part Number	Housing Color	Material	Mating Contacts NG Receptacle	Wire Size Range (mm <sup>2</sup> )
<a href="#">1801627-2</a>	Black	PBT GF10	<a href="#">1801431-1</a> <a href="#">1801432-1</a> <a href="#">1801433-1</a>	3 – 5 6 – 7 7 – 10
<a href="#">1801627-3</a>				

**High Current Fuses Holder - 2 Positions**

**Applications**

- Convenience harness

**Technical Features**

- Compliant with MAXI fuse technology

**Contact used:**

MPT family

**Housing Material:**

PA 66

**Can contain up to:**

2 high current fuses

**Temperature Class:**

-40°C to +85°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

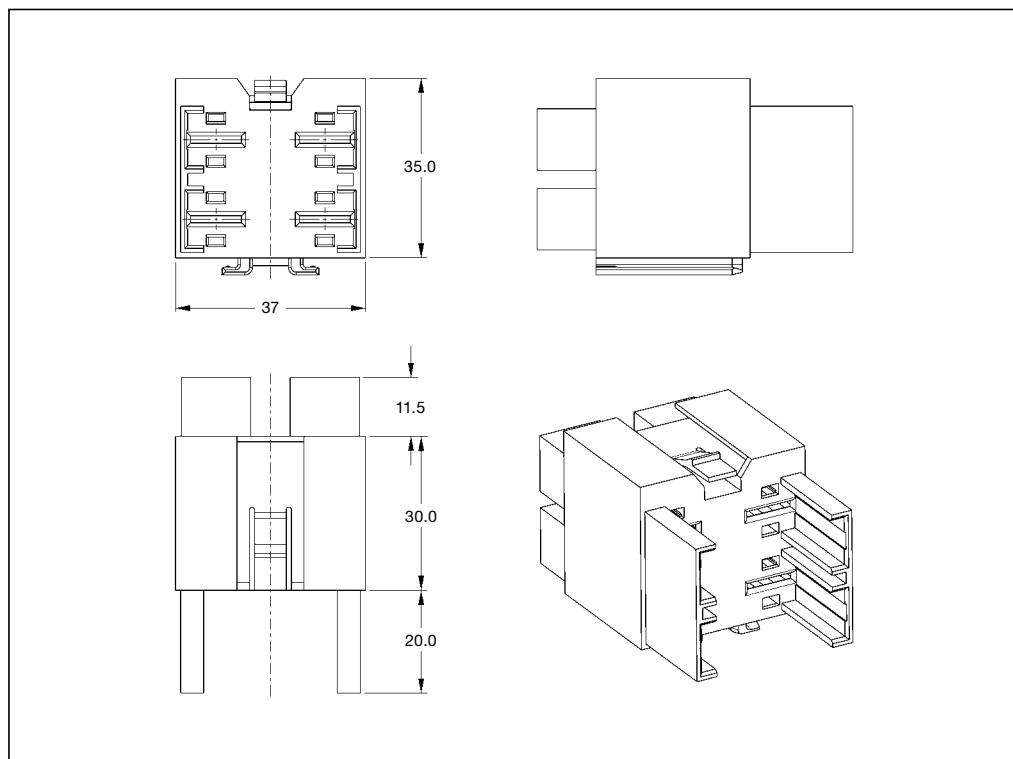
Unsealed

**Product Specification:**

108-18047

**Application Specification:**

114-18075



**High Current Fuses Holder – 2 Positions**

Part Number	Housing Color	Material	Package Quantity	<b>Mating Contacts</b>	<b>Wire Size Range (mm<sup>2</sup>)</b>
				MPT Receptacles	
<a href="#">964595-1</a>	Orange	PA66-GF13	300	<a href="#">962928-1</a> <a href="#">962930-1</a> <a href="#">962932-1</a>	>2.5 – 4.0 4.0 – 6.0 6.0 – 10



#### Technical Features

##### Material:

PBT

##### Product Specification

108-94263

##### Application Specification

114-94090

#### Order Information

12x (ATO) Medium Fuse

Part Number 2141028-1

**Can be used as stand-alone module or in association with:**

PN 2141022-1

PN 2141024-1

PN 2141026-1

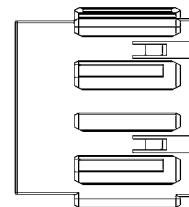
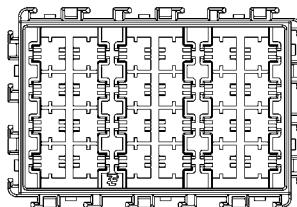
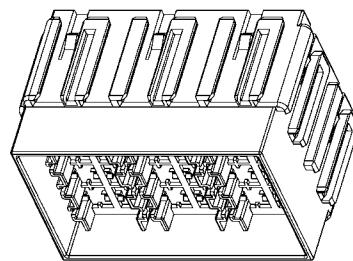
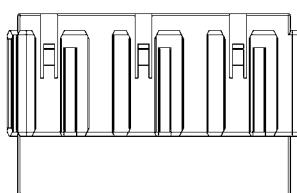
PN 2141029-1

PN 2141034-1

PN 2141031-x

PN 2141040-x

#### MFINITY – Medium Fuse Module – 12 Positions



#### Medium Fuse Module – 12 Positions

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141028-1</a>	Medium Fuse Module	69.3 x 47 x 43

#### Suitable Terminals

Part Number	Description	Material	Plating	Wire Size Range (mm <sup>2</sup> )	
<a href="#">881572-3</a>	Fuse Contact Busbar	Brass	Pre-Tinned	4 – 6	
<a href="#">880397-2</a>	Fuse Contact Single		Pre-Tinned	0.5 – 1.5	
<a href="#">880398-1</a>			–	> 1 – 2.5	
<a href="#">880398-2</a>			Pre-Tinned	> 1 – 2.5	

**Medium Fuse Holder – 4 Positions**

**Applications**

- Body harness

**Technical Features**

- Detection of partially inserted receptacle

**Temperature Class:**

-40°C to +85°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

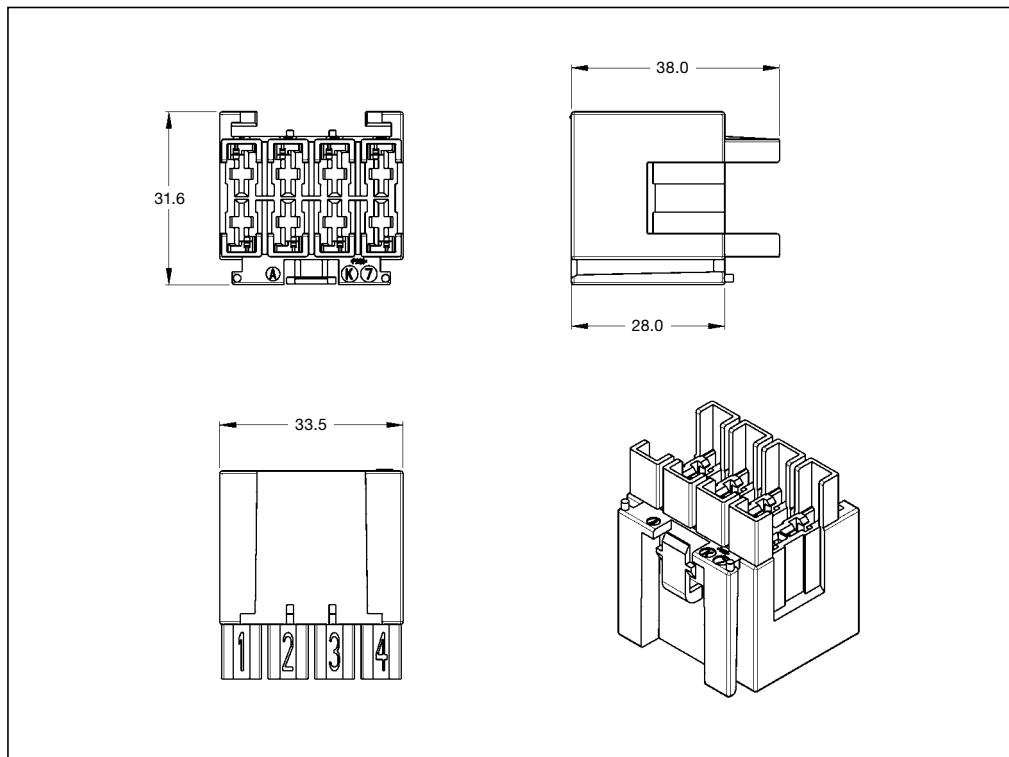
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**Product Specification:**

108-15160

**Application Specification:**

411-15587

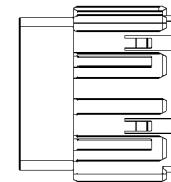
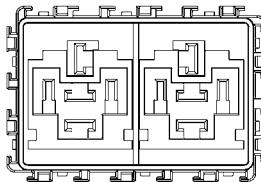
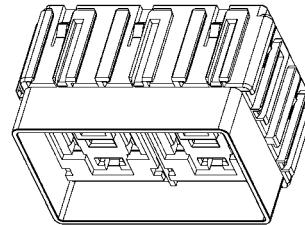
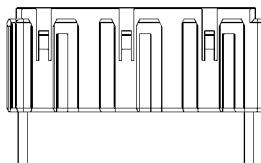


**Medium Fuse Holder – 4 Positions**

Part Number	Housing Color	Material	Package Quantity	Mating Contacts SPT Receptacles	Wire Size Range (mm²)
<a href="#">185847-1</a>	Natural	PA66	550	<a href="#">927831-2</a> <a href="#">144617-1</a> <a href="#">144433-1</a> <a href="#">144434-1</a>	0.5 – 1.0 1.0 – 3.0 3.0 – 5.0 5.0 – 7.0
<a href="#">185847-2</a>					



### MFINITY – Mini Relay Module – 2 Positions



#### Technical Features

##### Material:

PBT

##### Product Specification:

108-94263

##### Application Specification:

114-94090

#### Order Information

2x ISO Mini Relays  
Part Number 2141024-1

##### Can be used as stand-alone module or in association with:

PN 2141022-1

PN 2141026-1

PN 2141028-1

PN 2141029-1

PN 2141034-1

PN 2141031-x

PN 2141040-x

You can find suitable relays on  
page 47 of this catalog.

### Mini Relay Module – 2 Positions

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141024-1</a>	Mini Relay Module	69.3 x 47 x 42.5

#### Suitable Terminals

Part Number	Description	Plating	Wire Size Range (mm <sup>2</sup> )
<a href="#">2208343-1</a>	LEAR – 6.3mm 361330-YF200		0.5 – 1.5
<a href="#">2208343-3</a>	LEAR – 6.3mm 361030-YF200	Pre-Tinned	3 – 5

**Relays Holder Gen1 (1 Mini Relay 35-40A)**

**Applications**

- Convenience harness

**Technical Features**

- Detection of partially inserted receptacle

**Contact used:**  
Timer family

**Housing Material:**  
PA 66

**Can contain up to:**  
1 Mini relay

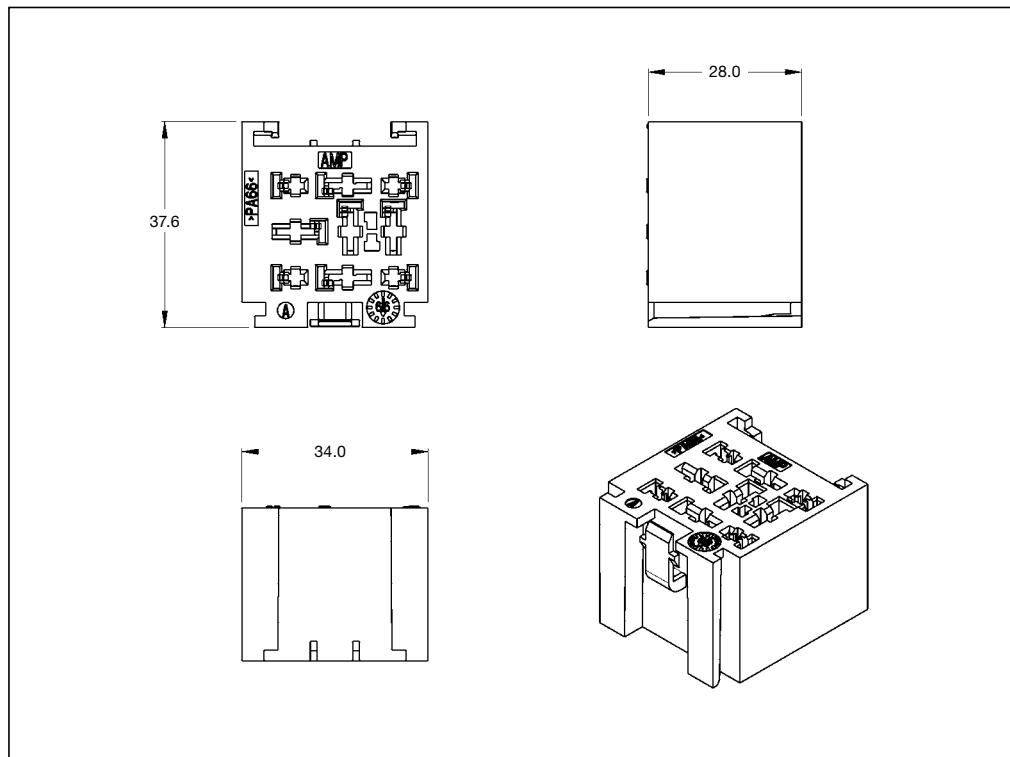
**Temperature Class:**  
-40°C to +85°C

**Vibration Class:**  
3G

**Sealed / Unsealed:**  
Unsealed

**Product Specification:**  
108-15131

**Application Specification:**  
411-15551



**Relays Holder Gen1 (1 Mini Relay 35-40A)**

Part Number	Housing Color	Material	Package Quantity	Mating Contacts	Wire Size Range (mm²)
<a href="#">185403-1</a>	Natural	P66	550	<a href="#">144431-1</a>	0.35 – 1.0
<a href="#">185403-2</a>	Black			<a href="#">144432-1</a>	1.0 – 3.0
<a href="#">185403-3</a>	Gray	SPT Receptacle		<a href="#">927831-2</a>	0.5 – 1.0
<a href="#">185403-4</a>	Brown			<a href="#">144617-1</a>	1.0 – 3.0
				<a href="#">144433-1</a>	3.0 – 5.0
				<a href="#">144434-1</a>	5.0 – 7.0

Modular Relays Holder Gen2 (Relay 35-40A)

**Applications**

- Convenience harness
- Engine harness

**Technical Features**

- Detection of partially inserted receptacle by counterpart

**Contact used:**

Timer family

**Housing Material:**

PP-GFM25/15

**Temperature Class:**

-40°C to +100°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

Unsealed

**Product Specification:**

108-15412

**Application Specification:**

408-15010

**Can be used as stand-alone module or in association with:**

PN 1801616

PN 1801617

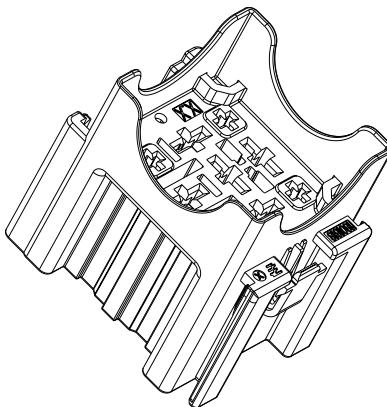
PN 1801619

PN 1801620

PN 1801627

PN 1801764

PN 1801773



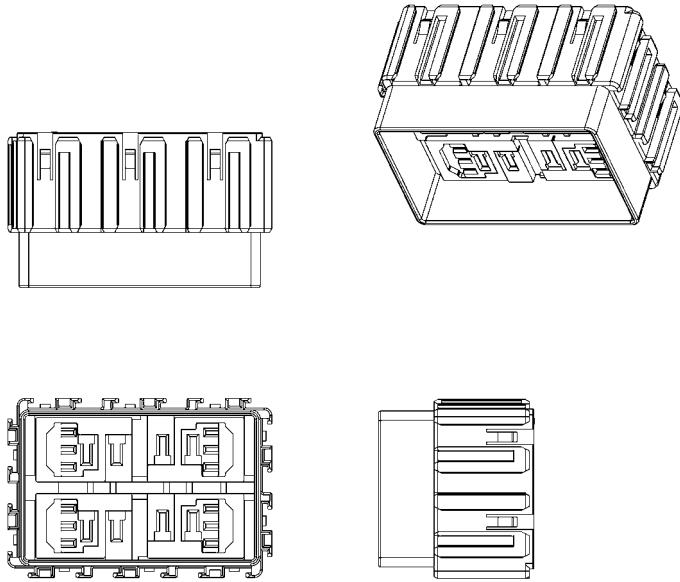
Modular Relays Holder Gen2 (Relay 35-40A)

Part Number	Housing Color *)	Material	Package Quantity	Mating Contacts	Wire Size Range (mm²)		
1801618-1	Black	PP-GFM25/15	300	964280-2	0.2 – 0.5		
				964284-2	0.5 – 1.0		
				965999-2	1.0 – 2.5		
	SPT Receptacle			1241978-2	2.5 – 4.0		
				927831-2	0.5 – 1.0		
				144617-1	1.0 – 3.0		
				144433-1	3.0 – 5.0		

\*) Other colors (Natural) upon request



**MFINITY – Micro Relay Module – 4 Positions**



**Technical Features**

**Material:**

PBT

**Product Specification:**

108-94263

**Application Specification:**

114-94090

**Order Information**

4x ISO Micro Relays  
Part Number 2141022-1

**Can be used as stand-alone module or in association with:**

PN 2141022-1

PN 2141026-1

PN 2141028-1

PN 2141029-1

PN 2141034-1

PN 2141031-x

PN 2141040-x

You can find suitable relays on page 47 of this catalog.

**Micro Relay Module – 4 Positions**

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141022-1</a>	Micro Relay Module	69.3 x 47 x 40.75

**Suitable Terminals**

Part Number	Description	Plating	Wire Size Range (mm <sup>2</sup> )
<a href="#">2208343-2</a>	LEAR – 6.3mm 361430-YF200	Pre-Tinned	1.5 – 2.0
<a href="#">2208342-2</a>	Molex – 4.8mm 33113-0003	N/A	N/A
<a href="#">2208342-1</a>	Molex – 4.8mm 33113-0005	N/A	N/A

Modular Relays Holder Gen2 ( 2 Micro Relays)

**Applications**

- Convenience harness
- Engine harness

**Technical Features**

- Detection of partially inserted receptacle by counterpart

**Contact used:**

Timer family

**Housing Material:**

PP-GFM25/15

**Can contain up to:**

2 Micro relays

**Temperature Class:**

-40°C to +100°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

Unsealed

**Product Specification:**

108-15412

**Application Specification:**

408-15010

**Can be used as stand-alone module or in association with:**

PN 1801616

PN 1801617

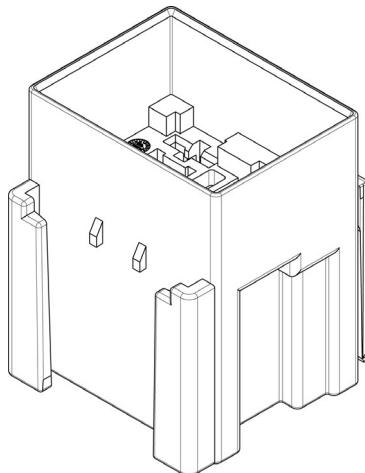
PN 1801618

PN 1801619

PN 1801627

PN 1801764

PN 1801773



**Modular Relays Holder Gen2 (2 Micro Relays)**

Part Number	Housing Color *)	Material	Package Quantity	Mating Contacts	Wire Size Range (mm <sup>2</sup> )
1801620-1	Black	PP-GFM25/15	300	JPT Receptacle	<a href="#">964280-2</a> 0.2 – 0.5
				<a href="#">964284-2</a>	0.5 – 1.0
				<a href="#">927831-2</a>	0.5 – 1.0
				<a href="#">144617-1</a>	1.0 – 3.0
				<a href="#">144433-1</a>	3.0 – 5.0

\*) Other colors (natural) upon request

**Relays Holder Gen1 ( 2 Micro Relays)**

**Applications**

- Convenience harness

**Technical Features**

- Detection of a partially inserted receptacle by counterpart

**Contact used:**

Timer family

**Housing Material:**

PA 66

**Can contain up to:**

2 Micro relays

**Temperature Class:**

-40°C to +85°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

Unsealed

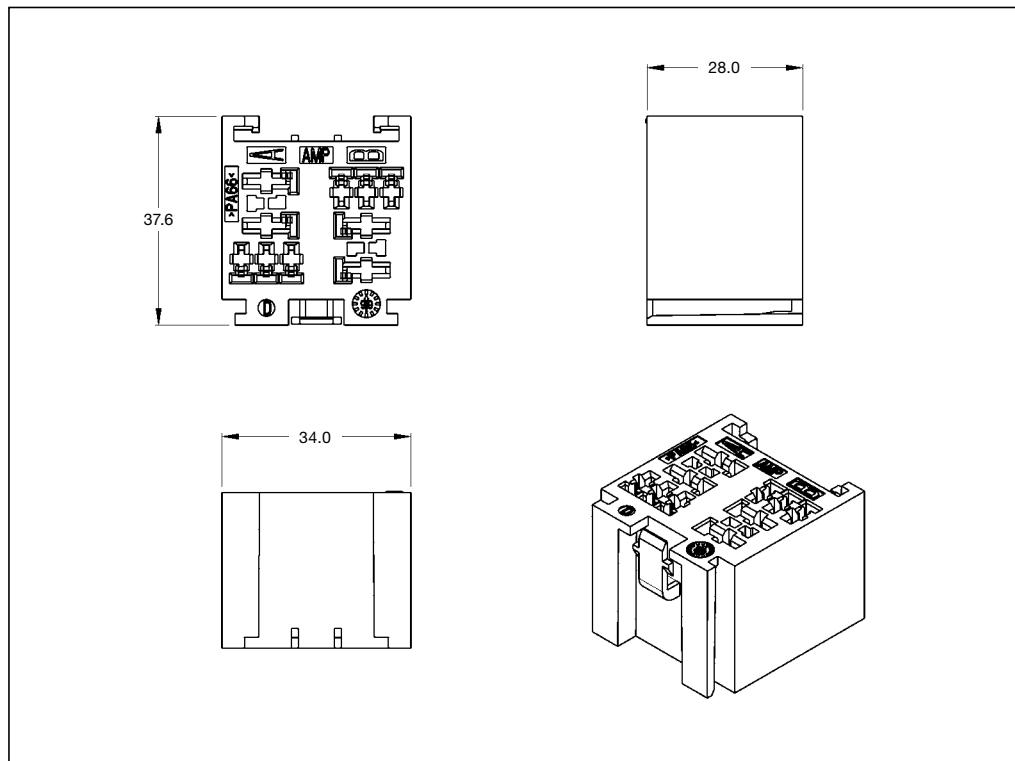
**Product Specification:**

108-15131

**Application Specification:**

411-15551

411-15591



**Relays Holder Gen1 (2 Micro Relays)**

Part Number	Housing Color	Material	Package Quantity	Mating Contacts	Wire Size Range (mm²)
<a href="#">185402-1</a>	Natural	PA 66	550	JPT Receptacle	<a href="#">144431-1</a> 0.35 – 1.0
				<a href="#">144432-1</a>	1.0 – 3.0
<a href="#">185402-2</a>	Black	PA 66	550	SPT Receptacle	<a href="#">927831-2</a> 0.5 – 1.0
					<a href="#">144617-1</a> 1.0 – 3.0
<a href="#">185402-3</a>	Gray				<a href="#">144433-1</a> 3.0 – 5.0
					<a href="#">144434-1</a> 5.0 – 7.0



### MFINITY – Maxi Relay Module – 2 Positions

#### Technical Features

##### Material:

PBT

##### Product Specification:

108-94263

##### Application Specification:

114-94090

#### Order Information

2x ISO Maxi Relays  
Part Number 2141026-1

##### Can be used as stand-alone module or in association with:

PN 2141022-1

PN 2141026-1

PN 2141028-1

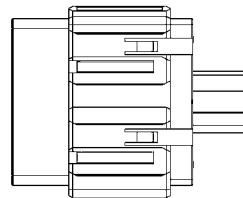
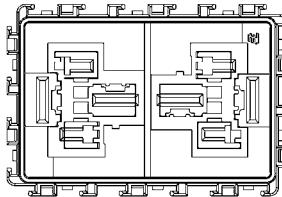
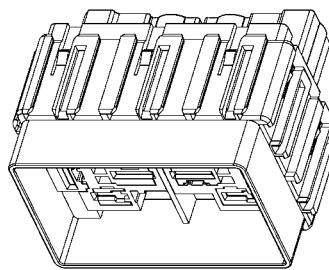
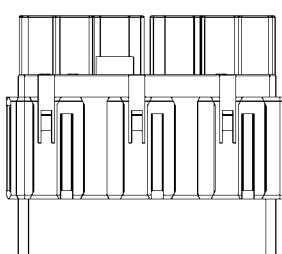
PN 2141029-1

PN 2141034-1

PN 2141031-x

PN 2141040-x

You can find suitable relays on page 47 of this catalog.



