



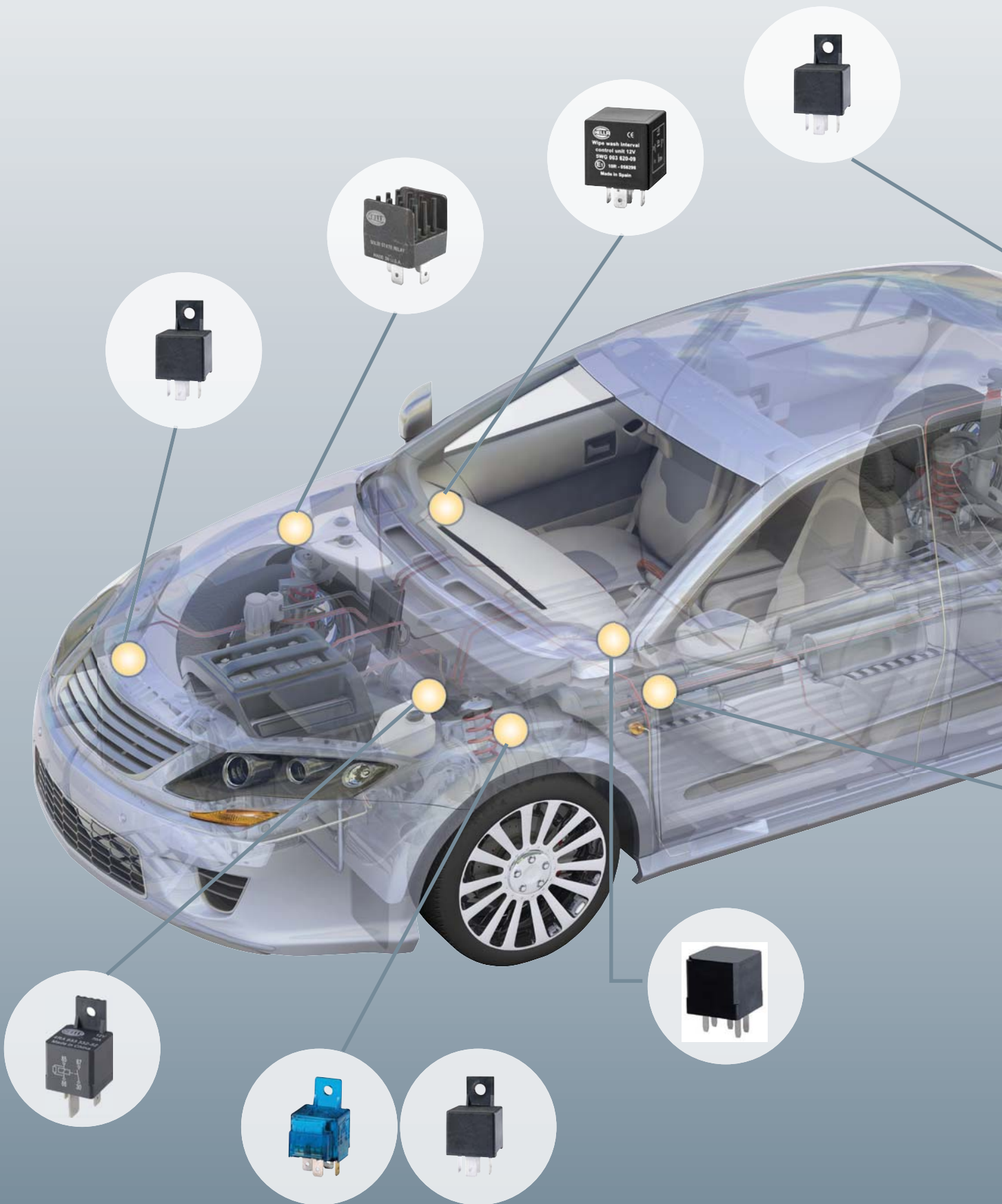
## RELAYS AND FLASHERS PRODUCT RANGE



2024 EDITION

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# HELLA'S LITTLE HEROES





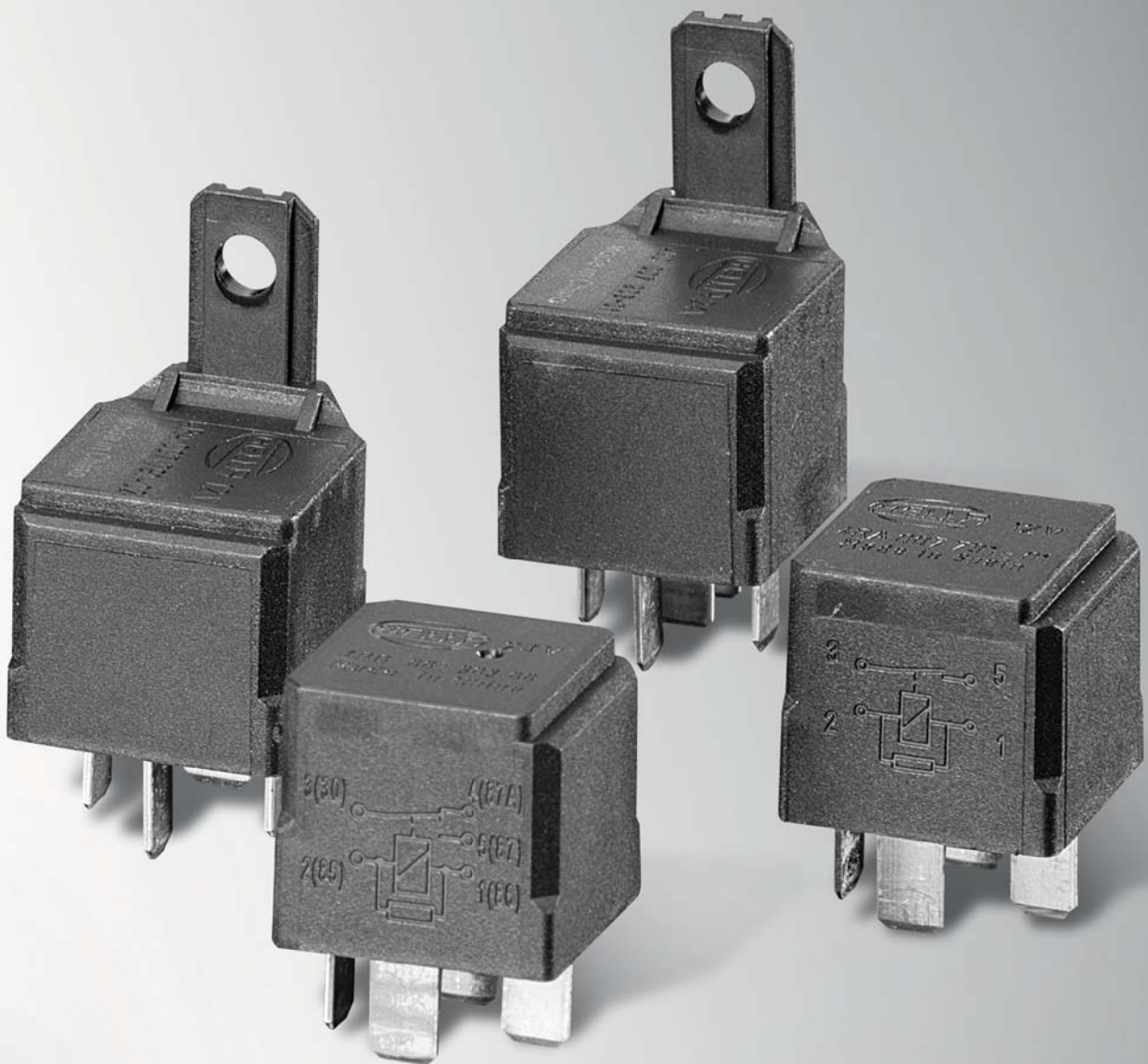
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Our catalog offers you an overview and detailed overview of the complete product range.

For more details and other applications, please see our website.

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# HELLA RELAYS

**Relays have been used to remotely control circuits for over 180 years. The technology has proven its reliability millions of times and is today still the first choice for many applications, such as in automotive engineering.**

HELLA produces more than 100 million units a year in its own facilities - thanks to optimized production at an attractive price and with one of the lowest failure rates in the entire industry.

Large volumes are produced in a fully automated process, with small volumes semi-automated. This means that we are able to quickly switch to semi-automatic production. HELLA is able to respond quickly to customer needs and create new variants in addition to its existing product range at short notice.

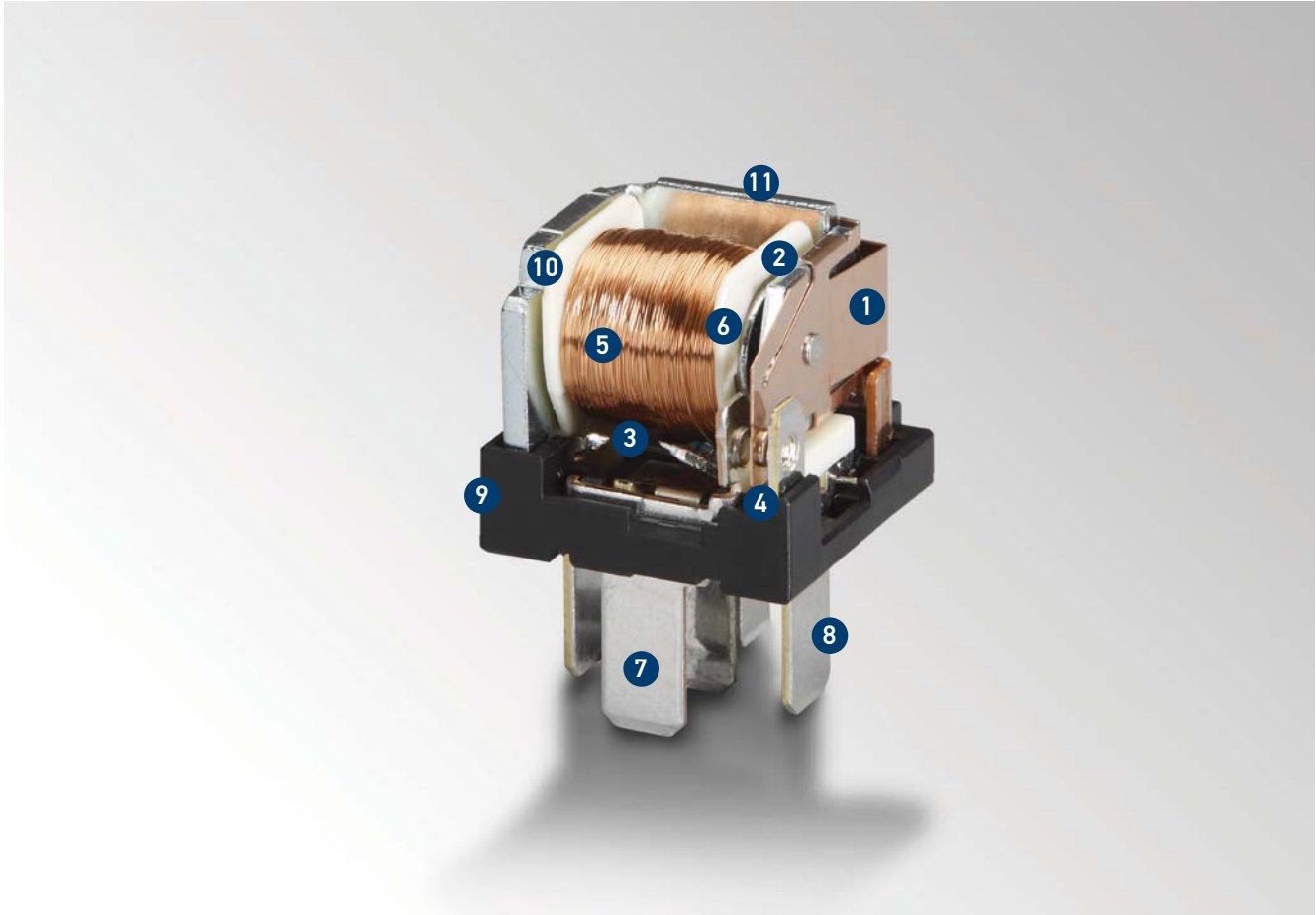
HELLA develops and produces relays for AGCO, Claas, Daimler AG, Ford, VW, GM, JCB, Opel/Vauxhall, Nissan, John Deere, Chrysler, Jaguar/Land Rover, BMW, Audi, Volvo, Renault, PSA and others. Many of our customer relationships have existed for decades.

HELLA Automotive Electronics are HELLA's world-class relay manufacturing plants, located in Xiamen (China), Berlin (Germany) and Flora, Illinois (USA); . Opened in 2003 and 100% owned by HELLA since January 2009, HELLA Automotive Electronics is HELLA's central resource worldwide, for the design and production of electromechanical relays, including some of our most popular products.

**NOTE:**

All inFormation in this catalog is provided for reference use only and is subject to change without notice. HELLA is not responsible for the end use of the products, and care must be taken to ensure that the products are suitable for the application.

## Key components of an electromechanical relay



### Components

- 1 Contact plates CuZn (brass)
- 2 Armature
- 3 Pins for coil wire
- 4 Switch contacts
- 5 Coil made of Cu wire (copper)
- 6 Iron core (in the coil)
- 7 Blade terminal (load) made of E-Cu (electrolytic copper) with tin-plated surface
- 8 Blade terminal (coil) made of CuZn (brass) with tin-plated surface
- 9 Base plate
- 10 Coil body
- 11 Yoke



## Functional principle

Relays are basically electrically operated switches which use an electromagnet to move a switching mechanism by switching one or more contacts. They are used where one or more load circuits need to be switched on or off by means of a control signal. Characteristic of the electromechanical relay is the complete (galvanic) isolation between the control and controlled circuits.

