



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 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, more connected and greener. 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, clutch, brake and exhaust. Our products can be found in vehicles traveling the world's roads and highways.





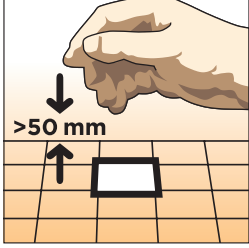
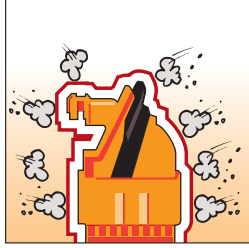
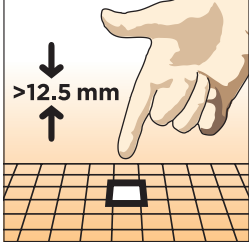
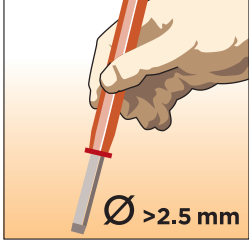
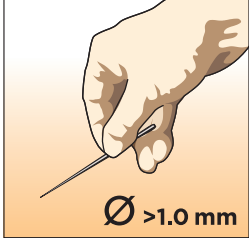
INFOTAINMENT


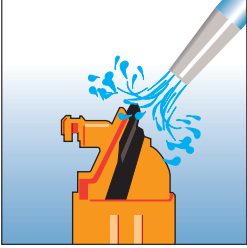

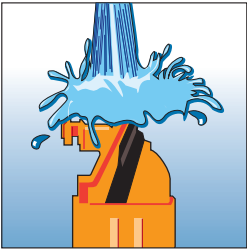
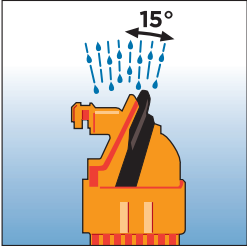

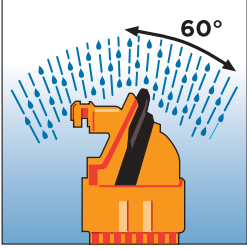
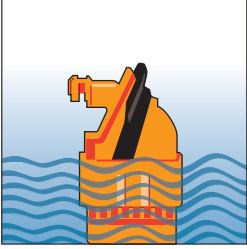

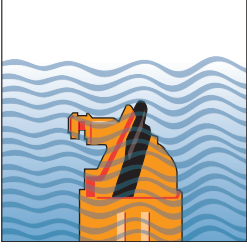


Our wide range of infotainment solutions are ideal for consumer port connections, high data rate applications, next-generation harness architecture, board-to-board connections and vehicle-to-vehicle communication.



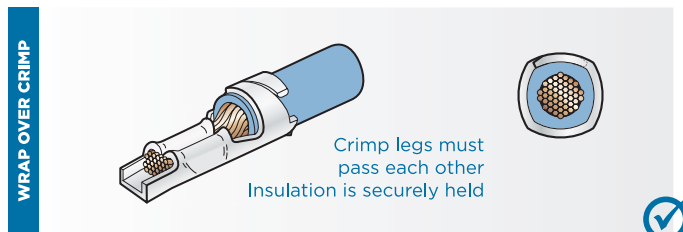
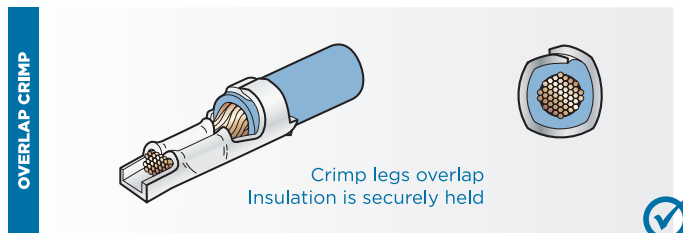
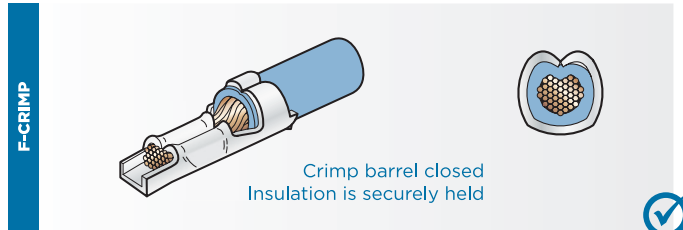
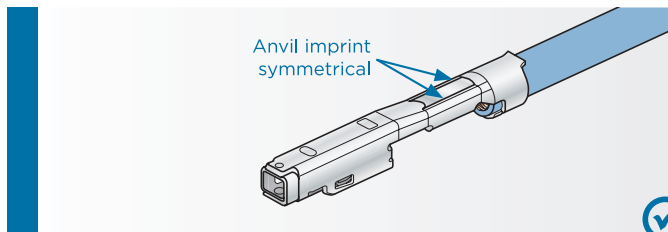
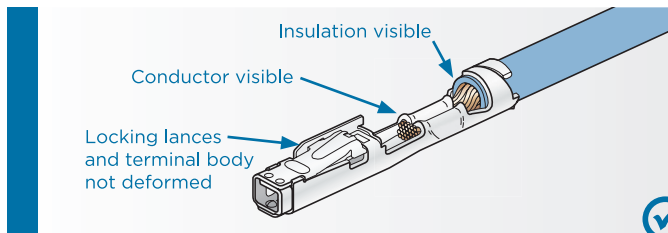
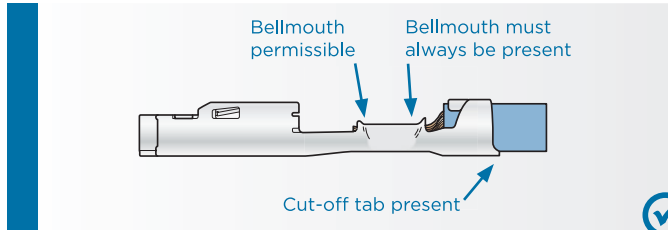
RELAYS

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)	1st Digit Against Foreign Objects (incl. Dust)
<p>0</p>  <p>Not protected.</p>	<p>5K</p>  <p>Dust protected.</p>
<p>1</p>  <p>Protected against solid objects greater than 50 mm (ex. back of hand).</p>	<p>6K</p>  <p>Dust tight.</p>
<p>2</p>  <p>Protected against solid objects greater than 12.5 mm (ex. finger).</p>	
<p>3</p>  <p>Protected against solid objects greater than 2.5 mm (ex. tool).</p>	
<p>4</p>  <p>Protected against solid objects greater than 1.0 mm (ex. wire).</p>	

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

Good Crimp Quality



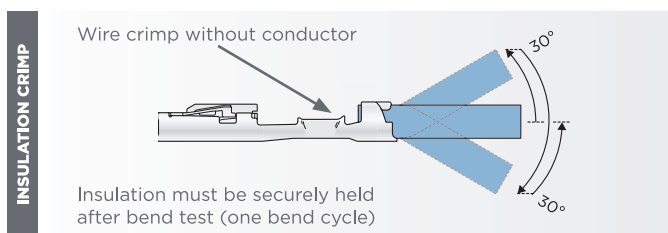
Test

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.
JJPT	927775	0.50-1.00 mm ²	±0.05 mm	114-18050
JPT	927773	1.50-2.50 mm ²	±0.05 mm	114-18050
MQS	962885	0.20-0.50 mm ²	±0.03 mm	114-18025



WIRE CRIMP

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

Incorrect Crimp Quality

<p>Terminal body damaged</p>	<p>F-CRIMP</p>	<p>Crimp legs are not closed</p> <p>Insulation is pierced</p>
<p>Single core crimped on terminal</p>		<p>INSULATION CRIMP OVERLAP CRIMP</p>
<p>Terminal twisted</p>	<p>WRAP OVER CRIMP</p>	
<p>Cut off tab too long</p>	<p>Conductor brush protrudes into terminal body</p> <p>Insulation inside the wire crimp</p>	
<p>Crimp barrel distorted</p>	<p>Wire bent</p>	
<p>Terminal bent</p>	<p>Terminal bent</p>	

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:

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

Downloadable Technical Data Customer Information Presentation

More detailed information regarding the definitions used above

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 "I" 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/>

Conversion Tables
AWG Conversion Table (Average Value)

AWG Code	Diameter (Inch)	Diameter (mm)	F (mm ²)
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 mm² (AWG 32) a wire can be crimped.

**Automotive
Power
Distribution**

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POWERTRAIN SYSTEMS



SAFETY & SECURITY SYSTEMS



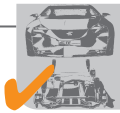
CONVENIENCE



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

Applications

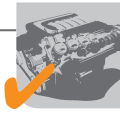
- Convenience Harness
- Engine Harness
- Battery Departure Unit
- Fuse and Relay Box

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



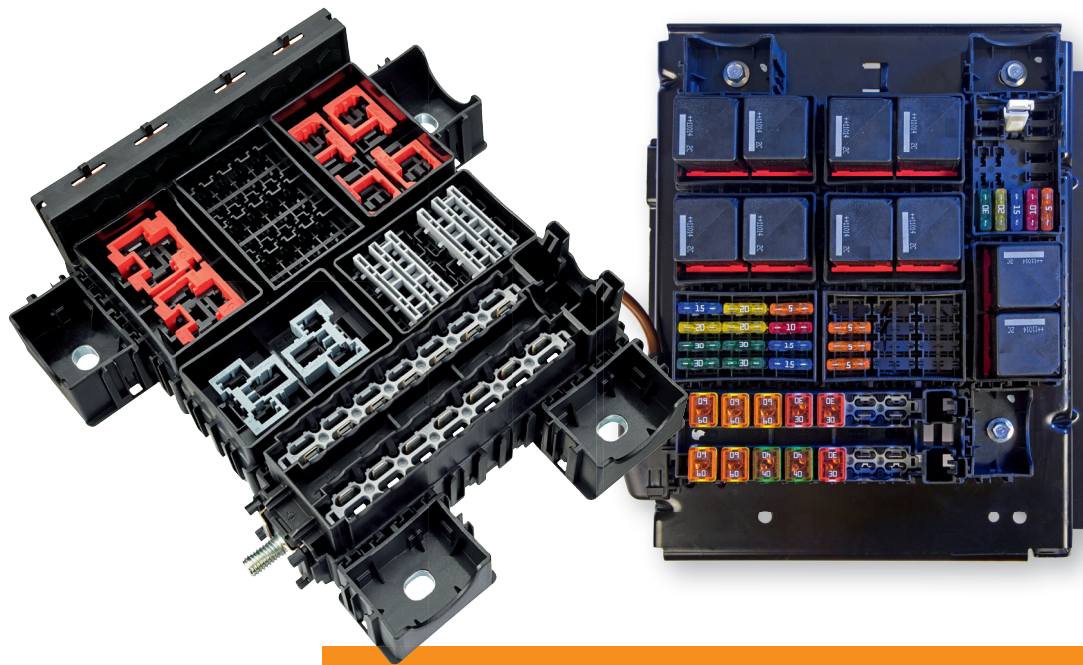
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DRIVER INFORMATION



BODY & CHASSIS SYSTEMS



MFINITY Fuse and Relay Box

INTRODUCTION

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

The MFINITY Fuse and Relay Box offer 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



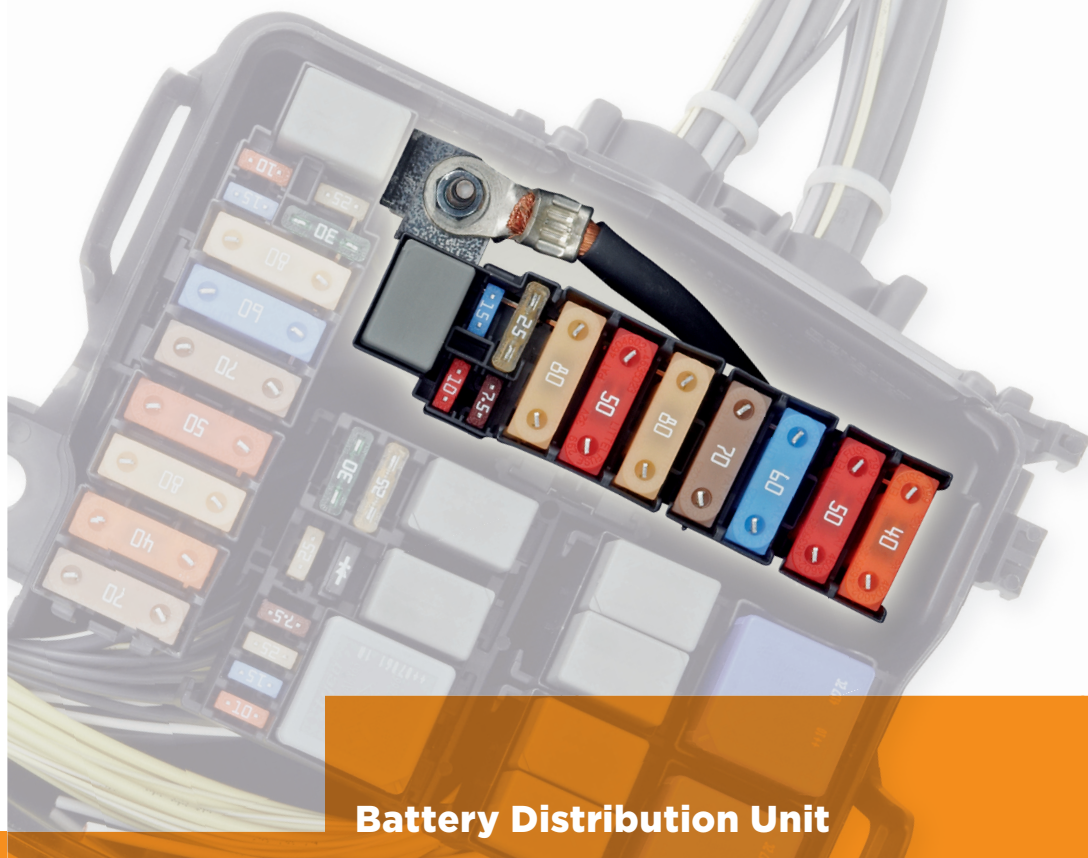
CONVENIENCE



DRIVER INFORMATION



BODY & CHASSIS SYSTEMS



Battery Distribution Unit

INTRODUCTION

TE Connectivity 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:

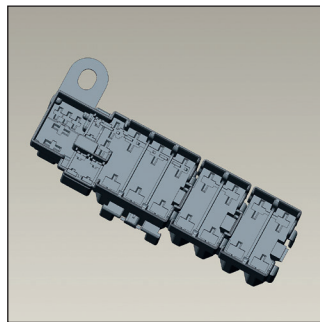
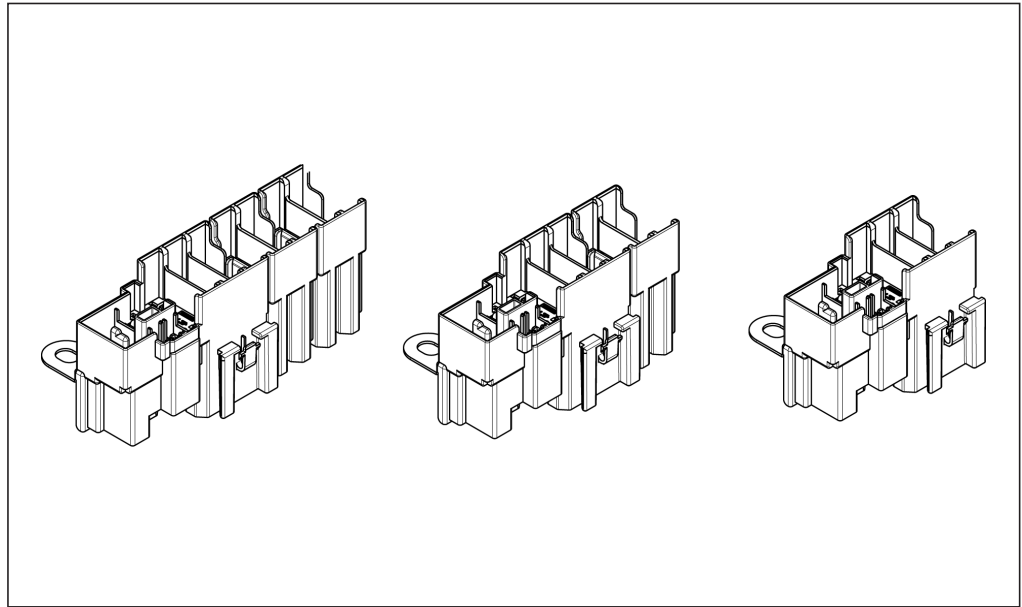
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Application Specification:

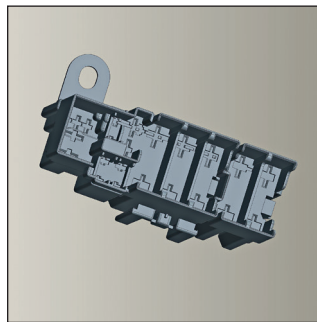
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Can be used as stand-alone module or in association with:

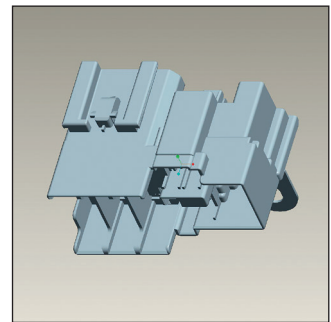
PN 1801627-2



PN 1801628-6
Represented



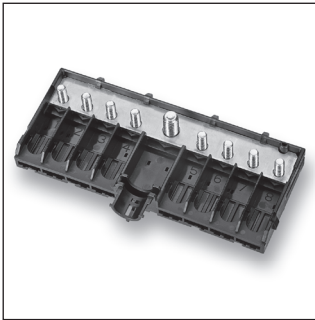
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Represented



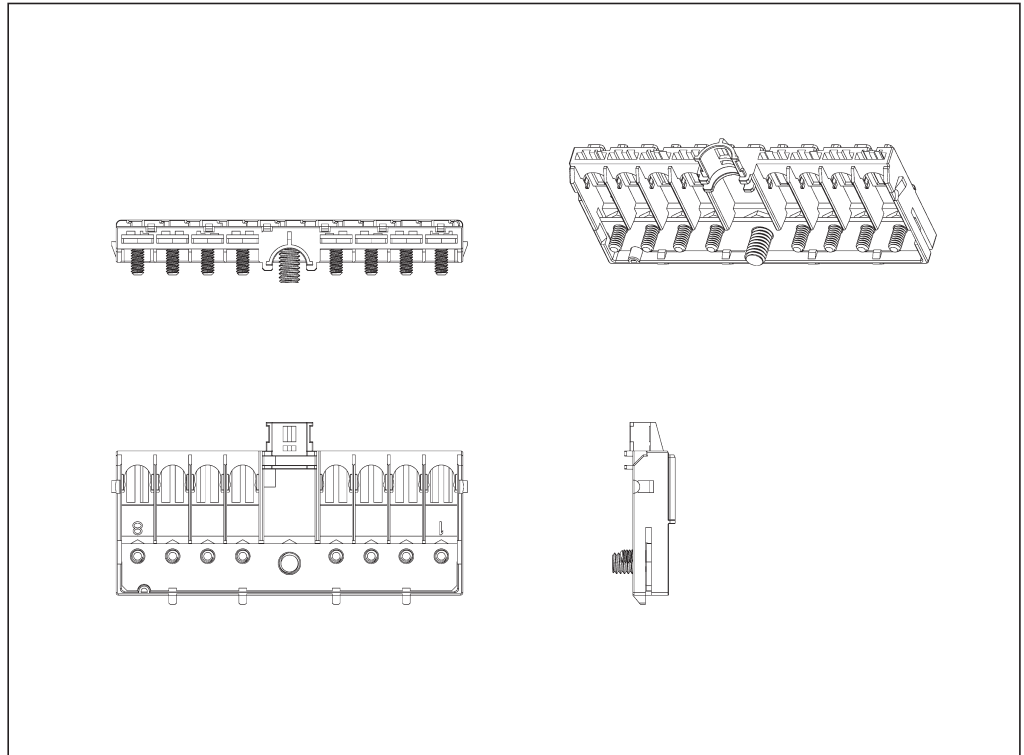
PN 1801628-4
Represented

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

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



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 35mm²
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

Pre-fuse SF30 Module, 8 Positions

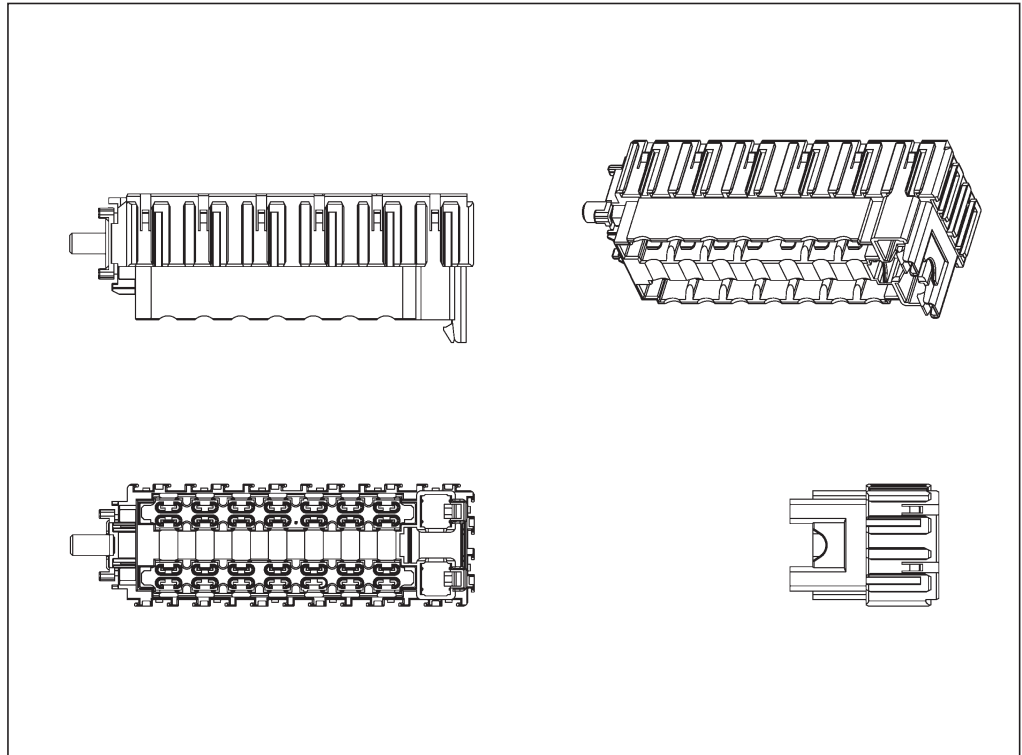
Module Part Number	Module Name	Product Dimensions L x W x H (mm)
2141034-1	Pre-fuse SF30 Module	137 x 70 x 24.1

Mating Cover see page 42
Part Number 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 35mm²

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

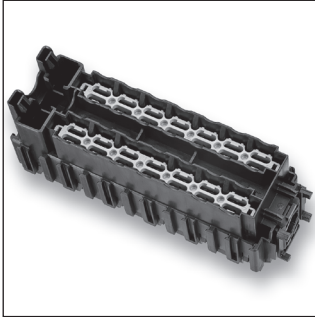
Module Part Number	Module Name	Product Dimensions L x W x H (mm)
2141040-1	Type A Fuse Module (Busbar Version)	155.55 x 47 x 57.3

Suitable Terminals

Part Number	Description	Plating	Wire Size Range (mm ²)
1670225-1	6.3 Busbar & Single Tab	Tin Hot Dipped	4 – 6
963755-1	6.3 Single Tab	Pre-Tinned	2.5 – 4

Mating Cover see page 43
Part Number 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

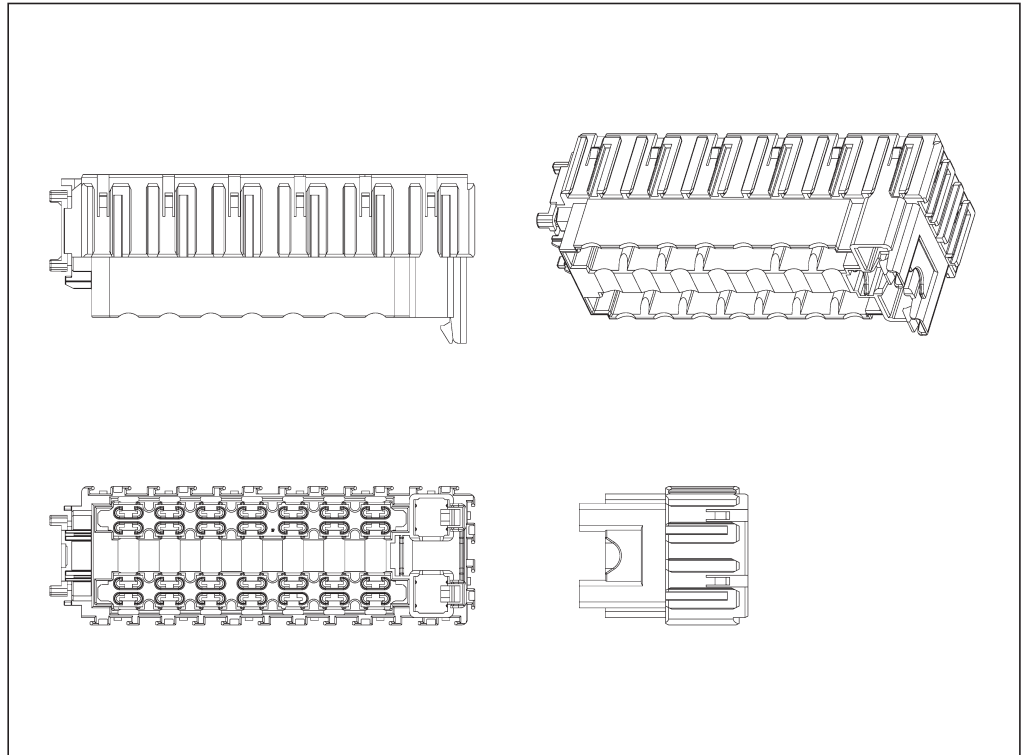
PN 2141028-1

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

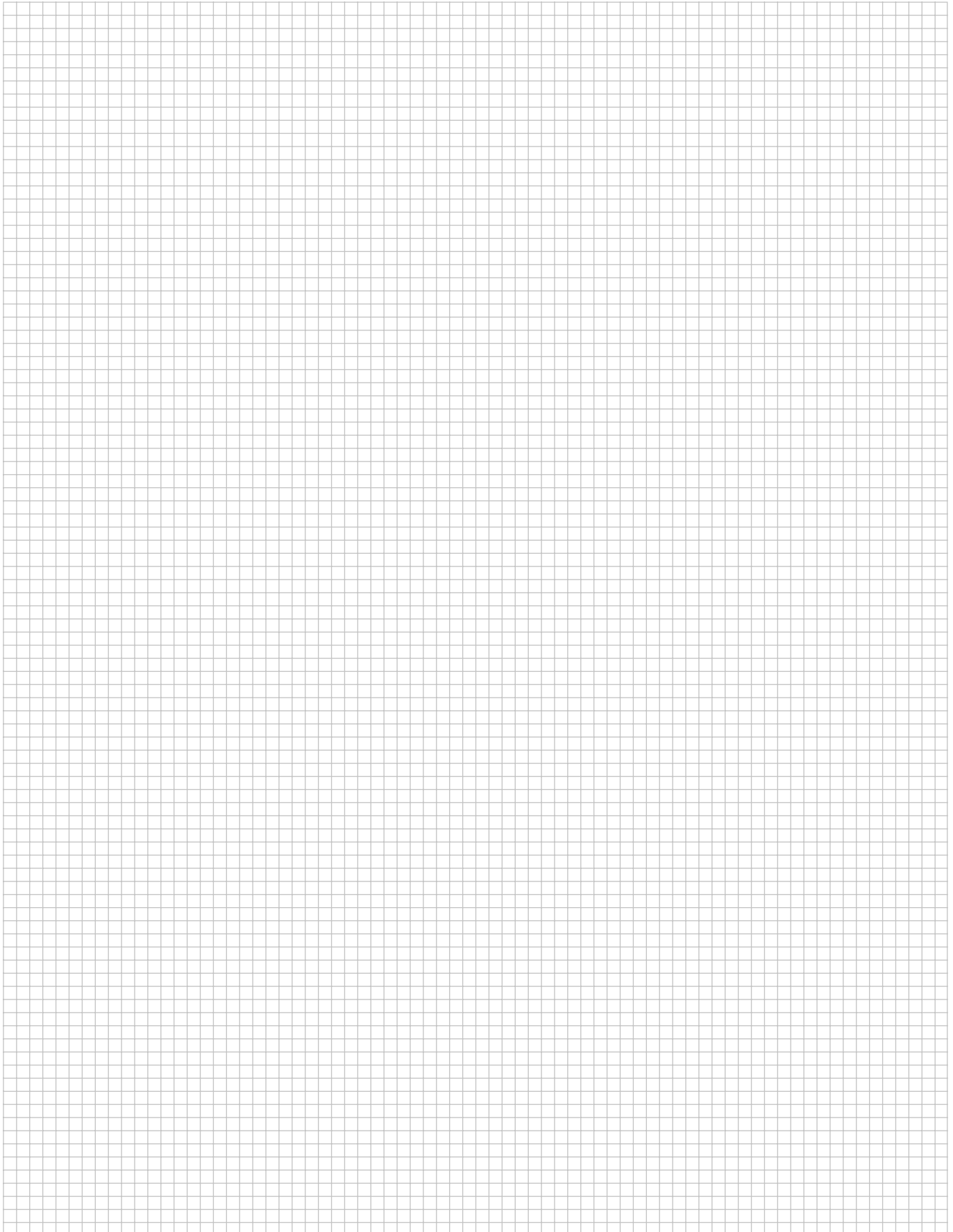
Module Part Number	Module Name	Product Dimensions L x W x H (mm)
2141040-2	Type A Fuse Module	144.55 x 47 x 57.3

Suitable Terminals

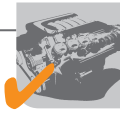
Part Number	Description	Plating	Wire Size Range (mm ²)
1670225-1	6.3 Busbar & Single Tab	Tin Hot Dipped	4 – 6
963755-1	6.3 Single Tab	Pre-Tinned	2.5 – 4

Mating Cover see page 43
Part Number 2141039-1





POWERTRAIN SYSTEMS



SAFETY & SECURITY SYSTEMS



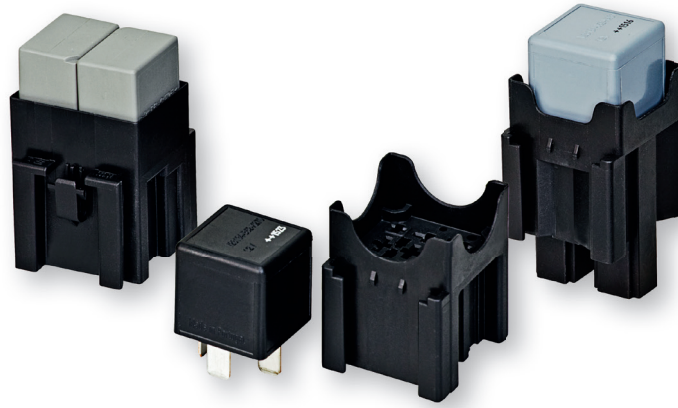
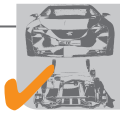
CONVENIENCE



DRIVER INFORMATION



BODY & CHASSIS SYSTEMS



Module Components:

- Fuse Holder
- 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:

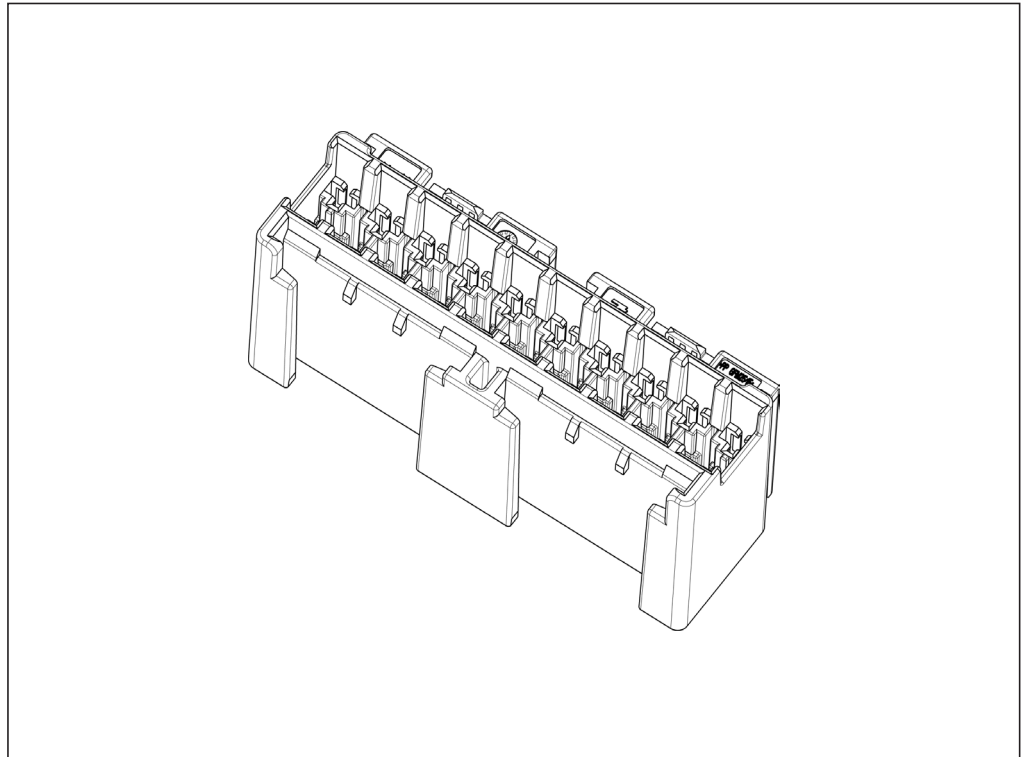
Unsealed

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 (mm ²)
			JPT Receptacle	
1801616-1	Black	PP GFM 25/15	964280-2	0.2 – 0.5
			964284-2	0.5 – 1.0
			965999-2	1.0 – 2.5
			1241978-2	2.5 – 4.0



Technical Features

Material:

PBT

Product Specification:

108-94263

Application Specification:

114-94090

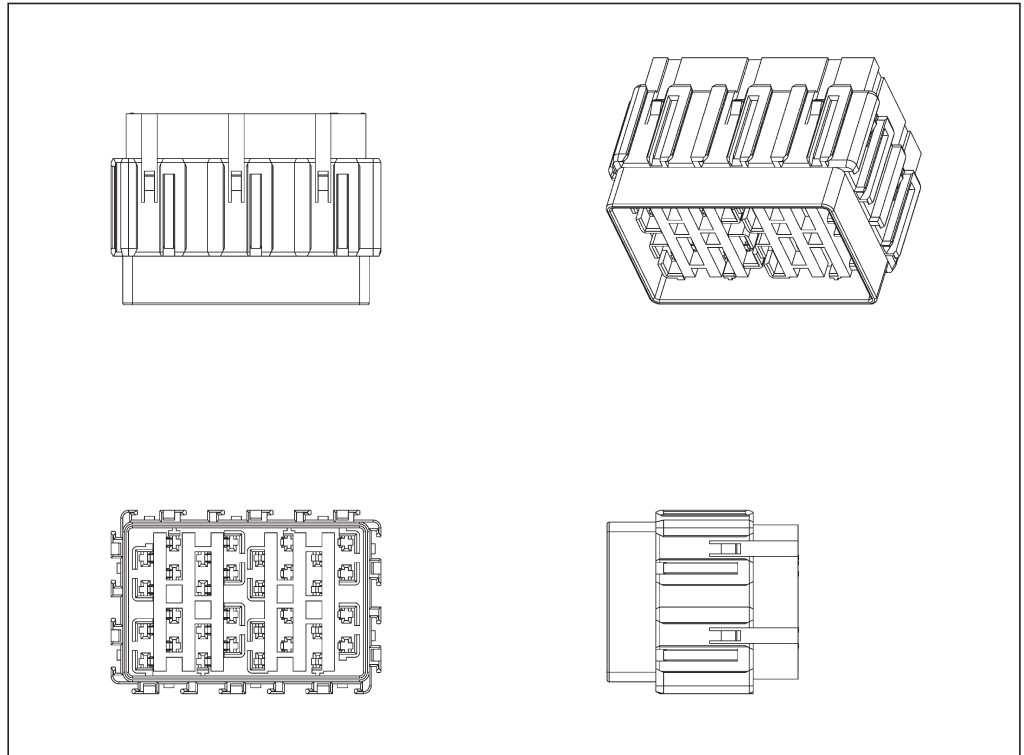
Order Information

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

MFINITY – Miniature Fuse Module, 16 Positions



Miniature Fuse Module, 16 Positions

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
2141029-1	Miniature Fuse Module	69.3 x 47 x 43

Suitable Terminals

Part Number	Description	Material	Plating	Wire Size Range (mm ²)
1-1355844-1	Fuse Contact Busbar			4 – 6
1-1355877-1				1 – 2.5
1-1355833-1	Fuse Contact Single	CuNiSi	Pre-Tinned	0.5 – 1.0
1-1355880-1				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

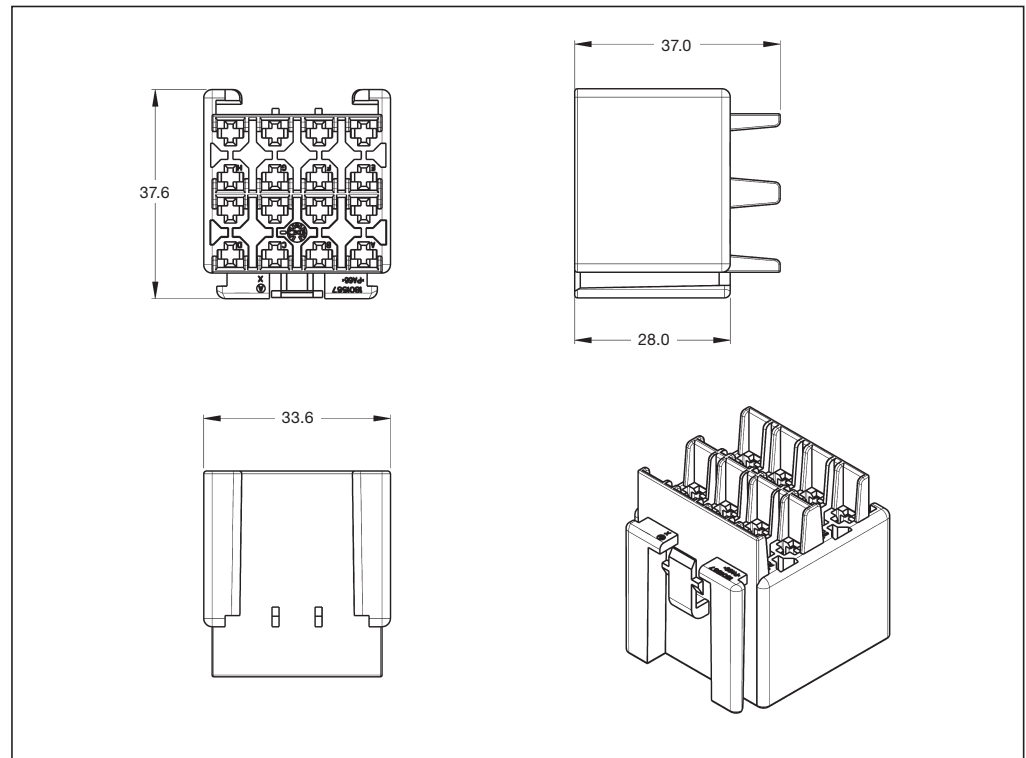
Temperature Class:
-40° C to +85° C

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 (mm ²)				
1801567-1	Natural	PA66	550	1-968880-1	0.2 – 0.5				
				1-968880-3					
				1-968849-1	0.5 – 1.0				
				1-968849-2					
				1-968849-3					
				1-968851-1	1.5 – 2.5				
				1-968851-2					
				1-968851-3					
				1-968853-1	2.5 – 4.0				
				1-968853-3					
								See Table Drawing 1355036	

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

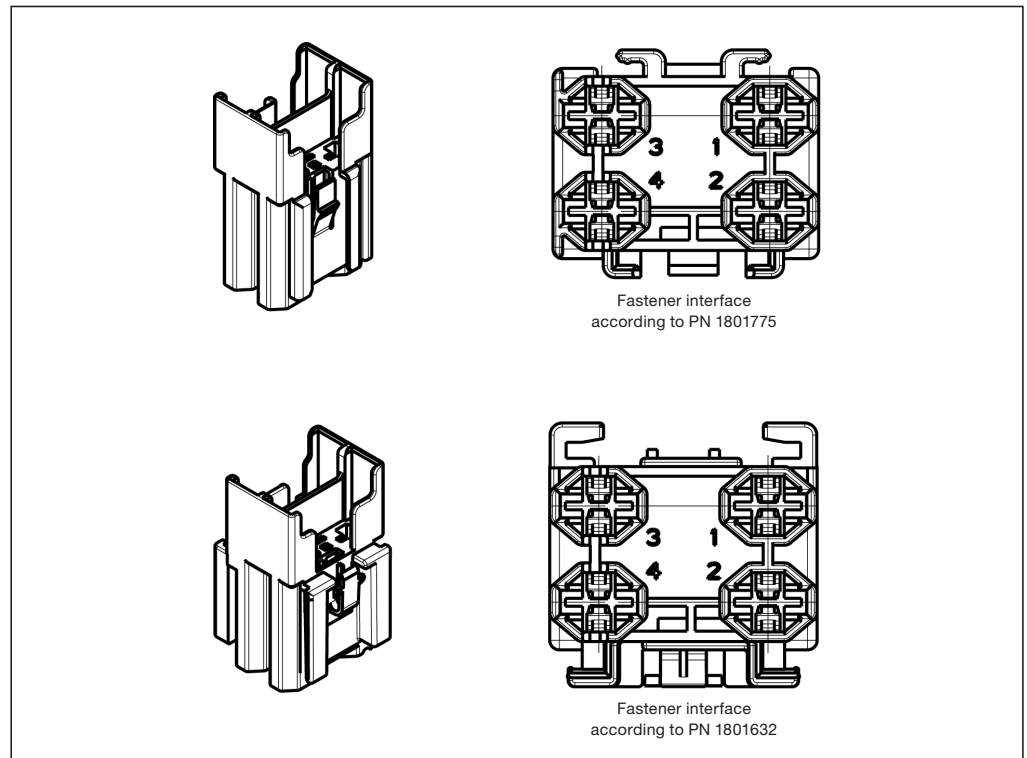
Sealed / Unsealed:
Unsealed

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	Wire Size Range (mm ²)
			NG Receptacle	
1801627-2	Black	PBT GF10	1801431-1	3 – 5
			1801432-1	6 – 7
1801627-3			1801433-1	7 – 10

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:

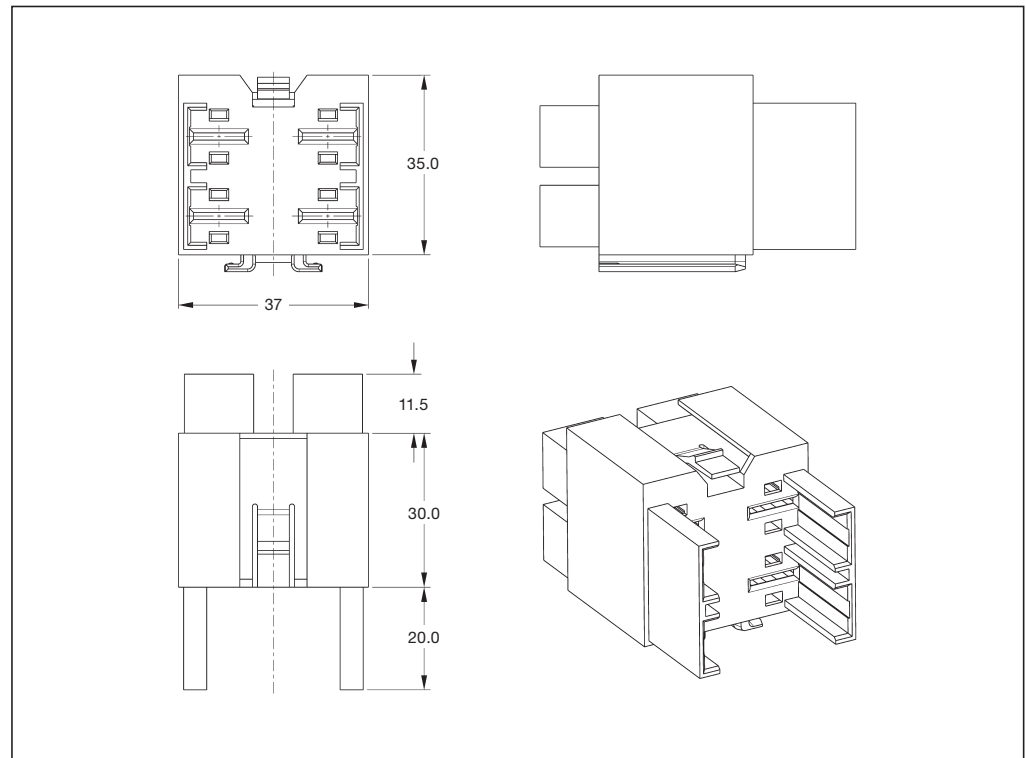
Unsealed

Product Specification:

108-18047

Application Specification:

114-18075



High Current Fuses Holder – 2 Positions

Part Number	Housing Color	Material	Package Quantity	Mating Contacts	Wire Size Range (mm ²)
				MPT Receptacles	
964595-1	Orange	PA66-GF13	300	962928-1	> 2.5 – 4.0
				962930-1	4.0 – 6.0
				962932-1	6.0 – 10



Technical Features

Material:

PBT

Product Specification

108-94263

Application Specification

114-94090

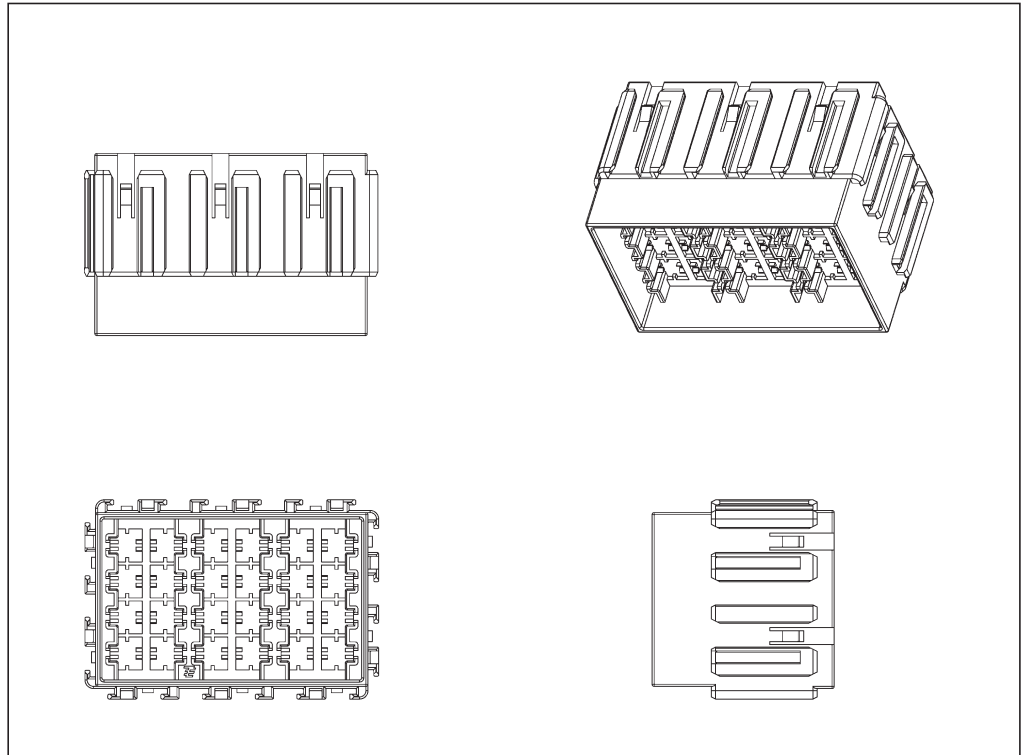
Order Information

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)
2141028-1	Medium Fuse Module	69.3 x 47 x 43

Suitable Terminals

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

Automotive Power Distribution Fuse and Relay Holder

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:

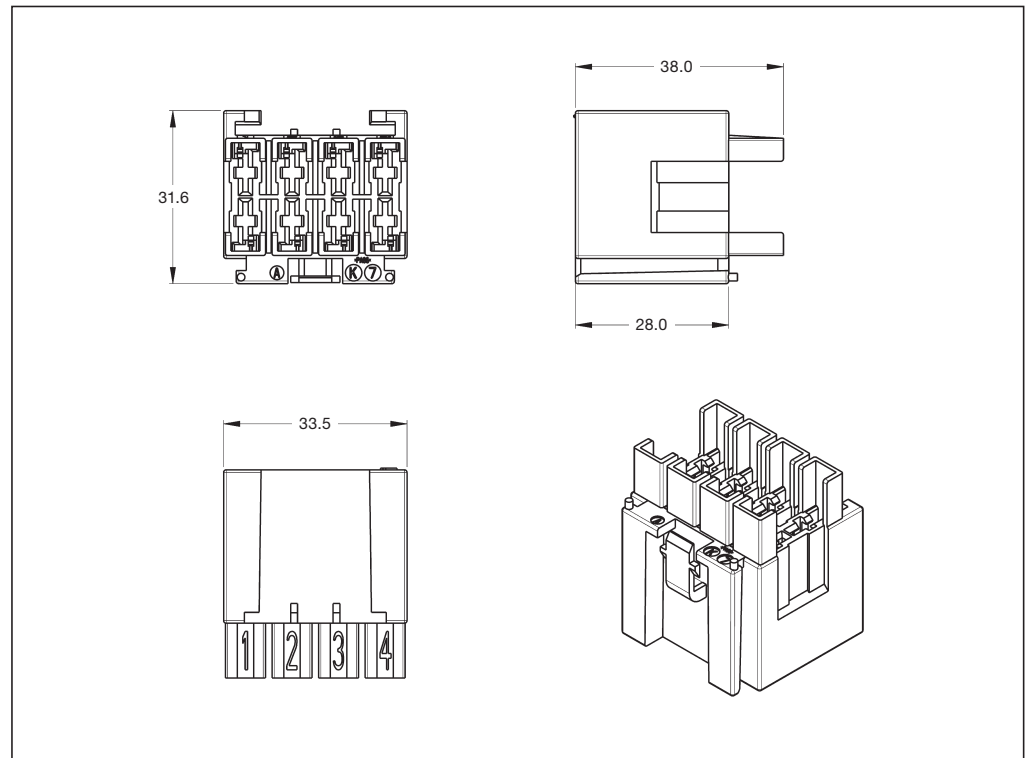
Unsealed

Product Specification:

108-15160

Application Specification:

411-15587



Medium Fuse Holder – 4 Positions

Part Number	Housing Color	Material	Package Quantity	Mating Contacts	Wire Size Range (mm ²)
				SPT Receptacles	
185847-1	Natural	PA66	550	927831-2	0.5 – 1.0
				144617-1	1.0 – 3.0
				144433-1	3.0 – 5.0
185847-2				144434-1	5.0 – 7.0



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

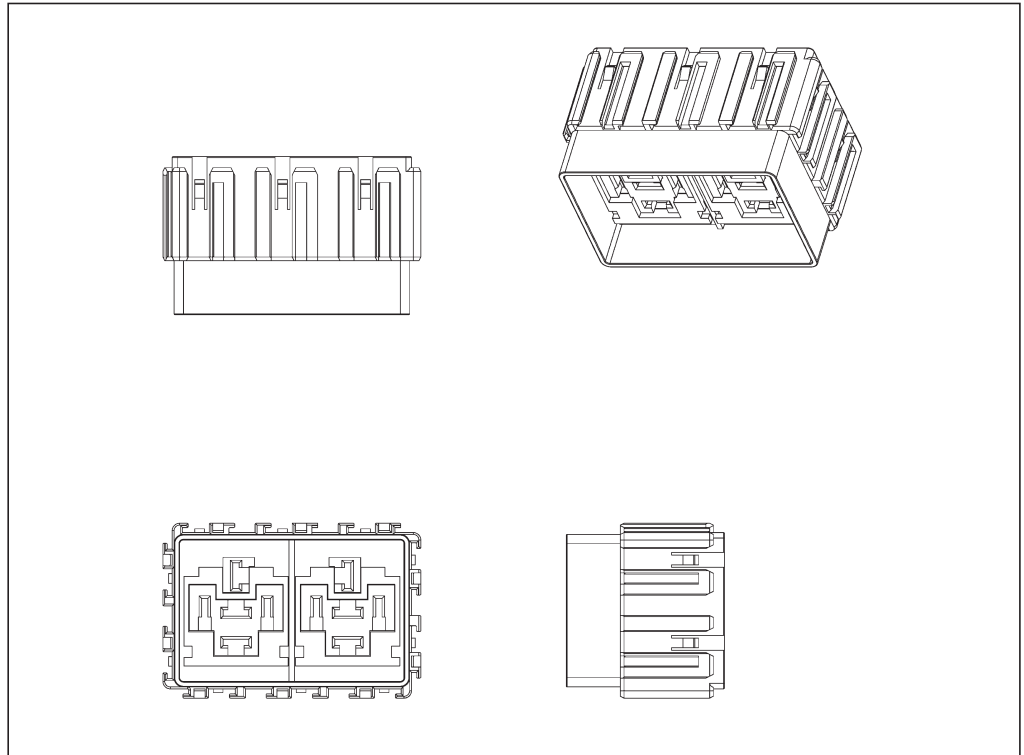
PN 2141034-1

PN 2141031-x

PN 2141040-x

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

MFINITY – Mini Relay Module – 2 Positions



Mini Relay Module – 2 Positions

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
2141024-1	Mini Relay Module	69.3 x 47 x 42.5

Suitable Terminals

Part Number	Description	Plating	Wire Size Range (mm ²)
2208343-1	LEAR – 6.3mm 361330-YF200	Pre-Tinned	0.5 – 1.5
2208343-3	LEAR – 6.3mm 361030-YF200		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

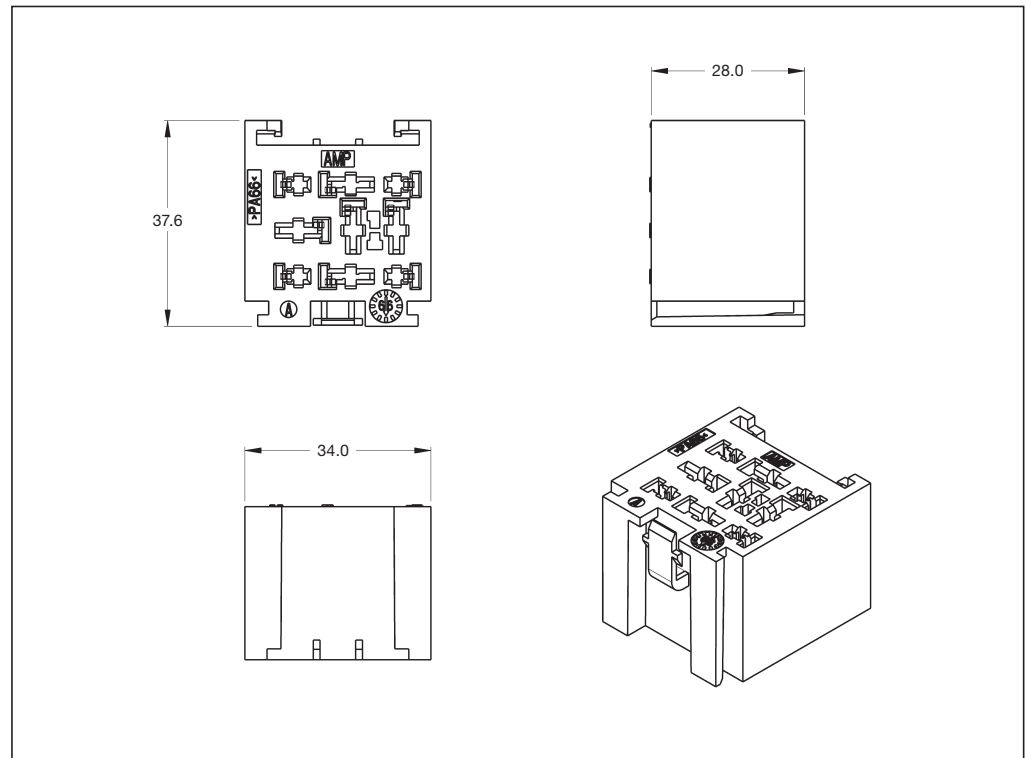
Temperature Class:
-40° C to +85° C

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 (mm ²)	
185403-1	Natural	P66	550	JPT Receptacle	144431-1	0.35 – 1.0
185403-2	Black				144432-1	1.0 – 3.0
185403-3	Gray			SPT Receptacle	927831-2	0.5 – 1.0
					144617-1	1.0 – 3.0
185403-4	Brown	144433-1	3.0 – 5.0			
		144434-1	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:

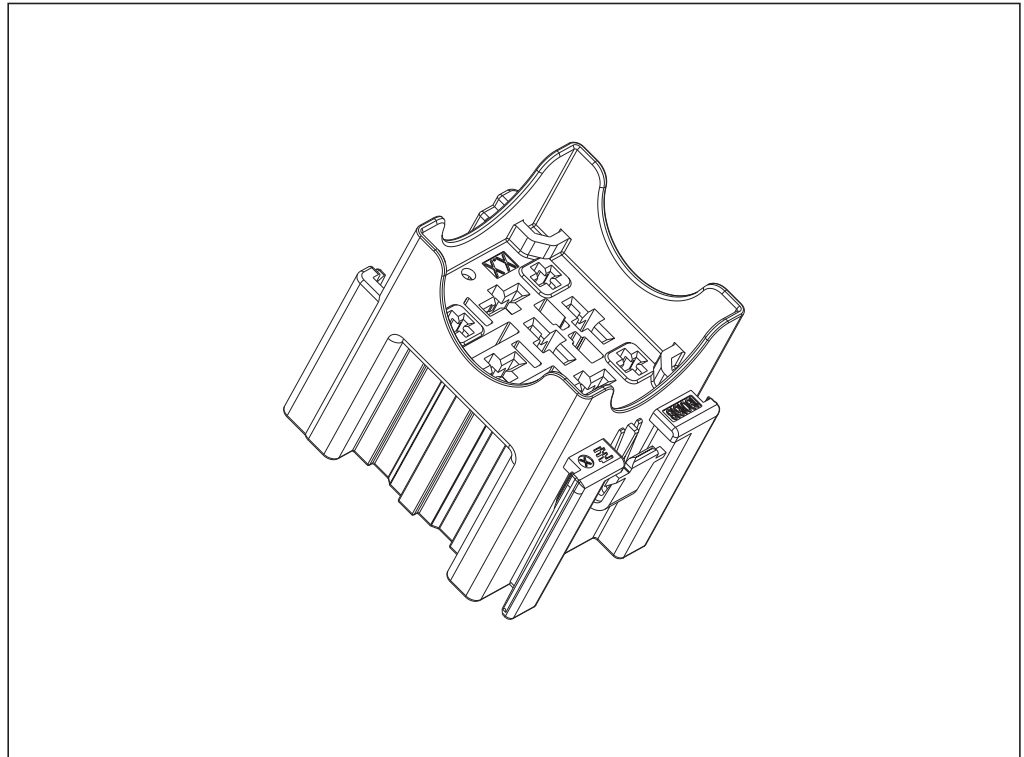
108-15412

Application Specification:

408-15010

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

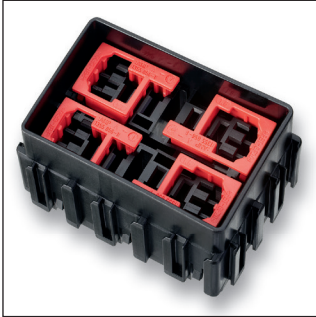
- PN 1801616
- PN 1801617
- PN 1801619
- PN 1801620
- PN 1801627
- PN 1801764
- PN 1801773



Modular Relays Holder Gen2 (Relay 35-40A)

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

*) Other colors (Natural) upon request



Technical Features

Material:
PBT

Product Specification:
108-94263

Application Specification:
114-94090

Order Information

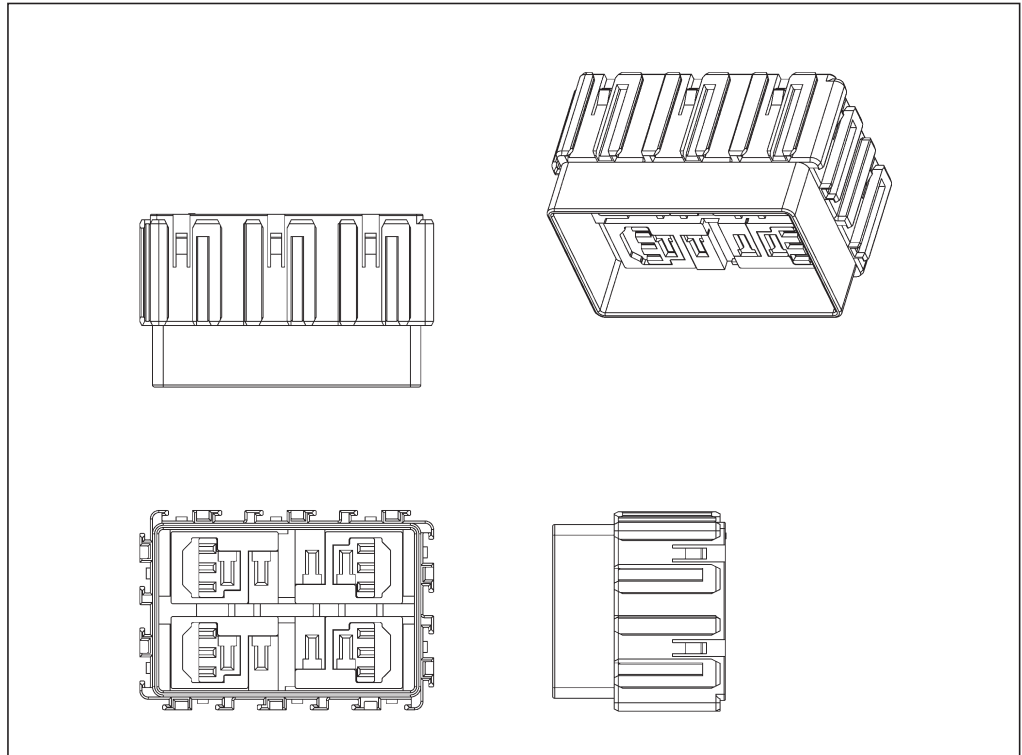
4x ISO Micro Relays
Part Number 2141022-1

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.