### Maxi Relay Module – 2 Positions

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141026-1</a>	Maxi Relay Module	69.3 x 47 x 59

#### Suitable Terminals

Part Number	Description	Plating	Wire Size Range (mm <sup>2</sup> )
<a href="#">1-1355849-1</a>	9.5 Single Tab	CuNiSi	6 – 10
<a href="#">2208343-1</a>	LEAR – 6.3mm 361330-YF200	N/A Pre-Tinned	0.5 – 1.5

**Modular Relays Holder Gen2 (Relay 50-70 A)**

**Applications**

- Convenience harness
- Engine harness

**Technical Features**

- Detection of a partially inserted receptacle by counterpart

**Contact used:**

Timer family

**Housing Material:**

PP GFM25/15

**Temperature Class:**

-40°C to +100°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

Unsealed

**Product Specification:**

108-15412

**Application Specification:**

408-15010

**Can be used as stand-alone module or in association with:**

PN 1801616

PN 1801617

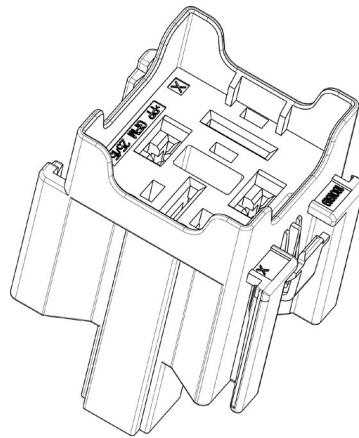
PN 1801618

PN 1801620

PN 1801627

PN 1801773

PN 1801764



**Modular Relays Holder Gen2 (Relay 50-70 A)**

Part Number	Housing Color *)	Material	Package Quantity	Mating Contacts	Wire Size Range (mm²)		
1801619-1	Black	PP-GFM25/15	300	962928-1	2.5 – 4.0		
				962930-1	4.0 – 6.0		
	White			962932-1	7.0 – 10		
				927831-2	0.5 – 1.0		
	Grey			144617-1	1.0 – 3.0		
				144433-1	3.0 – 5.0		

\*) Other colors (Natural) upon request

Relays Holder Gen1 (1 Maxi Relay 50-60 A)

**Applications**

- Convenience harness

**Technical Features**

- Detection of a partially inserted receptacle

**Contact used:**

Timer family

**Housing Material:**

PBT

**Can contain up to:**

1 Maxi relay

**Temperature Class:**

-40°C to +85°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

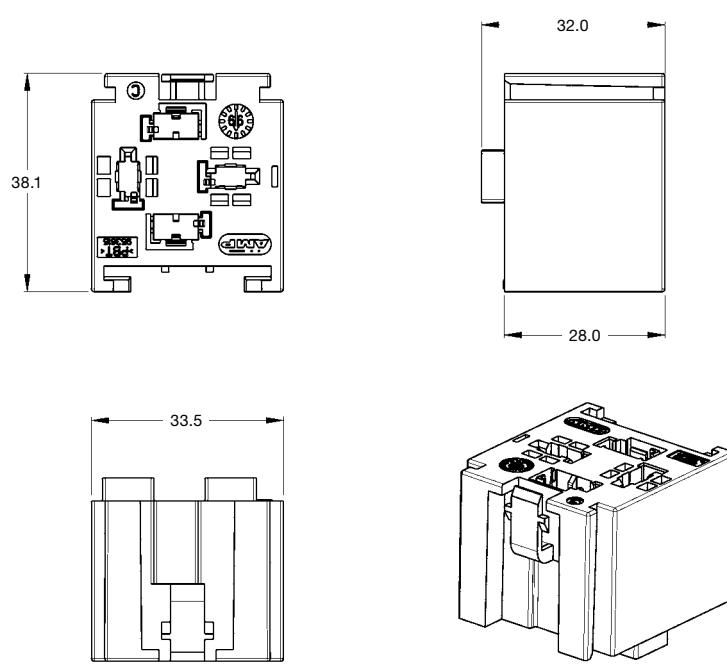
Unsealed

**Product Specification:**

108-15208

**Application Specification:**

411-15620



Relays Holder Gen1 (1 Maxi Relay 50-60 A)

Part Number	Housing Color	Material	Package Quantity	Mating Contacts	Wire Size Range (mm <sup>2</sup> )
953615-1	Red	PBT	500	<a href="#">927831-2</a>	0.5 – 1.0
				<a href="#">144617-1</a>	1.0 – 3.0
				<a href="#">144433-1</a>	3.0 – 5.0
				<a href="#">185283-1</a>	5.0 – 6.0
953615-2	Purple			<a href="#">160759-3</a>	0.5 – 1.5
				<a href="#">154718-3</a>	0.7 – 2.0
				<a href="#">154717-3</a>	2.5 – 4.0

**Relays Holder Gen1 (1 Maxi Relay 70A)**

**Applications**

- Convenience harness

**Technical Features**

- Detection of a partially inserted receptacle

**Contact used:**

Timer family

**Housing Material:**

PBT

**Can contain up to:**

1 Maxi relay

**Temperature Class:**

-40°C to +85°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

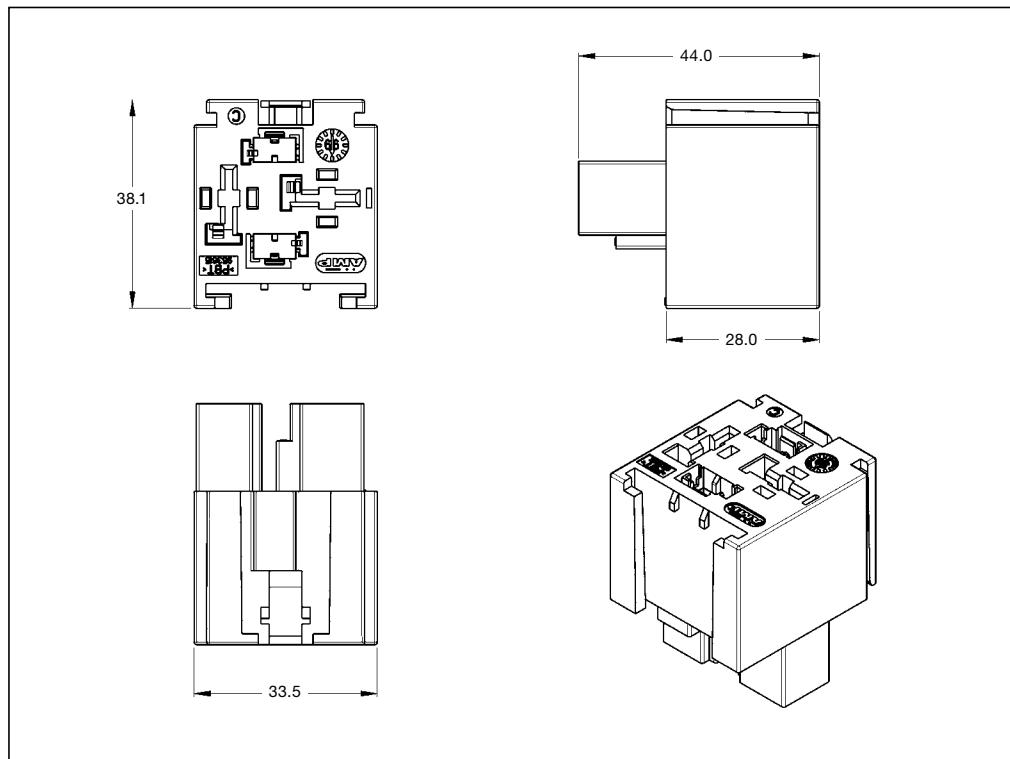
Unsealed

**Product Specification:**

108-15208

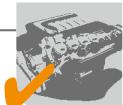
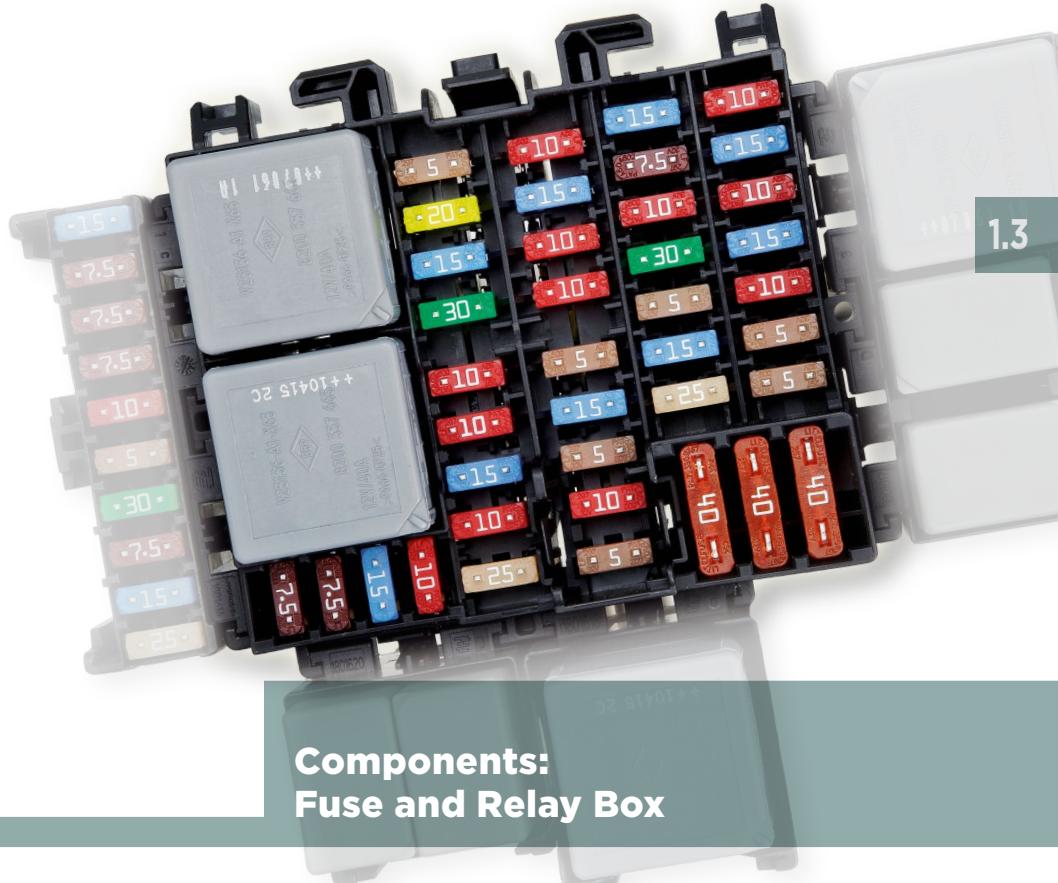
**Application Specification:**

411-15620



**Relays Holder Gen1 (1 Maxi Relay 70A)**

Part Number	Housing Color	Material	Package Quantity	Mating Contacts	Wire Size Range (mm²)
<a href="#">1-953615-1</a>	Red	PBT	450	Positive Lock MK1	<a href="#">160759-3</a> 0.5 – 1.5
<a href="#">1-953615-2</a>	Purple				<a href="#">154718-3</a> 0.7 – 2.0
<a href="#">2-953615-1</a>	Natural			<a href="#">154717-3</a> 2.5 – 4.0	<a href="#">962928-1</a> 2.5 – 4.0
<a href="#">2-953615-2</a>	Black			MPT Receptacle	<a href="#">962930-1</a> 4.0 – 6.0 <a href="#">962932-1</a> 6.0 – 10

**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS**

## Components: Fuse and Relay Box

### INTRODUCTION

TE Connectivity proposes power distribution systems which combine several protection and/or switching functions, and include some functions electrically coupling together.

**1.3**

**Applications**

- Convenience harness
- Engine harness

**Technical Features**

- Compliant with Mini fuse and ATO fuse technology

**Contact used:**

Timer family

**Housing Material:**

PBT GF 10 or

PP GFM 25/15

**Can contain up to:**

- 2 Micro relays
- 1 Mini relay
- 2 Medium fuses
- 4 Miniature fuses
- 2 Diodes or miniature fuses

**Temperature Class:**

-40°C to +100°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

Unsealed

**Product Specification:**

108-15406

**Application Specification:**

408-15009

**Can be used as stand-alone module or in association with:**

PN 1801616

PN 1801618

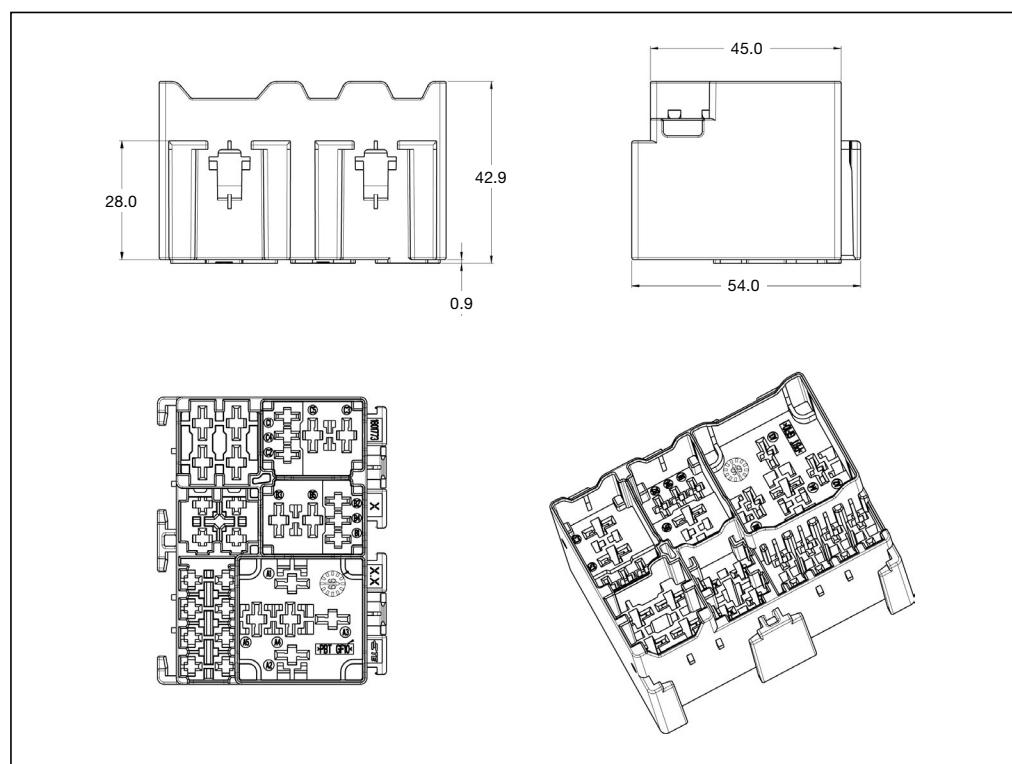
PN 1801619

PN 1801620

PN 1801764

PN 1801627

**Fuse and Relay Holder – 6 Miniature Fuses**



**Fuse and Relay Holder – 6 Miniature Fuses**

Part Number	Housing Color	Material	Mating Contacts	Wire Size Range (mm²)
<a href="#">1801773-1</a>	Black	PBT GF10	JPT Receptacle	<a href="#">964280-2</a> 0.2 – 0.5
			<a href="#">964284-2</a>	0.5 – 1.0
			<a href="#">965999-2</a>	1.0 – 2.5
			<a href="#">1241978-2</a>	2.5 – 4.0
			<a href="#">927831-2</a>	0.5 – 1.0
<a href="#">1801617-1</a>		PP GFM 25/15	SPT Receptacle	<a href="#">144617-1</a> 1.0 – 3.0
			<a href="#">144433-1</a>	3.0 – 5.0

### Fuse and Relay Holder – 36 Miniature Fuses

#### Applications

- Convenience harness
- Engine harness
- Switching and protection device

#### Technical Features

- Compliant with Minifuse and ATO fuse technology
- 4 sets of 4 miniautre fuses with common power supply

#### Contact used:

Timer family, shorting busbar

#### Housing Material:

PBT GF 10

#### Can contain up to:

36 Miniature fuses  
3 Medium fuses  
2 Mini relay  
4 Shorting busbars

#### Temperature Class:

-40 °C to +100 °C

#### Vibration Class:

3G

#### Sealed / Unsealed:

Unsealed

#### Product Specification:

108-15406

#### Application Specification:

408-15007

#### Can be used as stand-alone module or in association with:

PN 1801616

PN 1801617

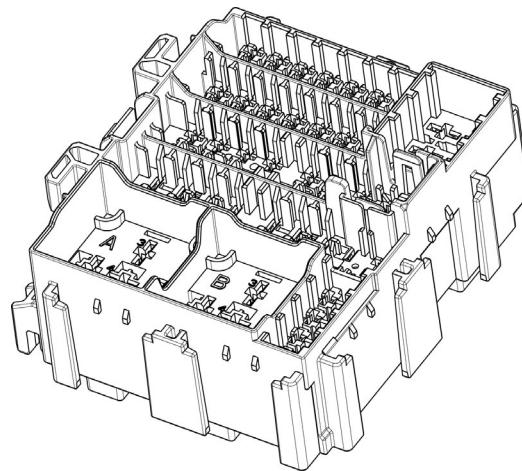
PN 1801618

PN 1801619

PN 1801620

PN 1801627

PN 1801773



### Fuse and Relay Holder – 36 Miniature Fuses

Part Number	Housing Color	Material	Mating Contacts	Wire Size Range (mm <sup>2</sup> )	Shorting Busbar	Wire Size Range (mm <sup>2</sup> )
1801764-1	Black	PBT GF10	JPT	<a href="#">964280-2</a>	0.2 – 0.5	
			Receptacle	<a href="#">964284-2</a>	0.5 – 1.0	
				<a href="#">965999-2</a>	1.0 – 2.5	
				<a href="#">1241978-2</a>	2.5 – 4.0	<a href="#">1801614-3</a>
			SPT	<a href="#">927831-2</a>	0.5 – 1.0	<a href="#">1801614-4</a>
			Receptacle	<a href="#">144617-1</a>	1.0 – 3.0	
				<a href="#">144433-1</a>	3.0 – 5.0	
						2.5 – 4.0

## 1.3

### Applications

- Convenience harness
- Engine harness

### Technical Features

- Busbar technology supplying up to 5 Medium fuses
- Compliant with ATO fuse technology
- Detection of partially inserted receptacle

### Contact used:

SPT family  
NG family

### Housing Material:

PBT GF 10

### Can contain up to:

5 Medium fuses

### Temperature Class:

-40°C to +100°C

### Vibration Class:

3G

### Sealed / Unsealed:

Unsealed

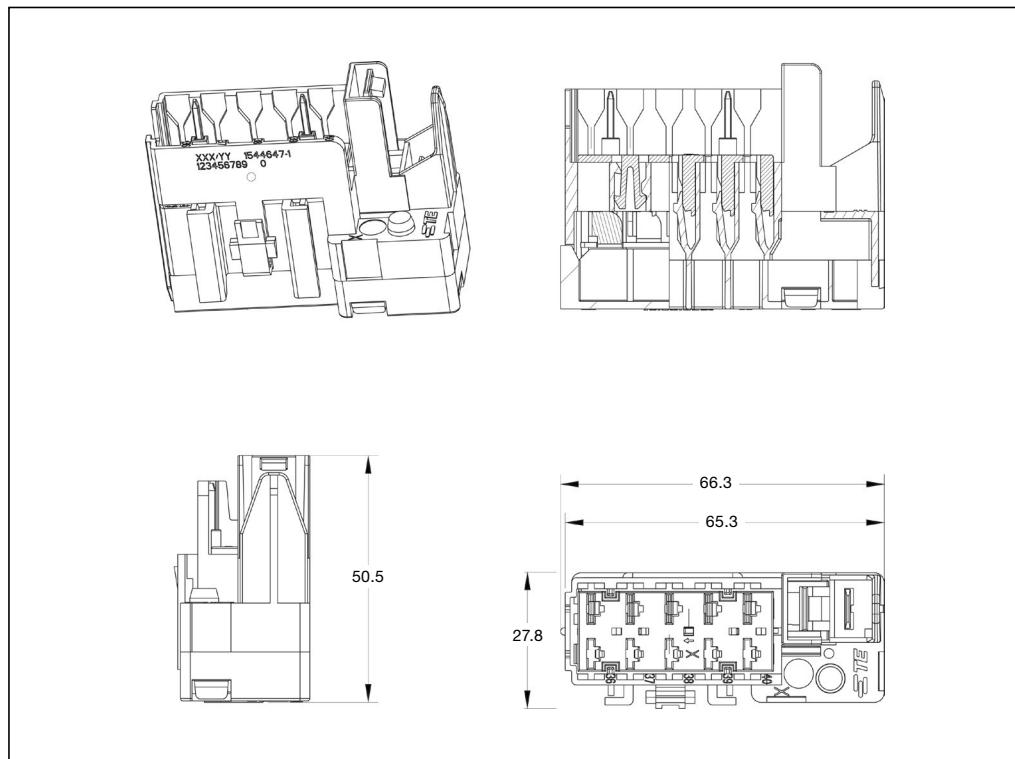
### Product Specification:

108-15332

### Application Specification:

411-15678

### Medium Fuse Holder - 5 Positions



### Medium Fuse Holder - 5 Positions

Part Number	Housing Color	Material	Package Quantity	Mating Contacts (6.3 mm Terminals)	Part Number	Crimping Range (mm²)
<a href="#">1544647-1</a>	Black	PBT, UL 94-HB rated	305	Clip 8 mm with safety lock Rec Housing 8 mm with safety lock	<a href="#">1544128-1</a> <a href="#">1544129-1</a>	6.0 – 10.0 2.0 – 10.0

Medium Fuse Holder - 12 Positions

**Applications**

- Convenience harness
- Engine harness

**Technical Features**

- Busbar technology supplying up to 5 Medium fuses
- Compliant with ATO fuse technology
- Detection of partially inserted receptacle

**Contact used:**

SPT family  
NG family

**Housing Material:**  
PBT GF 10

**Can contain up to:**  
12 Medium fuses

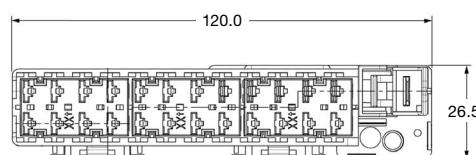
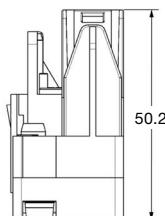
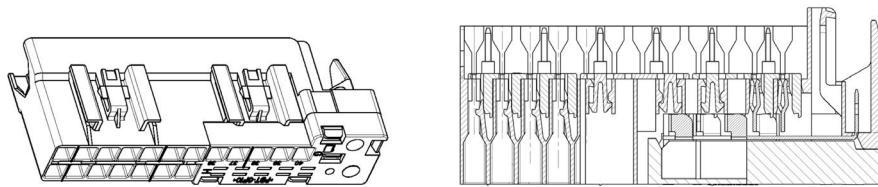
**Temperature Class:**  
-40°C to +100°C

**Vibration Class:**  
3G

**Sealed / Unsealed:**  
Unsealed

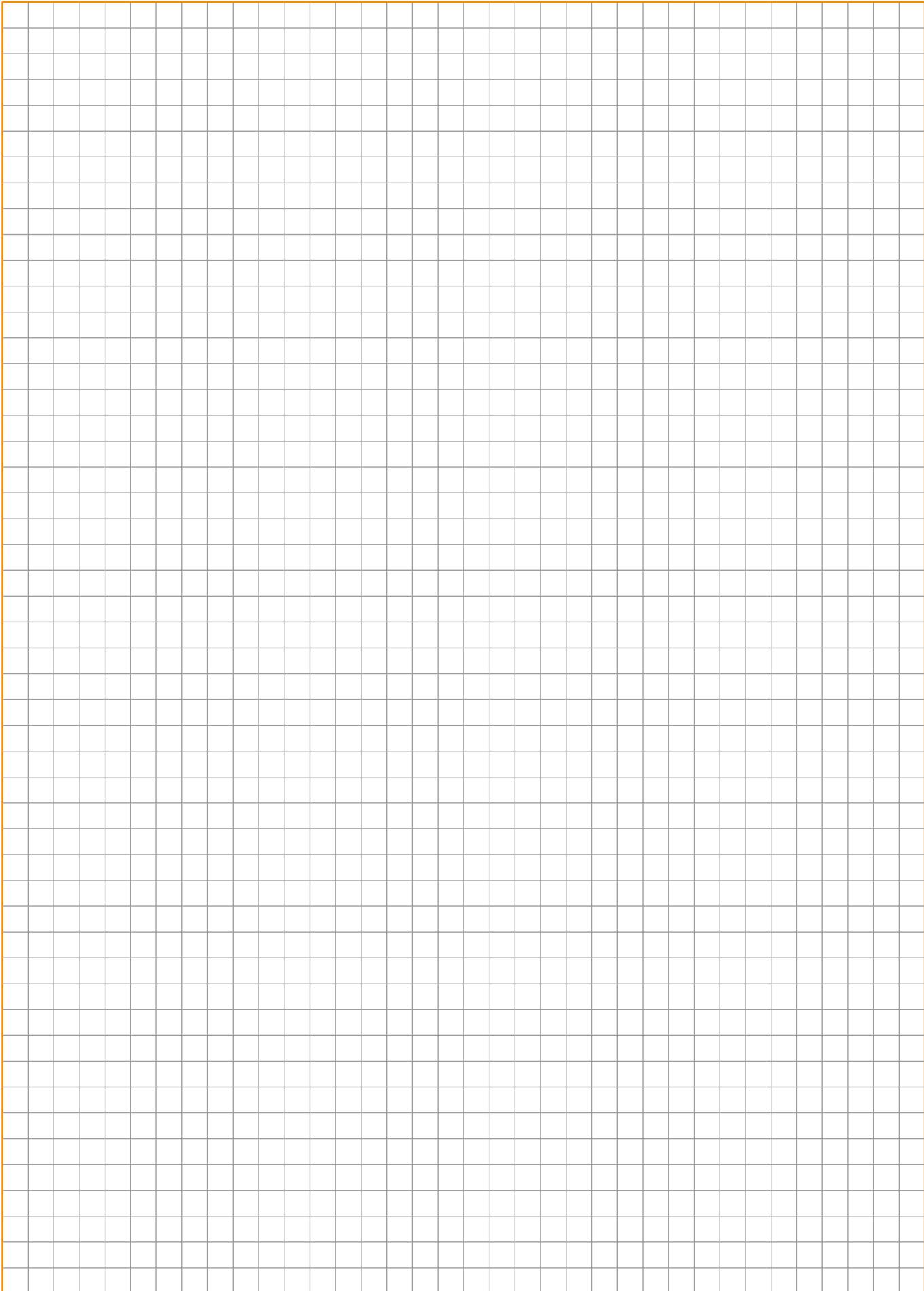
**Product Specification:**  
108-15332

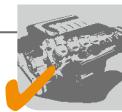
**Application Specification:**  
411-15678



Medium Fuse Holder - 12 Positions

Part Number	Housing Color	Material	Package Quantity	Mating Contacts (6.3 mm Terminals)	Part Number	Crimping Range (mm²)
<a href="#">1544266-1</a>	Black	PBT, UL 94-HB rated	182	Clip 8 mm with safety lock	<a href="#">1544128-1</a>	6.0 – 10.0
				Rec Housing 8 mm with safety lock	<a href="#">1544129-1</a>	2.0 – 10.0



**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS**

## Busbars, Terminals and Accessories

### INTRODUCTION

TE Connectivity proposes specific busbars or terminals, developed for power distribution devices. We can also offer accessories, optional devides like covers or brackets.