### Make relays

Make relays are used to close an electric circuit between a power source and one or more electrical loads, i.e. the loads are switched on. Relays are operated by means of switches, pulse generators or control devices. Typical vehicle applications are headlights, auxiliary lights and fog lights, horns, heaters, air conditioner systems, etc.

### How make relays work

Fig.1) The control circuit (86/85) is inactive and the return spring keeps the armature open. The make contacts are open and the load circuit (30/87) is interrupted.

Fig. 2) The control circuit (86/85) is active and the copper coil induces a magnetic field which pulls the armature down onto the magnetic core. The make contacts are closed and the load circuit (30/87) is therefore also closed.

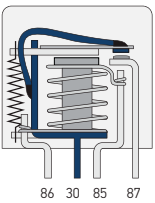


Fig. 1

### Change-over relays

Change-over relays switch the load circuit over from one electrical load to another. These relays can be operated by a dashboard switch, for example. Change-over relays are used for switch applications with two stages/speeds such as heated rear windows or fan motors etc.

### How change-over relays work

A change-over relay operates on the same principle as a make relay. The only difference is that the armature is connected to a second (alternative) output (87a) when released. As soon as the control circuit is active, the armature is pulled in, opens the break contact (87a) and switches over to the make contact (87). A changeover relay can be used as either a make or a break relay. By design, the switching current of the make contact is always higher than that of the break contact.

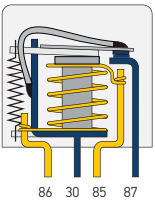


Fig. 2

### Rated Voltage

- 12 V: for passenger cars, agricultural and construction machinery etc.
- 24 V: for commercial vehicles, buses, municipal vehicles etc.

### Contacts and connector configurations

- 30 Load current +, terminal 15 (input)
- 85 Relay coil - (input)
- 86 Relay coil + (input)
- 87 Load current, make contact (output)
- 87a Load current, break contact (output)

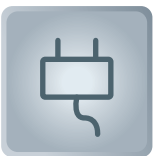


Fig. 3

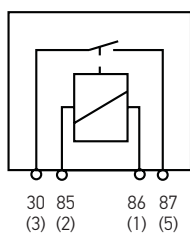
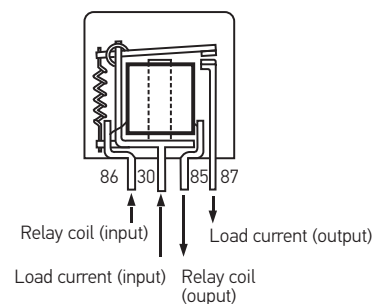
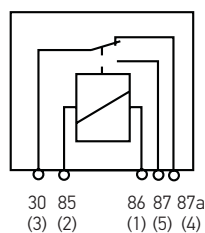


Fig. 4



## Why use a relay?

Copper is one of the best conductors of electricity, which is why it is used to make electrical cables. However, it is not a perfect conductor, because it also opposes the flow of current.

The electrical resistance of a copper cable depends on its length and cross-sectional area. The longer and thinner the wire, the more resistance it will have.

A cable with higher electrical resistance will cause a voltage drop at the end of it, reducing the performance of the consuming element (light bulbs, electric locks, horn, etc.) that it is feeding.

Example: If the energy consuming element is a light bulb, a little less voltage will mean less light intensity.

The use of a relay in electrical circuits ensures that there are no significant voltage drops, optimizing the operation of the accessory or electrical consumer.



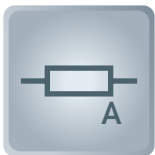
### Coil circuit

In order to prevent voltage spikes caused by mutual inductance when switching off the coil current, our relays are in part equipped with resistors or diodes parallel to the coil.

### Elimination of voltage spikes

When the relay is deactivated it can momentarily generate voltage spikes of 300V to 500V, these can damage or cause a malfunction in sensitive electronic equipment. The suppression of these voltage spikes is achieved with a relay with resistance or with a diode considering the following:

- A resistor suppression relay reduces these voltage spikes to less than 100V.
- A relay with diode suppression eliminates them completely (the polarity of the diode is marked on the side of the relay).



### Rated load

(depending on load type)

#### → Resistive load:

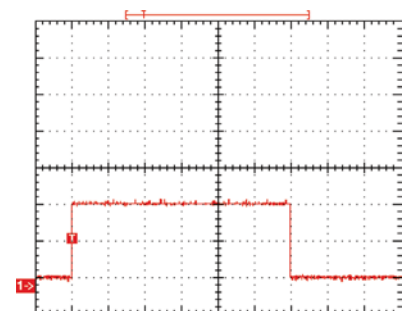
The current remains around the same from switch-on to switch-off (e.g. rear window heater).

#### → Inductive load:

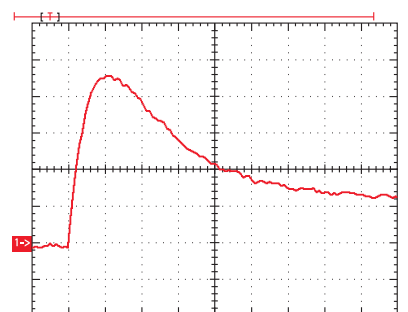
The inrush current increases to the rated current with a specific delay time due to the build-up of the inductor's magnetic field and then levels off (e.g. switching on a solenoid switch). During switch-off, a voltage of up to several thousand volts is (theoretically) induced, resulting in an electric arc between the relay contacts just opened.

#### → Capacitive/bulb load:

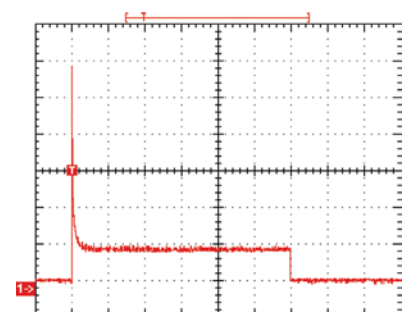
The inrush current of a capacitive load or a lamp can rise to ten times the rated current before leveling off to the rated current.



Example load curve, resistive load



Example load curve, inductive load



Example load curve, capacitive/bulb load



## Relay types



### Mini relays

Mini relays according to ISO 7588-1, blade terminals according to ISO 8092-1.

Contact arrangements: make contact, change-over contact, max. 40 A switching power (make contact), rated voltage: 12 V, 24 V

Areas of application include: headlights, starters, fuel pumps, fan motors, horns and fanfares.



### Micro relay

Micro relays according to ISO 7588-3 (1988), blade terminals according to ISO 8092-1.

Contact arrangements: make contact, change-over contact, max. 20 A switching power (make contact), rated voltage: 12 V, 24 V

Areas of application include: fuel pumps, air conditioning systems, windshield washer systems, wiper motors.



### High-power relay

Mini relay version with larger dimensions, blade terminals according to ISO 8092-1.

Contact arrangement: make contact, change-over contact, max. 60 A switching power, rated voltage: 12 V, 24 V

Areas of application include: battery disconnect relays, starter motors, glow plugs, ignitions, windshield heating.



### Solid state relay

Mini semiconductor relays according to ISO 7588-1, blade terminals according to ISO 8092-1.

Contact arrangement: make contact, max. 22 A switching power (make contact), rated voltage: 12 V

Areas of application include: vacuum pumps for brake booster support, daytime running lights.



### Battery disconnect relay

Bi-stable electromechanical relay with one or two coils.

Contact arrangement: make contact, max. 180 A switching power, rated voltage: 12 V

Areas of application include: disconnecting the vehicle electric system from the battery in the event of accidents or for maintenance, retain battery charge by switching off quiescent current

## Typical Applications

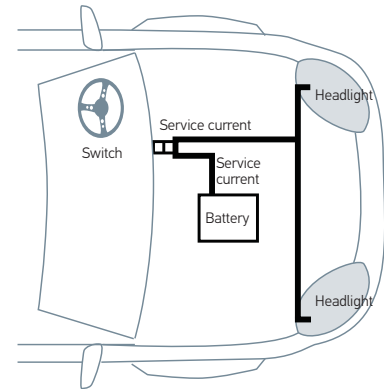
### HEADLIGHTS

#### Wrong connection (no relay):

The feed current should travel from the battery to the headlights, via the switch on the dashboard using heavy gauge wire.

#### Results:

- Voltage drop causing reduced headlight performance (less light).
- Possible switch overload.
- Installation heating.



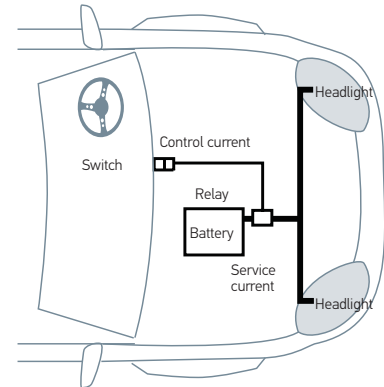
#### Correct connection (with relay):

The supply current is directed by the shortest path between the battery and the headlights through the relay.

From the switch on the board to the relay, a (control) cable of only 0.75 mm<sup>2</sup> is sufficient (the current consumption of this cable is less than 150 mA).

#### Results:

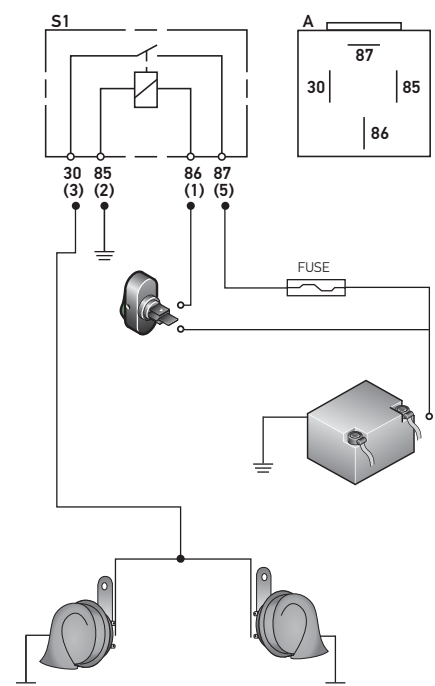
- Virtually the entire power supply reaches the consumer.



### HORNS

The most common automotive relay is the 4 PIN normally open relay. In the illustrated example (see diagram), the relay serves to open and close the circuit that connects the speakers to the battery. In the normal (inactive) setting, the solid state relay breaks the circuit. As soon as the push button switch is pressed (usually the wires are connected to the horn push button) the coil in the relay builds up a magnetic induction and the armature closes the load circuit. The horns remain energized until the switch is released and the return spring moves away from the armature which opens the make contacts.

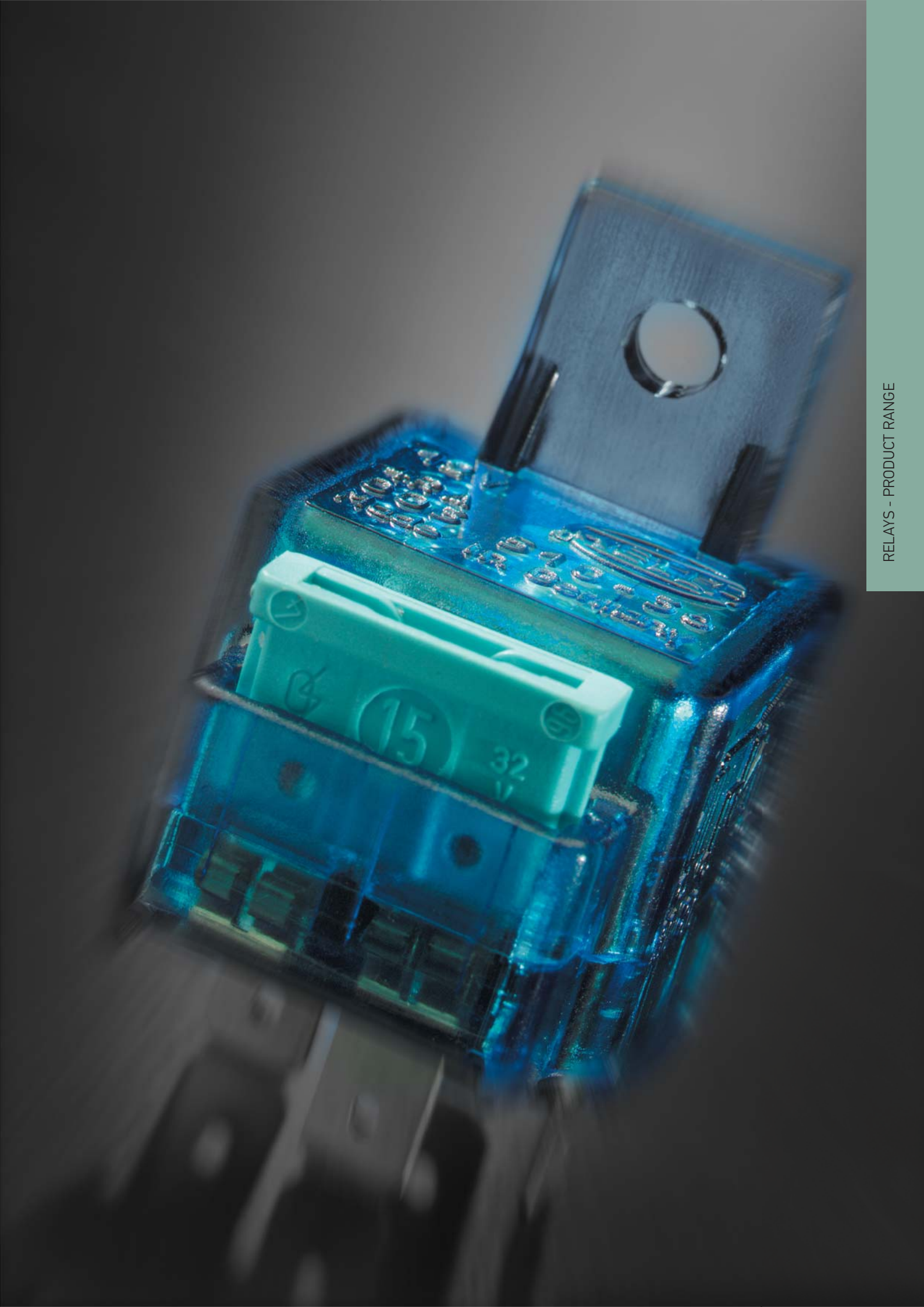
Diagram indicating wiring / current flow of HELLA TE16 (Horn Set) or B7424 (Horn Set).