MFINITY – Micro Relay Module – 4 Positions



Micro Relay Module – 4 Positions

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
2141022-1	Micro Relay Module	69.3 x 47 x 40.75

Suitable Terminals

Part Number	Description	Plating	Wire Size Range (mm ²)
2208343-2	LEAR – 6.3mm 361430-YF200	Pre-Tinned	1.5 – 2.0
2208342-2	Molex – 4.8mm 33113-0003	N/A	N/A
2208342-1	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:

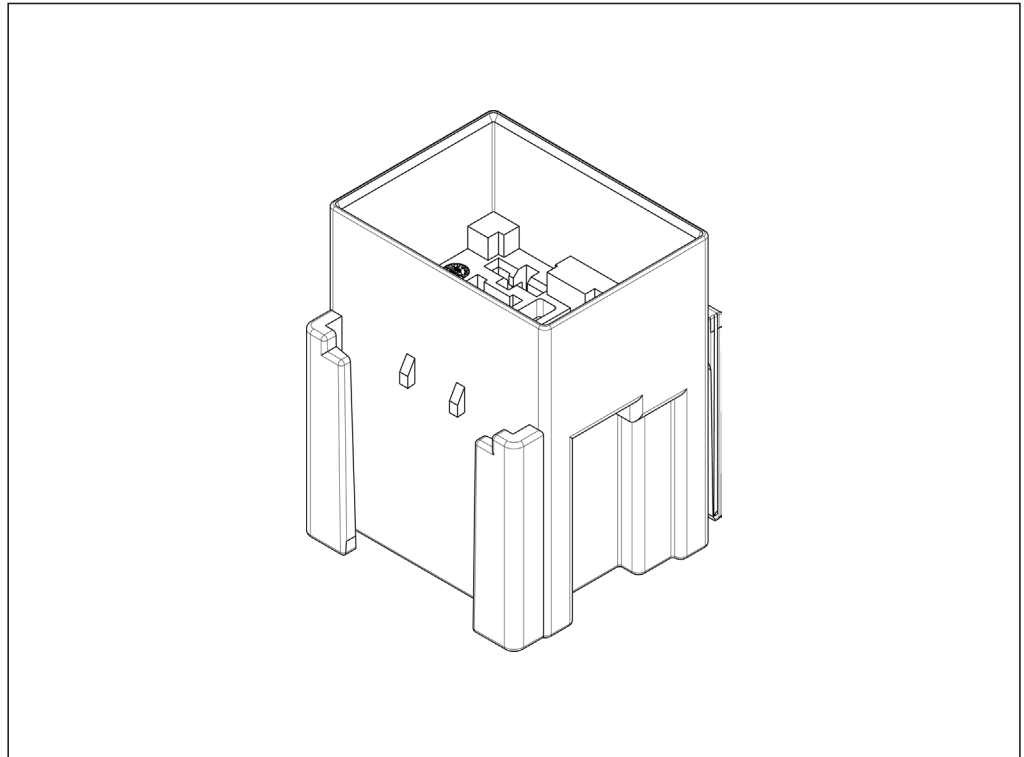
Unsealed

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 ²)	
1801620-1	Black	PP-GFM25/15	300	JPT Receptacle	964280-2	0.2 – 0.5
					964284-2	0.5 – 1.0
				SPT Receptacle	927831-2	0.5 – 1.0
					144617-1	1.0 – 3.0
					144433-1	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

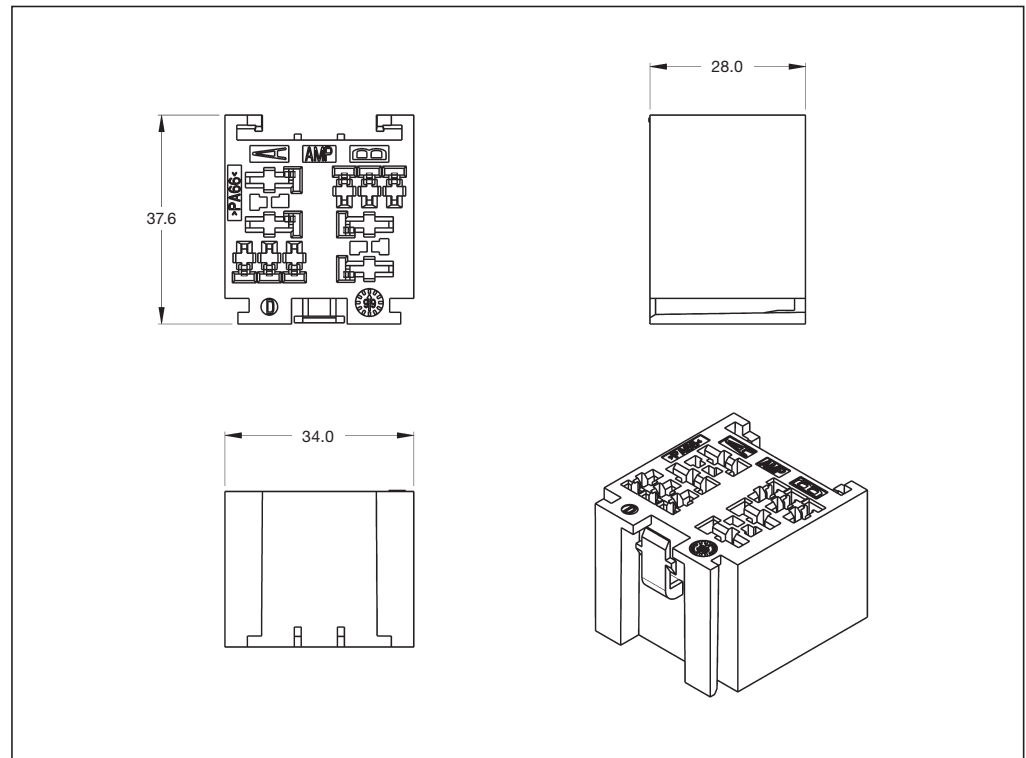
Product Specification:

108-15131

Application Specification:

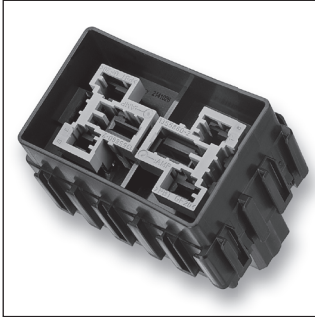
411-15551

411-15591



Relays Holder Gen1 (2 Micro Relays)

Part Number	Housing Color	Material	Package Quantity	Mating Contacts	Wire Size Range (mm ²)	
185402-1	Natural	PA 66	550	JPT Receptacle	144431-1	0.35 – 1.0
					144432-1	1.0 – 3.0
185402-2	Black			SPT Receptacle	927831-2	0.5 – 1.0
					144617-1	1.0 – 3.0
185402-3	Gray			144433-1	3.0 – 5.0	
				144434-1	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

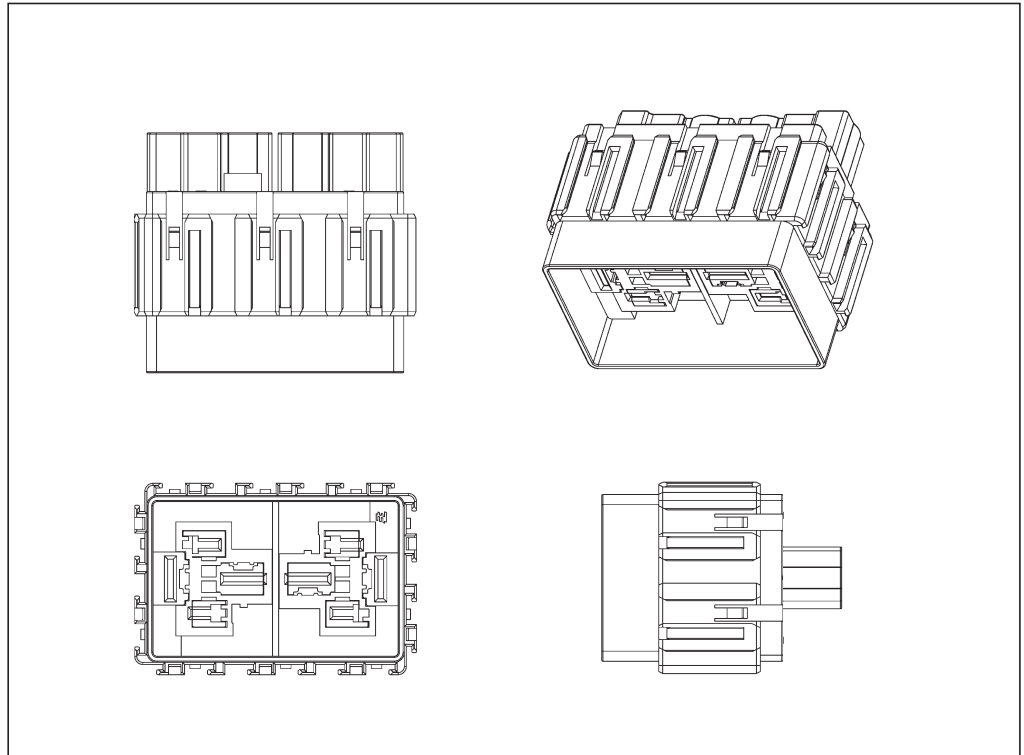
PN 2141028-1

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)
2141026-1	Maxi Relay Module	69.3 x 47 x 59

Suitable Terminals

Part Number	Description		Plating	Wire Size Range (mm ²)
1-1355849-1	9.5 Single Tab	CuNiSi		6 – 10
2208343-1	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:

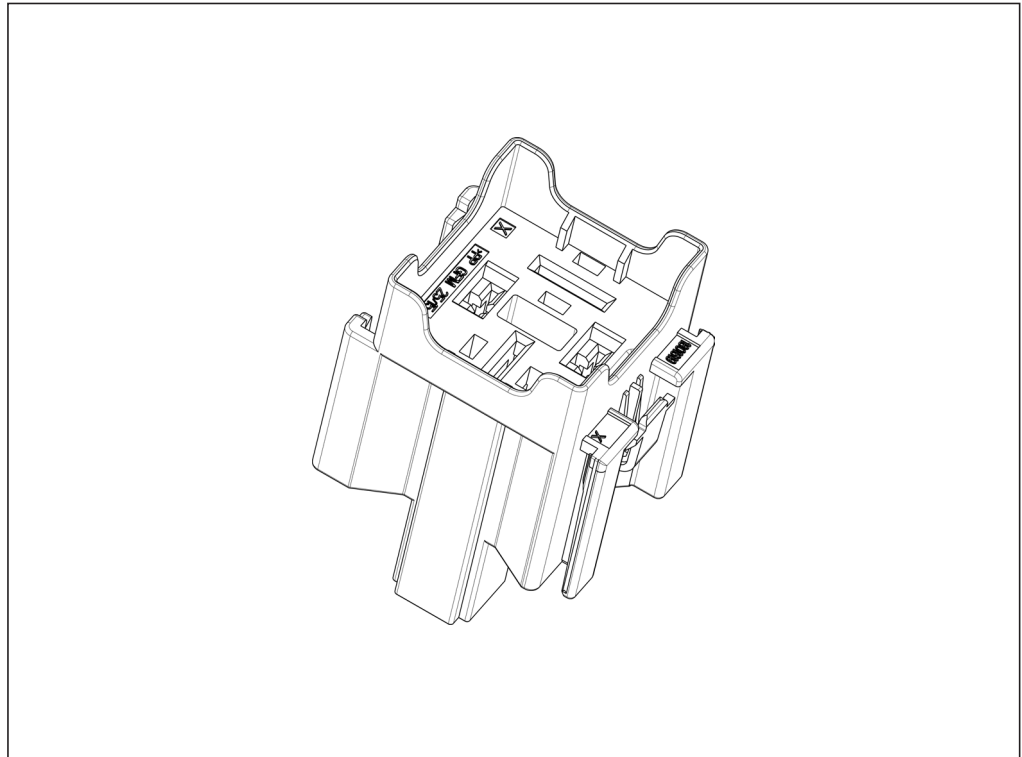
108-15412

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 (mm ²)	
1801619-1	Black	PP-GFM25/15	300	MPT Receptacle	962928-1	2.5 – 4.0
					962930-1	4.0 – 6.0
					962932-1	7.0 – 10
				SPT Receptacle	927831-2	0.5 – 1.0
					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:

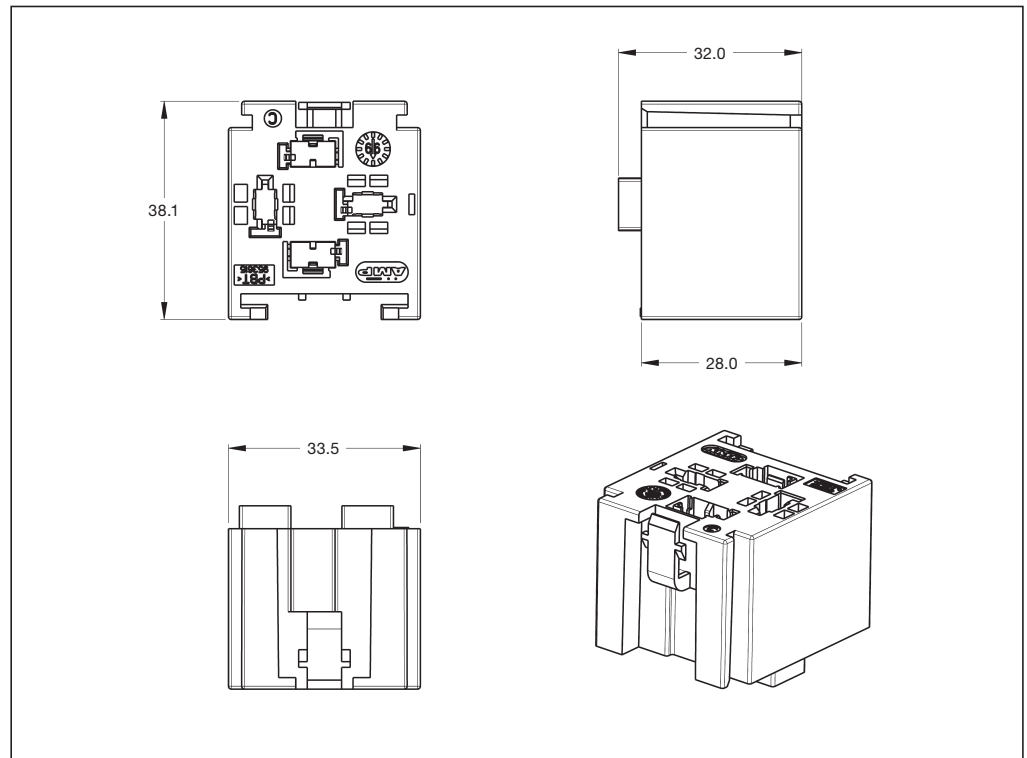
Unsealed

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 ²)	
953615-1	Red	PBT	500	SPT Receptacle	927831-2	0.5 – 1.0
					144617-1	1.0 – 3.0
					144433-1	3.0 – 5.0
953615-2	Purple	PBT	500	Positive Lock MK1	185283-1	5.0 – 6.0
					160759-3	0.5 – 1.5
					154718-3	0.7 – 2.0
					154717-3	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:

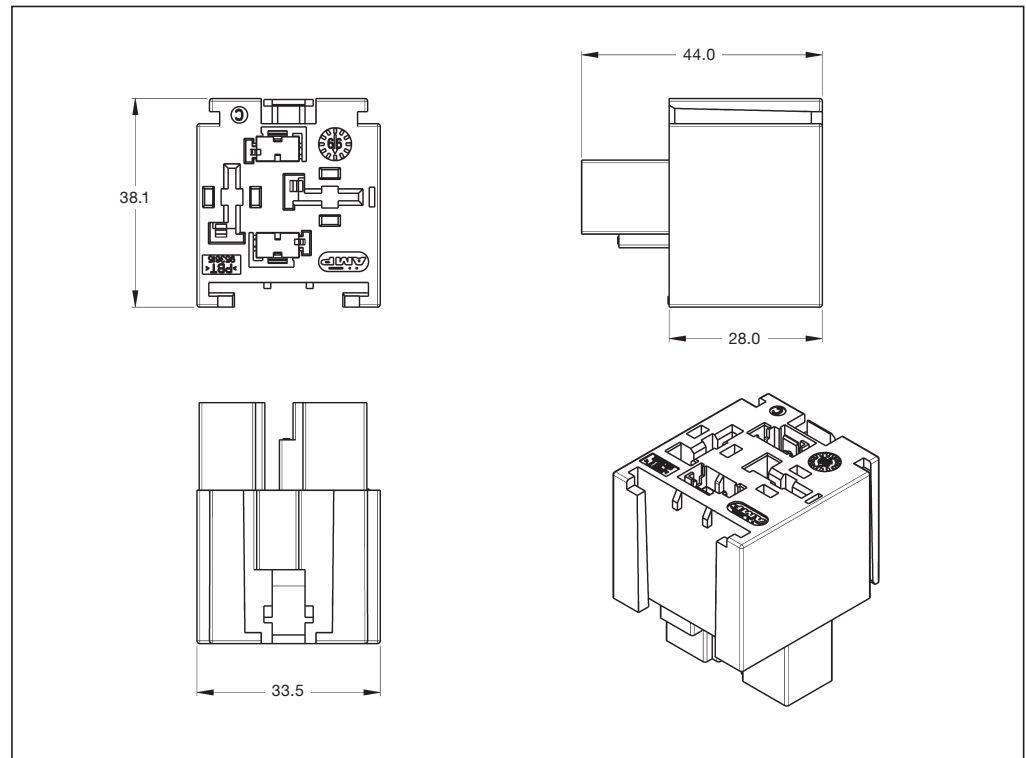
Unsealed

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 (mm ²)
1-953615-1	Red	PBT	450	Positive Lock MK1	0.5 – 1.5
1-953615-2	Purple				0.7 – 2.0
					2.5 – 4.0
2-953615-1	Natural			MPT Receptacle	2.5 – 4.0
2-953615-2	Black				4.0 – 6.0
		6.0 – 10			

POWERTRAIN SYSTEMS



SAFETY & SECURITY SYSTEMS



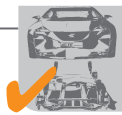
CONVENIENCE



DRIVER INFORMATION



BODY & CHASSIS SYSTEMS



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.