### Shorting Busbar Miniature Fuses

#### Applications

- Convenience harness
- Engine harness

#### Technical Features

- Compliant with Mini fuse technology
- Busbar technology supplying up to 4 Miniature fuses

#### Temperature Class:

-40°C to +125°C

#### Vibration Class:

3G

#### Sealed / Unsealed:

Unsealed

#### Product Specification:

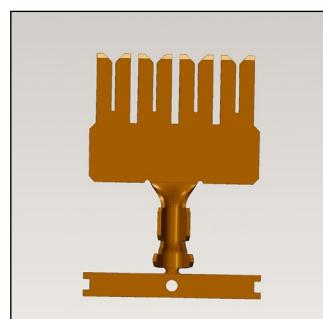
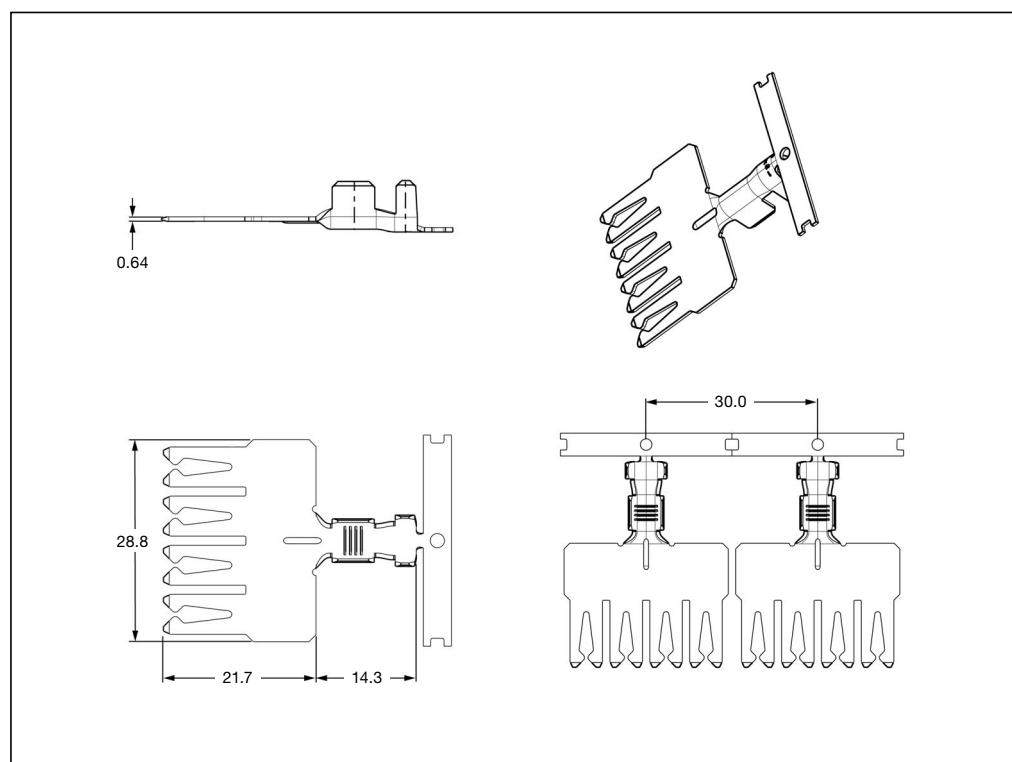
108-15415

#### Application Specification:

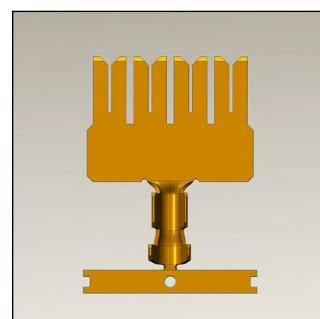
114-15124

#### Can be used with Fuse and Relay Holder:

PN 1801764



1801614-3



1801614-4

### Shorting Busbar Miniature Fuses

Part Number	Housing Color	Material	Package Quantity	Mating Components	Crimp Design	
					Wire Size Range (mm <sup>2</sup> )	Insulation Range (mm)
<a href="#">1801614-3</a>	Black	Tin plated	2000	up to 4 Miniature fuses	2.5 – 6.0	3.0 – 3.7
<a href="#">1801614-4</a>					5.0 – 6.0	4.0 – 4.3



#### Applications

- Convenience harness
- Engine harness

#### Technical Features

##### Material:

PBT

##### Product Specification:

108-94263

##### Application Specification:

114-94090

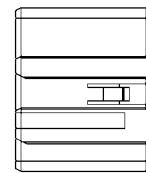
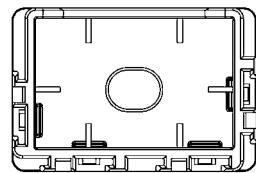
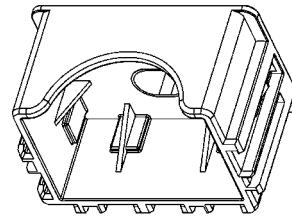
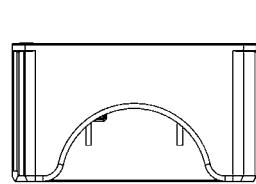
#### Order information:

Mounting Bracket for Screw M8  
Part Number 2141031-1

#### Can be used with:

- PN 2141022-1
- PN 2141024-1
- PN 2141026-1
- PN 2141028-1
- PN 2141029-1
- PN 2141034-1
- PN 2141040-x

#### MFINITY – Bracket Module, 180°



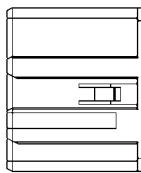
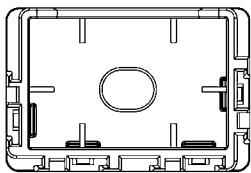
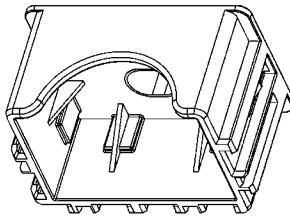
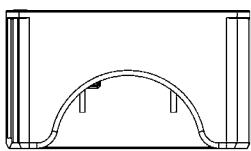
#### MFINITY – Bracket Module, 180°

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141031-1</a>	Bracket Module 180°	42 x 31.5 x 26.5

1.4



**MFINITY – Bracket Module, 90°**



#### **Applications**

- Convenience harness
- Engine harness

#### **Technical Features**

##### **Material:**

PBT

##### **Product Specification:**

108-94263

##### **Application Specification:**

114-94090

#### **Order information:**

Mounting Bracket for Screw M8  
Part Number 2141031-1

#### **Can be used with:**

- PN 2141022-1
- PN 2141024-1
- PN 2141026-1
- PN 2141028-1
- PN 2141029-1
- PN 2141034-1
- PN 2141040-x

**MFINITY – Bracket Module, 90°**

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141031-2</a>	Bracket Module 90°	42 x 31.5 x 26.55

### Brackets for Modular Relay or Fuse Holder, 1 Position

#### Applications

- Convenience harness

#### Technical Features

##### Housing Material:

PA 66

##### Temperature Class:

-40°C to +85°C

##### Vibration Class:

3G

##### Sealed / Unsealed:

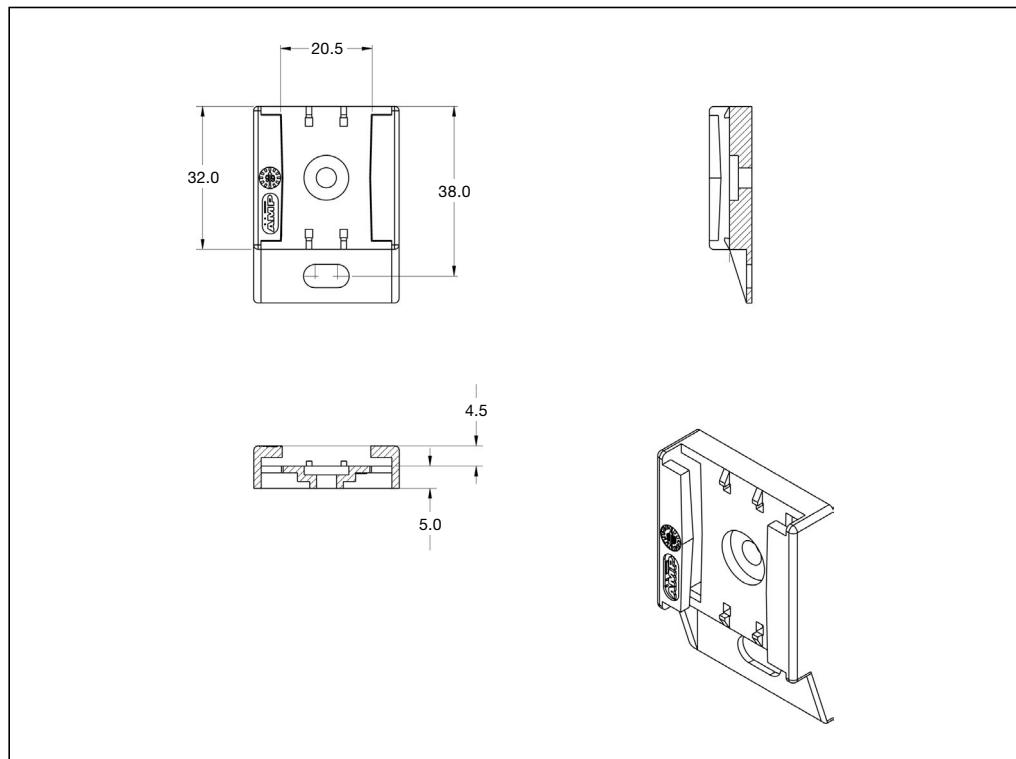
Unsealed

##### Product Specification:

108-15219

##### Application Specification:

411-15616



### Brackets for Modular Relay or Fuse Holder, 1 Position

Part Number	Housing Color	Material	Package Quantity	Mating Components
<b>Modular Relay Holder</b>				
<a href="#">185402-1</a>				
<a href="#">185402-2</a>				
<a href="#">185402-3</a>				
<b>Modular Relay Holder for Relays (4 positions / 5 positions)</b>				
<a href="#">185403-1</a>				
<a href="#">185403-2</a>				
<a href="#">185403-3</a>				
<a href="#">185403-4</a>				
<b>Medium Fuse Holder (4 positions)</b>				
<a href="#">185847-1</a>				
<a href="#">185847-2</a>				
<a href="#">953653-2</a>	Black	PA 66 Glass Fiber	1000	<b>Modular Relay Holder (50 – 60 A)</b> <a href="#">953615-x</a>
<b>Modular Relay Holder (50 – 60 A and 70 A)</b>				
<a href="#">953615-x</a>				
<b>Relay Holder Gen2</b>				
<a href="#">1801618-x</a>				
<a href="#">1801619-x</a>				
<a href="#">1801620-x</a>				
<b>Fuse and Relay Holder</b>				
<a href="#">1801616-x</a>				
<a href="#">1801627-x</a>				
<a href="#">1801628-x</a>				
<a href="#">1801764-x</a>				

**Brackets for Modular Relay or Fuse Holder, 2 Positions**

**Applications**

- Convenience harness

**Technical Features**

**Housing Material:**

PA 66

**Temperature Class:**

-40°C to +85°C

**Vibration Class:**

3G

**Sealed / Unsealed:**

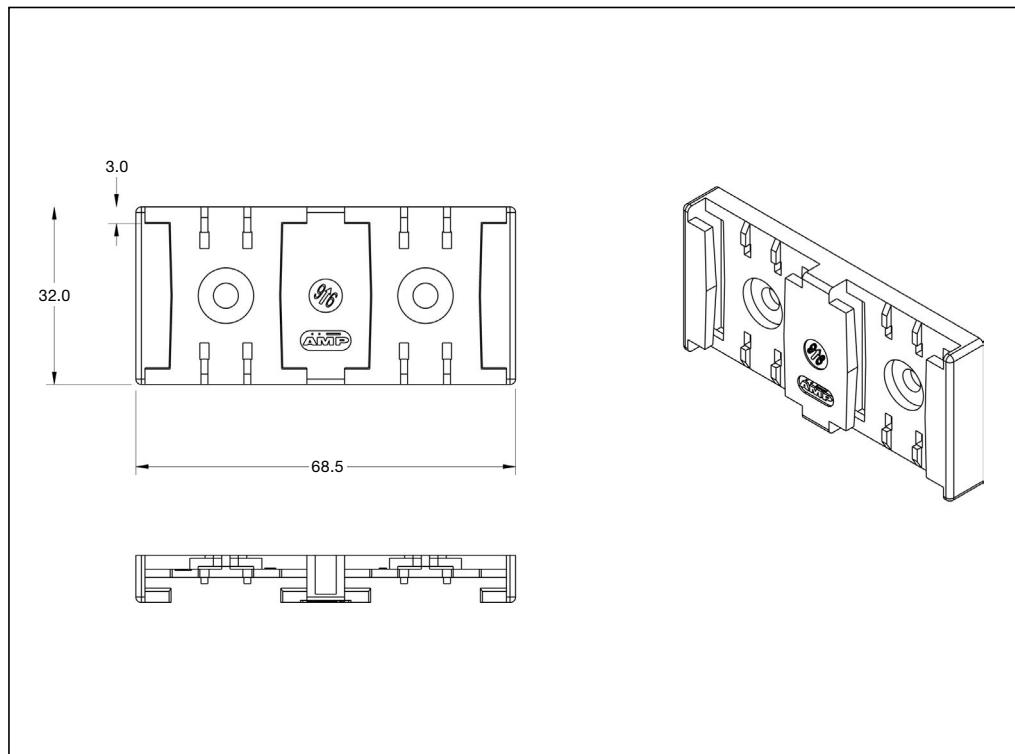
Unsealed

**Product Specification:**

108-15162

**Application Specification:**

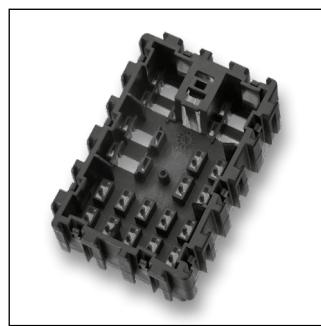
411-15589



**Brackets for Modular Relay or Fuse Holder, 2 Positions**

Part Number	Housing Color	Material	Package Quantity	Mating Components
<b>Modular Relay Holder</b>				
185402-1				
185402-2				
185402-3				
<b>Modular Relay Holder for Relays (4 positions / 5 positions)</b>				
185403-1				
185403-2				
185403-3				
185403-4				
<b>Medium Fuse Holder (4 positions)</b>				
185847-1				
185847-2				
<b>Modular Relay Holder (50 – 60 A)</b>				
953615-x				
<b>Modular Relay Holder (50 – 60 A and 70 A)</b>				
953615-x				
<b>Relay Holder Gen2</b>				
1801618-x				
1801619-x				
1801620-x				
<b>High Current Fuse Holder</b>				
1801627-3				
1801628-x				

(\*) On request; please contact your TE Connectivity representative for any query.



### MFINITY – Spare Fuse Module

#### Applications

- Convenience harness
- Engine harness

#### Technical Features

##### Material:

PBT

##### Product Specification:

108-94263

##### Application Specification:

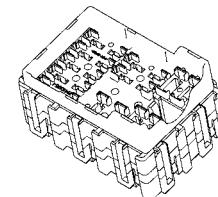
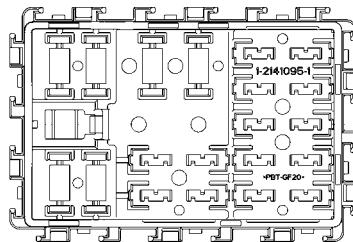
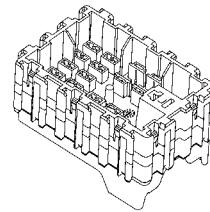
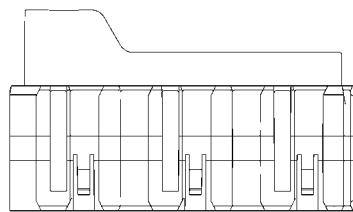
114-94090

##### Can contain up to:

- 7x Medium (ATO) Fuses used in module Part Number 2141028-1
- 6x Miniature (Mini) Fuses used in module Part Number 2141029-1
- 1x Fuse Puller

##### Can be used as stand-alone module or in association with:

PN 2141022-1  
PN 2141024-1  
PN 2141026-1  
PN 2141029-1  
PN 2141034-1  
PN 2141031-x  
PN 2141040-x



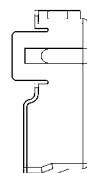
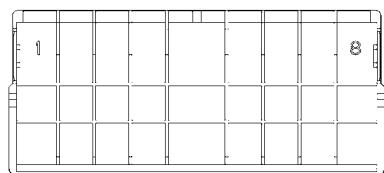
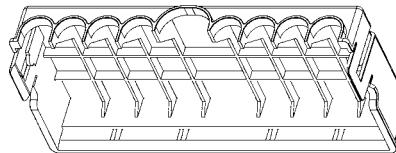
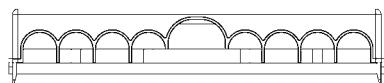
### MFINITY – Spare Fuse Module

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">1-2141095-1</a>	Spare Fuse Module	69.1 x 46.7 x 40

1.4



**MFINITY – Cover for Pre-Fuse SF30 Module**

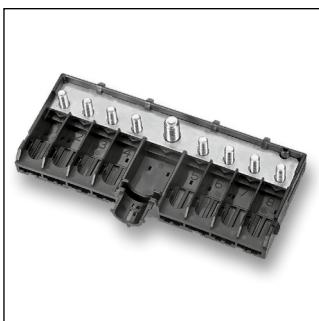


**MFINITY – Cover for Pre-Fuse SF30 Module**

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141033-1</a>	Cover for SF30 Fuse Module	140.4 x 62 x 28.5