HELLA 4-Pin Relay (N/A) (12V) | (24V)

#### Terminal Configuration

- 30) Exit
- 85) Relay coil - (input)
- 86) Relay coil + (input)
- 87) Battery (+)



# THE ULTIMATE IN THE ART OF RELAYS




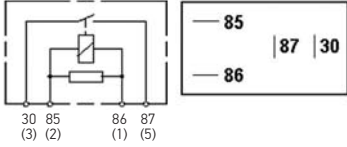

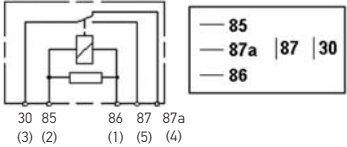

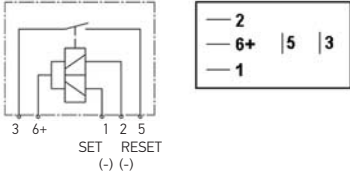

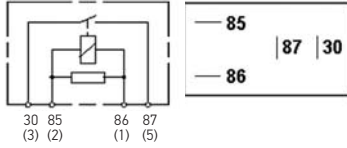

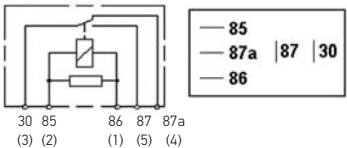
**MICROSITE:** Consult vehicle specific application in our website for detailed information:

[www.partcat.com/hella](http://www.partcat.com/hella)




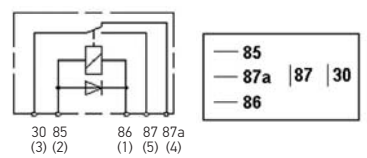

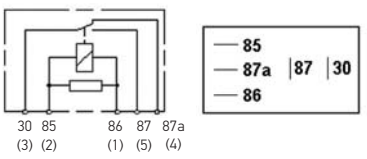

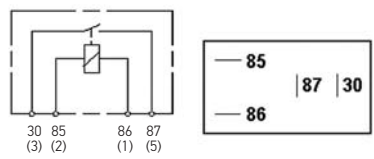

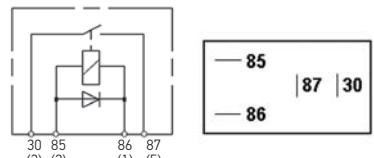

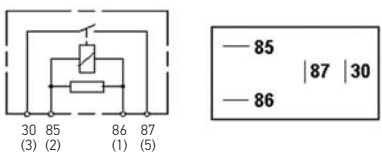
# ELECTRICS


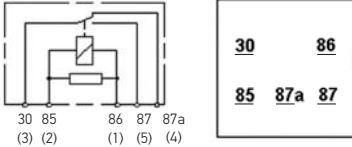

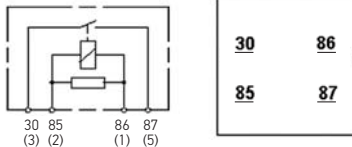

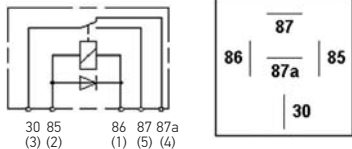

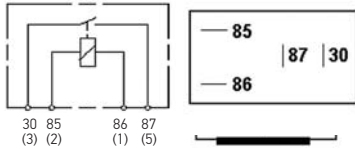

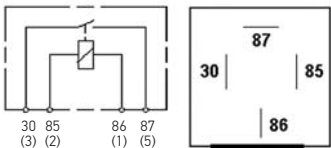
## RELAYS

Product image / Dimensions	Features	Part Number	Technical Specifications						
<b>Micro Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• 35 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>933766801</b>	Minimum Order Quantity: 1 Technical Data <table border="1"> <tr><td>Rated Voltage</td><td>12 V</td></tr> <tr><td>Rated Current</td><td>35A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form A / SPST N/O</td></tr> </table>	Rated Voltage	12 V	Rated Current	35A at 85°C	Contact Form	1 Form A / SPST N/O
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Rated Current	35A at 85°C								
Contact Form	1 Form A / SPST N/O								
<b>Micro Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• 35 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>965453801</b>	Minimum Order Quantity: 1 Technical Data <table border="1"> <tr><td>Rated Voltage</td><td>12 V</td></tr> <tr><td>Rated Current</td><td>N/O 35A   N/C 20A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form C / SPDT</td></tr> </table>	Rated Voltage	12 V	Rated Current	N/O 35A   N/C 20A at 85°C	Contact Form	1 Form C / SPDT
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Contact Form	1 Form C / SPDT								
<b>Micro Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• 30 Amp</li> <li>• Bistable / Magnetic Latching</li> </ul> 	<b>933364027</b>	Minimum Order Quantity: 1 Technical Data <table border="1"> <tr><td>Rated Voltage</td><td>12 V</td></tr> <tr><td>Rated Current</td><td>30A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form A / SPST N/O</td></tr> </table>	Rated Voltage	12 V	Rated Current	30A at 85°C	Contact Form	1 Form A / SPST N/O
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Rated Current	30A at 85°C								
Contact Form	1 Form A / SPST N/O								
<b>Micro Relay ISO</b> <b>NEW!</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Resistor Coil Suppression</li> <li>• 40 Amp</li> <li>• Combo 6.3 &amp; 2.8 mm Terminals</li> </ul> 	<b>933714501</b>	Minimum Order Quantity: 1 Technical Data <table border="1"> <tr><td>Voltaje Nominal</td><td>24 V</td></tr> <tr><td>Rated Current</td><td>40A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form A / SPST N/O</td></tr> </table>	Voltaje Nominal	24 V	Rated Current	40A at 85°C	Contact Form	1 Form A / SPST N/O
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# ELECTRICS


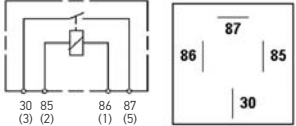

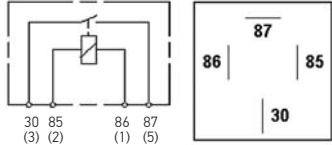

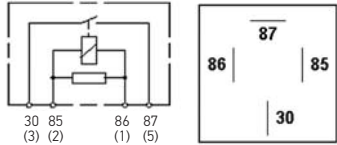

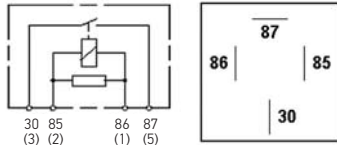

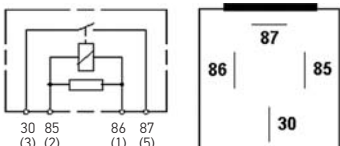
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Rated Current	10A / 20A at 85°C								
Contact Form	1 Form C / SPDT								
<b>Micro Relay ISO</b> <b>NEW!</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• 20 Amp</li> <li>• Micro ISO Footprint</li> </ul> 	<b>933714631</b> Technical Data	Minimum Order Quantity: 1 <table border="1"> <tr> <td>Voltage Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form A / SPST N/O</td> </tr> </table>	Voltage Nominal	24 V	Rated Current	20A at 85°C	Contact Form	1 Form A / SPST N/O
Voltage Nominal	24 V								
Rated Current	20A at 85°C								
Contact Form	1 Form A / SPST N/O								
<b>Micro Relay ISO</b> <b>NEW!</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Diode Coil Suppression</li> <li>• 20 Amp</li> <li>• Micro ISO Footprint</li> </ul> 	<b>933714641</b> Technical Data	Minimum Order Quantity: 1 <table border="1"> <tr> <td>Voltage Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form A / SPST N/O</td> </tr> </table>	Voltage Nominal	24 V	Rated Current	20A at 85°C	Contact Form	1 Form A / SPST N/O
Voltage Nominal	24 V								
Rated Current	20A at 85°C								
Contact Form	1 Form A / SPST N/O								
<b>Mini Relay ISO</b> <b>NEW!</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Resistor Coil Suppression</li> <li>• 20 Amp</li> <li>• Micro ISO Footprint</li> </ul> 	<b>933714651</b> Technical Data	Minimum Order Quantity: 1 <table border="1"> <tr> <td>Voltage Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form A / SPST N/O</td> </tr> </table>	Voltage Nominal	24 V	Rated Current	20A at 85°C	Contact Form	1 Form A / SPST N/O
Voltage Nominal	24 V								
Rated Current	20A at 85°C								
Contact Form	1 Form A / SPST N/O								


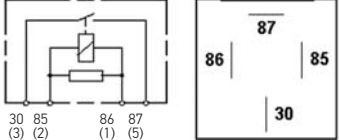

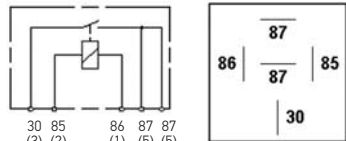

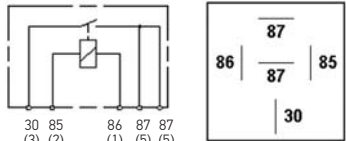

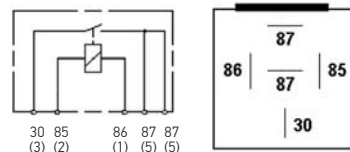

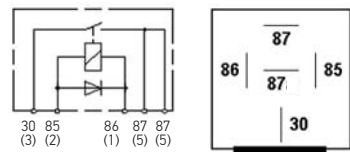
Product image / Dimensions	Features	Part Number	Technical Specifications						
<p><b>Micro Relay ISO</b></p> <p><b>NEW!</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPDT / Form C</li> <li>• Resistor Coil Suppression</li> <li>• 20 Amp</li> <li>• 2.8mm Terminals</li> </ul> 	<p><b>933714661</b></p> <p>Technical Data</p> <table border="1"> <tr> <td>Rated Voltage</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>10A / 20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>	Rated Voltage	24 V	Rated Current	10A / 20A at 85°C	Contact Form	1 Form C / SPDT	<p>Minimum Order Quantity: 1</p>
Rated Voltage	24 V								
Rated Current	10A / 20A at 85°C								
Contact Form	1 Form C / SPDT								
<p><b>Micro Relay ISO</b></p> <p><b>NEW!</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Resistor Coil Suppression</li> <li>• 20 Amp</li> <li>• 2.8mm Terminals</li> </ul> 	<p><b>933714671</b></p> <p>Technical Data</p> <table border="1"> <tr> <td>Rated Voltage</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form A / SPST N/O</td> </tr> </table>	Rated Voltage	24 V	Rated Current	20A at 85°C	Contact Form	1 Form A / SPST N/O	<p>Minimum Order Quantity: 1</p>
Rated Voltage	24 V								
Rated Current	20A at 85°C								
Contact Form	1 Form A / SPST N/O								
<p><b>Mini Relay ISO</b></p> <p><b>NEW!</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• Diode Coil Suppression</li> <li>• 40 Amp</li> <li>• Mini ISO Footprint</li> </ul> 	<p><b>933332371</b></p> <p>Technical Data</p> <table border="1"> <tr> <td>Rated Voltage</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>30A / 40A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>	Rated Voltage	12 V	Rated Current	30A / 40A at 85°C	Contact Form	1 Form C / SPDT	<p>Minimum Order Quantity: 1</p>
Rated Voltage	12 V								
Rated Current	30A / 40A at 85°C								
Contact Form	1 Form C / SPDT								
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 30 Amp</li> <li>• Alternate Footprint</li> </ul> 	<p><b>965400071</b></p> <p><b>965400077</b></p> <p>Technical Data</p> <table border="1"> <tr> <td>Voltaje Nominal</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>30A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form A / SPST N/O</td> </tr> </table>	Voltaje Nominal	12 V	Rated Current	30A at 85°C	Contact Form	1 Form A / SPST N/O	<p>Minimum Order Quantity: 1</p> <p>Pack - Minimum Order Quantity: 40</p>
Voltaje Nominal	12 V								
Rated Current	30A at 85°C								
Contact Form	1 Form A / SPST N/O								
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 30 Amp</li> <li>• Alternate Footprint</li> </ul> 	<p><b>965400101</b></p> <p>Technical Data</p> <table border="1"> <tr> <td>Voltaje Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>30A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form A / SPST N/O</td> </tr> </table>	Voltaje Nominal	24 V	Rated Current	30A at 85°C	Contact Form	1 Form A / SPST N/O	<p>Minimum Order Quantity: 1</p>
Voltaje Nominal	24 V								
Rated Current	30A at 85°C								
Contact Form	1 Form A / SPST N/O								