Fuse and Relay Holder – 6 Miniature Fuses

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:

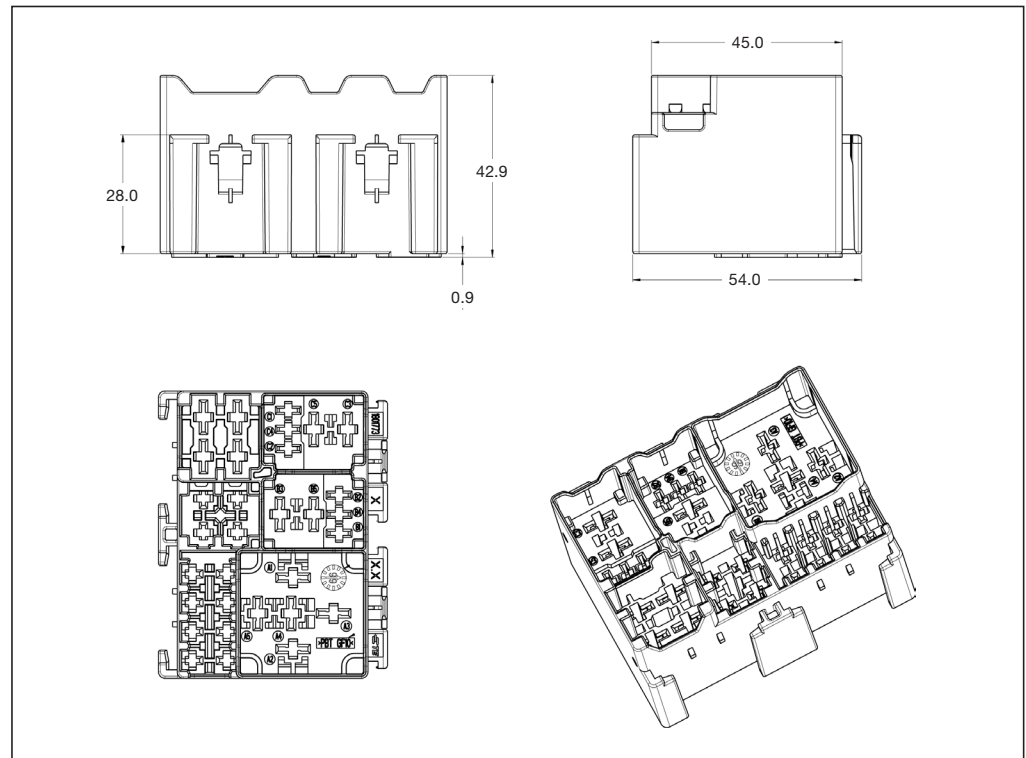
Unsealed

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

Part Number	Housing Color	Material	Mating Contacts	Wire Size Range (mm ²)	
1801773-1	Black	PBT GF10	JPT Receptacle	964280-2	0.2 – 0.5
				964284-2	0.5 – 1.0
				965999-2	1.0 – 2.5
				1241978-2	2.5 – 4.0
1801617-1		PP GFM 25/15	SPT Receptacle	927831-2	0.5 – 1.0
				144617-1	1.0 – 3.0
				144433-1	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 minitature 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:

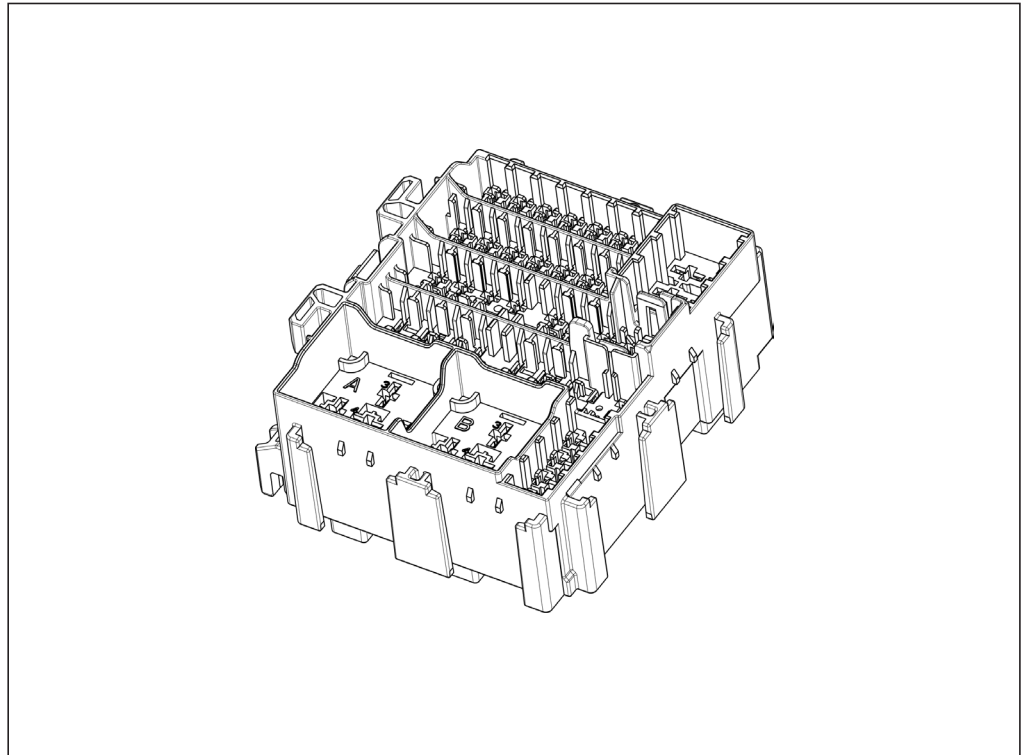
Unsealed

Product Specification:

108-15406

Application Specification:

408-15007



Fuse and Relay Holder – 36 Miniature Fuses

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

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

Medium Fuse Holder - 5 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:

5 Medium fuses

Temperature Class:

-40° C to +100° C

Vibration Class:

3G

Sealed / Unsealed:

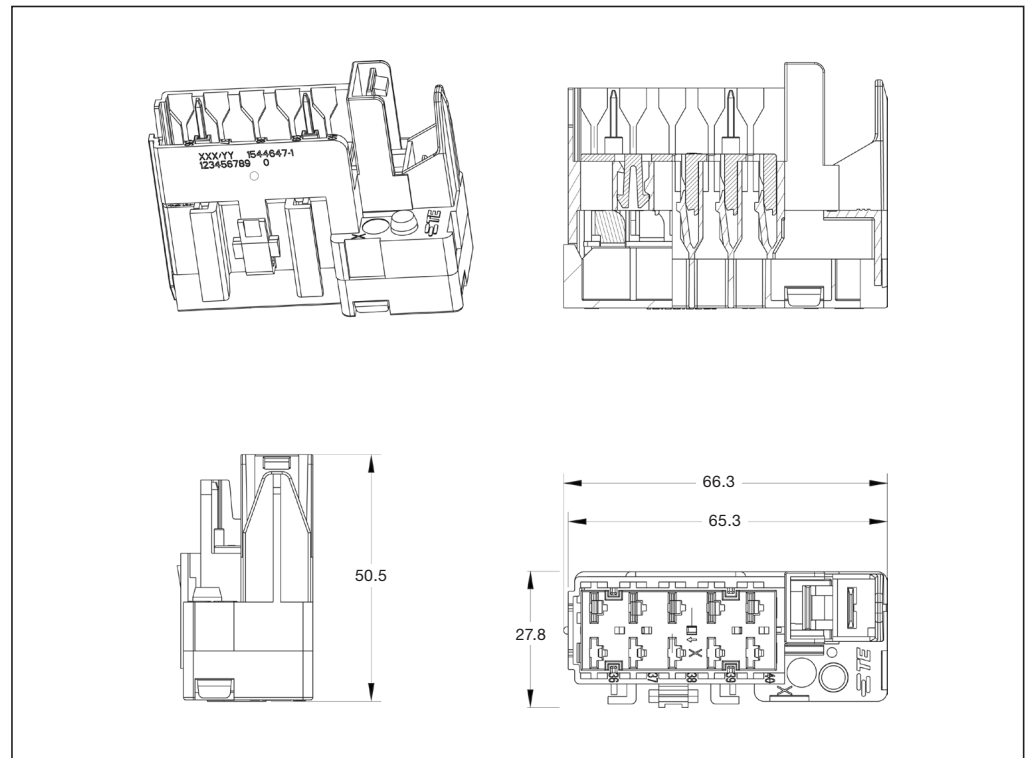
Unsealed

Product Specification:

108-15332

Application Specification:

411-15678



Fuse and Relay Holder – 6 Miniature Fuses

Part Number	Housing Color	Material	Package Quantity	Mating Contacts (6.3mm Terminals)	Part Number	Crimping Range (mm ²)
1544647-1	Black	PBT, UL 94-HB rated	305	Clip 8mm with safety lock	1544128-1	6.0 – 10.0
				Rec Housing 8mm with safety lock	1544129-1	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:

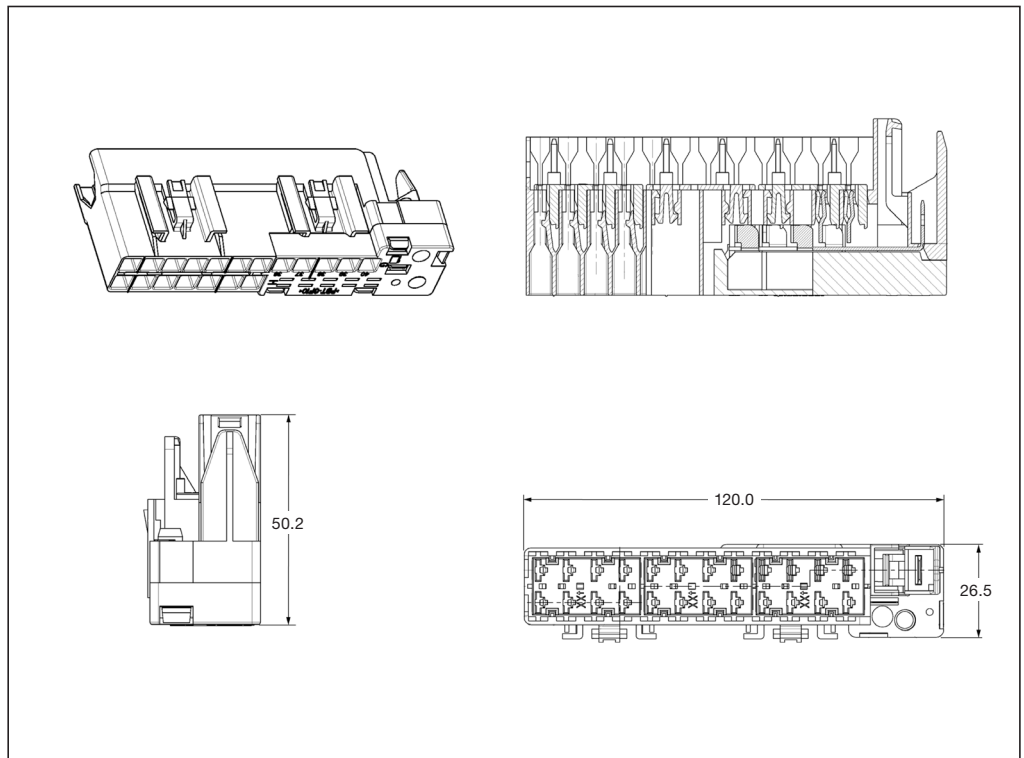
Unsealed

Product Specification:

108-15332

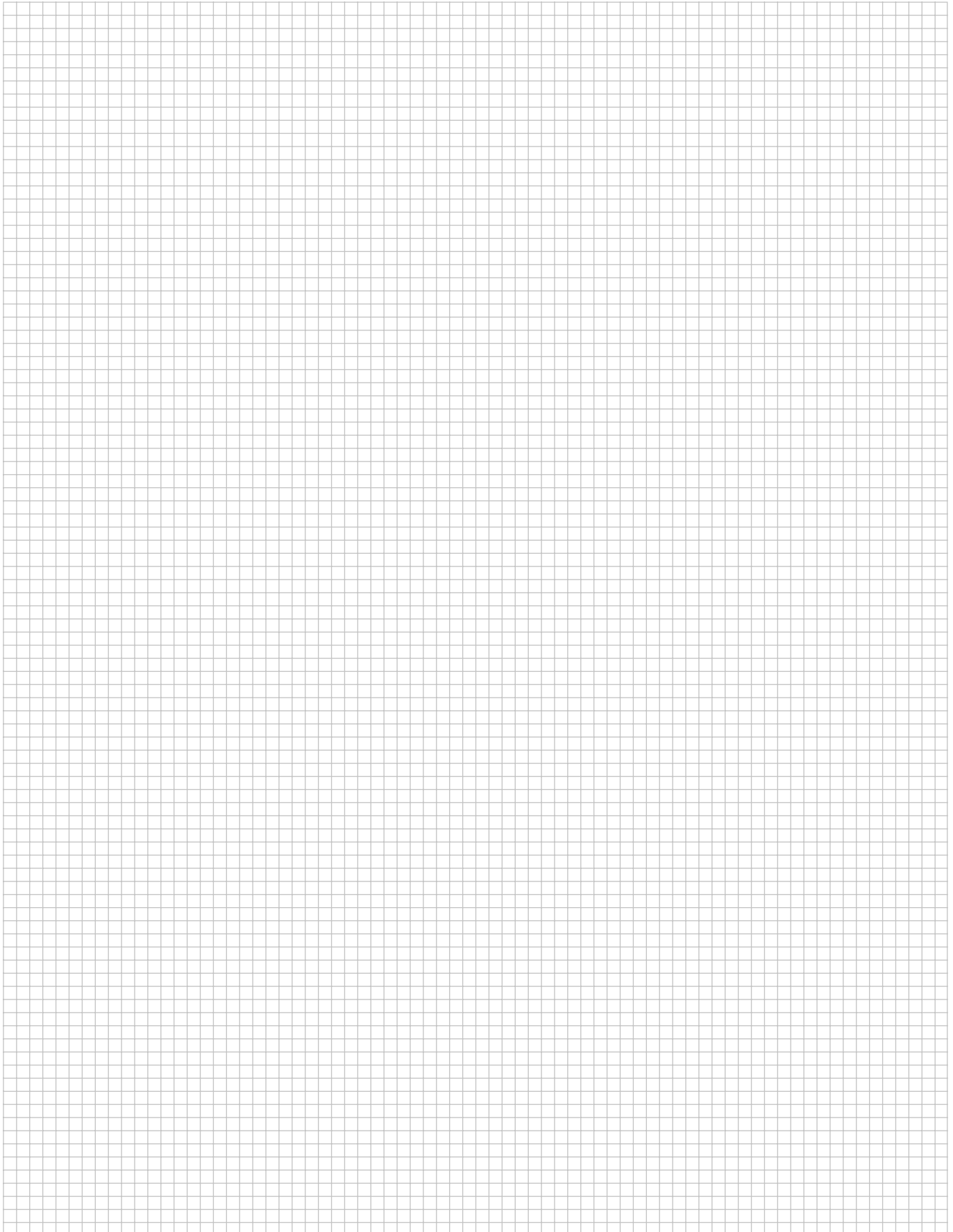
Application Specification:

411-15678

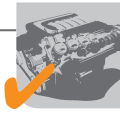


Fuse and Relay Holder – 6 Miniature Fuses

Part Number	Housing Color	Material	Package Quantity	Mating Contacts (6.3mm Terminals)	Part Number	Crimping Range (mm ²)
1544266-1	Black	PBT, UL 94-HB rated	182	Clip 8mm with safety lock	1544128-1	6.0 – 10.0
				Rec Housing 8mm with safety lock	1544129-1	2.0 – 10.0



POWERTRAIN SYSTEMS



SAFETY & SECURITY SYSTEMS



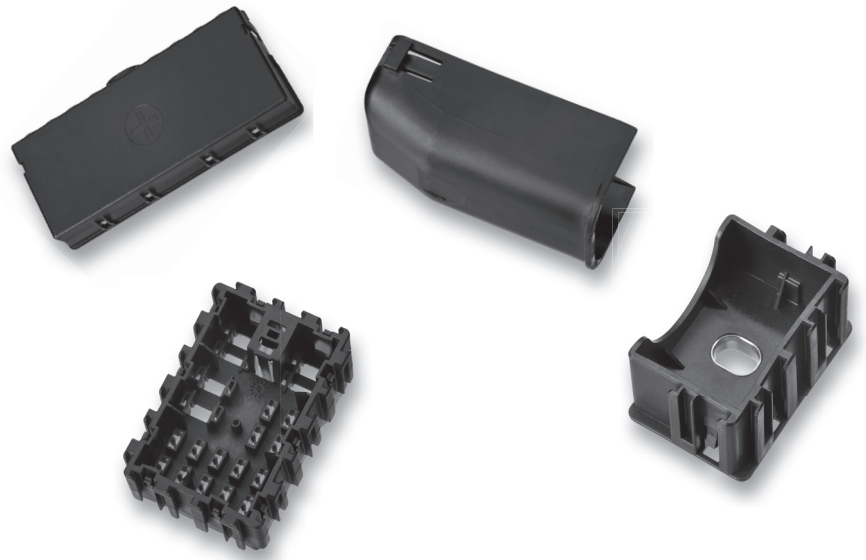
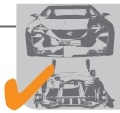
CONVENIENCE