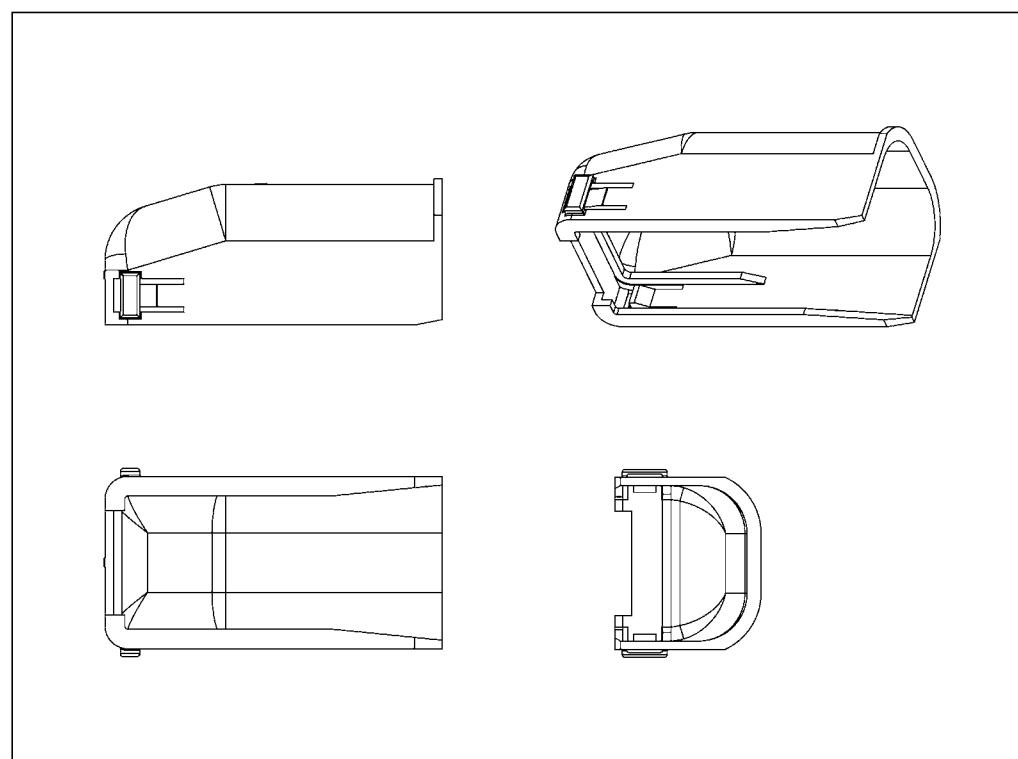
Mating Cover  
Part Number

[see page 7](#)  
2141034-1





#### MFINITY – Cover for Type A Fuse Module



#### Technical Features

**Material:**  
PP

**Product Specification:**  
108-94263

**Application Specification:**  
114-94090

#### Order Information

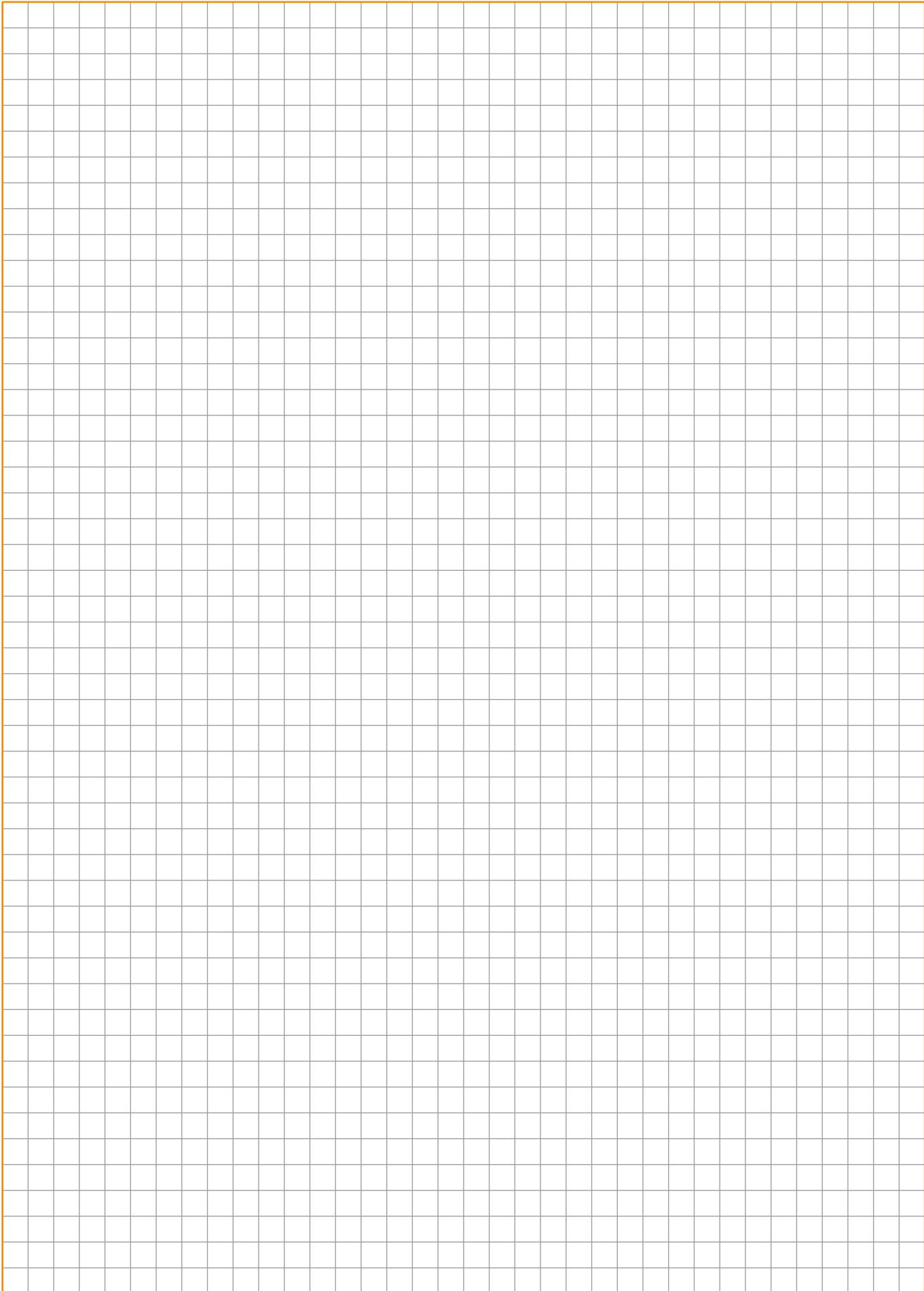
Cover for B+ Protection  
Part Number 2141039-1

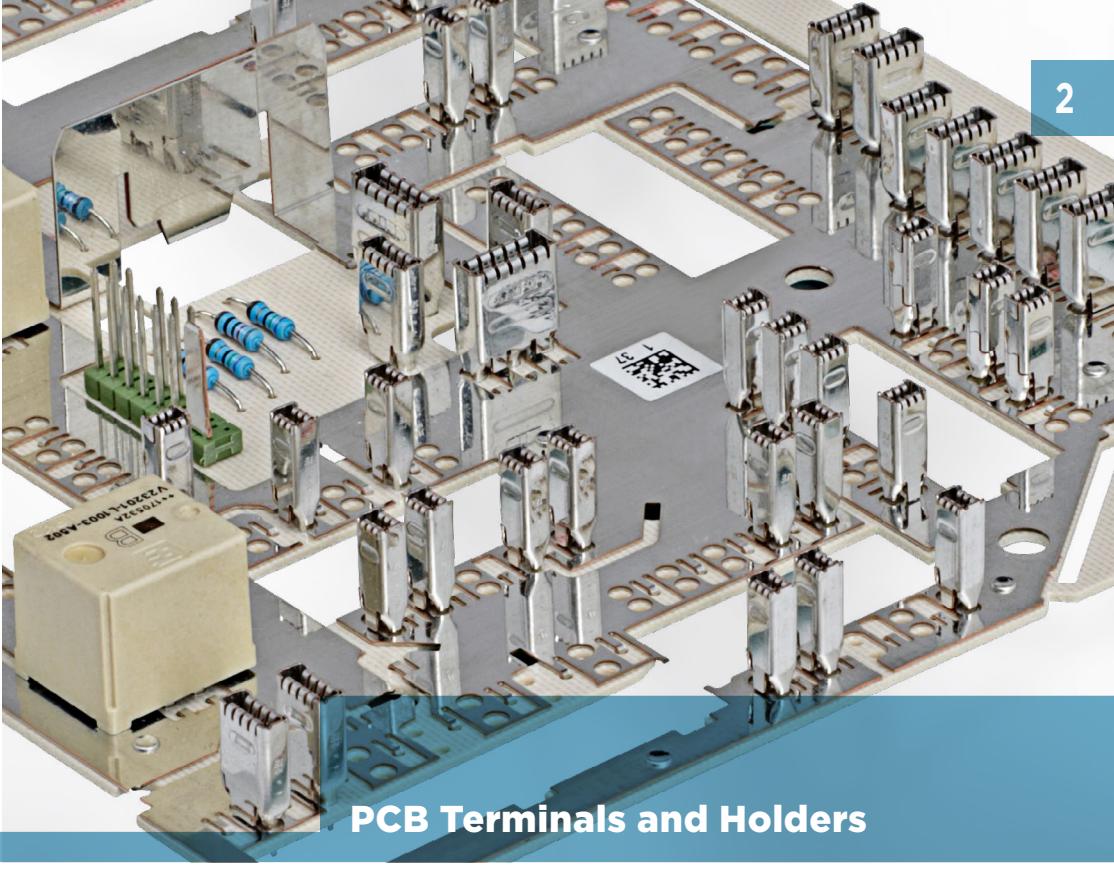
#### MFINITY – Cover for Type A Fuse Module

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
<a href="#">2141039-1</a>	Cover for Type A Fuse Module	60 x 33.4 x 26

Mating Module      [see page 8 + 9](#)  
Part Number          2141040-1

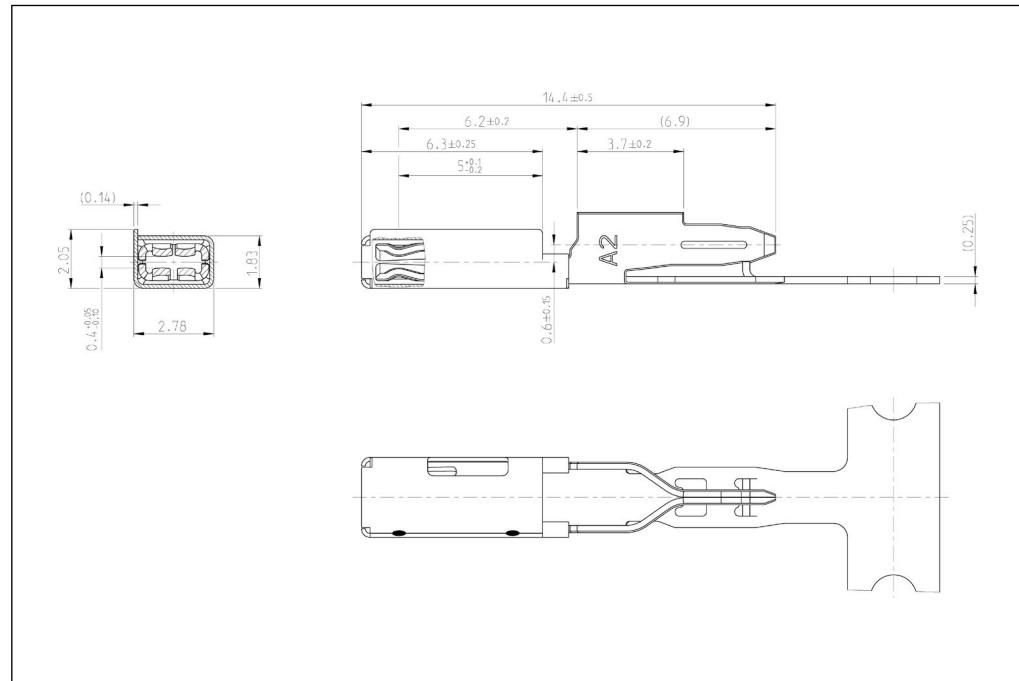




**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS****PCB Terminals and Holders****INTRODUCTION**

Our wide range of printed circuit board (PCB) terminals and holders are engineered for numerous electronic applications.

In addition to hard wired devices, our PCB products are ideal for protection and switching devices. This chapter offers product information to help engineers overcome connection challenges of PCB applications.

**MQS 1.5 mm Terminal****Technical Features****Application / Function**

Fuse

**Contact Material**

CuNiSi

**Plating**

Tin-Silver

**Termination Method**

Through Hole

**PCB Tab Dimension** $1.4 \times 0.5$  mm**Product Drawing**

1670208

**Product Specification**

./

**Application Specification**

./

**MQS 1.5 mm Terminal**

Part Numbers		Wire Size	Plating	Packaging
Root PN	Component PN			
1670208	<a href="#">1670208-1</a>	16.4	Tin-Silver	Palet

**Technical Features**

**Application / Function**

Others

**Contact Material**

CuZn30

**Plating**

Tin

**Termination Method**

Through Hole

**Tab Thickness**

0.8 mm

**Product Drawing**

1379736

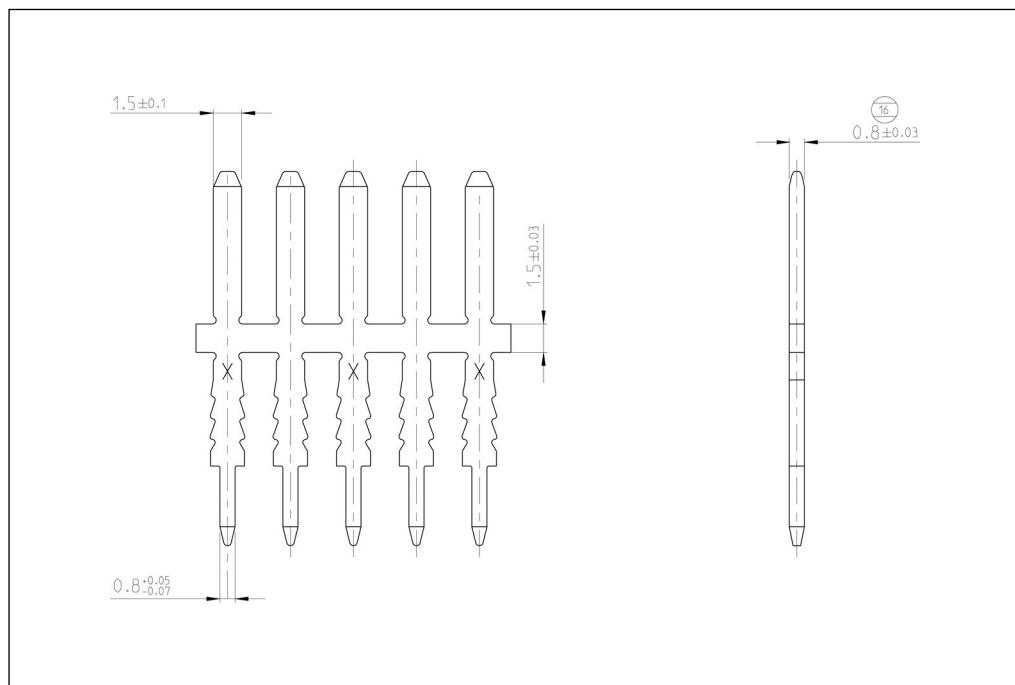
**Product Specification**

./.

**Application Specification**

./.

**Tab Contact 1.5 x 0.8 mm**



**Tab Contact 1.5 x 0.8 mm**

Part Numbers		Wire Size	Plating	Packaging
Root PN	Component PN			
1379736	<a href="#">2-1379736-2</a>	19.75	Tin	Reel

### Technical Features

#### Application / Function

Others

#### Contact Material

CnZn30 T4

#### Plating

Tin

#### Termination Method

Throug Hole

#### Tab Thickness

0.8 mm

#### Product Drawing

953374

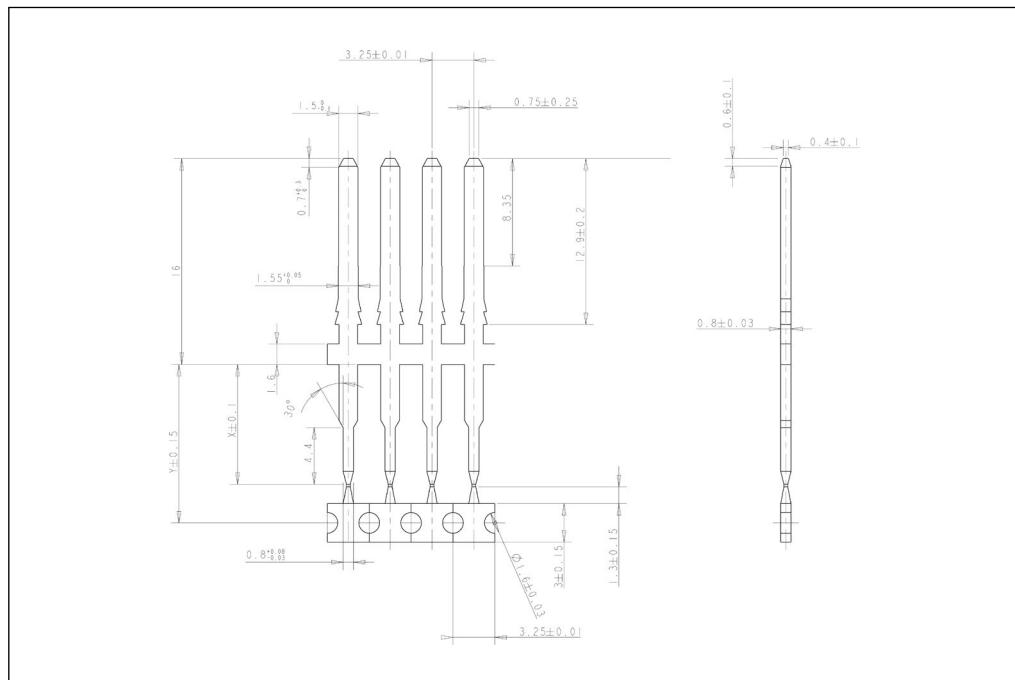
#### Product Specification

./.

#### Application Specification

./.

### AMP MCP Tab 1.5 x 0.8 mm - Plain



### AMP MCP Tab 1.5 x 0.8 mm - Plain

Part Numbers		Length (mm)	Plating	Packaging
Root PN	Component PN			
953374	<a href="#">1-953374-1</a>	37.75	Tin	Reel
	<a href="#">1-953374-2</a>	48.75		

## Technical Features

### Application / Function

Fuse

### Contact Material

CuFe 2P

### Plating

Tin

### Termination Method

Through Hole

### PCB Tab Hole Dimension

2.6 x 1.2 mm

### Product Drawing

1544549

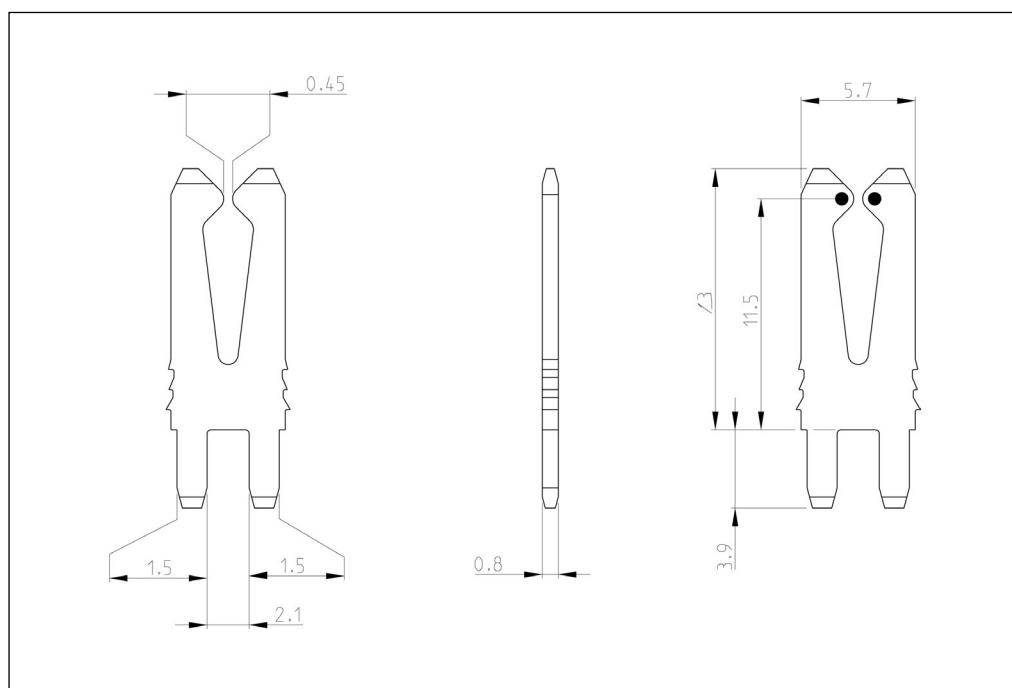
### Product Specification

./.

### Application Specification

./.

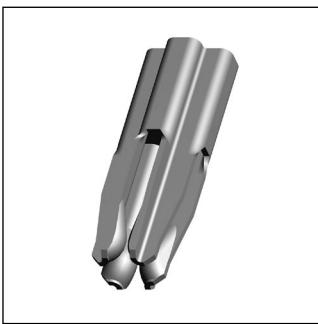
## 1.5 mm Autofuse Contact – Plated



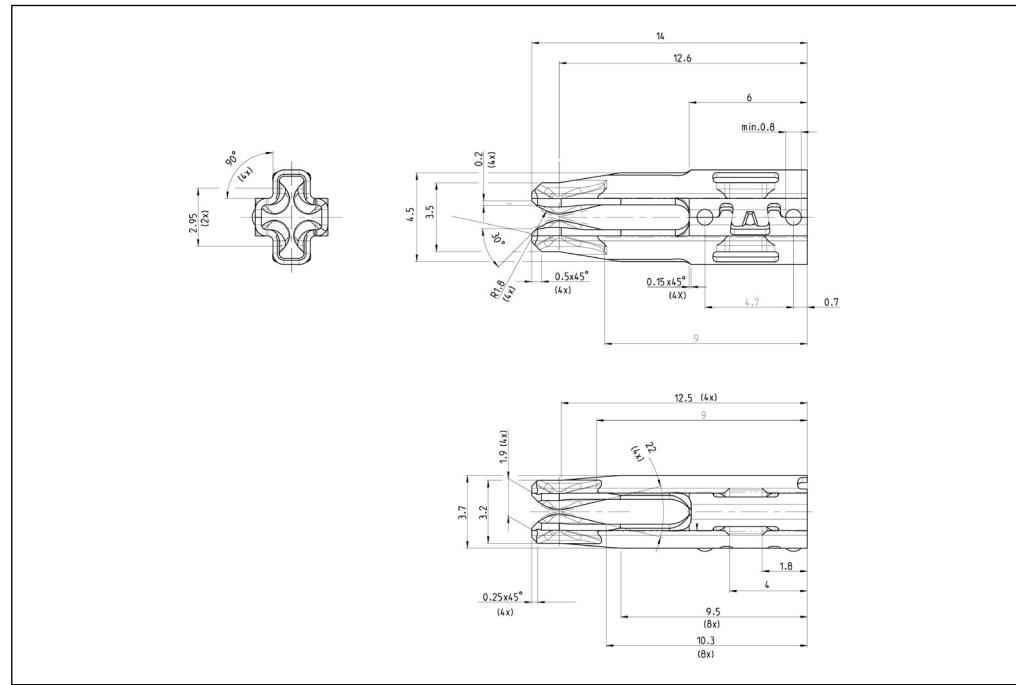
## 1.5 Autofuse Contact – Plated

Part Numbers		Dimensions (mm)	Plating	Packaging
Root PN	Component PN			
1544549	<a href="#">1544549-1</a>	./.	Tin	Palet

2.2



### 2.8 mm Cross Contact for Stamped Circuit 0.8



#### Technical Features

##### Application / Function

Fuse or Relay

##### Contact Material

CuNiSi

##### Plating

Tin / Tin-Silver

##### Termination Method

Through Hole

##### Stamped Circuit Thickness

0.8 mm

##### Mating Tab Dimensions

2.8 x 0.8 mm

##### Product Drawing

1823667

##### Product Specification

108-94188

##### Application Specification

114-94202

### 2.8 mm Cross Contact for Stamped Circuit 0.8

Part Numbers		Stamped Circuit Thickness (mm)	Plating	Packaging
Root PN	Component PN			
	<a href="#">2-968908-1</a>		Tin	Palet
968908	<a href="#">2-968908-2</a>	0.8	Tin-Silver	Palet
	<a href="#">968908-1</a>		Tin	Reel

## Technical Features

### Application / Function

Fuse

### Contact Material

CuFe 2P SM 196

### Plating

Tin

### Termination Method

Through Hole

### PCB Tab Dimension

2.5 x 0.64 mm

### Product Drawing

1544547

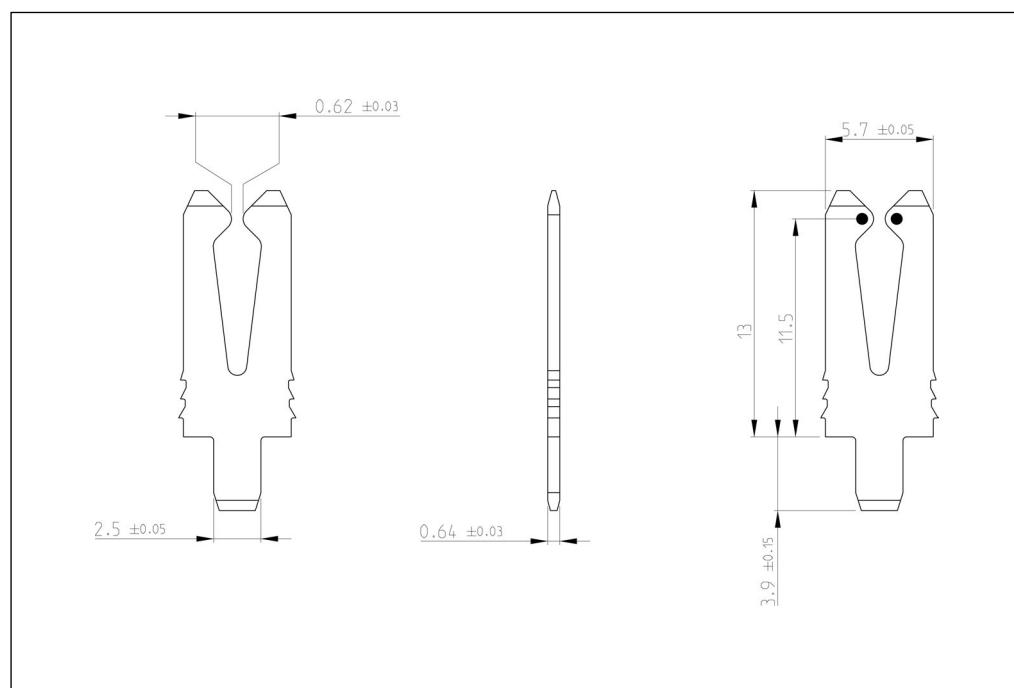
### Product Specification

./.

### Application Specification

./.