# ELECTRICS

## RELAYS


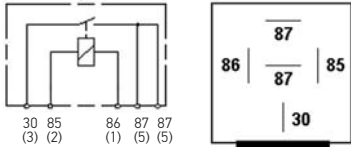

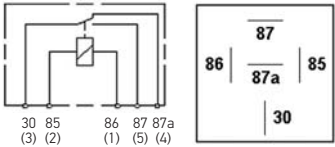

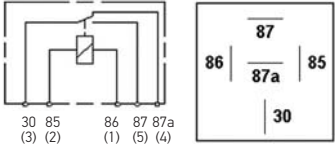

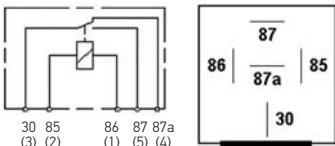

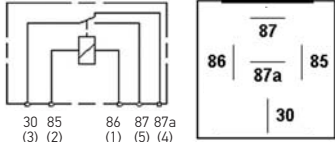
Product image / Dimensions	Features	Part Number	Technical Specifications
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• 40 Amp</li> <li>• Dust Cover</li> </ul> 	<b>933332451</b>	Minimum Order Quantity: 1
		<b>933332457</b>	Pack - Minimum Order Quantity: 40
		<b>Technical Data</b>	
		Voltage Nominal	12 V
		Rated Current	40A at 85°C
		Contact Form	1 Form A / SPST N/O
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• 20 Amp</li> <li>• Dust Covers</li> </ul> 	<b>933332461</b>	Minimum Order Quantity: 1
		Voltage Nominal	24 V
		Rated Current	20A at 85°C
		Contact Form	1 Form A / SPST N/O
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Dust Cover</li> <li>• 40 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>933332541</b>	Minimum Order Quantity: 1
		Voltage Nominal	12 V
		Rated Current	40A at 85°C
		Contact Form	1 Form A / SPST N/O
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Dust Covers</li> <li>• 20 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>007957001</b>	Minimum Order Quantity: 1
		<b>007957007</b>	Pack - Minimum Order Quantity: 200
		<b>Technical Data</b>	
		Voltage Nominal	24 V
		Rated Current	20A at 85°C
		Contact Form	1 Form A / SPST N/O
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 40 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>007791021</b>	Minimum Order Quantity: 1
		<b>007791027</b>	Pack - Minimum Order Quantity: 200
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		Voltage Nominal	12 V
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		Contact Form	1 Form A / SPST N/O


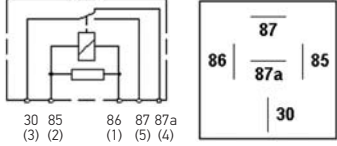

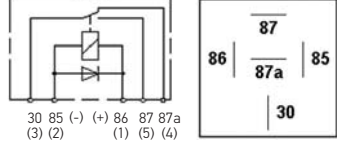

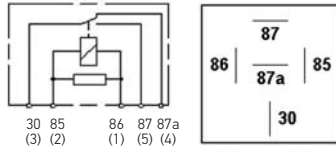

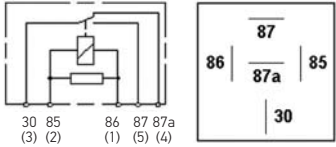

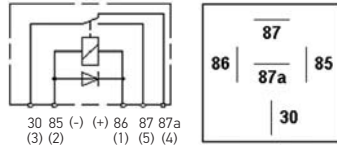



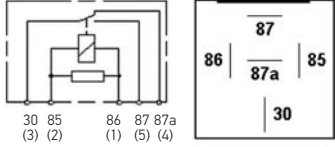

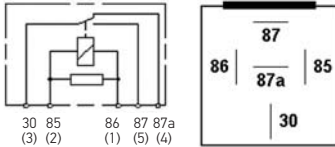

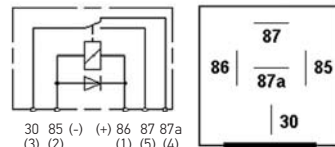

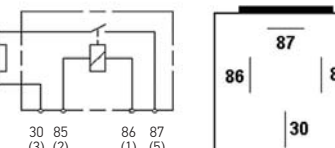

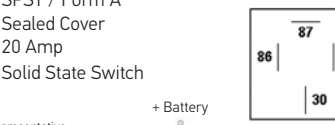
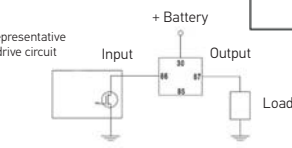
Product image / Dimensions	Features	Part Number	Technical Specifications						
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 20 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<p><b>007957011</b></p> <p><b>007957017</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <p>Pack - Minimum Order Quantity: 200</p> <table border="1"> <tr><td>Voltaje Nominal</td><td>24 V</td></tr> <tr><td>Rated Current</td><td>20A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form A / SPST N/O</td></tr> </table>	Voltaje Nominal	24 V	Rated Current	20A at 85°C	Contact Form	1 Form A / SPST N/O
Voltaje Nominal	24 V								
Rated Current	20A at 85°C								
Contact Form	1 Form A / SPST N/O								
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Dust Cover</li> <li>• 40 Amp</li> <li>• Dual Output (2x Terminal 87)</li> </ul> 	<p><b>933791161</b></p> <p><b>933791167</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <p>Pack - Minimum Order Quantity: 40</p> <table border="1"> <tr><td>Voltaje Nominal</td><td>12 V</td></tr> <tr><td>Rated Current</td><td>40A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form A / SPST N/O (2 x Terminal 87)</td></tr> </table>	Voltaje Nominal	12 V	Rated Current	40A at 85°C	Contact Form	1 Form A / SPST N/O (2 x Terminal 87)
Voltaje Nominal	12 V								
Rated Current	40A at 85°C								
Contact Form	1 Form A / SPST N/O (2 x Terminal 87)								
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Dust Cover</li> <li>• 20 Amp</li> <li>• Dual Output (2x Terminal 87)</li> </ul> 	<p><b>933791141</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <table border="1"> <tr><td>Voltaje Nominal</td><td>24 V</td></tr> <tr><td>Rated Current</td><td>20A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form A / SPST N/O (2x Terminal 87)</td></tr> </table>	Voltaje Nominal	24 V	Rated Current	20A at 85°C	Contact Form	1 Form A / SPST N/O (2x Terminal 87)
Voltaje Nominal	24 V								
Rated Current	20A at 85°C								
Contact Form	1 Form A / SPST N/O (2x Terminal 87)								
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 40 Amp</li> <li>• Dual Output (2x Terminal 87)</li> </ul> 	<p><b>933791121</b></p> <p><b>933791127</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <p>Pack - Minimum Order Quantity: 40</p> <table border="1"> <tr><td>Voltaje Nominal</td><td>12 V</td></tr> <tr><td>Rated Current</td><td>40A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form A / SPST N/O (2 x Terminal 87)</td></tr> </table>	Voltaje Nominal	12 V	Rated Current	40A at 85°C	Contact Form	1 Form A / SPST N/O (2 x Terminal 87)
Voltaje Nominal	12 V								
Rated Current	40A at 85°C								
Contact Form	1 Form A / SPST N/O (2 x Terminal 87)								
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 40 Amp</li> <li>• Dual Output (2x Terminal 87)</li> <li>• Diode Coil Suppression</li> </ul> 	<p><b>933791151</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <table border="1"> <tr><td>Voltaje Nominal</td><td>12 V</td></tr> <tr><td>Rated Current</td><td>40A at 85°C</td></tr> <tr><td>Contact Form</td><td>1 Form A / SPST N/O (2x Terminal 87)</td></tr> </table>	Voltaje Nominal	12 V	Rated Current	40A at 85°C	Contact Form	1 Form A / SPST N/O (2x Terminal 87)
Voltaje Nominal	12 V								
Rated Current	40A at 85°C								
Contact Form	1 Form A / SPST N/O (2x Terminal 87)								


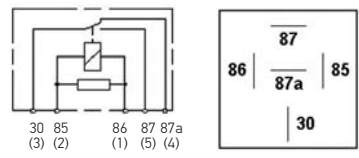

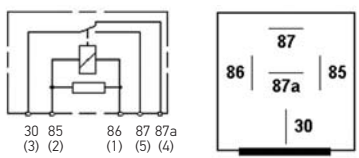

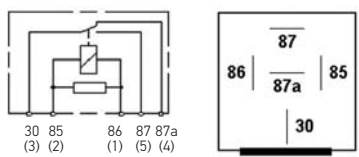

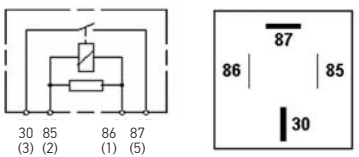

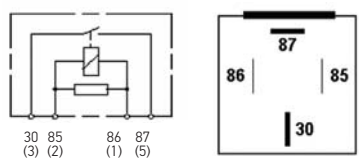
# ELECTRICS

## RELAYS

Product image / Dimensions	Features	Part Number	Technical Specifications						
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 20 Amp</li> <li>• Dual output (2 x Terminal 87)</li> </ul> 	<b>933791131</b>	Minimum Order Quantity: 1						
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Voltage Nominal	24 V								
Rated Current	20A at 85°C								
Contact Form	1 Form A / SPST N/O (2 x Terminal 87)								
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• 40 Amp</li> <li>• Dust cover</li> </ul> 	<b>933332401</b>	Minimum Order Quantity: 1						
		<b>933332407</b>	Pack - Minimum Order Quantity: 40						
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Voltage Nominal	12 V								
Rated Current	N/O 40A   N/C 20A at 85°C								
Contact Form	1 Form C / SPDT								
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPDT / Form C</li> <li>• 20 Amp</li> <li>• Dust cover</li> </ul> 	<b>933332421</b>	Minimum Order Quantity: 1						
		<b>933332427</b>	Minimum Order Quantity: 40						
<b>Technical Data</b>		<table border="1"> <tr> <td>Voltage Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 20A   N/C 10A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>		Voltage Nominal	24 V	Rated Current	N/O 20A   N/C 10A at 85°C	Contact Form	1 Form C / SPDT
Voltage Nominal	24 V								
Rated Current	N/O 20A   N/C 10A at 85°C								
Contact Form	1 Form C / SPDT								
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• 40 Amp</li> <li>• Mounting Bracket</li> </ul> 	<b>933332361</b>	Minimum Order Quantity: 1						
		<b>Technical Data</b>		<table border="1"> <tr> <td>Voltage Nominal</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 40A   N/C 20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>	Voltage Nominal	12 V	Rated Current	N/O 40A   N/C 20A at 85°C	Contact Form
Voltage Nominal	12 V								
Rated Current	N/O 40A   N/C 20A at 85°C								
Contact Form	1 Form C / SPDT								
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPDT / Form C</li> <li>• 20 Amp</li> <li>• Mounting Bracket</li> </ul> 	<b>933332411</b>	Minimum Order Quantity: 1						
		<b>933332417</b>	Pack - Minimum Order Quantity: 40						
<b>Technical Data</b>		<table border="1"> <tr> <td>Voltage Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 20A   N/C 10A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>		Voltage Nominal	24 V	Rated Current	N/O 20A   N/C 10A at 85°C	Contact Form	1 Form C / SPDT
Voltage Nominal	24 V								
Rated Current	N/O 20A   N/C 10A at 85°C								
Contact Form	1 Form C / SPDT								


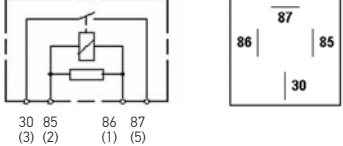

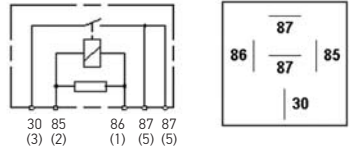

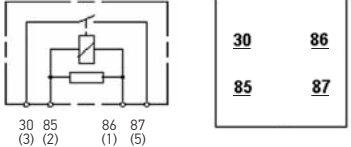

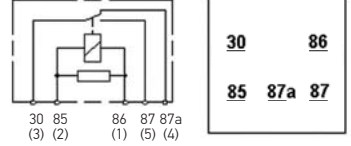

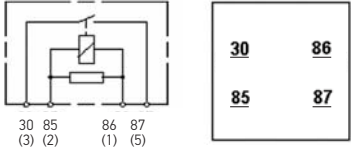
Product image / Dimensions	Features	Part Number	Technical Specifications				
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• Dust cover</li> <li>• 40 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>93332641</b>	Minimum Order Quantity: 1				
		<b>Technical Data</b> <table border="1"> <tr> <td>Voltaje Nominal</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 40A   N/C 20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>		Voltaje Nominal	12 V	Rated Current	N/O 40A   N/C 20A at 85°C
Voltaje Nominal	12 V						
Rated Current	N/O 40A   N/C 20A at 85°C						
Contact Form	1 Form C / SPDT						
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• Dust cover</li> <li>• 40 Amp</li> <li>• Diode Coil Suppression</li> <li>• Dust Cover</li> </ul> 	<b>007794041</b>	Minimum Order Quantity: 1				
		<b>007794047</b>	Pack - Minimum Order Quantity: 200				
<b>Technical Data</b> <table border="1"> <tr> <td>Voltaje Nominal</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 40A   N/C 20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>		Voltaje Nominal	12 V	Rated Current	N/O 40A   N/C 20A at 85°C	Contact Form	1 Form C / SPDT
Voltaje Nominal	12 V						
Rated Current	N/O 40A   N/C 20A at 85°C						
Contact Form	1 Form C / SPDT						
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• Sealed cover</li> <li>• 40 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>931680901</b>	Minimum Order Quantity: 1				
		<b>931680017</b>	Pack - Minimum Order Quantity: 360				
<b>Technical Data</b> <table border="1"> <tr> <td>Voltaje Nominal</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 40A   N/C 20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>		Voltaje Nominal	12 V	Rated Current	N/O 40A   N/C 20A at 85°C	Contact Form	1 Form C / SPDT
Voltaje Nominal	12 V						
Rated Current	N/O 40A   N/C 20A at 85°C						
Contact Form	1 Form C / SPDT						
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPDT / Form C</li> <li>• Dust cover</li> <li>• 20 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>93332611</b>	Minimum Order Quantity: 1				
		<b>Technical Data</b> <table border="1"> <tr> <td>Voltaje Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 20A   N/C 10A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>		Voltaje Nominal	24 V	Rated Current	N/O 20A   N/C 10A at 85°C
Voltaje Nominal	24 V						
Rated Current	N/O 20A   N/C 10A at 85°C						
Contact Form	1 Form C / SPDT						
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPDT / Form C</li> <li>• Dust cover</li> <li>• 20 Amp</li> <li>• Diode Coil Suppression</li> </ul> 	<b>93332441</b>	Minimum Order Quantity: 1				
		<b>93332447</b>	Minimum Order Quantity: 40				
<b>Technical Data</b> <table border="1"> <tr> <td>Voltaje Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 20A   N/C 10A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>		Voltaje Nominal	24 V	Rated Current	N/O 20A   N/C 10A at 85°C	Contact Form	1 Form C / SPDT
Voltaje Nominal	24 V						
Rated Current	N/O 20A   N/C 10A at 85°C						
Contact Form	1 Form C / SPDT						