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 devices 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:

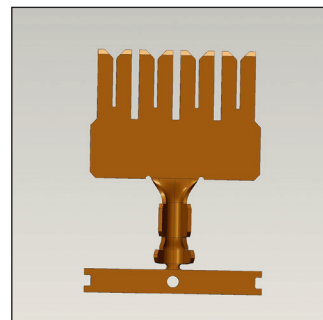
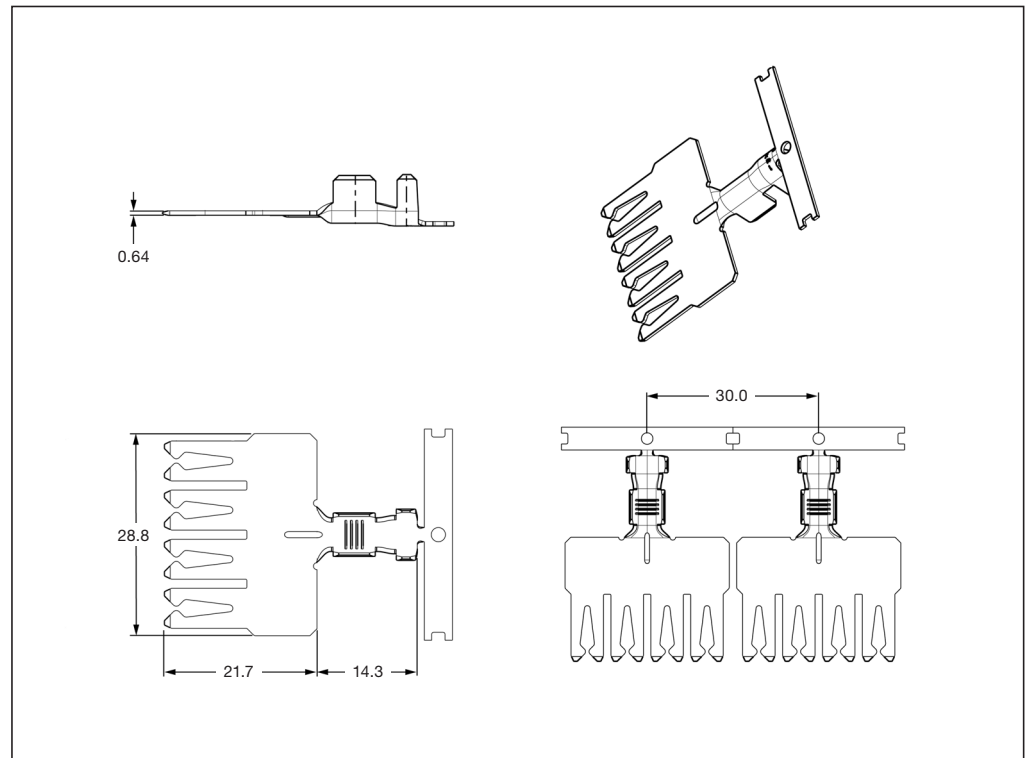
108-15415

Application Specification:

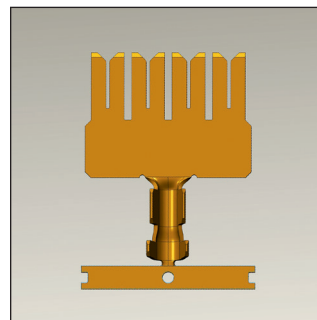
114-15124

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 ²)	Insulation Range (mm)
1801614-3	Black	Tin plated	2000	up to 4 Miniature fuses	2.5 – 6.0	3.0 – 3.7
1801614-4					5.0 – 6.0	4.0 – 4.3



MFINITY – Bracket Module, 180°

Applications

- Convenience harness
- Engine harness

Technical Features

Material:
PBT

Product Specification:
108-94263

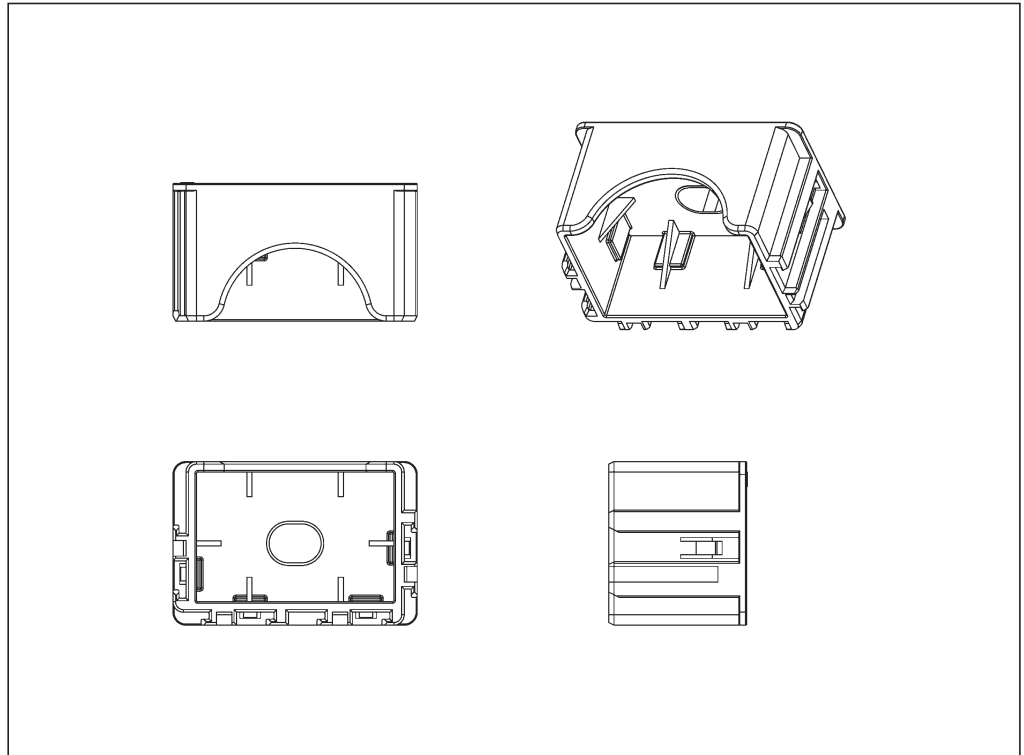
Application Specification:
114-94090

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°

Module Part Number	Module Name	Product Dimensions L x W x H (mm)
2141031-1	Bracket Module 180°	42 x 31.5 x 26.5



MFINITY – Bracket Module, 90°

Applications

- Convenience harness
- Engine harness

Technical Features

Material:
PBT

Product Specification:
108-94263

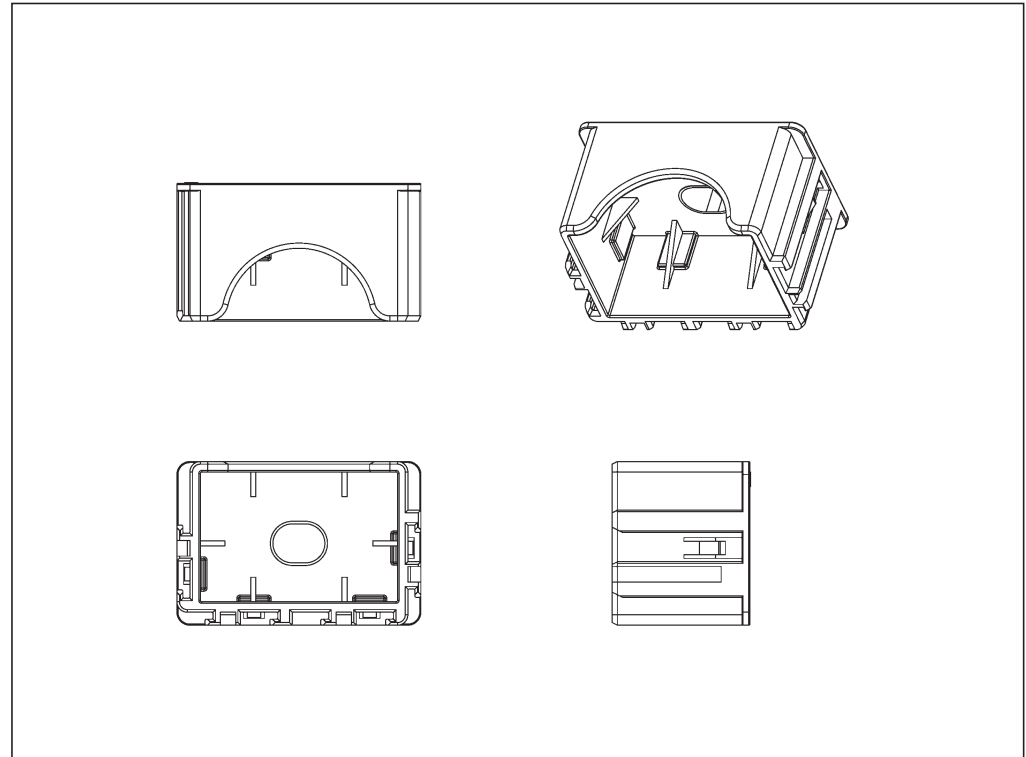
Application Specification:
114-94090

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)
2141031-2	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:

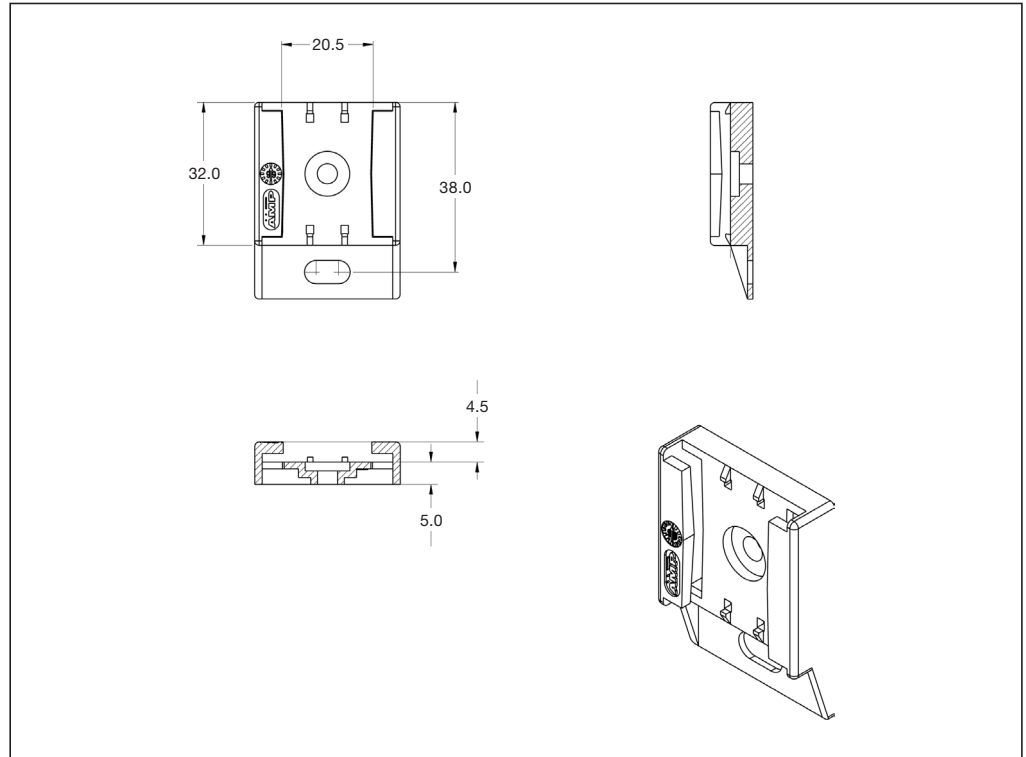
Unsealed

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
953653-2	Black	PA 66 Glass Fiber	1000	Modular Relay Holder
				185402-1
				185402-2
				185402-3
				Modular Relay Holder for Relays (4 positions / 5 positions)
				185403-1
				185403-2
				185403-3
				185403-4
				Medium Fuse Holder (4 positions)
				185847-1
				185847-2
				Modular Relay Holder (50 – 60 A)
953615-x				
Modular Relay Holder (50 – 60 A and 70 A)				
953615-x				
Relay Holder Gen2				
1801618-x				
1801619-x				
1801620-x				
Fuse and Relay Holder				
1801616-x				
1801627-x				
1801628-x				
1801764-x				

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:

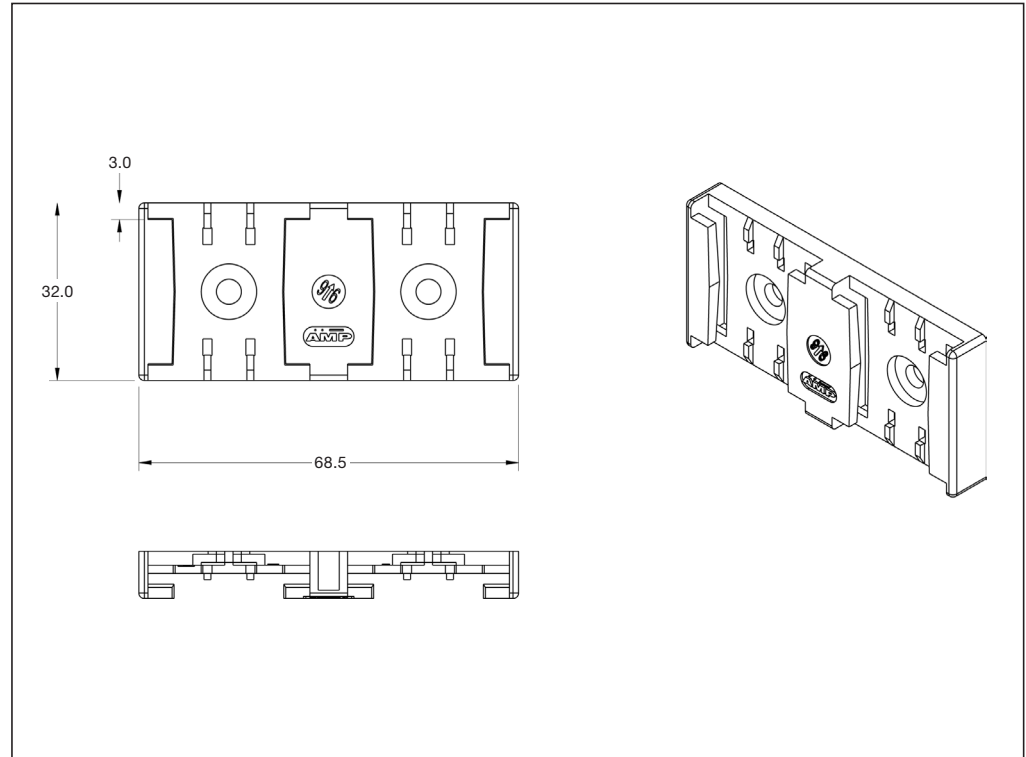
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Product Specification:

108-15162

Application Specification:

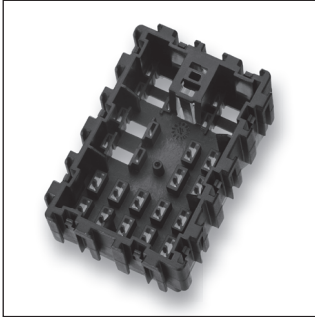
411-15589



Brackets for Modular Relay or Fuse Holder, 2 Positions

Part Number	Housing Color	Material	Package Quantity	Mating Components
185695-1 (*)	Black	PA 66 Glass Fiber	450	Modular Relay Holder
				185402-1
				185402-2
				185402-3
				Modular Relay Holder for Relays (4 positions / 5 positions)
				185403-1
				185403-2
				185403-3
				185403-4
				Medium Fuse Holder (4 positions)
				185847-1
				185847-2
				Modular Relay Holder (50 – 60 A)
				953615-x
Modular Relay Holder (50 – 60 A and 70 A)				
953615-x				
Relay Holder Gen2				
1801618-x				
1801619-x				
1801620-x				
High Current Fuse Holder				
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