## Minifuse Contact – Plated



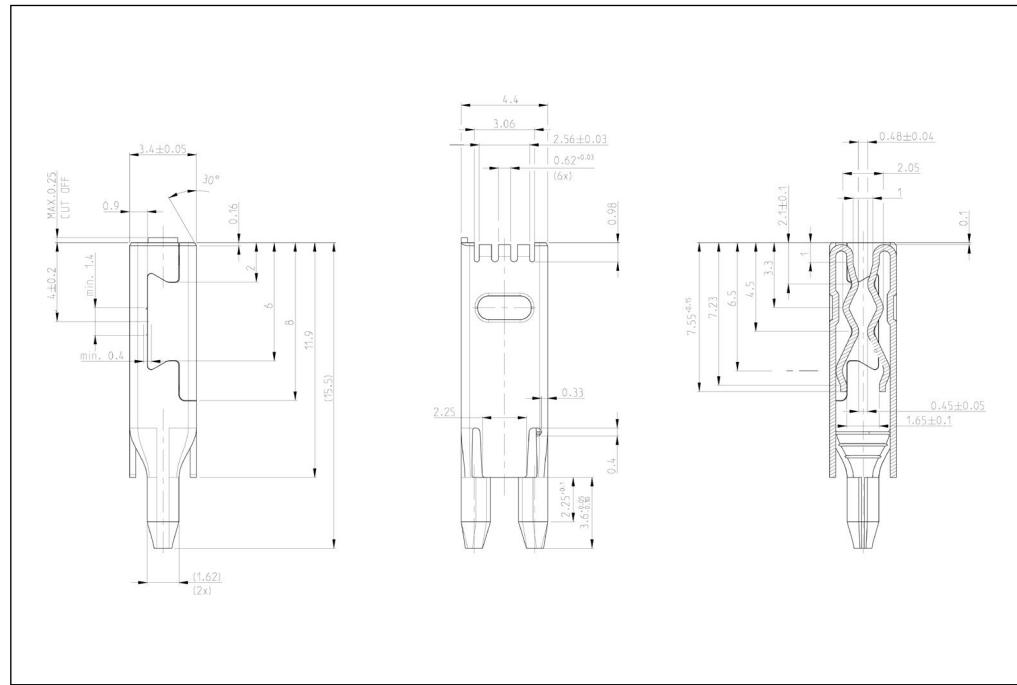
## Minifuse Contact – Plated

Part Numbers		Length (mm)	Plating	Packaging
Root PN	Component PN			
1544547	<a href="#">1544547-1</a>	16.9	Tin	Palet

2.2



**PCB 2.8 Terminal - SN**



**Technical Features**

**Application / Function**  
Fuse or Relay

**Contact Material**  
CuNiSi/Sn

**Plating**  
Tin-Silver

**Termination Method**  
Through Hole

**PCB Hole Dimension**  
Ø 1.5 mm

**Product Drawing**  
1719103

**Product Specification**  
108-94308

**Application Specification**  
114-18910

**PCB 2.8 Terminal - SN**

<b>Part Numbers</b>		<b>Mating Part (mm)</b>	<b>Plating</b>	<b>Packaging</b>
<b>Root PN</b>	<b>Component PN</b>			
1719103	<a href="#">1719103-1</a> <a href="#">1-1719103-1</a>	2.8 x 0.825	Tin-Silver	Palet Reel

**Technical Features**

**Application / Function**

Others

**Contact Material**

CuSn0.15

**Plating**

Tin

**Termination Method**

Through Hole

**Tab Thickness**

0.6 mm

**Product Drawing**

1670483

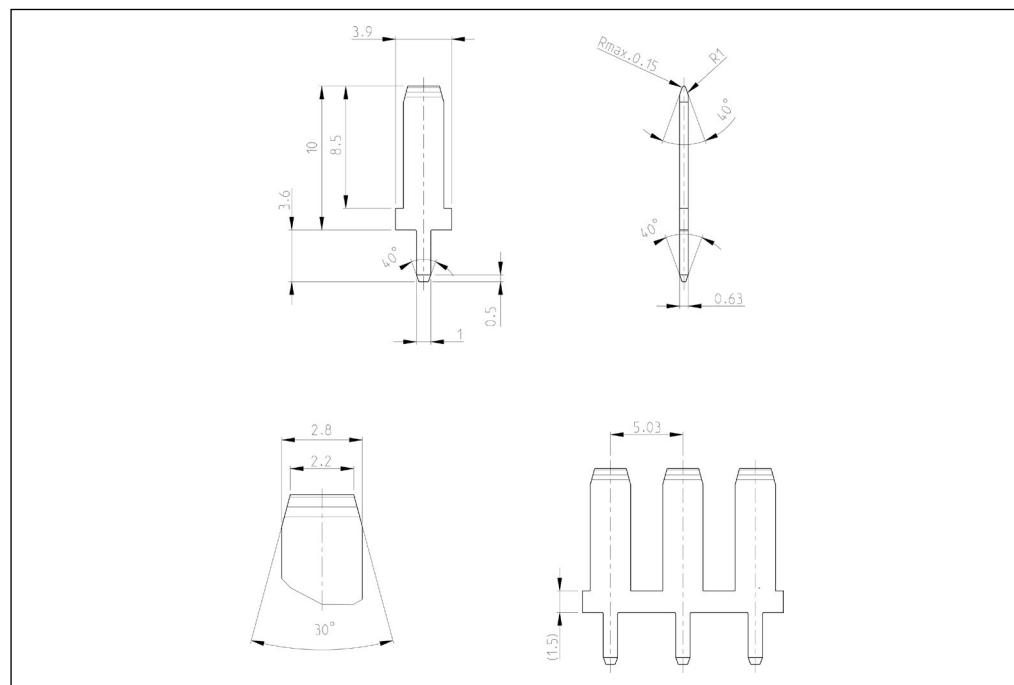
**Product Specification**

./.

**Application Specification**

./.

**Tab 2.8 x 0.6 mm**



**Tab 2.8 x 0.6 mm**

Part Numbers		Length (mm)	Plating	Packaging
Root PN	Component PN			
1670483	<a href="#">1-1670483-1</a> <a href="#">1670483-1</a>	13.6	Tin	Reel
				Palet

2.2

## Technical Features

## **Application / Function**

## Fuse

## Contact Material

Contact Mater

### **Dictation**

## Plating Gold

Gold

## Termination M

## Through Hole

### Tab Thickness

0.8 mm

### Product

## Product Drawing

1718956

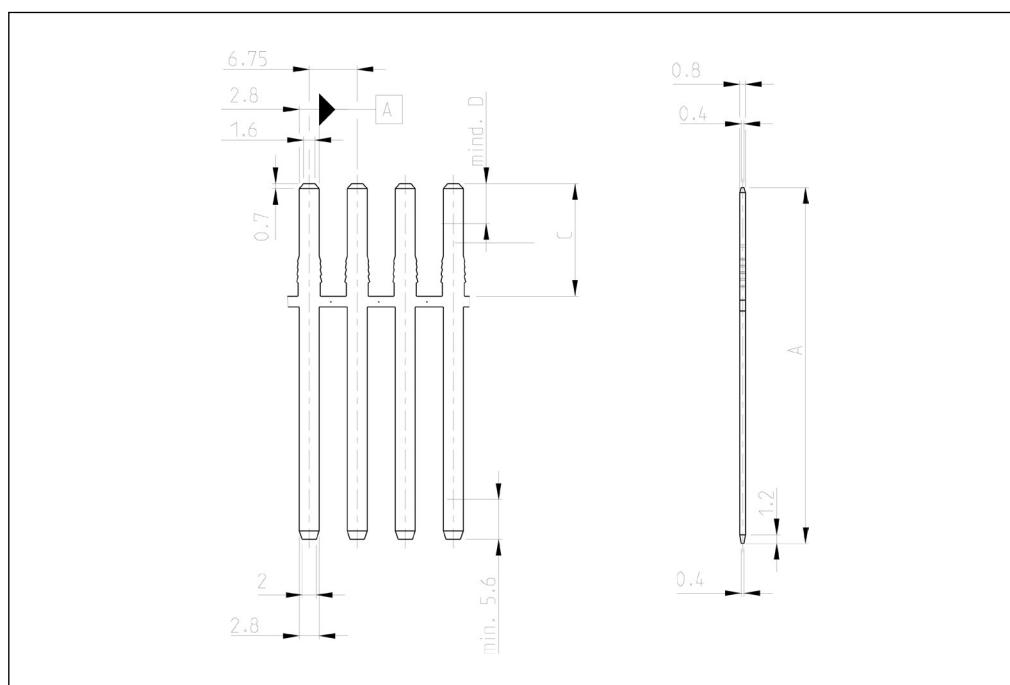
## **Product Specification**

.1.

## **Application Specification**

1

Tab 2.8 x 0.8 mm



Tab 2.8 x 0.8 mm

Part Numbers		Dimensions			Plating	Packaging
Root PN	Component PN	A	C	D		
1718956	<a href="#">1718956-3</a>	49.8	16	5.6	Gold	Reel
	<a href="#">1718956-5</a>	49.8	8	16		

**Technical Features**

**Application / Function**

Fuse

**Contact Material**

CuZn30

**Plating**

Tin

**Termination Method**

Through Hole

**Tab Thickness**

0.8 mm

**Product Drawing**

1379737

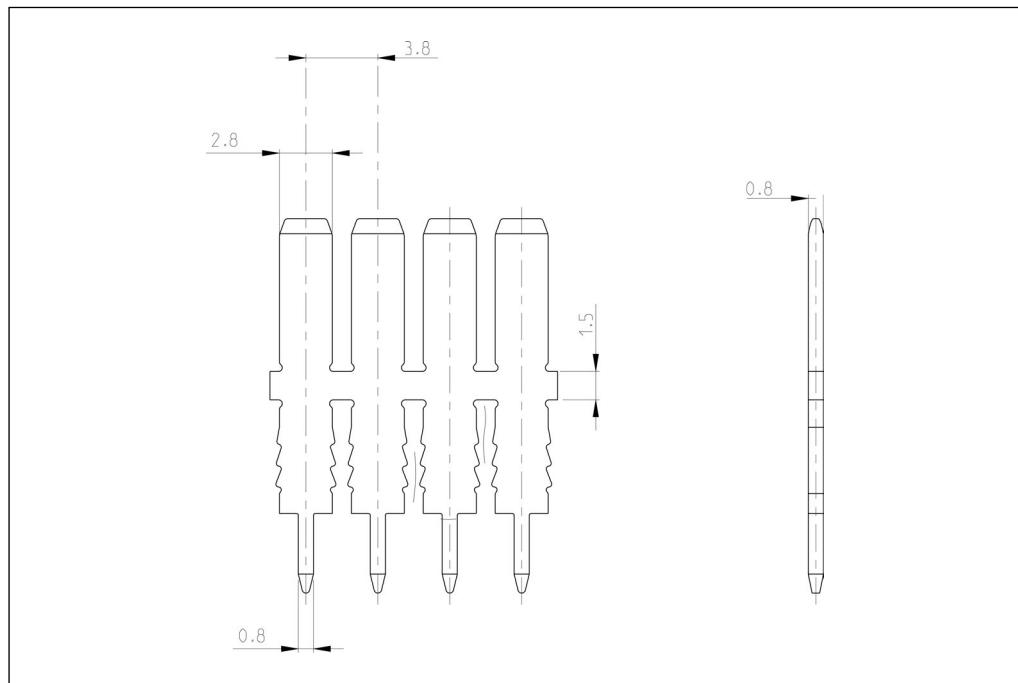
**Product Specification**

./.

**Application Specification**

./.

**Tab 2.8 x 0.8 mm - Plated**



**Tab 2.8 x 0.8 mm – Plated**

Part Numbers		Length (mm)	Plating	Packaging
Root PN	Component PN			
1379737	<a href="#">1379737-2</a>	19.75	Tin	Reel
	<a href="#">1379737-4</a>	25.30		Palet

## 2.2

## Technical Features

## Application / Function

Fuse

## Contact Material

CuZn30

## Plating

Tin

## Termination Method

Through Hole

## Tab Thickness

0.8 mm

## Product Drawing

953373

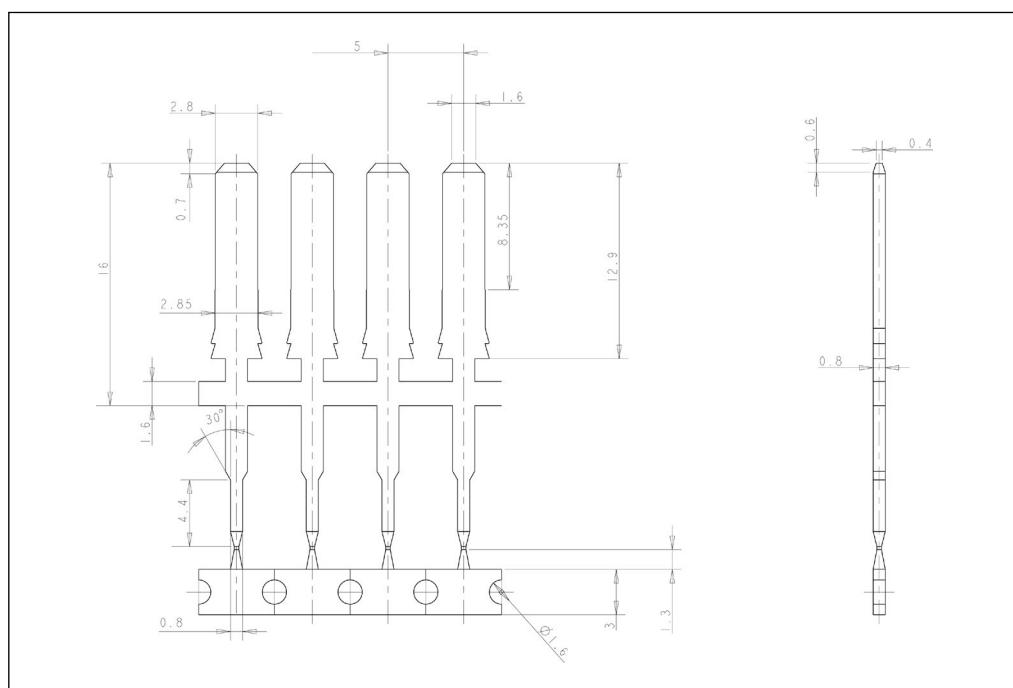
## Product Specification

./.

## Application Specification

./.

## AMP MCP Tab 2.8 x 0.8 mm – Plain



## AMP MCP Tab 2.8 x 0.8 mm – Plain

Part Numbers		Length (mm)	Plating	Packaging
Root PN	Component PN			
953373	<a href="#">1-953373-1</a>	37.75	Tin	Palet
	<a href="#">1-953373-2</a>	48.75		



### Technical Features

#### Application / Function

Relay

#### Contact Material

CuNiSi

#### Plating

Tin

#### Termination Method

Through Hole

#### Stamped Circuit Thickness

0.63 mm

#### Mating Tab Dimensions

6.3 x 0.8 mm

#### Product Drawing

1823667

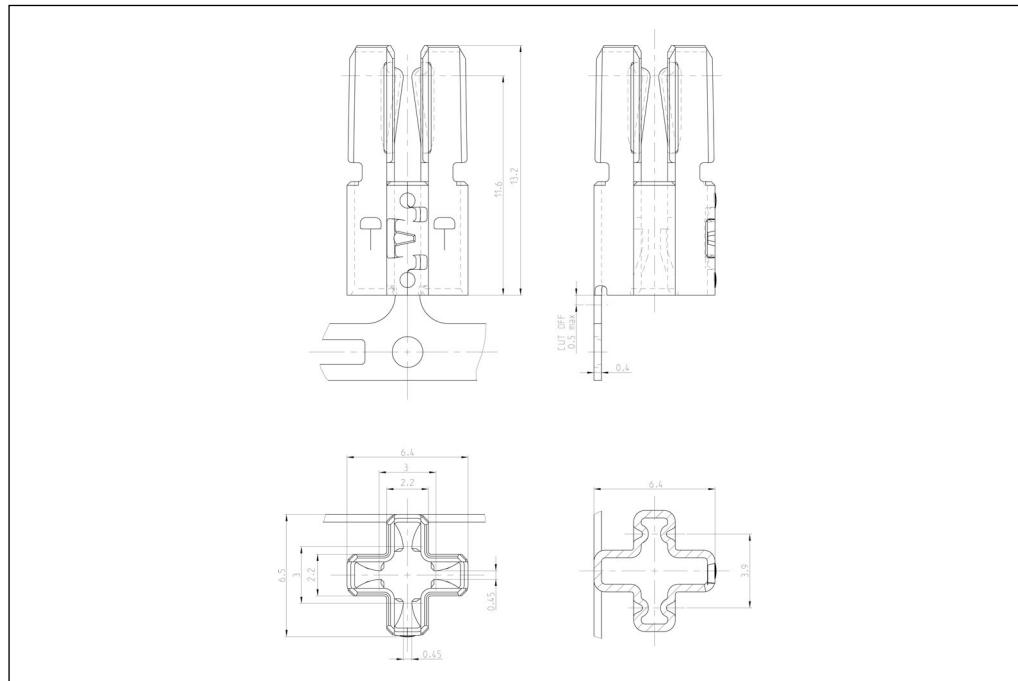
#### Product Specification

108-94188

#### Application Specification

114-94202

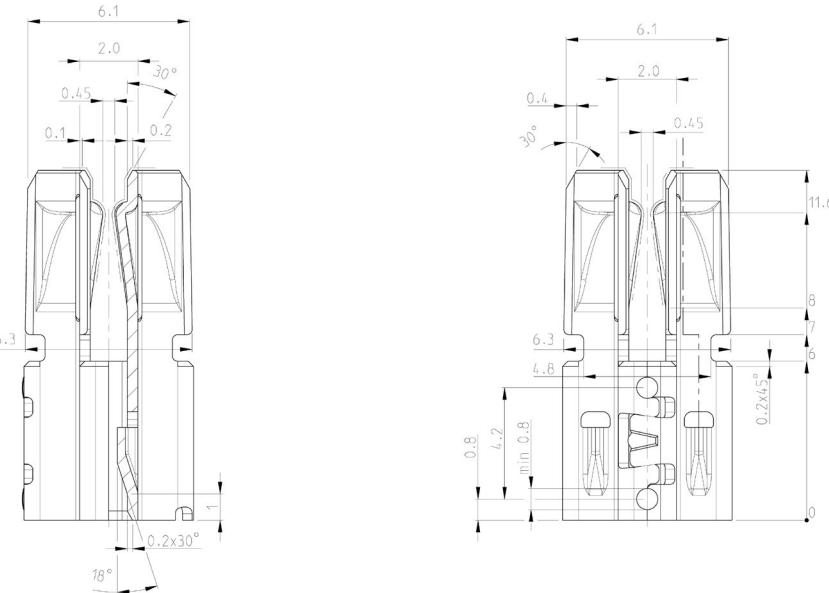
### 6.3 Cross Contact for Stamped Circuit 0.63



### 6.3 Cross Contact for Stamped Circuit 0.63

Part Numbers		Stamped Circuit Thickness (mm)	Plating	Packaging
Root PN	Component PN			
968047	<a href="#">968047-1</a>	0.63	Tin	Reel

2.3

**6.3 Cross Contact for Stamped Circuit 0.8****Technical Features****Application / Function**

Relay

**Contact Material**

CuNiSi

**Plating**

Tin / Tin-Silver

**Termination Method**

Through Hole

**Stamped Circuit Thickness**

0.8 mm

**Mating Tab Dimensions**

6.3 x 0.8 mm

**Product Drawing**

1823667

**Product Specification**

108-94188

**Application Specification**

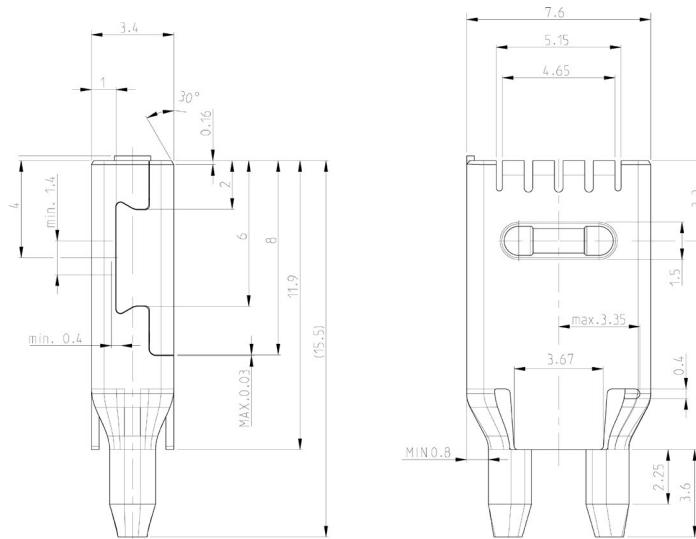
114-94202

**6.3 Cross Contact for Stamped Circuit 0.8**

Part Numbers		Stamped Circuit Thickness (mm)	Plating	Packaging
Root PN	Component PN			
	<a href="#">2-968048-1</a>		Tin	
968048	<a href="#">2-968048-2</a>	0.8	Tin-Silver	Reel
	<a href="#">968048-1</a>		Tin	



PCB 6.3 Terminal SN



**Technical Features**

**Application / Function**

Fuse or Relay

**Contact Material**

CuNiSi/Sn

**Plating**

Tin-Silver

**Termination Method**

Through Hole

**PCB Hole Dimension**

Ø 1.8 mm

**Product Drawing**

1719102

**Product Specification**

108-94129

**Application Specification**

114-18910

PCB 6.3 Terminal SN

Part Numbers		Plating	Packaging
Root PN	Component PN		
1719102	<a href="#">1719102-1</a>	Tin-Silver	Palet
	<a href="#">1-1719102-1</a>		Reel

2.4



#### Technical Features

##### Application / Function

Fuse or Relay

##### Contact Material

CuNiSi

##### Plating

Tin / Tin-Silver

##### Termination Method

Through Hole

##### Stamped Circuit Thickness

0.8 mm

##### Mating Tab Dimensions

9.5 x 1.2 mm

##### Product Drawing

1823667

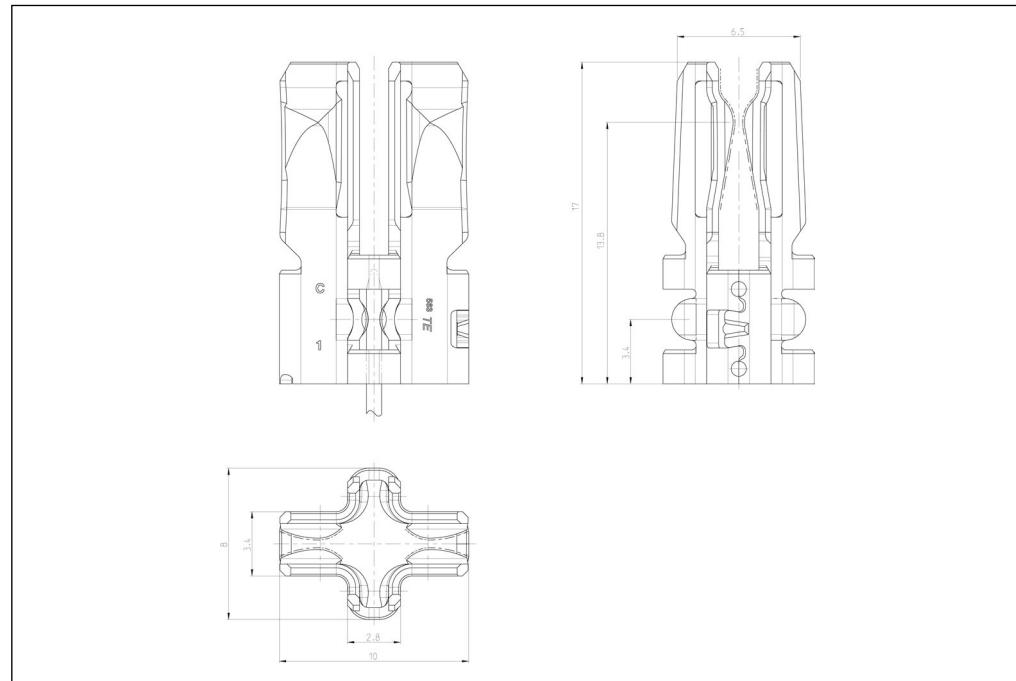
##### Product Specification

108-94188

##### Application Specification

114-94202

#### 9.5 Cross Contact for Stamped Circuit



#### 9.5 Cross Contact for Stamped Circuit

Part Numbers		Stamped Circuit Thickness (mm)	Plating	Packaging
Root PN	Component PN			
	<a href="#">2-968910-1</a>		Tin	
968910	<a href="#">2-968910-2</a>	0.8	Tin-Silver	Reel
	<a href="#">968910-1</a>		Tin	