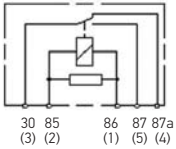
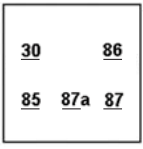

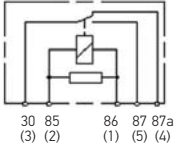
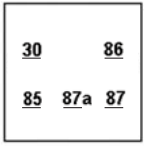

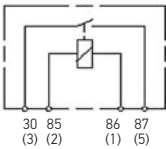
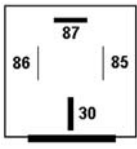

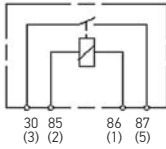
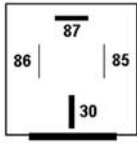
Product image / Dimensions	Features	Part Number	Technical Specifications
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• Mounting Bracket</li> <li>• 40 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<p><b>933332661</b></p>	<p>Minimum Order Quantity: 1</p>
		<p>Technical Data</p>	
		<p>Voltaje Nominal</p>	<p>12 V</p>
		<p>Rated Current</p>	<p>N/O 40A   N/C 20A at 85°C</p>
		<p>Contact Form</p>	<p>1 Form C / SPDT</p>
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPDT / Form C</li> <li>• Mounting Bracket</li> <li>• 20 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<p><b>933332701</b></p>	<p>Minimum Order Quantity: 1</p>
		<p>Technical Data</p>	
		<p>Voltaje Nominal</p>	<p>24 V</p>
		<p>Rated Current</p>	<p>N/O 20A   N/C 10A at 85°C</p>
		<p>Contact Form</p>	<p>1 Form C / SPDT</p>
<p><b>Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPDT / Form C</li> <li>• Mounting Bracket</li> <li>• 20 Amp</li> <li>• Diode Coil Suppression</li> </ul> 	<p><b>933332681</b></p>	<p>Minimum Order Quantity: 1</p>
		<p>Technical Data</p>	
		<p>Voltaje Nominal</p>	<p>24 V</p>
		<p>Rated Current</p>	<p>N/O 20A   N/C 10A at 85°C</p>
		<p>Contact Form</p>	<p>1 Form C / SPDT</p>
<p><b>Mini Relay ISO with built-in 25A fuse</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 30 Amp</li> <li>• With Built-in 25Amp Fuse</li> </ul> 	<p><b>933332801</b></p>	<p>Minimum Order Quantity: 1</p>
		<p>Technical Data</p>	
		<p>Voltaje Nominal</p>	<p>12 V</p>
		<p>Rated Current</p>	<p>30A at 23°C</p>
		<p>Contact Form</p>	<p>1 Form A / SPST N/O</p>
<p><b>Solid State Mini Relay ISO</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Sealed Cover</li> <li>• 20 Amp</li> <li>• Solid State Switch</li> </ul>  <p>Representative drive circuit</p> 	<p><b>931774031</b></p>	<p>Minimum Order Quantity: 1</p>
		<p><b>931774037</b></p>	<p>Pack - Minimum Order Quantity: 189</p>
		<p>Technical Data</p>	
		<p>Voltaje Nominal</p>	<p>12 V</p>
		<p>Rated Current</p>	<p>20A at 85°C</p>
		<p>Contact Form</p>	<p>1 Form A / SPST N/O</p>

Product image / Dimensions	Features	Part Number	Technical Specifications
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• 40 Amp</li> <li>• Resistor Coil Suppression</li> <li>• Weatherproof Cover</li> </ul> 	<b>007794931</b>	Minimum Order Quantity: 1
		<b>007794327</b>	Pack - Minimum Order Quantity: 150
		<b>Technical Data</b>	
		Voltage Nominal	12 V
		Rated Current	N/O 40A   N/C 20A at 85°C
		Contact Form	1 Form C / SPDT
		Relay universal mounting bracket universal	
		<b>H84975001</b>	Quantity: 10 pieces
		<b>960975001</b>	Quantity: 100 pieces
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• Mounting Bracket</li> <li>• 40 Amp</li> <li>• Resistor Coil Suppression</li> <li>• Weatherproof Cover</li> </ul> 	<b>007794911</b> (007794301)	Minimum Order Quantity: 1
		<b>007794307</b>	Pack - Minimum Order Quantity: 150
		<b>Technical Data</b>	
		Voltage Nominal	12 V
		Rated Current	N/O 40A   N/C 20A at 85°C
		Contact Form	1 Form C / SPDT
<b>Mini Relay ISO</b> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPDT / Form C</li> <li>• Mounting Bracket</li> <li>• 20 Amp</li> <li>• Resistor Coil Suppression</li> <li>• Weatherproof Cover</li> </ul> 	<b>933332201</b>	Minimum Order Quantity: 1
		<b>933332207</b>	Pack - Minimum Order Quantity: 80
		<b>Technical Data</b>	
		Voltage Nominal	24 V
		Rated Current	N/O 20A   N/C 10A at 85°C
		Contact Form	1 Form C / SPDT
<b>Mini ISO Power Relay</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Dust cover</li> <li>• 50 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>933332531</b>	Minimum Order Quantity: 1
		Voltage Nominal	12 V
		Rated Current	50A at 85°C
		Contact Form	1 Form A / SPST N/O
<b>Mini ISO Power Relay</b> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• Mounting Bracket</li> <li>• 50 Amp</li> <li>• Resistor Coil Suppression</li> </ul> 	<b>933332521</b>	Minimum Order Quantity: 1
		Voltage Nominal	12 V
		Rated Current	50A at 85°C
		Contact Form	1 Form A / SPST N/O

# ELECTRICS

## RELAYS

Product image / Dimensions	Features	Part Number	Technical Specifications
<p><b>Mini ISO Power relay</b></p> <p><b>NEW!</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Power Design</li> <li>• 50 Amp</li> <li>• Mini ISO Footprint</li> </ul> 	<p><b>965400131</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <p>24 V</p> <p>50A at 85°C</p> <p>1 Form A / SPST N/O</p>
<p><b>Mini ISO Power relay</b></p> <p><b>NEW!</b></p> 	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• Dual Normally Open Contacts</li> <li>• 20 Amp</li> <li>• Mini ISO Footprint</li> </ul> 	<p><b>965400141</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <p>24 V</p> <p>20A at 85°C</p> <p>1 Form A / SPST N/O</p>
<p><b>Micro Relay 280</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• 30 Amp</li> <li>• Resistor Coil Suppression</li> <li>• Dust Cover</li> </ul> 	<p><b>933332571</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <p>12 V</p> <p>30A at 125°C</p> <p>1 Form A / SPST N/O</p>
<p><b>Micro Relay 280</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• 30 Amp</li> <li>• Resistor Coil Suppression</li> <li>• Dust Cover</li> </ul> 	<p><b>933332581</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <p>12 V</p> <p>N/O 30A   N/C 20A at 125°C</p> <p>1 Form C / SPDT</p>
<p><b>Micro Relay 280</b></p> 	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• 35 Amp</li> <li>• Resistor Coil Suppression</li> <li>• Dust Cover</li> </ul> 	<p><b>933332591</b></p> <p>Technical Data</p>	<p>Minimum Order Quantity: 1</p> <p>12 V</p> <p>35A at 125°C</p> <p>1 Form A / SPST N/O</p>

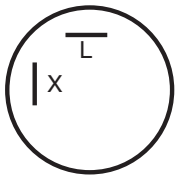
Product image / Dimensions	Features	Part Number	Technical Specifications						
<b>Micro Relay 280</b>  	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• 35 Amp</li> <li>• Resistor Coil Suppression</li> <li>• Dust Cover</li> </ul>	<b>933332601</b>	Minimum Order Quantity: 1						
		<b>Technical Data</b>	<table border="1"> <tr> <td>Voltaje Nominal</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 35A   N/C 20A at 125°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>	Voltaje Nominal	12 V	Rated Current	N/O 35A   N/C 20A at 125°C	Contact Form	1 Form C / SPDT
Voltaje Nominal	12 V								
Rated Current	N/O 35A   N/C 20A at 125°C								
Contact Form	1 Form C / SPDT								
	 								
<b>Mini Relay 280</b>  	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPDT / Form C</li> <li>• Mounting Bracket</li> <li>• 35 Amp</li> <li>• Weatherproof Cover</li> <li>• Resistor Coil Suppression</li> </ul>	<b>931410082</b> (H41410081)	Minimum Order Quantity: 1						
		<b>931410087</b>	Pack - Minimum Order Quantity: 80						
		<b>931410901</b> (H41410051)	Minimum Order Quantity: 1						
		<b>931410057</b>	Pack - Minimum Order Quantity: 80						
		<b>Technical Data</b>	<table border="1"> <tr> <td>Voltaje Nominal</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>N/O 35A   N/C 20A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form C / SPDT</td> </tr> </table>	Voltaje Nominal	12 V	Rated Current	N/O 35A   N/C 20A at 85°C	Contact Form	1 Form C / SPDT
Voltaje Nominal	12 V								
Rated Current	N/O 35A   N/C 20A at 85°C								
Contact Form	1 Form C / SPDT								
	 								
		<b>Relay universal mounting bracket universal</b>							
		<b>358112031</b>	Quantity: 10 pieces						
		<b>931489901</b>	Quantity: 100 pieces						
<b>Mini Relay ISO Heavy Duty</b>  	<ul style="list-style-type: none"> <li>• 12 V</li> <li>• SPST / Form A</li> <li>• 60 Amp</li> <li>• Mounting Bracket</li> </ul>	<b>003437081</b>	Minimum Order Quantity: 1						
		<b>003437087</b>	Pack - Minimum Order Quantity: 120						
		<b>Technical Data</b>	<table border="1"> <tr> <td>Voltaje Nominal</td> <td>12 V</td> </tr> <tr> <td>Rated Current</td> <td>60A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form A / SPST N/O</td> </tr> </table>	Voltaje Nominal	12 V	Rated Current	60A at 85°C	Contact Form	1 Form A / SPST N/O
Voltaje Nominal	12 V								
Rated Current	60A at 85°C								
Contact Form	1 Form A / SPST N/O								
	 								
<b>Mini Relay ISO Heavy Duty</b>  	<ul style="list-style-type: none"> <li>• 24 V</li> <li>• SPST / Form A</li> <li>• 60 Amp</li> <li>• Mounting Bracket</li> </ul>	<b>003437092</b> (H41437091)	Minimum Order Quantity: 1						
		<b>003437097</b>	Pack - Minimum Order Quantity: 120						
		<b>Technical Data</b>	<table border="1"> <tr> <td>Voltaje Nominal</td> <td>24 V</td> </tr> <tr> <td>Rated Current</td> <td>60A at 85°C</td> </tr> <tr> <td>Contact Form</td> <td>1 Form A / SPST N/O</td> </tr> </table>	Voltaje Nominal	24 V	Rated Current	60A at 85°C	Contact Form	1 Form A / SPST N/O
Voltaje Nominal	24 V								
Rated Current	60A at 85°C								
Contact Form	1 Form A / SPST N/O								
	 								

# ELECTRICS

## FLASHERS

Product image / Dimensions	Features	Part Number	Technical Specifications
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### Flasher 2 Terminals



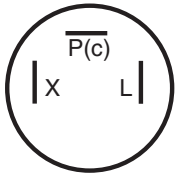
#### Common Pin Designations

Terminal	Description
49/X	Flashing input (+)
49a/L	Flasher output (+) to lamps or indicator switch
30b	Flasher input (+) from hazard switch
31	Ground (-)
C/C1/CP/P	Vehicle pilot lamp output (+)
C2	1st trailer pilot lamp output (+)
C3	2nd trailer pilot lamp output (+)

Part No.	Description
<b>961553151</b>	2 Pin Flasher Unit - 12 V (Single)
<b>961553157</b>	2 Pin Flasher Unit - 12 V (Bulk 50 Pieces)

High capacity flasher with 6 bulb maximum.  
 Suitable for hazard warning applications.  
 Max Load: 12 lamps / 25 Amps (Hazard)  
 Bracket: H84677001

### Flasher 3 Terminals



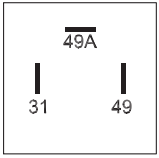
Part No.	Description
<b>961553161</b>	3 Pin Flasher Unit - 12 V (Single)
<b>961553167</b>	3 Pin Flasher Unit - 12 V (Bulk 50 Pieces)