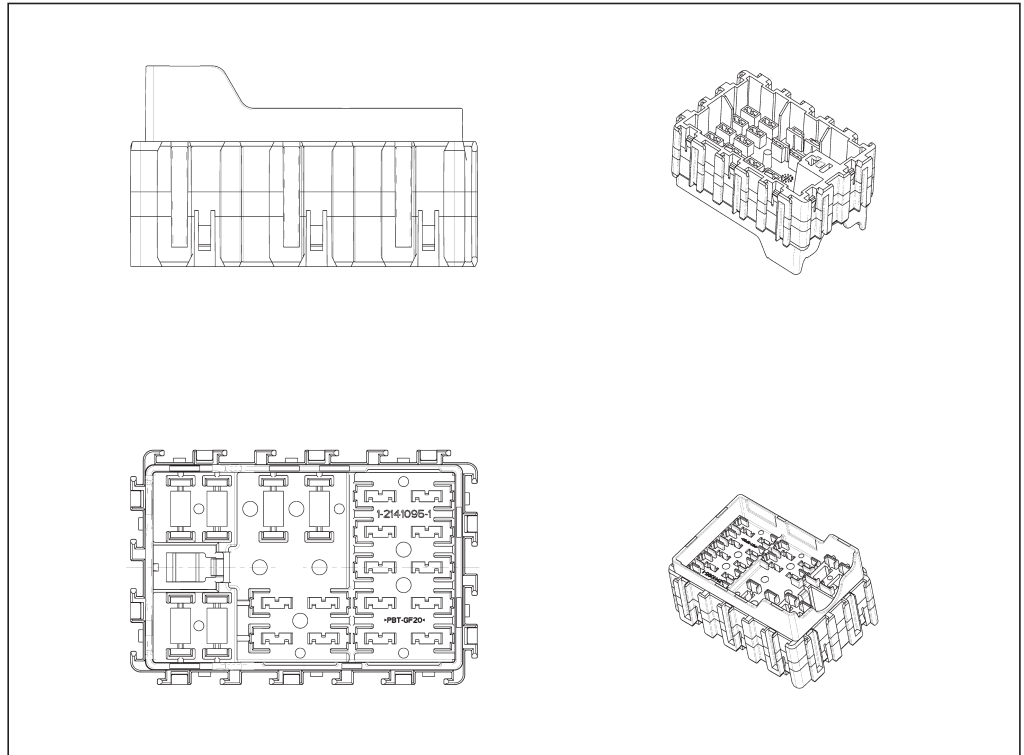
Application Specification:
114-94090

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)
1-2141095-1	Spare Fuse Module	69.1 x 46.7 x 40



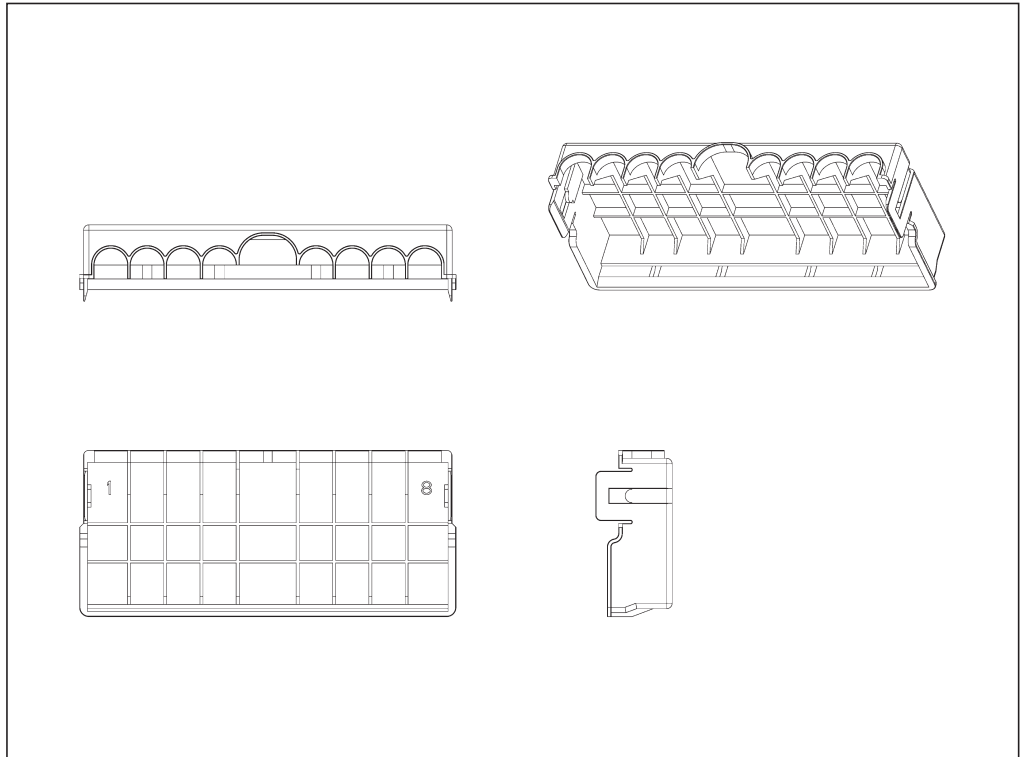
MFINITY – Cover for Pre-Fuse SF30 Module

Technical Features

Material:
PP

Product Specification:
108-94263

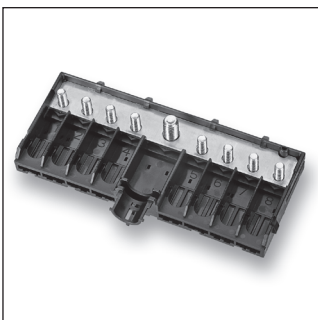
Application Specification:
114-94090



MFINITY – Cover for Pre-Fuse SF30 Module

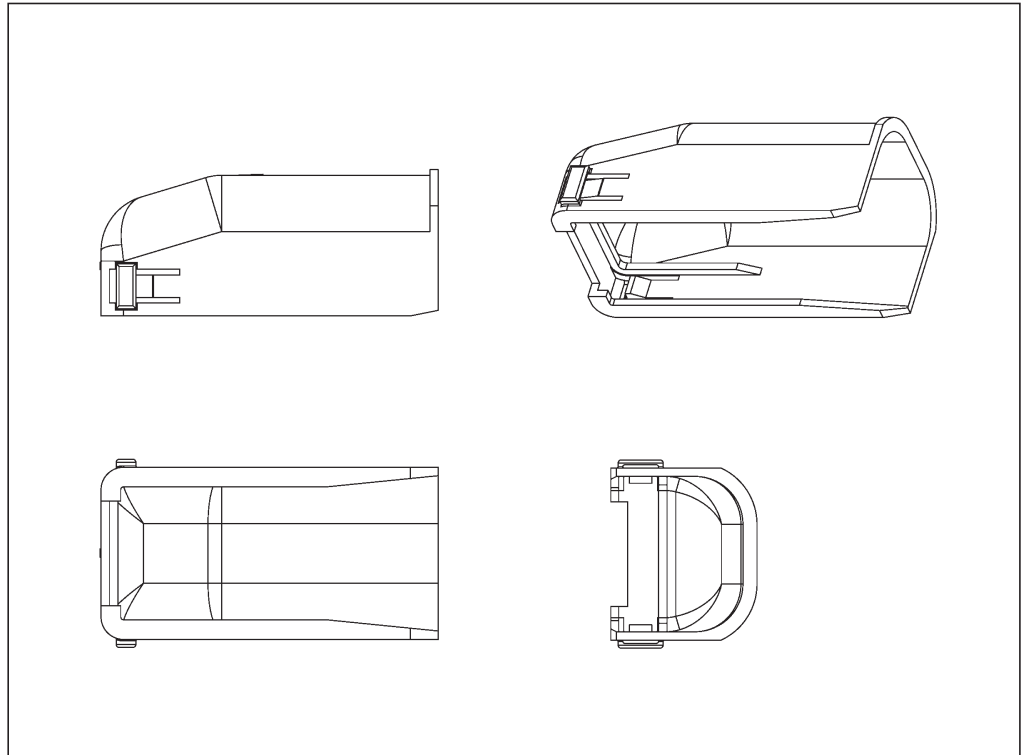
Module Part Number	Module Name	Product Dimensions L x W x H (mm)
2141033-1	Cover for SF30 Fuse Module	140.4 x 62 x 28.5

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

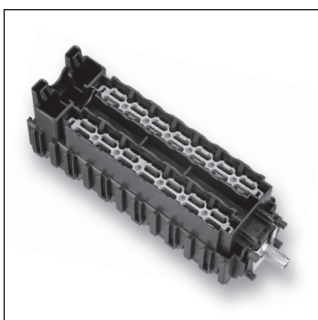
Order Information

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)
2141039-1	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



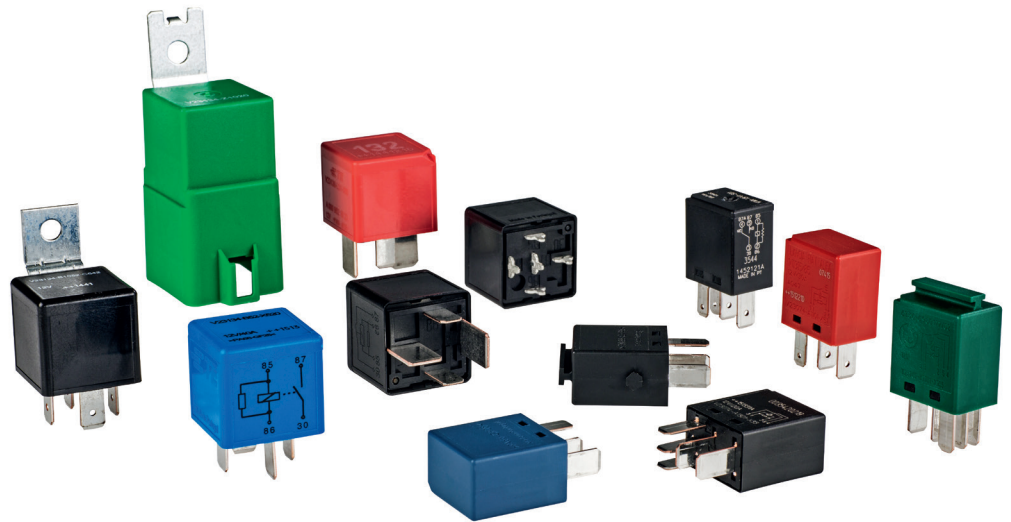
CONVENIENCE



DRIVER INFORMATION



BODY & CHASSIS SYSTEMS



24 V Plug-in Relays

INTRODUCTION

In addition to the holder devices TE provides high-performing ISO plug-in relays suitable for 12V, 24V and 48V 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 / VFMA
- 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](#)

- Fast, reliable and up-to-date information right to the point.
- Online product catalog with empowered relay findability by categories: High Current, High Voltage, PCB and Plug-In including relay modules and sockets.
- Technical documentation for all existing product families, product flyers, white papers and videos for new products.

Automotive Power Distribution Relays



Micro ISO, Micro Relay A / VFMA (24V)

Arrangement	Cover	Coil. Suppr.	Part Number	
Micro Make (NO)	Standard	Diode	V23074-A2002-A402	6-1393292-2
		Resistor (680 Ω)	V23074-A1002-A402	8-1393292-9
			VFMA-11H41-S01	6-1415008-2
Micro Changeover (CO)	Standard	Diode	V23074-A2002-A403	6-1393292-3
		Resistor (680 Ω)	V23074-A1002-A403	3-1393292-8

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



Mini ISO, Power Relay B (24V)

Arrangement	Cover	Coil. Suppr.	Part Number	
Micro Changeover (CO)	Standard	N/A	V23234-A0004-X055	2-1904025-6
		Diode (cathode 86)	V23234-A0004-X051	2-1904025-3
		Resistor (1400 Ω)	V23234-A0004-X053	2-1904025-5
	Bracket	N/A	V23234-A1004-X050	1-1904027-1
		Resistor (1400 Ω)	V23234-A1004-X054	3-1904027-2
Mini Make (NO – 2x87)	Standard	N/A	V23234-C0004-X020	1-1904015-3
		Resistor (1400 Ω)	V23234-C0004-X018	2-1904015-1
	Bracket	N/A	V23234-C1004-X17	5-1904014-1
		Resistor (1400 Ω)	V23234-C1004-X085	0-1904015-5

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



Maxi ISO Power Relay F7 (24V)

Arrangement	Cover	Coil. Suppr.	Part Number	
Maxi Make (NO)	Standard	N/A	V23134-J0053-D642	9-1393303-7
		Resistor (1200 Ω)	V23134-J0056-X408	0-1393304-5
	Bracket	N/A	V23134-J1053-D642	1-1393304-1

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



APPLICATION TOOLING AND EQUIPMENT

FOR AUTOMOTIVE POWER DISTRIBUTION

High Quality. High Reliability. High Volume.

With the CE approved M2000MC automatic insertion machine for fuses and relays, TE Application Tooling provides a high-quality solution for high-volume production within the automotive industry. The M2000MC automatically inserts mini fuses into a Junction Box (J/B) according to the programmed sequence, ensuring that the correct fuses are inserted in the correct location for consistent quality. The machine reduces the number of operators required in the production process, increasing productivity in the factory, whereas the operator needs to ensure that the machine is supplied with junction boxes and fuses. The M2000MC can also be optionally equipped with insertion force monitoring and insertion depth control.

Outstanding features deliver tangible benefits

- Dependable high-volume production
- Insertion depth checking by linear scale
- Insertion force monitoring - checking maximum force during insertion
- OCR of fuse before insertion to prevent wrong fuse insertion
- No stopping of production during supply to the bowl feeder
- Robot arm with ionizer that cleans inside the robot arm
- XY table positioning
- Up to 6 heads (fuse)

Equipment is segregated into two types and managed accordingly:

Generic equipment

Where we can supply you with sufficient information referenced by Part Number such that you can identify and order what you need yourself.

Specialised Equipment

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

Finding Equipment Online

www.tooling.te.com

- 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

M2000MC Automatic Insertion Machine – Specification

Layout

LxDxH = 1957.6 x 2584 x 1627.1mm
(without tower lamp) – dimensions
may be altered following a technical
meeting.

Machine Weight

2,500 kg (inc. blow feeders) –
Changeable with various J/B design.

Electrical Supply

AC 110 V, single phase, 50/60 Hz, 30
KVA – other specific requirements
may be met.

Power Consumption

2.1 kW

Air Supply

4.5-7.0 kgf /cm²

Air Consumption

600 l/min

Temperature and Humidity

10~35° C, 30~70%

Noise Level

< 75 dB(A)

Operating System

Windows XP Professional (Embedded
POS-READY2009) Service pack3

PC Specification

(incl. Accessories)

Intel Pentium(R) 2.6 GHz, 1GB
RAMSSD hard disk drive by SATA
(capacity: 120 GB) 17" LCD touch
screen & equipped with keyboard,
mouse, DVD ROM drive

Available Languages

English and Korean

XY Table Speed

90 m/min

**Device Insertion Speed
(per point)**

Various per component size and J/B
design.

- Low profile mini fuse:

0.35 ~ 0.55 sec

- Relay: 0.8 ~ 1.0 sec

- SB fuse: 0.45 ~ 0.7 sec

Max. J/B Size

250 x 250mm – may be altered to
meet specific customer requirements

XY Positioning Accuracy

+/- 0.01mm

Insertion Depth Monitoring

available in 0.01mm steps

Insertion Force Monitoring

available in 0.01 N steps

Cmk Assessment Data

>1.67 (X and Y axis)

Machine Configuration

Stand-alone only.

Inline configuration is available on
request.

Abbreviation Explanation

OCR: Optical character
recognition

(Vision sensor checks
color or characters
on the components)

SATA: Connection type between
PC mother board and
memory unit

(CDROM or hard disk).

SB Fuse: Slow Blow Fuse
(type of electric fuse)

Automotive Power Distribution Numerical Index

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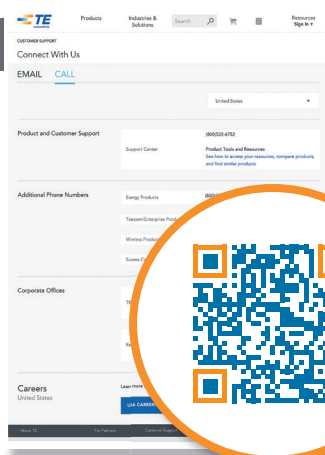
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