### Technical Features

#### Application / Function

Fuse or Relay

#### Contact Material

CuNiSi

#### Plating

Tin

#### Termination Method

Through Hole

#### Stamped Circuit Thickness

0.8 mm

#### Mating Tab Dimensions

9.5 x 0.8 mm

#### Product Drawing

1823667

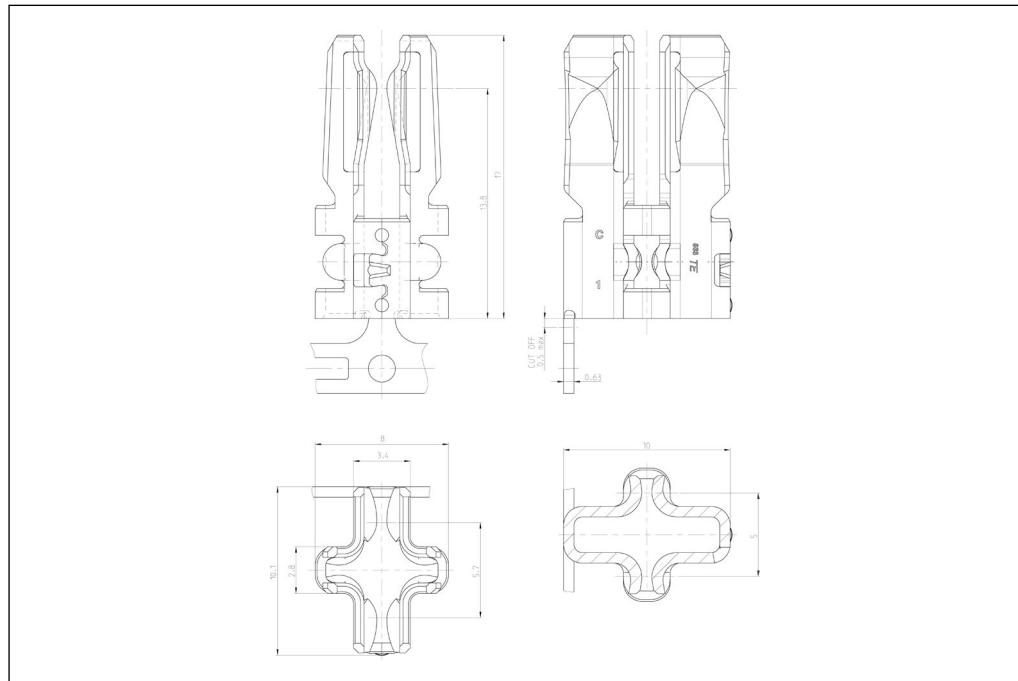
#### Product Specification

108-94188

#### Application Specification

114-94202

### 9.5 Cross Contact for Stamped Circuit 0.8



2.4

### 9.5 Cross-Contact for Stamped Circuit 0.8

Part Numbers		Stamped Circuit Thickness (mm)	Plating	Packaging
Root PN	Component PN			
1670001	<a href="#">1670001-1</a>	0.8	Tin	Reel

2.4



#### Technical Features

**Application / Function**  
 Fuse or Relay

**Contact Material**  
 CuNiSi/Sn

**Plating**  
 Tin-Silver

**Termination Method**  
 Through Hole

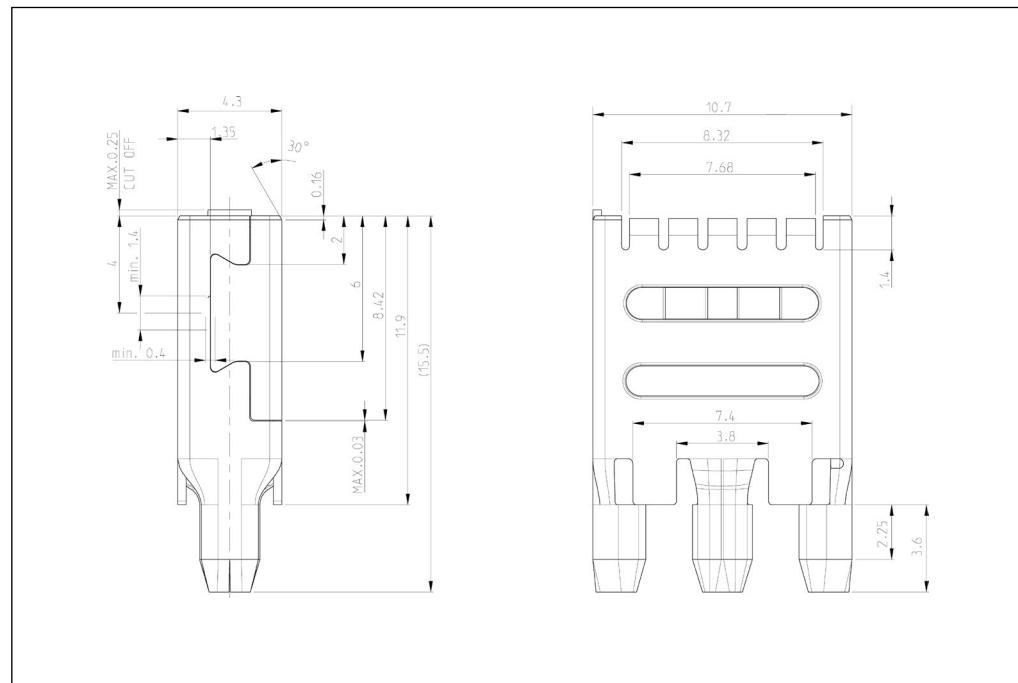
**PCB Hole Dimension**  
 Ø 2.35 mm

**Product Drawing**  
 1719101

**Product Specification**  
 108-94308

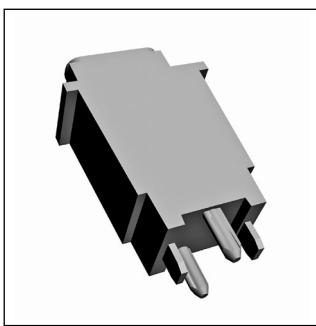
**Application Specification**  
 114-18910

#### 9.5 Cross Contact for Stamped Circuit

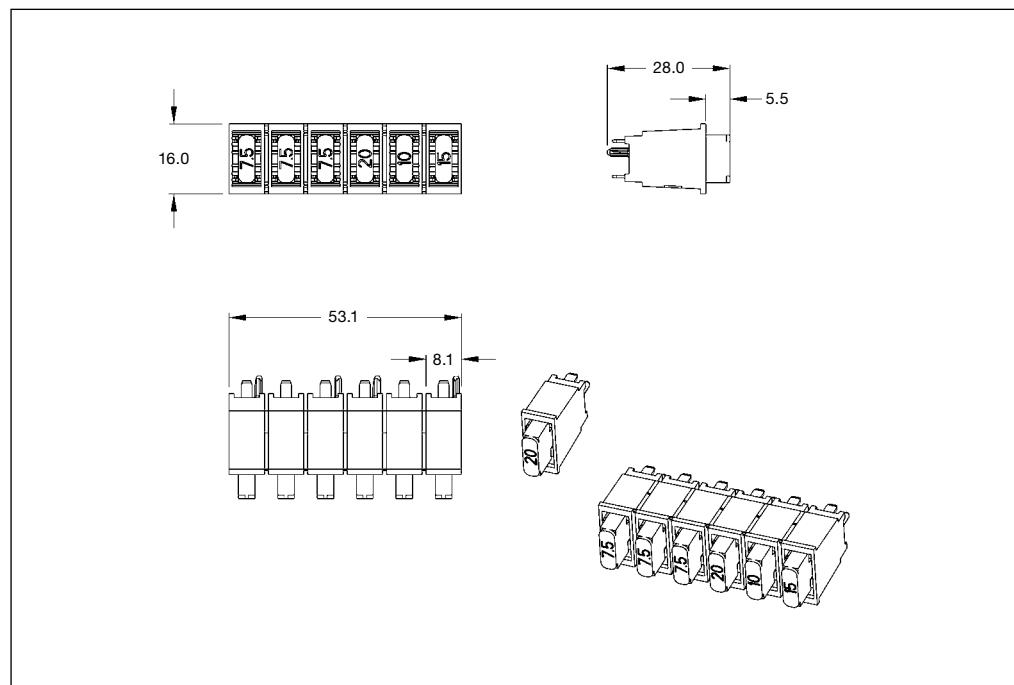


#### 9.5 Cross Contact for Stamped Circuit

Part Numbers		Dimension (mm)	Plating	Packaging
Root PN	Component PN			
1719101	<a href="#">1719101-1</a> <a href="#">1-1719101-1</a>	9.5 x 1.2	Tin-Silver	Palet



### Module Miniature Fuse



2.5

### Technical Features

#### Application / Function

Fuse

#### Contact Material

CuFe 2P

#### Plating

Tin

#### Termination Method

Through Hole

#### PCB Tab Hole Dimension

3.7 x 1.2 mm

#### Product Drawing

1544548

#### Product Specification

./.

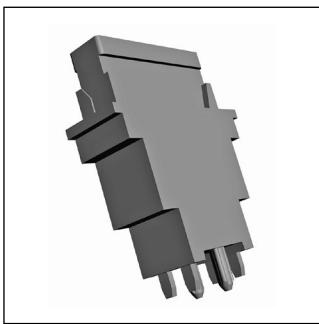
#### Application Specification

107-15514

### Module Miniature Fuse

Root PN	Component PN	Dimensions (mm)				Plating	Packaging
		X	Y	Z	P		
1544548	<a href="#">1544548-1</a>					Tin	Box
	<a href="#">1544548-2</a>	8.1	16	28	-		
	<a href="#">1544548-3</a>						
	<a href="#">1544548-4</a>						
	<a href="#">1544548-5</a>	17.1	16	28	9.0		
	<a href="#">1544548-6</a>						
	<a href="#">1544548-8</a>	35.1	16	28	27		
	<a href="#">1544548-9</a>	17.1	16	28	9.0		

2.5



#### Technical Features

##### Application / Function

Fuse

##### Contact Material

CuFe 2P

##### Plating

Tin

##### Termination Method

Through Hole

##### PCB Tab Hole Dimension

2.6 x 1.2 mm

##### Product Drawing

1544550

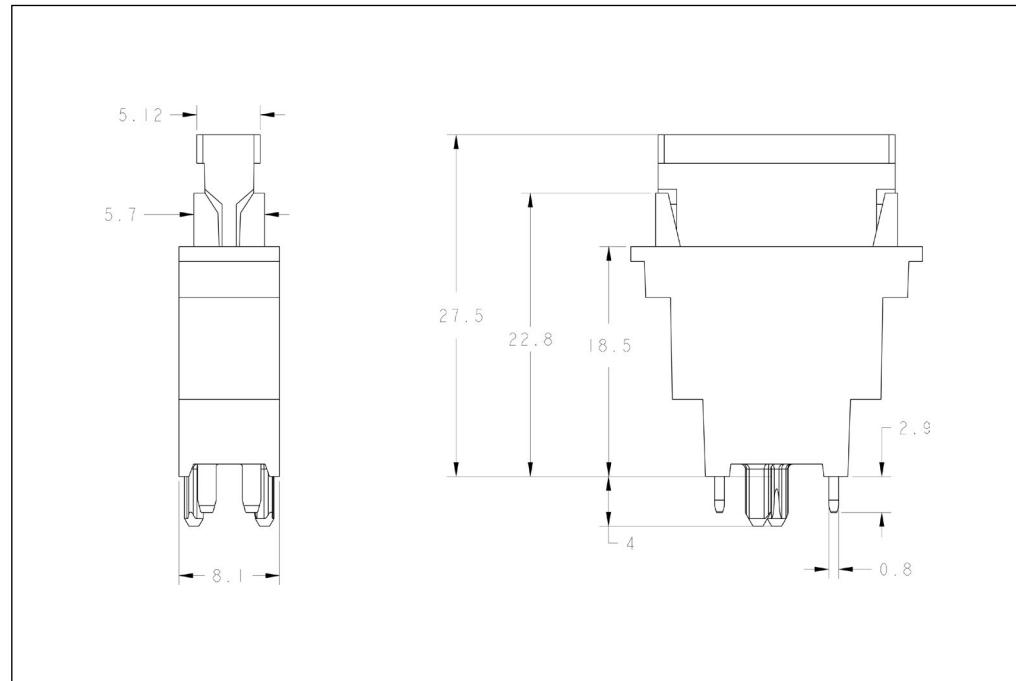
##### Product Specification

./.

##### Application Specification

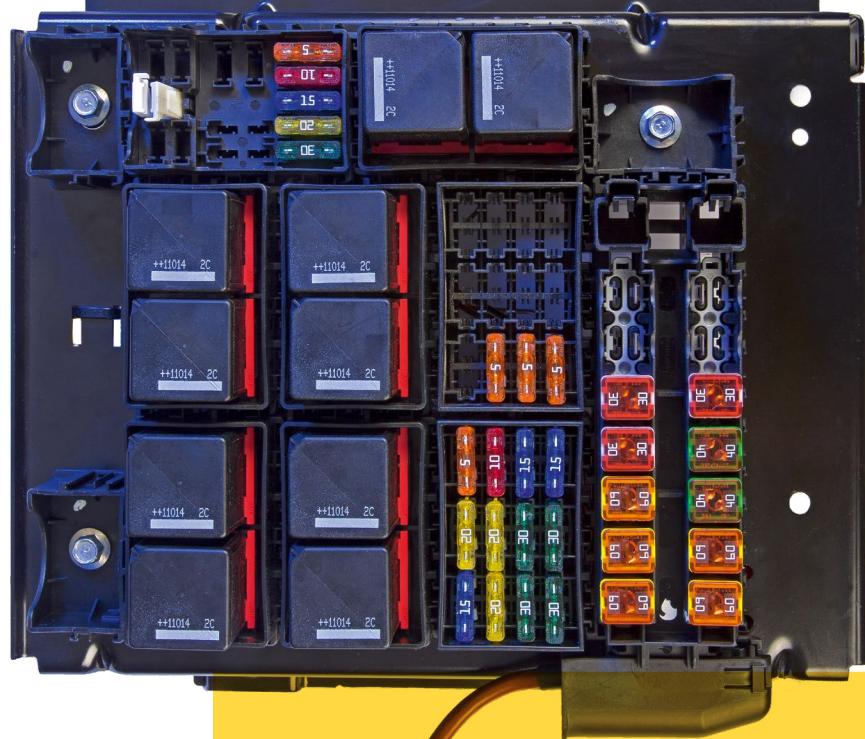
./.

#### Module Medium Fuse



#### Module Medium Fuse

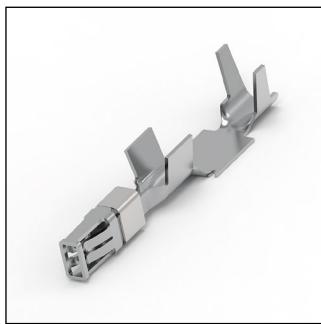
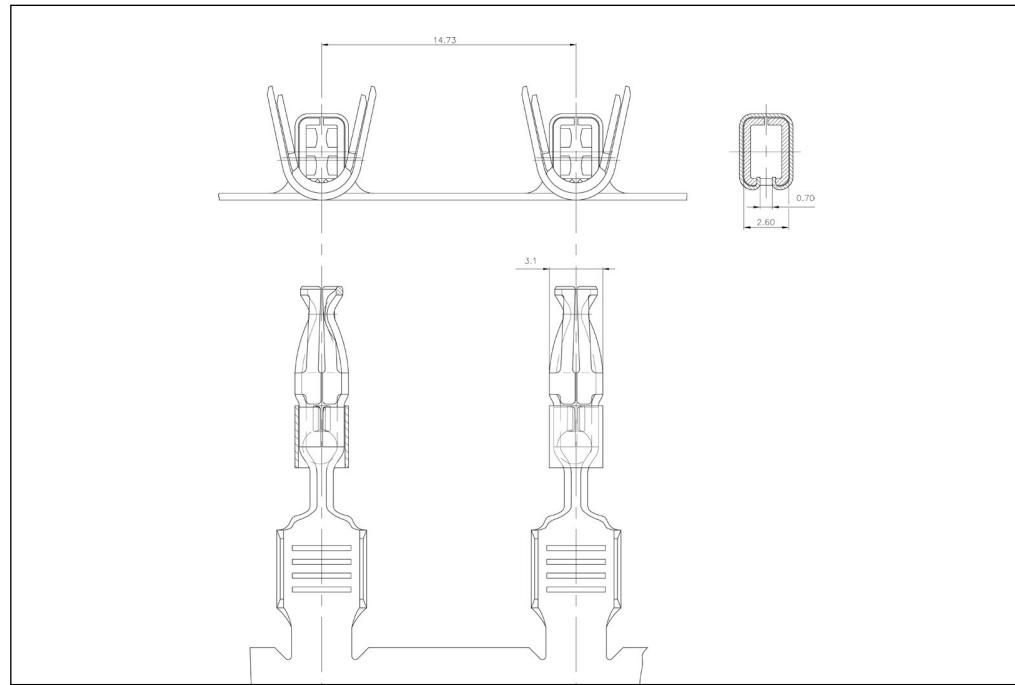
Part Numbers		Dimensions (mm)				Plating	Packaging
Root PN	Component PN	X	Y	Z	P		
1544550	<a href="#">1544550-1</a>	8.1				-	
	<a href="#">1544550-2</a>	8.1				-	
	<a href="#">1544550-3</a>	44.1				36	
	<a href="#">1544550-4</a>	26.1	23.5	31.5	18	Tin	Box
	<a href="#">1544550-5</a>	35.1				27	
	<a href="#">1544550-8</a>	26.1				-	
	<a href="#">1544550-9</a>	35.1				-	

**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS****MFINITY Terminals****INTRODUCTION**

Our 50-plus years of experience in automotive connectivity supports our broad portfolio of terminals and connectors that help customers solve the evolving challenges of automotive applications.

This chapter highlights suitable terminals to use with our MFINITY modular fuse and relay box product family.

Please contact your TE sales representative for further information.

**AMP MCP 2.8 Busbar****Technical Features****Application / Function**

Fuse or Relay

**Contact Material**

CuNiSi

**Plating**

Tin

**Wire Size Range**4 – 6 mm<sup>2</sup>**Product Drawing**

1719458

**Product Specification**

108-18513

**Application Specification**

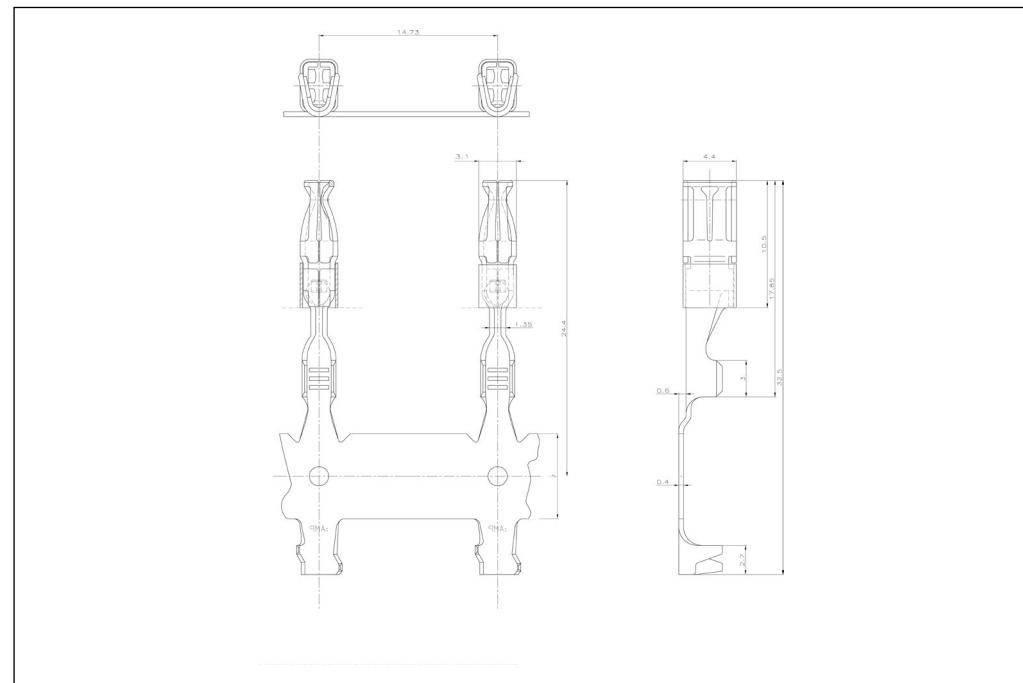
114-18148

**AMP MCP 2.8 Busbar**

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	4 – 6	Tin	Reel
1355844	<a href="#">1-1355844-1</a>			



### AMP MCP 2.8 Shortened Busbar



#### Technical Features

##### Application / Function

Fuse

##### Contact Material

CuNiSi

##### Plating

Tin

##### Wire Size Range

0.5 – 1 mm<sup>2</sup>

##### Product Drawing

1355847

##### Product Specification

./.

##### Application Specification

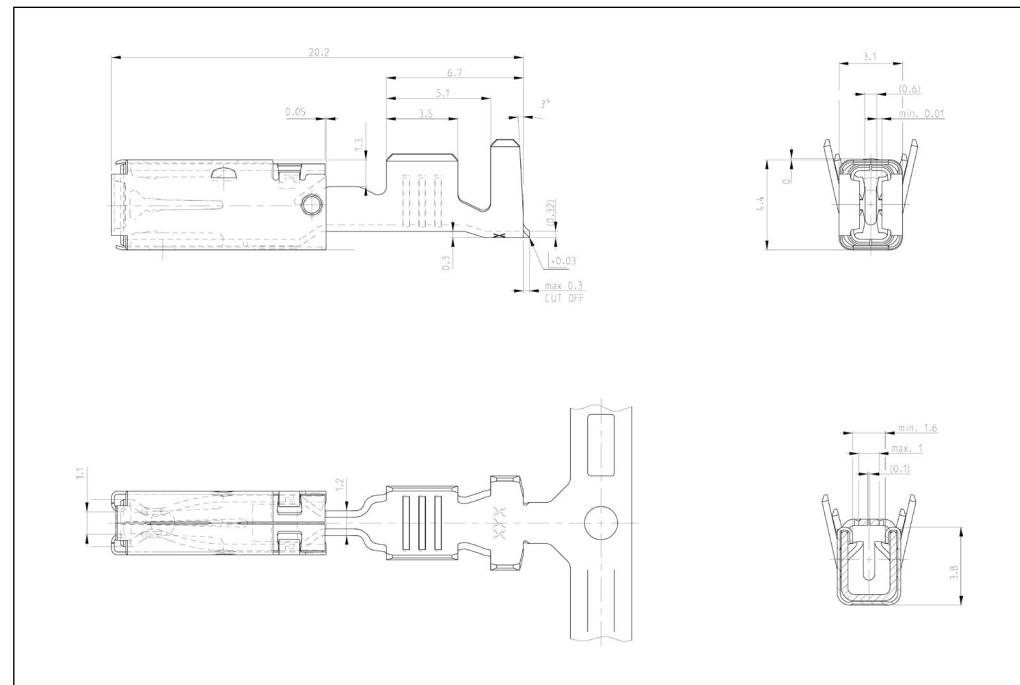
./.