High capacity flasher with 6 bulb maximum.  
 Suitable for hazard warning applications.  
 Max Load: 12 lamps / 25 Amps (Hazard)  
 Bracket: H84677001

<b>961553171</b>	3 Pin Flasher Unit - 24 V (Single)
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High capacity flasher with 5 bulb maximum.  
 Suitable for hazard warning applications.  
 Max Load: 10 lamps SAE # 1683 (Hazard)  
 Bracket: H84677001

### Flasher 3 Terminals




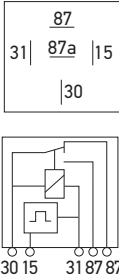

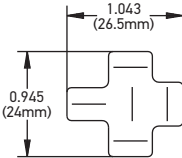

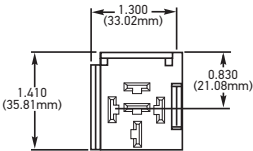

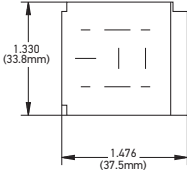

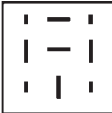
<b>931675911</b> (H42675031)	3 Pin Flasher Unit - 12 V (Individual)
<b>931675037</b>	3 Pin Flasher Unit - 12 V (Bulk 210 pieces)

High capacity flasher with 8 bulb maximum  
 Suitable for hazard warning applications  
 Max. Load: 16 Bulbs (Hazard)



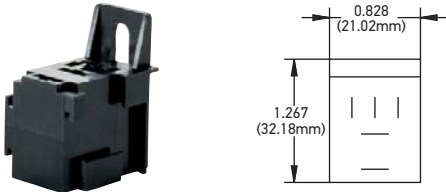
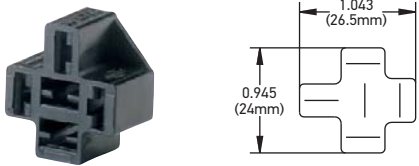
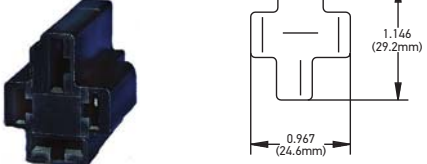

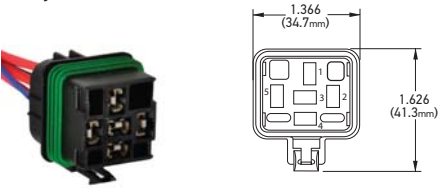
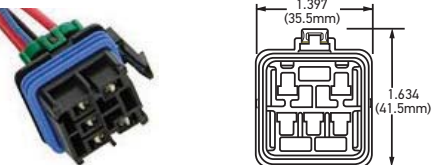
# ELECTRICS

## RELAYS

Product image / Dimensions	Features															
<p><b>Ajustable Control Time Delay Unit</b></p>  	<p><b>996152131</b> Ajustable Control Time Delay Unit - Delay on Release - 12 V</p> <p><b>996152141</b> Ajustable Control Time Delay Unit - Delay on Release - 24 V</p> <p><b>996152151</b> Ajustable Control Time Delay Unit - Delay on Operate - 12 V</p> <p><b>996152161</b> Ajustable Control Time Delay Unit - Delay on Operate - 24 V</p> <p>Designed for a wide range of applications requiring a time delayed switch on or off.</p> <p>Time Delay Range: 0 to 900 seconds</p> <table border="1" data-bbox="639 613 1481 768"> <thead> <tr> <th>S1</th> <th>S2</th> <th>T(s)</th> </tr> </thead> <tbody> <tr> <td>Off</td> <td>Off</td> <td>100...900</td> </tr> <tr> <td>On</td> <td>On</td> <td>14...110</td> </tr> <tr> <td>On</td> <td>Off</td> <td>2.5...14</td> </tr> <tr> <td>Off</td> <td>On</td> <td>0...2.5</td> </tr> </tbody> </table>	S1	S2	T(s)	Off	Off	100...900	On	On	14...110	On	Off	2.5...14	Off	On	0...2.5
S1	S2	T(s)														
Off	Off	100...900														
On	On	14...110														
On	Off	2.5...14														
Off	On	0...2.5														
<p><b>Relay Socket - Mini ISO</b></p>  	<p>5 terminals, printed circuit board</p> <table border="1" data-bbox="639 860 1481 972"> <tbody> <tr> <td><b>358112171</b> (H84989031)</td> <td>Quantity: 1 piece</td> </tr> <tr> <td><b>358112111</b> (H84989037)</td> <td>Quantity: 50 pieces</td> </tr> <tr> <td><b>358112321</b> (U84989037)</td> <td>Quantity: 2500 pieces</td> </tr> </tbody> </table>	<b>358112171</b> (H84989031)	Quantity: 1 piece	<b>358112111</b> (H84989037)	Quantity: 50 pieces	<b>358112321</b> (U84989037)	Quantity: 2500 pieces									
<b>358112171</b> (H84989031)	Quantity: 1 piece															
<b>358112111</b> (H84989037)	Quantity: 50 pieces															
<b>358112321</b> (U84989037)	Quantity: 2500 pieces															
<p><b>Relay Socket - Mini ISO</b></p>  	<p>Bracket mount, connector block</p> <table border="1" data-bbox="639 1167 1481 1279"> <tbody> <tr> <td><b>358112141</b> (H84989011)</td> <td>Quantity: 1 piece</td> </tr> <tr> <td><b>358112131</b> (H84989017)</td> <td>Quantity: 50 pieces</td> </tr> <tr> <td><b>358112301</b> (U84989017)</td> <td>Quantity: 1000 pieces</td> </tr> </tbody> </table>	<b>358112141</b> (H84989011)	Quantity: 1 piece	<b>358112131</b> (H84989017)	Quantity: 50 pieces	<b>358112301</b> (U84989017)	Quantity: 1000 pieces									
<b>358112141</b> (H84989011)	Quantity: 1 piece															
<b>358112131</b> (H84989017)	Quantity: 50 pieces															
<b>358112301</b> (U84989017)	Quantity: 1000 pieces															
<p><b>Relay Socket - Mini ISO</b></p>  	<p>5 or 9 terminals, bracket mount, connector block</p> <table border="1" data-bbox="639 1464 1481 1541"> <tbody> <tr> <td><b>003526001</b></td> <td>Quantity: 5 pieces</td> </tr> <tr> <td><b>003526002</b></td> <td>Quantity: 50 pieces</td> </tr> </tbody> </table>	<b>003526001</b>	Quantity: 5 pieces	<b>003526002</b>	Quantity: 50 pieces											
<b>003526001</b>	Quantity: 5 pieces															
<b>003526002</b>	Quantity: 50 pieces															
<p><b>Relay Socket - 9 pins</b></p>  	<p>SAE relay socket, 9 pins</p> <p>Suitable for 2 flat plugs of 6.3 mm, 2 of 9.5 mm and 4 of 2.8 mm.</p> <table border="1" data-bbox="639 1839 1481 1872"> <tbody> <tr> <td><b>183161002</b></td> <td>Quantity: 5 pieces</td> </tr> </tbody> </table>	<b>183161002</b>	Quantity: 5 pieces													
<b>183161002</b>	Quantity: 5 pieces															

# ELECTRICS

## RELAYS ACCESSORIES

Product image / Dimensions	Part Number	Description						
<p><b>Relay Socket - Micro ISO</b></p> 	<p>5 or 9 terminals, bracket mount</p> <table border="1" data-bbox="616 344 1452 461"> <tr> <td><b>358112161</b> (H84702001)</td> <td>Quantity: 1 piece</td> </tr> <tr> <td><b>358112091</b> (H84702007)</td> <td>Quantity: 50 pieces</td> </tr> <tr> <td><b>358112241</b> (U84702007)</td> <td>Quantity: 2250 pieces</td> </tr> </table>	<b>358112161</b> (H84702001)	Quantity: 1 piece	<b>358112091</b> (H84702007)	Quantity: 50 pieces	<b>358112241</b> (U84702007)	Quantity: 2250 pieces	
<b>358112161</b> (H84702001)	Quantity: 1 piece							
<b>358112091</b> (H84702007)	Quantity: 50 pieces							
<b>358112241</b> (U84702007)	Quantity: 2250 pieces							
<p><b>Relay socket - Mini ISO</b></p> 	<p>Wire harness connector</p> <table border="1" data-bbox="616 629 1452 745"> <tr> <td><b>358112181</b> (H84989021)</td> <td>Quantity: 1 piece</td> </tr> <tr> <td><b>358112121</b> (H84989027)</td> <td>Quantity: 50 pieces</td> </tr> <tr> <td><b>358112311</b> (U84989027)</td> <td>Quantity: 1000 pieces</td> </tr> </table>	<b>358112181</b> (H84989021)	Quantity: 1 piece	<b>358112121</b> (H84989027)	Quantity: 50 pieces	<b>358112311</b> (U84989027)	Quantity: 1000 pieces	
<b>358112181</b> (H84989021)	Quantity: 1 piece							
<b>358112121</b> (H84989027)	Quantity: 50 pieces							
<b>358112311</b> (U84989027)	Quantity: 1000 pieces							
<p><b>Relay socket - Mini ISO</b></p> 	<p>High current (50A), wire harness connector</p> <table border="1" data-bbox="616 875 1452 992"> <tr> <td><b>358112191</b> (H84703001)</td> <td>Quantity: 1 piece</td> </tr> <tr> <td><b>358112151</b> (H84703007)</td> <td>Quantity: 50 pieces</td> </tr> <tr> <td><b>358112251</b> (U84703007)</td> <td>Quantity: 700 pieces</td> </tr> </table>	<b>358112191</b> (H84703001)	Quantity: 1 piece	<b>358112151</b> (H84703007)	Quantity: 50 pieces	<b>358112251</b> (U84703007)	Quantity: 700 pieces	
<b>358112191</b> (H84703001)	Quantity: 1 piece							
<b>358112151</b> (H84703007)	Quantity: 50 pieces							
<b>358112251</b> (U84703007)	Quantity: 700 pieces							
<p><b>Relay Socket - Mini ISO</b></p> 	<p>Weatherproof relay connector kit</p> <table border="1" data-bbox="616 1115 1452 1149"> <tr> <td><b>358112101</b> (H84709011)</td> <td>Quantity: 1 piece</td> </tr> </table>	<b>358112101</b> (H84709011)	Quantity: 1 piece					
<b>358112101</b> (H84709011)	Quantity: 1 piece							
<p><b>Relay Socket - Mini ISO</b></p> 	<p>Weatherproof relay connector with 12" leads</p> <table border="1" data-bbox="616 1373 1452 1406"> <tr> <td><b>358114921</b> (H84709001)</td> <td>Quantity: 1 pieces</td> </tr> </table>	<b>358114921</b> (H84709001)	Quantity: 1 pieces					
<b>358114921</b> (H84709001)	Quantity: 1 pieces							
<p><b>Relay Socket - Mini 280</b></p> 	<p>Weatherproof relay connector with 12" leads</p> <table border="1" data-bbox="616 1641 1452 1675"> <tr> <td><b>358114931</b> (H84708001)</td> <td>Quantity: 1 pieces</td> </tr> </table>	<b>358114931</b> (H84708001)	Quantity: 1 pieces					
<b>358114931</b> (H84708001)	Quantity: 1 pieces							

Product image / Dimensions	Part Number	Description
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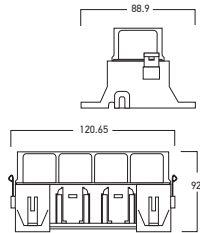
**Female Terminals**



Female Terminals with Catch

Part No.	AWG wire	Blade size	Package Quantity
<b>172616902</b> (H84991151)	10 - 12	.375" (9.5mm)	50
<b>172615007</b>	10 - 12	.375" (9.5mm)	2,000
<b>172615902</b> (H84991141)	6 - 10	.375" (9.5mm)	50
<b>172616007</b>	6 - 10	.375" (9.5mm)	1,800
<b>701235033</b>	14 - 16	.250" (6.3mm)	100
<b>701235034</b>	14 - 16	.250" (6.3mm)	1,500
<b>733815003</b>	18	.188" (4.8mm)	100
<b>744817003</b>	14 - 20	.110" (2.8mm)	100

**Relay Box - Mini ISO**

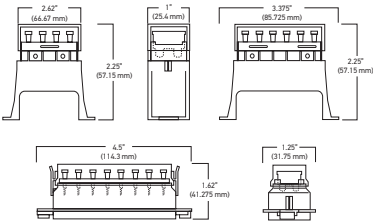


4-Gang Mini ISO Relay Box (Single)

Splashproof relay boxed  
 Snap-fit clear plastic cover  
 O-Ring sealed, holds four plug-in type relays  
 Removable mounting feet  
 Multiple boxedes can be snapped together

<b>358112221</b> (H84988001)	Relay Box Mini ISO, 4-gang
<b>358112211</b> (H84988011)	Relay Box Mini ISO, 7-gang

**Fuse Box**

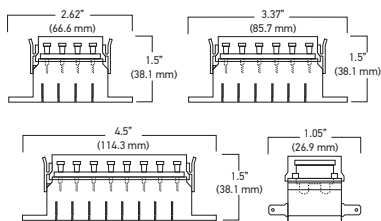


Bottom tap connections

Splashproof fuse boxed  
 Snap-fit clear plastic cover  
 O-Ring sealed  
 Max load: 20a per circuit  
 Fuses not included

<b>358115881</b> (H84960061)	Fuse boxed - 4 terminals
<b>358115901</b> (H84960081)	Fuse boxed - 6 terminals
<b>358115801</b> (H84960101)	Fuse boxed - 8 terminals