### AMP MCP 2.8 Shortened Busbar

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	0.5 – 1	Tin	Reel
1355847	<a href="#">1-1355847-1</a>			



## **AMP MCP 2.8 Contact – Lanceless**



## Technical Features

## **Application / Function**

## Fuse

## Contact Material

CuNiSi

## Plating

Tin

## Wire Size Range

1 - 2.5 mm<sup>2</sup>

## Product Drawing

Product No.  
1719458

## Product Specification

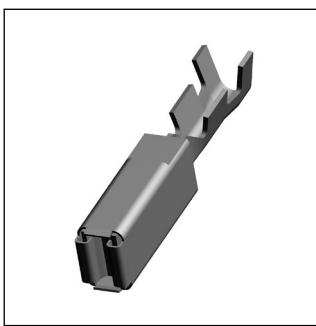
Product 3  
108-18513

## Application Specification

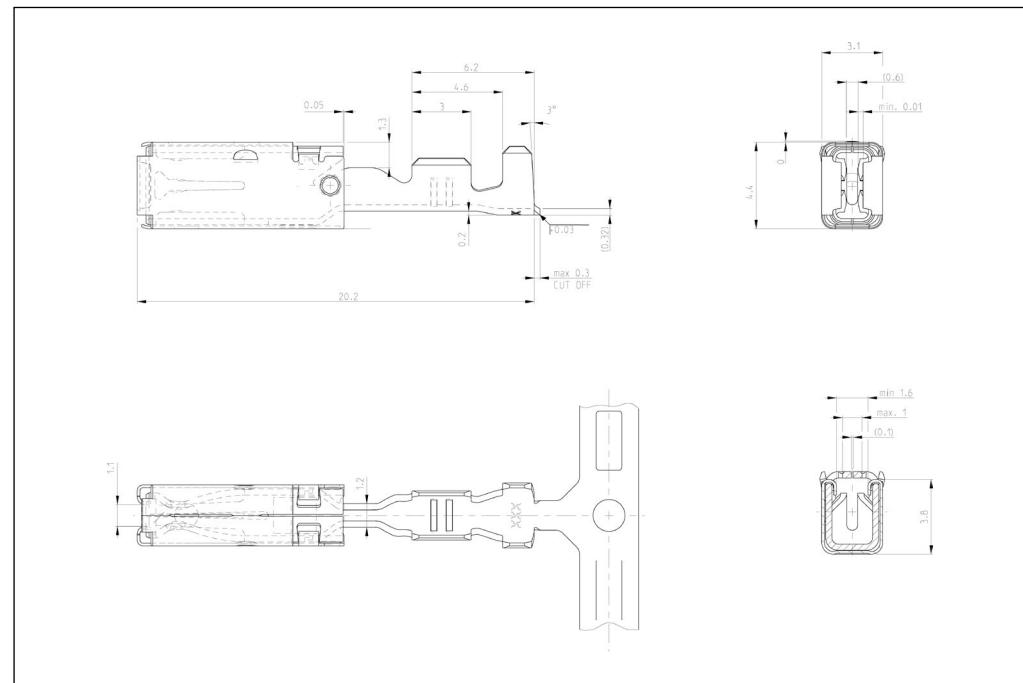
**Application**  
114-18148

#### **AMP MCP 2.8 Contact - Lanceless**

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN			
1355877	<a href="#">1-1355877-1</a>	1 – 2.5	Tin	Reel



### AMP MCP 2.8 Contact – Lanceless



### Technical Features

#### Application / Function

Fuse

#### Contact Material

CuNiSi

#### Plating

Tin

#### Wire Size Range

0.5 – 1 mm<sup>2</sup>

#### Product Drawing

1719458

#### Product Specification

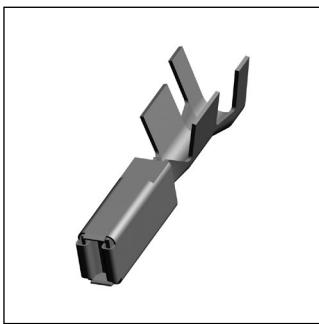
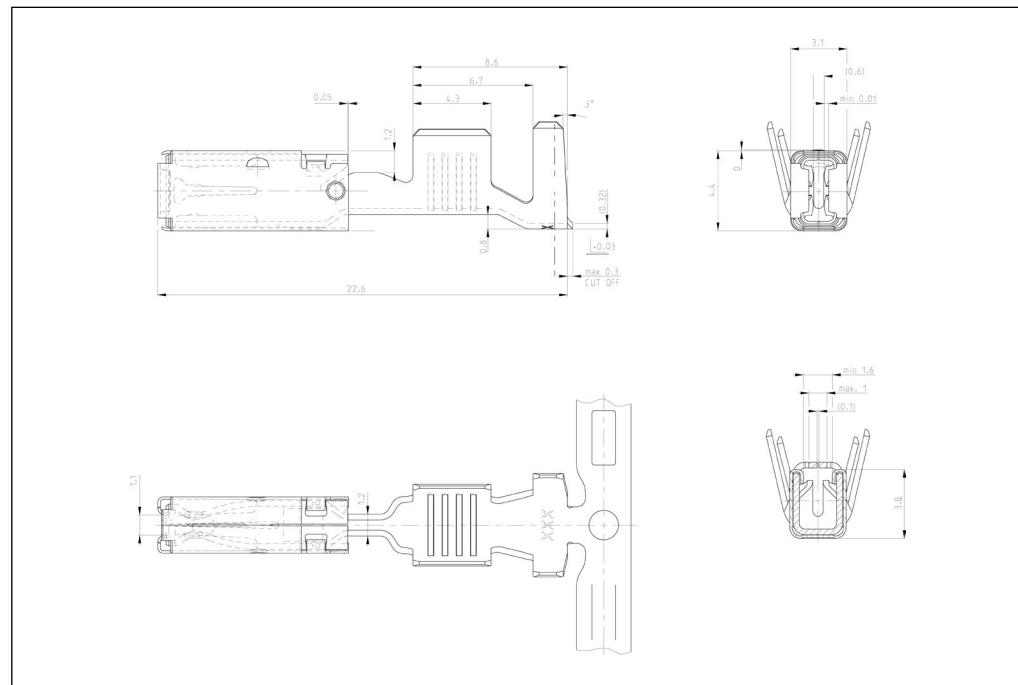
108-18513

#### Application Specification

114-18148

### AMP MCP 2.8 Contact - Lanceless

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	0.5 – 1	Tin	Reel
1355833	<a href="#">1-1355833-1</a>			


**AMP MCP 2.8 Contact – Lanceless**

**Technical Features**
**Application / Function**

Fuse

**Contact Material**

CuNiSi

**Plating**

Tin

**Wire Size Range**
4 mm<sup>2</sup>
**Product Drawing**

1719458

**Product Specification**

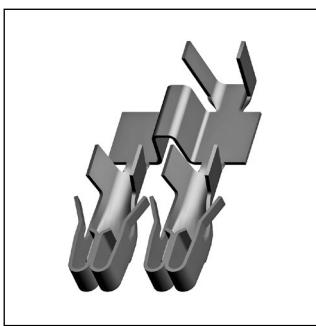
108-18513

**Application Specification**

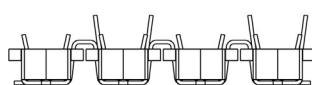
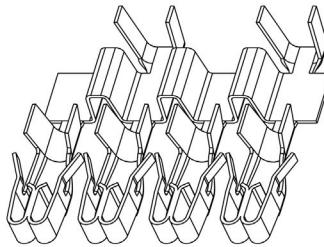
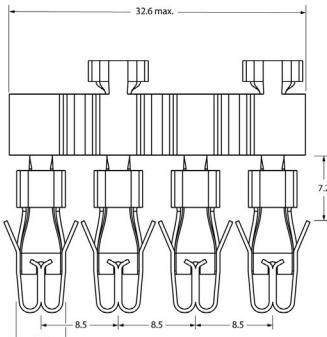
114-18148

**AMP MCP 2.8 Contact - Lanceless**

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN			
1355880	<a href="#">1-1355880-1</a>	4	Tin	Reel



### Fuse Contact Busbar



### Technical Features

#### Application / Function

Fuse

#### Contact Material

CuZn

#### Plating

Tin

#### Wire Size Range

4 – 6 mm<sup>2</sup>

#### Product Drawing

881572

#### Product Specification

108-37011

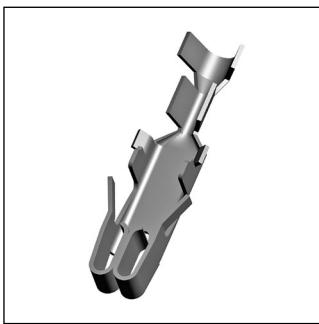
#### Application Specification

114-37000

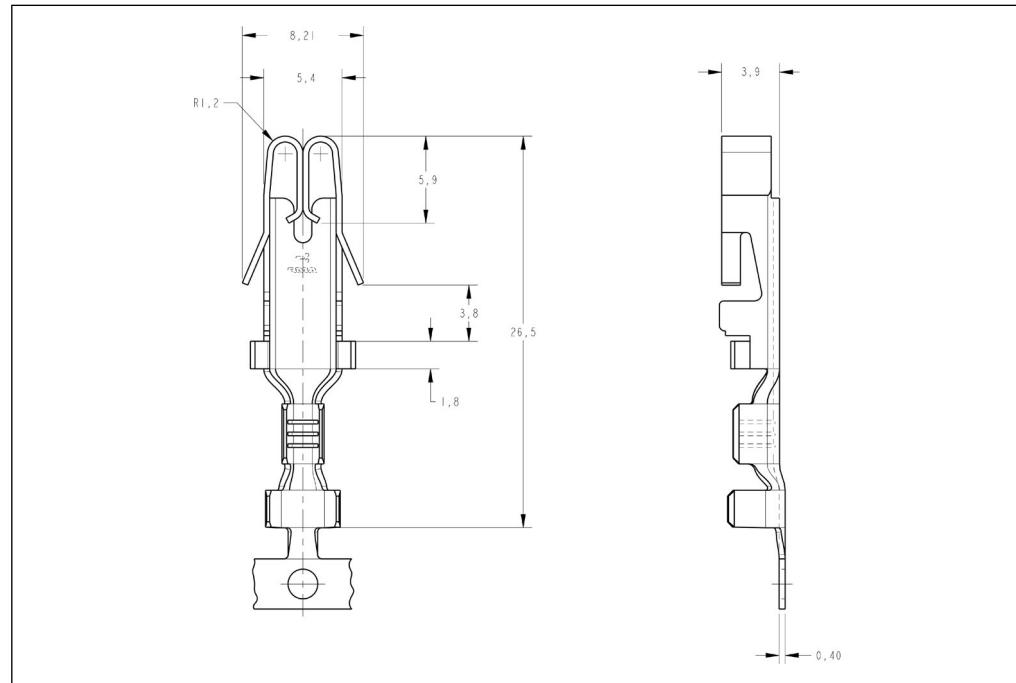
### Fuse Contact Busbar

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	4 – 6	Tin	Reel
881572	<a href="#">881572-3</a>			

3.2



### Fuse Contact



### Technical Features

#### Application / Function

Fuse

#### Contact Material

CuZn

#### Plating

Tin

#### Wire Size Range

0.5 – 1.5 mm<sup>2</sup>

#### Product Drawing

880397

#### Product Specification

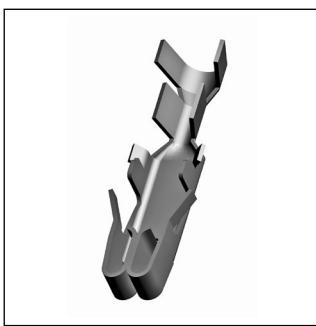
108-37011

#### Application Specification

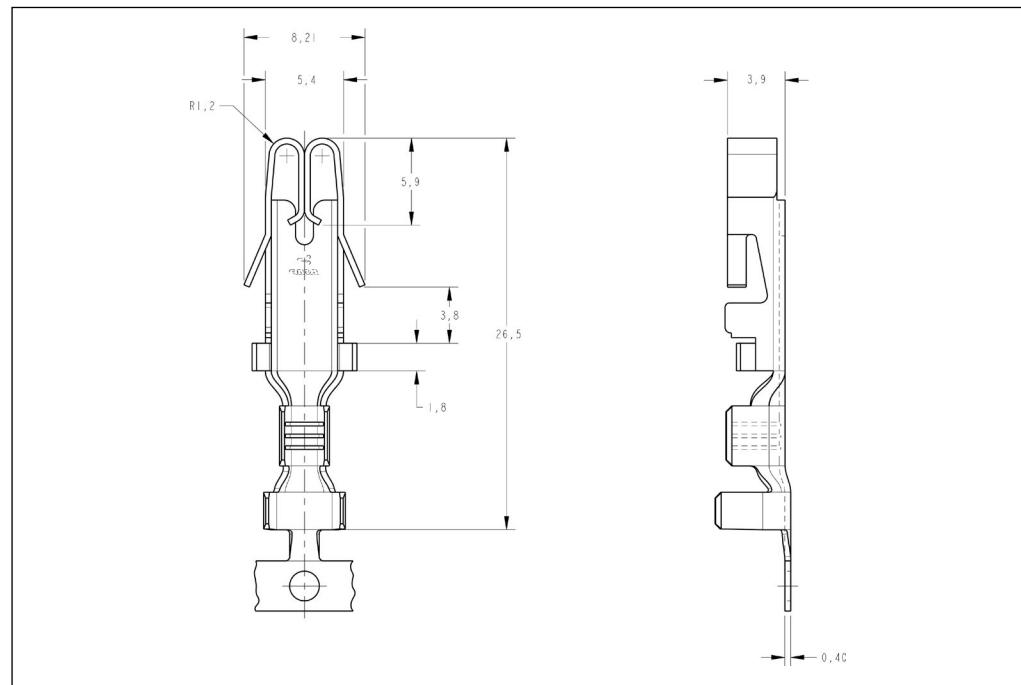
114-37000

### Fuse Contact

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN			
880397	<a href="#">880397-2</a>	0.5 – 1.5	Tin	Reel



### Fuse Contact



### Technical Features

#### Application / Function

Fuse

#### Contact Material

CuZn

#### Plating

Tin

#### Wire Size Range

1 – 2.5 mm<sup>2</sup>

#### Product Drawing

880398

#### Product Specification

108-37011

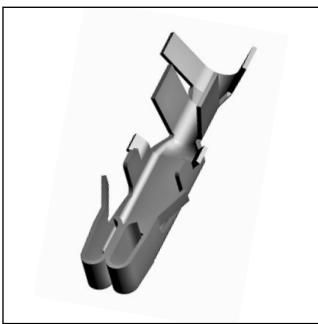
#### Application Specification

114-37000

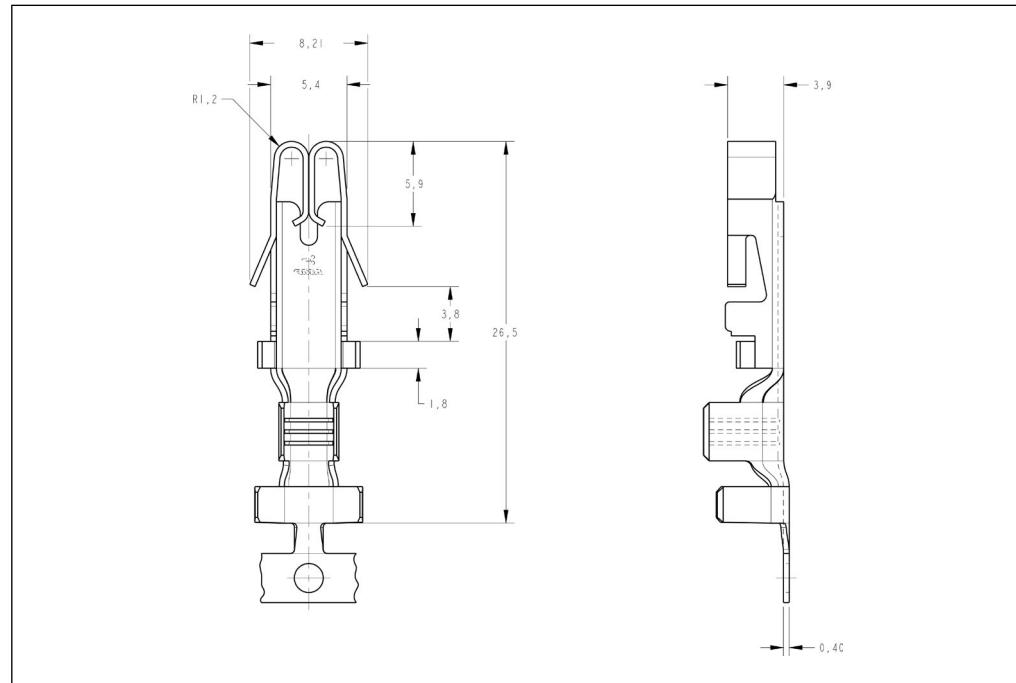
### Fuse Contact

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN			
880398	<a href="#">880398-1</a>	1 – 2.5	Tin	Reel
	<a href="#">880398-2</a>			

**3.2**



### Fuse Contact



### Technical Features

#### Application / Function

Fuse

#### Contact Material

CuZn

#### Plating

Tin

#### Wire Size Range

2.5 – 6 mm<sup>2</sup>

#### Product Drawing

880399

#### Product Specification

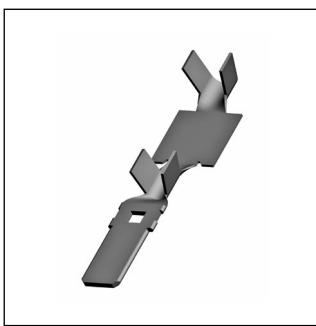
108-37011

#### Application Specification

114-37000

### Fuse Contact

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	2.5 – 6	Tin	Reel
880399	<a href="#">880399-2</a>			



Tab 6.3 x 0.8 Body Busbar

#### Technical Features

##### Application / Function

Fuse

##### Contact Material

CuZn

##### Plating

Tin

##### Wire Size Range

4 – 6 mm<sup>2</sup>

##### Product Drawing

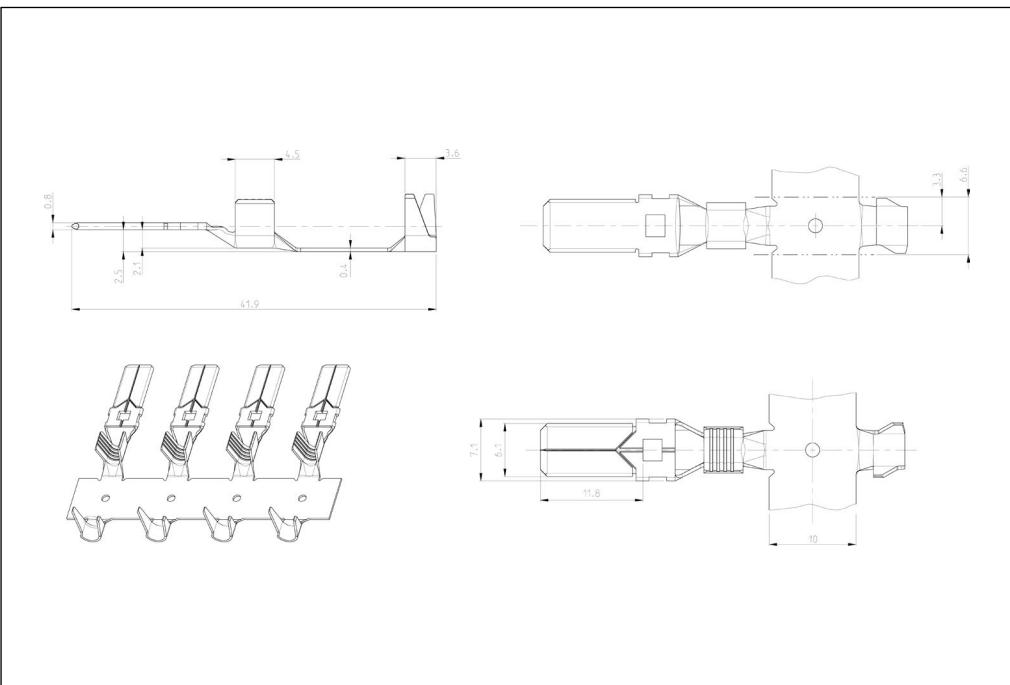
1670225

##### Product Specification

./.

##### Application Specification

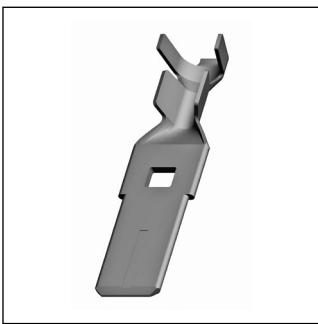
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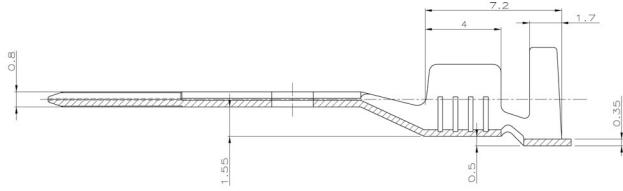
Tab 6.3 x 0.8 Body Busbar

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	4 – 6	Tin	Reel
1670225	<a href="#">1670225-1</a>			

**3.3**



### Tab Contact 6.3 mm



### Technical Features

#### Application / Function

Fuse

#### Contact Material

CuSn4

#### Plating

Tin

#### Wire Size Range

1.5 – 2.5 mm<sup>2</sup>

#### Product Drawing

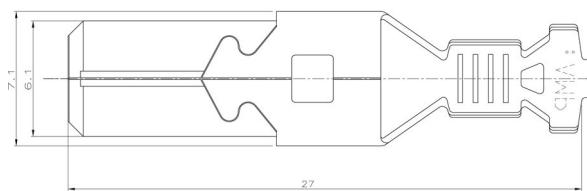
963754

#### Product Specification

./.

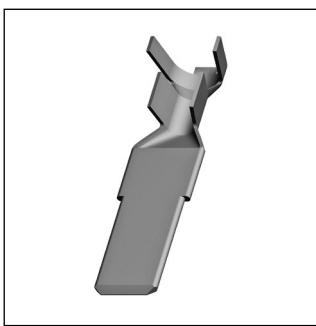
#### Application Specification

./.

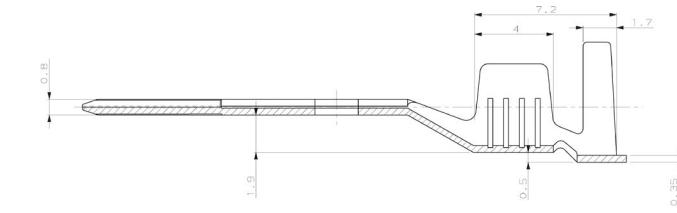


### Tab Contact 6.3 mm

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	1.5 – 2.5	Tin	Reel
963754	<a href="#">963754-1</a>			



Tab Contact 6.3 mm



### Technical Features

#### Application / Function

Fuse

#### Contact Material

CuSn4

#### Plating

Tin

#### Wire Size Range

2.5 – 4 mm<sup>2</sup>

#### Product Drawing

963755

#### Product Specification

./.

#### Application Specification

./.

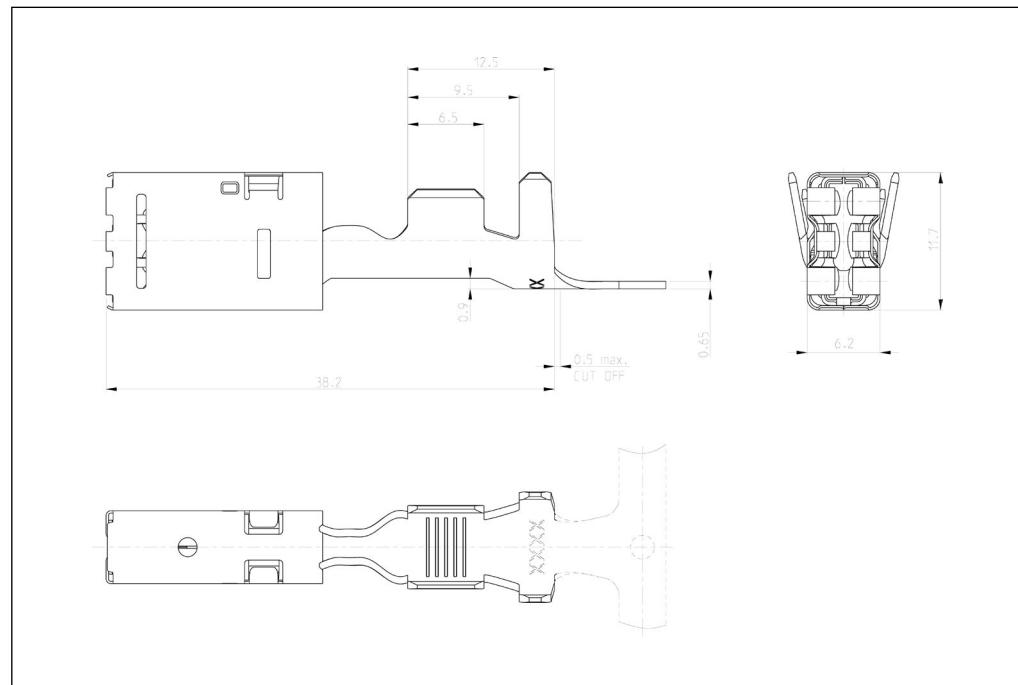
Tab Contact 6.3 mm

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	2.5 – 4	Tin	Reel
963755	<a href="#">963755-1</a>			

**3.4**



**AMP MCP 9.5 Contact – Lanceless**



**Technical Features**

**Application / Function**

Relay

**Contact Material**

CuNiSi

**Plating**

Tin

**Wire Size Range**

6 – 10 mm<sup>2</sup>

**Product Drawing**

1355849

**Product Specification**

108-18630

**Application Specification**

114-18269

**AMP MCP 9.5 Contact – Lanceless**

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN	6 – 10	Tin	Reel
1355849	<a href="#">1-1355849-1</a>			



### Technical Features

#### Application / Function

Fuse

#### Contact Material

Steel

#### Plating

Zinc

#### Wire Size Range

2.5 – 4 mm<sup>2</sup>

#### Product Drawing

./.