**Fuse Box**



Side connections





Splashproof Fuse Box  
 Snap-Fit Clear Plastic Cover  
 O-ring Sealed  
 Max Load: 20A per circuit  
 Fuses not included

<b>358115891</b> (H84960071)	Fuse boxed - 4 terminals, lateral connection
<b>358115781</b> (H84960091)	Fuse boxed - 6 terminals, lateral connection
<b>358115791</b> (H84960111)	Fuse boxed - 8 terminals, lateral connection

# ELECTRICS

## FUSES

Product image / Dimensions	Part Number	Description											
<p><b>Fuse boxed</b></p> 	<p>16 Gang fuse boxed - Bottom tab connections</p> <p>Splashproof Fuse Box            Snap-Fit Clear Plastic Cover            O-ring Sealed            Removable Mounting Feet            Boxes Can Be Snapped Together for 32,48 Fuses etc.            Max Load: 20A per circuit            Fuses not included</p>	<table border="1"> <tr> <td><b>358115871 (H84960051)</b></td> <td>Fuse Box - 16 terminals, lateral connection</td> </tr> </table>	<b>358115871 (H84960051)</b>	Fuse Box - 16 terminals, lateral connection									
<b>358115871 (H84960051)</b>	Fuse Box - 16 terminals, lateral connection												
<p><b>Fuse holder MAXI</b></p>  <p>Fuse not included</p>	<p>Splash proof            For MAXI fuses            8 AWG wire            32 cm in length</p>	<table border="1"> <tr> <td><b>358129911</b></td> <td>MAXI Fuse holder</td> <td>Quantity: 1 piece</td> </tr> <tr> <td><b>358129902</b></td> <td>MAXI Fuse holder</td> <td>Quantity: 5 pieces</td> </tr> </table>	<b>358129911</b>	MAXI Fuse holder	Quantity: 1 piece	<b>358129902</b>	MAXI Fuse holder	Quantity: 5 pieces					
<b>358129911</b>	MAXI Fuse holder	Quantity: 1 piece											
<b>358129902</b>	MAXI Fuse holder	Quantity: 5 pieces											
<p><b>Fuse holder STANDARD</b></p> 	<p>Splash proof            For STANDARD fuses            12 AWG wire            32 cm in length</p>	<table border="1"> <tr> <td><b>358129931</b></td> <td>STANDARD Fuse holder</td> <td>Quantity: 1 piece</td> </tr> <tr> <td><b>358129921</b></td> <td>STANDARD Fuse holder</td> <td>Quantity: 10 pieces</td> </tr> </table>	<b>358129931</b>	STANDARD Fuse holder	Quantity: 1 piece	<b>358129921</b>	STANDARD Fuse holder	Quantity: 10 pieces					
<b>358129931</b>	STANDARD Fuse holder	Quantity: 1 piece											
<b>358129921</b>	STANDARD Fuse holder	Quantity: 10 pieces											
<p><b>MINI Fuse assortment</b></p> 	<p>Assortment of fast acting fuses. It contains:            20 pieces of each of the following fuses: 5A, 7.5A, 10A, 15A, 20A, 25A, 30A</p> <p>Technical Data</p> <table border="1"> <tr> <td>Voltage Rating</td> <td>58 VCD or less</td> </tr> <tr> <td>Interrupting Rating:</td> <td>1000A @ 58 VCD</td> </tr> <tr> <td>Operating Temperature Range:</td> <td>-40° C a + 125° C</td> </tr> <tr> <td>Complies:</td> <td>SAE J2077 / JASO D612 / ISO 8820-3 / ROHS</td> </tr> </table>	Voltage Rating	58 VCD or less	Interrupting Rating:	1000A @ 58 VCD	Operating Temperature Range:	-40° C a + 125° C	Complies:	SAE J2077 / JASO D612 / ISO 8820-3 / ROHS	<table border="1"> <tr> <td><b>358129961</b></td> <td>MINI Fuse assortment</td> <td>Quantity: 140 pieces</td> </tr> </table>	<b>358129961</b>	MINI Fuse assortment	Quantity: 140 pieces
Voltage Rating	58 VCD or less												
Interrupting Rating:	1000A @ 58 VCD												
Operating Temperature Range:	-40° C a + 125° C												
Complies:	SAE J2077 / JASO D612 / ISO 8820-3 / ROHS												
<b>358129961</b>	MINI Fuse assortment	Quantity: 140 pieces											
<p><b>STANDARD Fuse assortment</b></p> 	<p>Assortment of fast acting fuses. It contains:            10 pieces of each of the following fuses: 5A, 7.5A, 25A, 30A            20 pieces of each of the following fuses: 10A, 15A, 20A</p> <p>Technical Data</p> <table border="1"> <tr> <td>Voltage Rating</td> <td>58 VCD or less</td> </tr> <tr> <td>Interrupting Rating:</td> <td>1000A @ 58 VCD</td> </tr> <tr> <td>Operating Temperature Range:</td> <td>-40° C a + 125° C</td> </tr> <tr> <td>Complies:</td> <td>SAE J1284 / JASOD612 / ISO 8820-3 / ROHS</td> </tr> </table>	Voltage Rating	58 VCD or less	Interrupting Rating:	1000A @ 58 VCD	Operating Temperature Range:	-40° C a + 125° C	Complies:	SAE J1284 / JASOD612 / ISO 8820-3 / ROHS	<table border="1"> <tr> <td><b>358129991</b></td> <td>STANDARD fuse assortment</td> <td>Quantity: 100 pieces</td> </tr> </table>	<b>358129991</b>	STANDARD fuse assortment	Quantity: 100 pieces
Voltage Rating	58 VCD or less												
Interrupting Rating:	1000A @ 58 VCD												
Operating Temperature Range:	-40° C a + 125° C												
Complies:	SAE J1284 / JASOD612 / ISO 8820-3 / ROHS												
<b>358129991</b>	STANDARD fuse assortment	Quantity: 100 pieces											
<p><b>MAXI Fuse assortment</b></p> 	<p>Assortment of slow-blow fuses. It contains:            5 pieces of each of the following fuses: 70A, 80A            10 pieces of each of the following fuses: 20A, 30A, 40A, 50A, 60A</p> <p>Technical Data</p> <table border="1"> <tr> <td>Voltage Rating</td> <td>58 VCD or less</td> </tr> <tr> <td>Interrupting Rating:</td> <td>1000A @ 58 VCD</td> </tr> <tr> <td>Operating Temperature Range:</td> <td>-40° C a + 125° C</td> </tr> <tr> <td>Complies:</td> <td>SAE J1888 / JASO D612 / ISO 8820-3 / ROHS</td> </tr> </table>	Voltage Rating	58 VCD or less	Interrupting Rating:	1000A @ 58 VCD	Operating Temperature Range:	-40° C a + 125° C	Complies:	SAE J1888 / JASO D612 / ISO 8820-3 / ROHS	<table border="1"> <tr> <td><b>358129971</b></td> <td>MAXI fuse assortment</td> <td>Quantity: 60 pieces</td> </tr> </table>	<b>358129971</b>	MAXI fuse assortment	Quantity: 60 pieces
Voltage Rating	58 VCD or less												
Interrupting Rating:	1000A @ 58 VCD												
Operating Temperature Range:	-40° C a + 125° C												
Complies:	SAE J1888 / JASO D612 / ISO 8820-3 / ROHS												
<b>358129971</b>	MAXI fuse assortment	Quantity: 60 pieces											

Product image / Dimensions	Part Number	Description																																							
<p><b>MINI LP fuses (low profile)</b></p>  <p>Fast Acting</p>	<p>Voltage Rating: 58 VCD or less                      Interrupting Rating: 1000A @ 58 VCD                      Operating Temperature Range: -40° C a + 125° C                      Complies: JASO D612 / ISO 8820-9 / ROHS</p>	<table border="1"> <tr><td><b>358129003</b></td><td>MINI LP fuse, boxed, 2A: gray</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129013</b></td><td>MINI LP fuse, boxed, 3A: violet</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129023</b></td><td>MINI LP fuse, boxed, 4A: pink</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129033</b></td><td>MINI LP fuse, boxed, 5A: beige</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129043</b></td><td>MINI LP fuse, boxed, 7.5A: brown</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129053</b></td><td>MINI LP fuse, boxed, 10A: red</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129063</b></td><td>MINI LP fuse, boxed, 15A: blue</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129073</b></td><td>MINI LP fuse, boxed, 20A: yellow</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129083</b></td><td>MINI LP fuse, boxed, 25A: white</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129093</b></td><td>MINI LP fuse, boxed, 30A: green</td><td>Quantity: 200 pieces</td></tr> </table>	<b>358129003</b>	MINI LP fuse, boxed, 2A: gray	Quantity: 200 pieces	<b>358129013</b>	MINI LP fuse, boxed, 3A: violet	Quantity: 200 pieces	<b>358129023</b>	MINI LP fuse, boxed, 4A: pink	Quantity: 200 pieces	<b>358129033</b>	MINI LP fuse, boxed, 5A: beige	Quantity: 200 pieces	<b>358129043</b>	MINI LP fuse, boxed, 7.5A: brown	Quantity: 200 pieces	<b>358129053</b>	MINI LP fuse, boxed, 10A: red	Quantity: 200 pieces	<b>358129063</b>	MINI LP fuse, boxed, 15A: blue	Quantity: 200 pieces	<b>358129073</b>	MINI LP fuse, boxed, 20A: yellow	Quantity: 200 pieces	<b>358129083</b>	MINI LP fuse, boxed, 25A: white	Quantity: 200 pieces	<b>358129093</b>	MINI LP fuse, boxed, 30A: green	Quantity: 200 pieces									
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<b>358129013</b>	MINI LP fuse, boxed, 3A: violet	Quantity: 200 pieces																																							
<b>358129023</b>	MINI LP fuse, boxed, 4A: pink	Quantity: 200 pieces																																							
<b>358129033</b>	MINI LP fuse, boxed, 5A: beige	Quantity: 200 pieces																																							
<b>358129043</b>	MINI LP fuse, boxed, 7.5A: brown	Quantity: 200 pieces																																							
<b>358129053</b>	MINI LP fuse, boxed, 10A: red	Quantity: 200 pieces																																							
<b>358129063</b>	MINI LP fuse, boxed, 15A: blue	Quantity: 200 pieces																																							
<b>358129073</b>	MINI LP fuse, boxed, 20A: yellow	Quantity: 200 pieces																																							
<b>358129083</b>	MINI LP fuse, boxed, 25A: white	Quantity: 200 pieces																																							
<b>358129093</b>	MINI LP fuse, boxed, 30A: green	Quantity: 200 pieces																																							
<p><b>MINI fuses</b></p>  <p>Fast Acting</p>	<p><b>Technical data:</b>                      Voltage Rating: 58 VCD or less                      Interrupting Rating: 1000A @ 58 VCD                      Operating Temperature Range: -40° C a + 125° C                      Complies: SAE J2077 / JASO D612 / ISO 8820-3 / ROHS</p>	<table border="1"> <tr><td><b>358129103</b></td><td>MINI fuse, boxed, 2A: gray</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129113</b></td><td>MINI fuse, boxed, 3A: violet</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129123</b></td><td>MINI fuse, boxed, 4A: pink</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129133</b></td><td>MINI fuse, boxed, 5A: beige</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129143</b></td><td>MINI fuse, boxed, 7.5A: brown</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129153</b></td><td>MINI fuse, boxed, 10A: red</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129163</b></td><td>MINI fuse, boxed, 15A: blue</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129173</b></td><td>MINI fuse, boxed, 20A: yellow</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129183</b></td><td>MINI fuse, boxed, 25A: white</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129193</b></td><td>MINI fuse, boxed, 30A: green</td><td>Quantity: 200 pieces</td></tr> <tr><td><b>358129203</b></td><td>MINI fuse, boxed, 35A: dark green</td><td>Quantity: 200 pieces</td></tr> </table>	<b>358129103</b>	MINI fuse, boxed, 2A: gray	Quantity: 200 pieces	<b>358129113</b>	MINI fuse, boxed, 3A: violet	Quantity: 200 pieces	<b>358129123</b>	MINI fuse, boxed, 4A: pink	Quantity: 200 pieces	<b>358129133</b>	MINI fuse, boxed, 5A: beige	Quantity: 200 pieces	<b>358129143</b>	MINI fuse, boxed, 7.5A: brown	Quantity: 200 pieces	<b>358129153</b>	MINI fuse, boxed, 10A: red	Quantity: 200 pieces	<b>358129163</b>	MINI fuse, boxed, 15A: blue	Quantity: 200 pieces	<b>358129173</b>	MINI fuse, boxed, 20A: yellow	Quantity: 200 pieces	<b>358129183</b>	MINI fuse, boxed, 25A: white	Quantity: 200 pieces	<b>358129193</b>	MINI fuse, boxed, 30A: green	Quantity: 200 pieces	<b>358129203</b>	MINI fuse, boxed, 35A: dark green	Quantity: 200 pieces						
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<p><b>STANDARD fuses</b></p>  <p>Fast Acting</p>	<p><b>Technical data:</b>                      Voltage Rating: 58 VCD or less                      Interrupting Rating: 1000A @ 58 VCD                      Operating Temperature Range: -40° C a + 125° C                      Complies: SAE J1284 / JASOD612 / ISO 8820-3 / ROHS</p>	<table border="1"> <tr><td><b>358129213</b></td><td>STANDARD fuse, boxed, 1A: black</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129223</b></td><td>STANDARD fuse, boxed, 2A: gray</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129233</b></td><td>STANDARD fuse, boxed, 3A: violet</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129243</b></td><td>STANDARD fuse, boxed, 4A: pink</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129253</b></td><td>STANDARD fuse, boxed, 5A: beige</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129263</b></td><td>STANDARD fuse, boxed, 7.5A: brown</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129273</b></td><td>STANDARD fuse, boxed, 10A: red</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129283</b></td><td>STANDARD fuse, boxed, 15A: blue</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129293</b></td><td>STANDARD fuse, boxed, 20A: yellow</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129303</b></td><td>STANDARD fuse, boxed, 25A: white</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129313</b></td><td>STANDARD fuse, boxed, 30A: green</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129323</b></td><td>STANDARD fuse, boxed, 35A: dark green</td><td>Quantity: 100 pieces</td></tr> <tr><td><b>358129333</b></td><td>STANDARD fuse, boxed, 40A: orange</td><td>Quantity: 100 pieces</td></tr> </table>	<b>358129213</b>	STANDARD fuse, boxed, 1A: black	Quantity: 100 pieces	<b>358129223</b>	STANDARD fuse, boxed, 2A: gray	Quantity: 100 pieces	<b>358129233</b>	STANDARD fuse, boxed, 3A: violet	Quantity: 100 pieces	<b>358129243</b>	STANDARD fuse, boxed, 4A: pink	Quantity: 100 pieces	<b>358129253</b>	STANDARD fuse, boxed, 5A: beige	Quantity: 100 pieces	<b>358129263</b>	STANDARD fuse, boxed, 7.5A: brown	Quantity: 100 pieces	<b>358129273</b>	STANDARD fuse, boxed, 10A: red	Quantity: 100 pieces	<b>358129283</b>	STANDARD fuse, boxed, 15A: blue	Quantity: 100 pieces	<b>358129293</b>	STANDARD fuse, boxed, 20A: yellow	Quantity: 100 pieces	<b>358129303</b>	STANDARD fuse, boxed, 25A: white	Quantity: 100 pieces	<b>358129313</b>	STANDARD fuse, boxed, 30A: green	Quantity: 100 pieces	<b>358129323</b>	STANDARD fuse, boxed, 35A: dark green	Quantity: 100 pieces	<b>358129333</b>	STANDARD fuse, boxed, 40A: orange	Quantity: 100 pieces
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<p><b>MAXI fuses</b></p>  <p>Slow-blow</p>	<p><b>Technical data:</b>                      Voltage Rating: 58 VCD or less                      Interrupting Rating: 1000A @ 58 VCD                      Operating Temperature Range: -40° C a + 125° C                      Complies: SAE J1888 / JASO D612 / ISO 8820-3 / ROHS</p>	<table border="1"> <tr><td><b>358129343</b></td><td>MAXI fuse, boxed, 20A: yellow</td><td>Quantity: 20 pieces</td></tr> <tr><td><b>358129353</b></td><td>MAXI fuse, boxed, 30A: green</td><td>Quantity: 20 pieces</td></tr> <tr><td><b>358129363</b></td><td>MAXI fuse, boxed, 40A: orange</td><td>Quantity: 20 pieces</td></tr> <tr><td><b>358129373</b></td><td>MAXI fuse, boxed, 50A: red</td><td>Quantity: 20 pieces</td></tr> <tr><td><b>358129383</b></td><td>MAXI fuse, boxed, 60A: blue</td><td>Quantity: 20 pieces</td></tr> <tr><td><b>358129393</b></td><td>MAXI fuse, boxed, 70A: brown</td><td>Quantity: 20 pieces</td></tr> <tr><td><b>358129403</b></td><td>MAXI fuse, boxed, 80A: white</td><td>Quantity: 20 pieces</td></tr> </table>	<b>358129343</b>	MAXI fuse, boxed, 20A: yellow	Quantity: 20 pieces	<b>358129353</b>	MAXI fuse, boxed, 30A: green	Quantity: 20 pieces	<b>358129363</b>	MAXI fuse, boxed, 40A: orange	Quantity: 20 pieces	<b>358129373</b>	MAXI fuse, boxed, 50A: red	Quantity: 20 pieces	<b>358129383</b>	MAXI fuse, boxed, 60A: blue	Quantity: 20 pieces	<b>358129393</b>	MAXI fuse, boxed, 70A: brown	Quantity: 20 pieces	<b>358129403</b>	MAXI fuse, boxed, 80A: white	Quantity: 20 pieces																		
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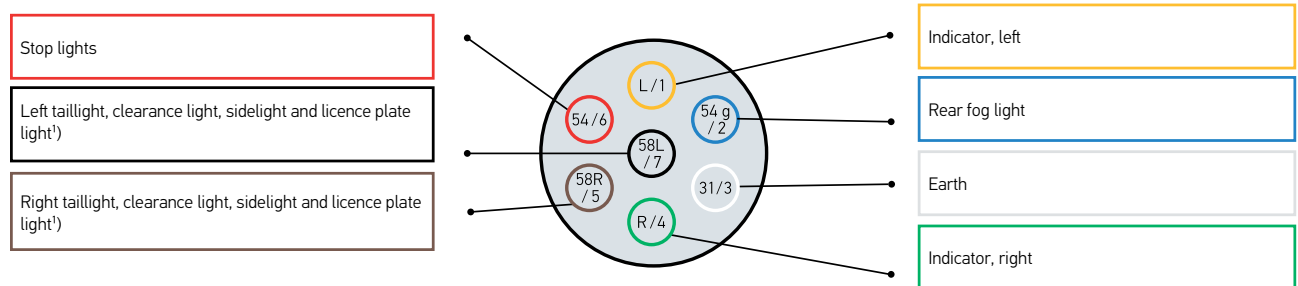
# ELECTRICS