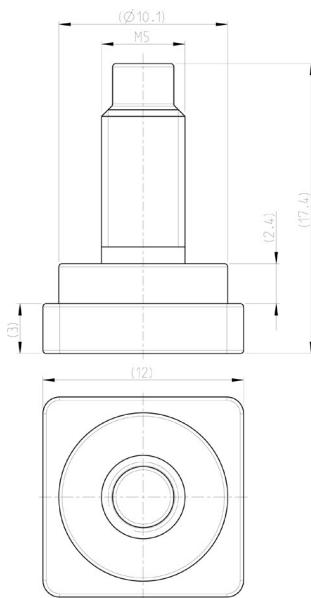
#### Product Specification

./.

#### Application Specification

./.

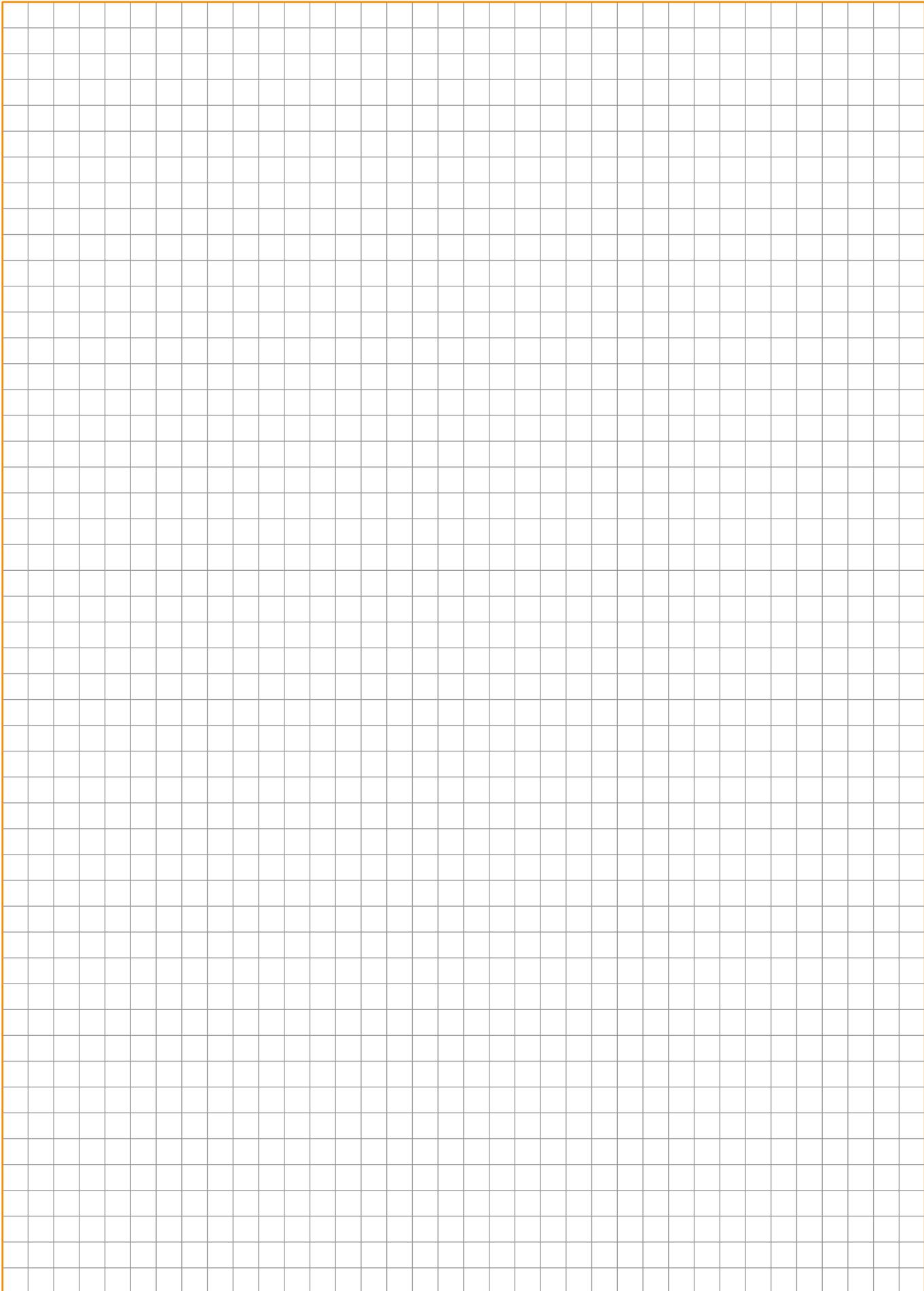
### Bolt M5 with Square Head

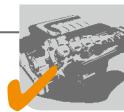
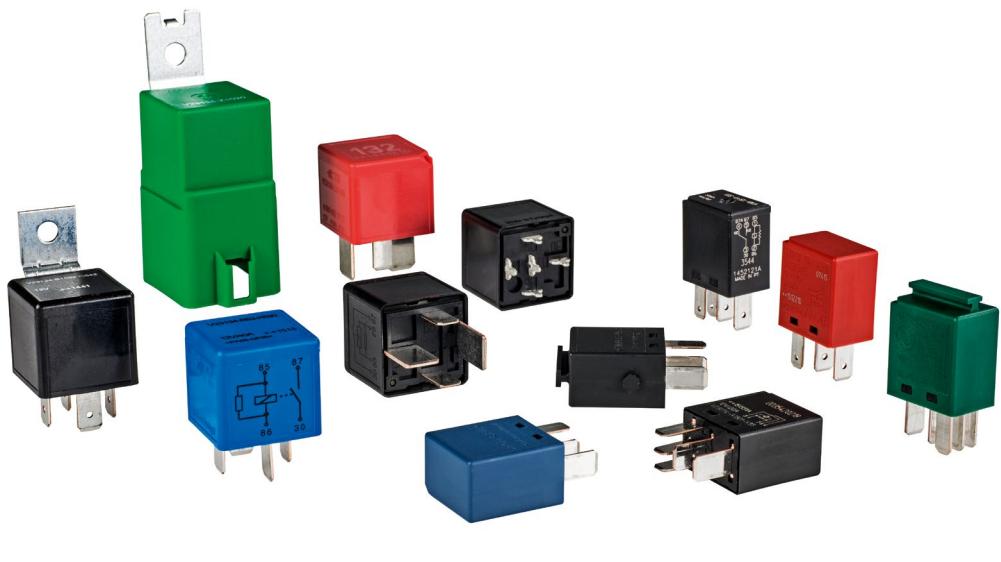


3.5

### Bolt M5 with Square Head

Part Numbers		Wire Size Range (mm <sup>2</sup> )	Plating	Packaging
Root PN	Component PN			
1534968	<a href="#">1534968-2</a>		Zinc	Box



**POWERTRAIN SYSTEMS****SAFETY & SECURITY SYSTEMS****CONVENIENCE****DRIVER INFORMATION****BODY & CHASSIS SYSTEMS**

## 24 V Plug-in Relays

### INTRODUCTION

In addition to the holder devices TE provides high-performing ISO plug-in relays suitable for 12 V, 24 V and 48 V power supply systems. Plug-in relays are available in make, change-over, double make and bridging make contact arrangements.

For the holder devices featured in this catalog the following micro, mini and maxi ISO relay product families for 24 V systems are suited:

### Products

- Micro Relay A
- Power Relay B
- Power Relay F7

### Applications

Cross carline for all electromechanical functions. Please contact TE Application Engineering for specific support.

### Features

- High performance ISO plug-in relays for 24V systems
- Make and changeover contact arrangements (special arrangements on request)
- Serial and parallel components
- Standard covers and covers with brackets

### More information online

<http://relays.te.com/> >> Automotive, Truck, Bus and Off-Road Relays

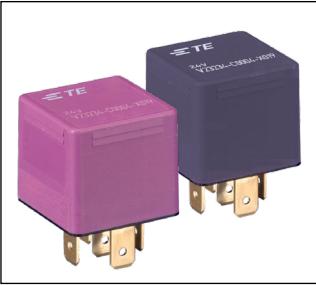
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- Technical documentation for all existing product families, product flyers, white papers and videos for new products.



### Micro ISO, Micro Relay A (24V)

Arrangement	Cover	Coil. Suppr.	Part Number
Micro Make (NO)	Standard	Diode	V23074-A2002-A402 <a href="#">6-1393292-2</a>
		Resistor (1800 Ω)	V23074-A1002-A402 <a href="#">8-1393292-9</a>
Micro Changeover (CO)	Standard	Diode	V23074-A2002-A403 <a href="#">6-1393292-3</a>
		Resistor (1800 Ω)	V23074-A1002-A403 <a href="#">3-1393292-8</a>

For detailed information find our data sheets under <http://relays.te.com/electronics.asp>



### Mini ISO, Power Relay B (24V)

Arrangement	Cover	Coil. Suppr.	Part Number
Micro Changeover (CO)	Standard	N/A	V23234-A0004-X055 <a href="#">2-1904025-6</a>
		Diode (cathode 86)	V23234-A0004-X051 <a href="#">2-1904025-3</a>
	Bracket	Resistor (1400 Ω)	V23234-A0004-X053 <a href="#">2-1904025-5</a>
		N/A	V23234-A1004-X050 <a href="#">1-1904027-1</a>
Mini Make (NO – 2x87)	Standard	Resistor (1400 Ω)	V23234-A1004-X054 <a href="#">3-1904027-2</a>
		N/A	V23234-C0004-X020 <a href="#">1-1904015-3</a>
	Bracket	Resistor (1400 Ω)	V23234-C0004-X018 <a href="#">2-1904015-1</a>
		N/A	V23234-C1004-X017 <a href="#">5-1904014-1</a>
		Resistor (1400 Ω)	V23234-C1004-X085 <a href="#">0-1904015-5</a>

For detailed information find our data sheets under <http://relays.te.com/electronics.asp>



### Maxi ISO Power Relay F7 (24V)

Arrangement	Cover	Coil. Suppr.	Part Number
Maxi Make (NO)	Standard	N/A	V23134-J0053-D642 <a href="#">9-1393303-7</a>
		Resistor (1200 Ω)	V23134-J0165-X537 <a href="#">3-1904117-4</a>
	Bracket	N/A	V23134-J1053-D642 <a href="#">1-1393304-1</a>
		Resistor (1200 Ω)	V23134-J2165-X538 <a href="#">3-1904117-5</a>

For detailed information find our data sheets under <http://relays.te.com/electronics.asp>



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### High Quality. High Reliability. High Volume.

TE Application Tooling provides a high-quality solution for high-volume production within the automotive industry.

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#### Specialised Equipment

Where you will need help from our specialist product managers to identify what's just right for your application.

#### Finding Equipment Online

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- Powerful searches to find generic equipment options (Hand Tools / Applicators)
- Brochures and more detailed flyers for the specialised equipment.
- It's quick, easy and more importantly the latest and most up to date information is available online.

#### Regional Assistance

[www.te.com/support-center](http://www.te.com/support-center)

## C300 Connector Seating Machine

### Designed to match your requirements

The highly versatile design of the C300 is able to process any manufacturer's connectors and can accommodate a board capacity up to 420 x 360 mm [16.53 x 14.17"].



Fully automatic machine for seating press fit connection systems.

monitoring system, also available as force-distance monitoring, allows the verification of every component applied for quality assurance. Additional control features include:

- A vision system for automatic board error correction
- Active anvil for PCB support, insertion verification and force monitoring
- PCB bar code scanner for automatic selection of insertion program including press profile
- Component bar code scanner for component verification
- Connection to traceability systems

### Specifications for P300 Base Machine

Board Capacity	400 x 600 mm [15.5 X 23.5"]
Loading	Manual, In-Line
Insertion Rate	4-6 secs per cycle
Anvil Drive	Servo
In-Line / Interface	Yes / SMEMA compliant
Force Monitoring / Documentation	Yes
Thickness Measuring	Yes
Vision System	Yes
Pin Presence Check	Yes
Bar-Code Scanner	Yes
ESD Proofed Guards	Yes
Modem for Remote Diagnostics	Yes
Reel Exchange during Production	

### Easy operation

The C300 connector seating machine is a fully automatic machine for seating press-fit connectors onto a printed circuit board (PCB) or panel. Available in either a standalone unit or integrated into a SMEMA compatible production line, the C300 machine can increase throughput by lowering cycle times and the scrap associated with human application errors.

### Built for speed

Designed with speed in mind, the C300 was engineered with several performance features. With the ability to accommodate up to two press heads per machine, the C300 has a cycle time of approximately 3 seconds per connector, and, PCB loading/unloading takes only 4 seconds.

Quick change grippers are available to minimize changeover time. Free programmable rotary insertion tooling allows the application of components at different angles without a reduction in throughput.

### Strength in numbers

The C300 is just one member of a robust family of Press Fit Machines designed to deliver maximum performance and the highest quality for our customers. Their fast, reliable and user friendly designs can handle a wide variety of applications and production volumes.

For more information on our complete line of pin insertion and press-fit machines, please refer to our website [www.te.com](http://www.te.com).

### Waste not. Want not.

Whether it's time or scrap, in manufacturing everyone knows that waste costs money. With our on-site certification and consultation services, we can help you:

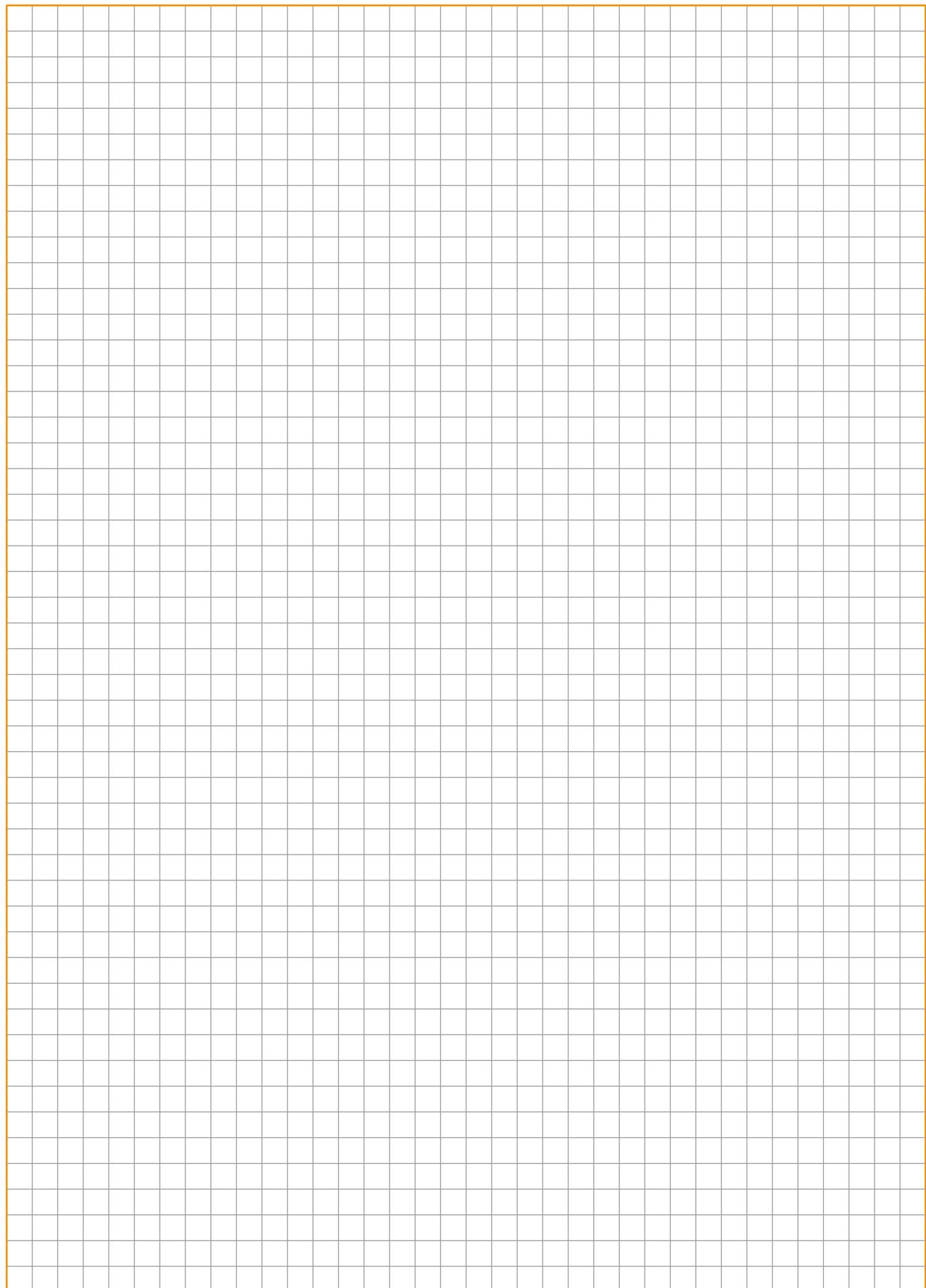
- Reduce downtime
- Reduce scrap
- Maintain connection quality
- Improve manufacturing efficiency

### Insertion Tools

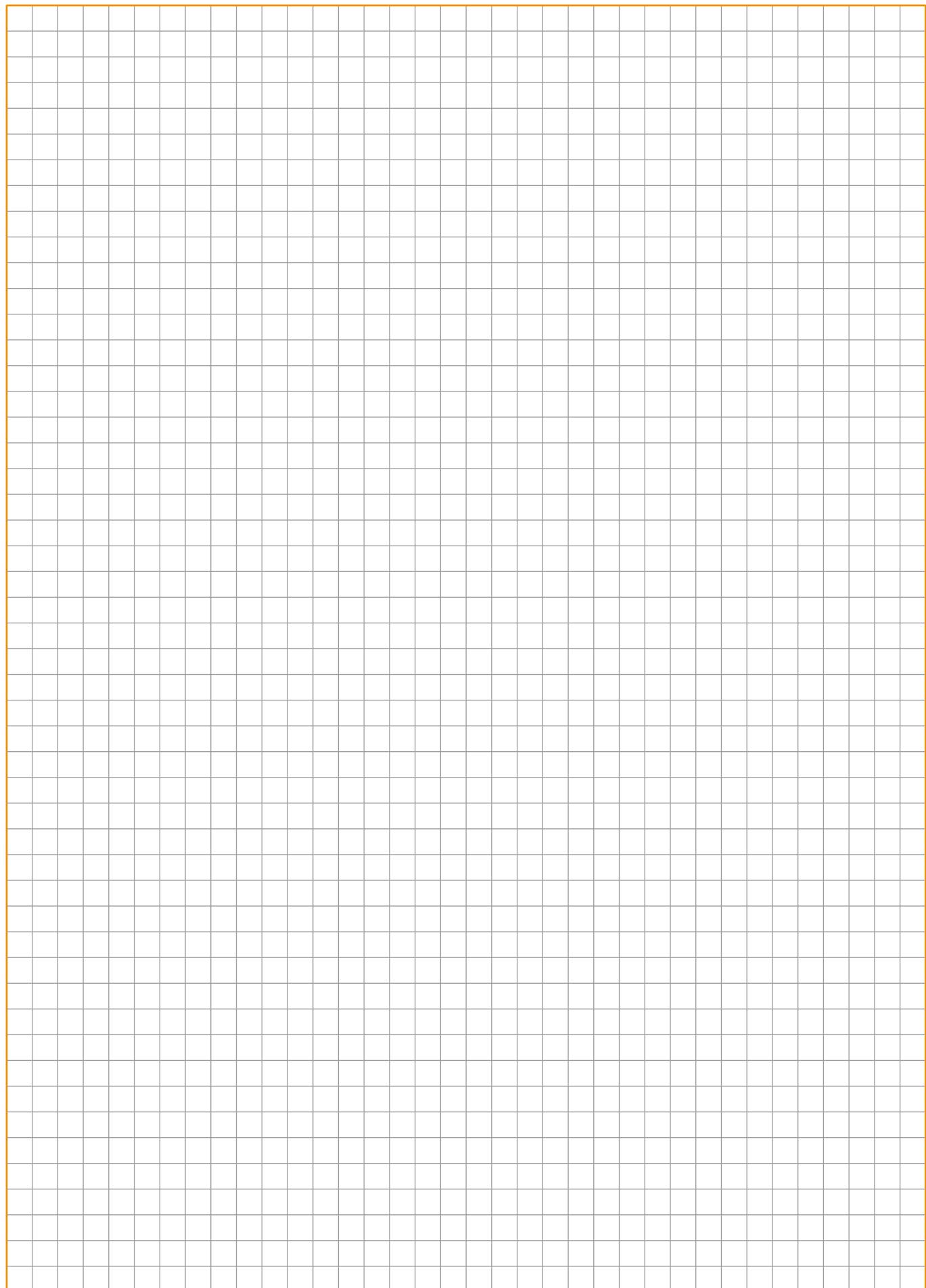
Number of Tools	Max 2
Insertion Tool Power	Servo Motor
Insertion Angles (free programmable)	Yes

### Physical Dimensions

Height	70.5 in [1790 mm]
Width/Depth (including reel holders)	108.5 in [2754 mm]
Length	91 in [2310 mm] with conveyor
Length	57.5 in [1460 mm] without conveyor
Conveyor Belt Height (adjustable)	37.6 ± .6 in [955 mm ± 15mm]
Weight	approx. 3,520 lb [1600 kg]



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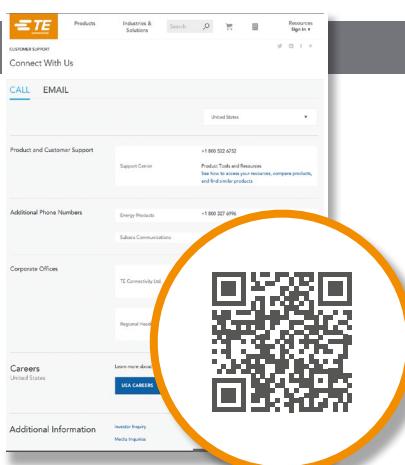
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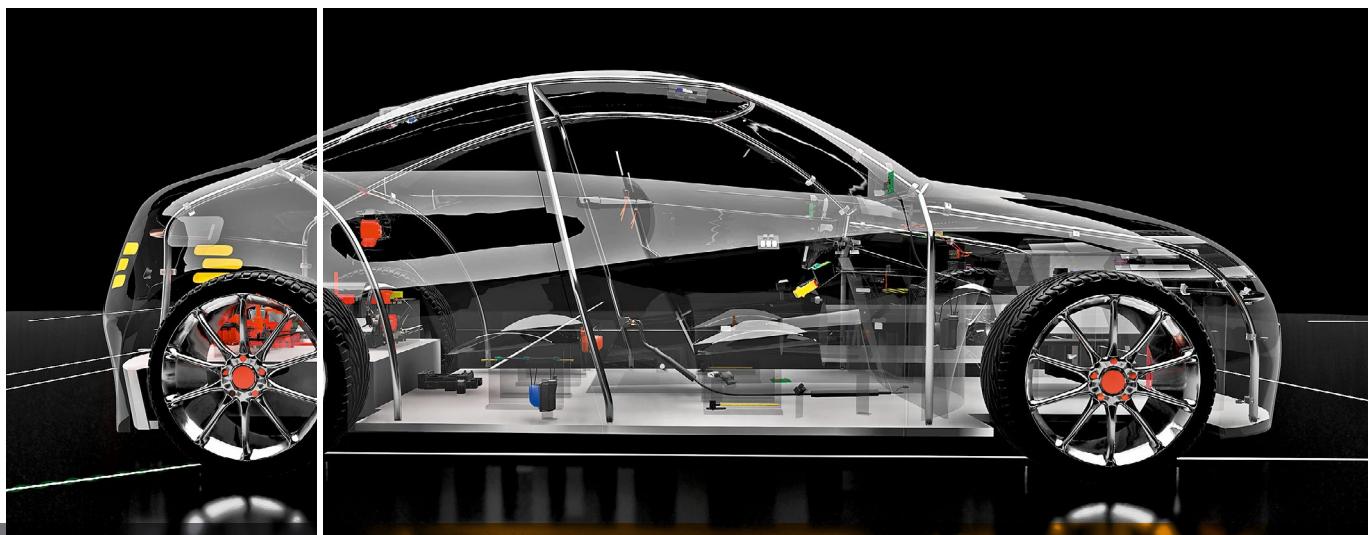
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