## FUSES

Product image / Dimensions	Part Number	Description
<b>MINI LP FUSES</b>		
Low profile		
	358129002	MINI LP fuse, boxed, 2A: gray Quantity: 10 pieces
	358129012	MINI LP fuse, boxed, 3A: violet Quantity: 10 pieces
	358129022	MINI LP fuse, boxed, 4A: pink Quantity: 10 pieces
	358129032	MINI LP fuse, boxed, 5A: beige Quantity: 10 pieces
	358129042	MINI LP fuse, boxed, 7.5A: brown Quantity: 10 pieces
	358129052	MINI LP fuse, boxed, 10A: red Quantity: 10 pieces
	358129062	MINI LP fuse, boxed, 15A: blue Quantity: 10 pieces
	358129072	MINI LP fuse, boxed, 20A: yellow Quantity: 10 pieces
	358129082	MINI LP fuse, boxed, 25A: white Quantity: 10 pieces
	358129092	MINI LP fuse, boxed, 30A: green Quantity: 10 pieces
	358129941	Assortment of fuses, includes: 1 piece of each fuse: 5A, 7.5A, 25A, 30A 2 pieces of each fuse: 10A, 15A, 20A Quantity: 10 pieces
<b>MINI FUSES</b>		
	358129102	MINI fuse, boxed, 2A: gray Quantity: 10 pieces
	358129112	MINI fuse, boxed, 3A: violet Quantity: 10 pieces
	358129122	MINI fuse, boxed, 4A: pink Quantity: 10 pieces
	358129132	MINI fuse, boxed, 5A: beige Quantity: 10 pieces
	358129142	MINI fuse, boxed, 7.5A: brown Quantity: 10 pieces
	358129152	MINI fuse, boxed, 10A: red Quantity: 10 pieces
	358129162	MINI fuse, boxed, 15A: blue Quantity: 10 pieces
	358129172	MINI fuse, boxed, 20A: yellow Quantity: 10 pieces
	358129182	MINI fuse, boxed, 25A: white Quantity: 10 pieces
	358129192	MINI fuse, boxed, 30A: green Quantity: 10 pieces
	358129202	MINI fuse, boxed, 35A: dark green Quantity: 10 pieces
	358129951	Assortment of fuses, includes: 1 piece of each fuse: 5A, 7.5A, 25A, 30A 2 pieces of each fuse: 10A, 15A, 20A Quantity: 10 pieces
<b>STANDARD FUSES</b>		
	358129212	STANDARD fuse, boxed, 1A: black Quantity: 10 pieces
	358129222	STANDARD fuse, boxed, 2A: gray Quantity: 10 pieces
	358129232	STANDARD fuse, boxed, 3A: violet Quantity: 10 pieces
	358129242	STANDARD fuse, boxed, 4A: pink Quantity: 10 pieces
	358129252	STANDARD fuse, boxed, 5A: beige Quantity: 10 pieces
	358129262	STANDARD fuse, boxed, 7.5A: brown Quantity: 10 pieces
	358129272	STANDARD fuse, boxed, 10A: red Quantity: 10 pieces
	358129282	STANDARD fuse, boxed, 15A: blue Quantity: 10 pieces
	358129292	STANDARD fuse, boxed, 20A: yellow Quantity: 10 pieces
	358129302	STANDARD fuse, boxed, 25A: white Quantity: 10 pieces
	358129312	STANDARD fuse, boxed, 30A: green Quantity: 10 pieces
	358129322	STANDARD fuse, boxed, 35A: dark green Quantity: 10 pieces
	358129332	STANDARD fuse, boxed, 40A: orange Quantity: 10 pieces
	358129981	Assortment of fuses, includes: 1 piece of each fuse: 5A, 7.5A, 25A, 30A 2 pieces of each fuse: 10A, 15A, 20A Quantity: 10 pieces
<b>MAXI FUSES</b>		
	358129341	MAXI fuse, boxed 20A: yellow Quantity: 1 piece
	358129351	MAXI fuse, boxed 30A: green Quantity: 1 piece
	358129361	MAXI fuse, boxed 40A: orange Quantity: 1 piece
	358129371	MAXI fuse, boxed 50A: red Quantity: 1 piece
	358129381	MAXI fuse, boxed 60A: blue Quantity: 1 piece
	358129391	MAXI fuse, boxed 70A: brown Quantity: 1 piece
	358129401	MAXI fuse, boxed 80A: white Quantity: 1 piece

Product image / Dimensions	Part Number	Description
<p>Pole Plug - Metal</p>	001918002	<p>With strain relief and grommet.</p> <p>7-pin plug with screw connections Quantity: 25 pieces</p>
<p>Pole Plug - Plastic</p>	001930003	<p>With strain relief and grommet.</p> <p>7-pin plug with screw connections Quantity: 25 pieces</p>
<p>Pole Socket - Metal</p>	001941002	<p>Metal socket with lid Removable contact set. Thermal stability: -25 °C a +70 °C.</p> <p>7-pole plug socket with screw connections Quantity: 25 pieces</p>
<p>Pole Socket - Plastic</p>	001943003	<p>Plastic socket with lid Removable contact set. Thermal stability: -25 °C a +70 °C.</p> <p>7-pole plug socket with screw connections Quantity: 25 pieces</p>

**7-pole plug system / 12 V (compliant with ISO 1724)  
Pin-out – trailer plug fitting 12 V / 7-pole N type ISO 1724**



Contact assignment for normal plug-type connectors compliant with ISO 1724, 12 V, 7-pole N

Contact no.	Function	Cable cross-section	Colour of wire insulation
1/L	Indicator, left	1.5 mm <sup>2</sup>	Yellow
2/54g	Rear fog light	1.5 mm <sup>2</sup>	Blue
3/31	Earth	2.5 mm <sup>2</sup>	White
4/R	Indicator, right	1.5 mm <sup>2</sup>	Green
5/58R	Right taillight, clearance light, sidelight and licence plate lights <sup>1)</sup>	1.5 mm <sup>2</sup>	Brown
6/54	Stop lights	1.5 mm <sup>2</sup>	Red
7/58L	Left taillight, clearance light, sidelight and licence plate lights <sup>1)</sup>	1.5 mm <sup>2</sup>	Black

<sup>1)</sup> The licence plate lights must be connected in such a way that none of the lamps is connected to both contacts 5 and 7.

# DIGITAL SERVICES

This section is devoted to helping visitors navigate to the correct sites according to the individual needs of original equipment, distributors, dealers and professional workshops.

## PORTALS

Web site + PDF's [www.hellausa.com](http://www.hellausa.com)

## MICROSITES

Auxiliary Lights, signal lighting, bulbs, horns, wiper blades, light bars and accessories [www.myhellalights.com](http://www.myhellalights.com)

Work lights, relays, warning lights, etc. [www.hellahd.com](http://www.hellahd.com)

90 mm Headlights configurator [www.hella.com/90mm-modules](http://www.hella.com/90mm-modules)

Agriculture [www.hella.com/agro](http://www.hella.com/agro)

Buses [www.hella.com/bus](http://www.hella.com/bus)

Shapeline configurator [www.hella.com/shapeline](http://www.hella.com/shapeline)

## ONLINE CATALOGS

Universal parts catalog [www.hella.com/upc](http://www.hella.com/upc)

Vehicles specific parts <https://hella.mypartfinder.com>

Brake Systems [www.brakeguide.com](http://www.brakeguide.com)

## TECHNICAL INFORMATION

HELLA TECH WORLD [www.hella.com/techworld](http://www.hella.com/techworld)

## APPS FOR SMARTPHONES AND TABLETS

[www.hella.com/apps](http://www.hella.com/apps)



Horns



Auxiliary Lighting



Work lights



BrakeGuide



#### SOCIAL MEDIA

Facebook	<a href="http://www.facebook.com/hella.usa">www.facebook.com/hella.usa</a>
Facebook	<a href="http://www.facebook.com/hellamining">www.facebook.com/hellamining</a>
Facebook	<a href="http://www.facebook.com/hellamarine">www.facebook.com/hellamarine</a>
YouTube	<a href="http://www.youtube.com/myhellalights">www.youtube.com/myhellalights</a>

#### APPLICATION DATA

Mapping of inFormation	ACES 3.1 (Aftermarket Catalog Exchange Standard)			PIES (Product InFormation Exchange Standard)		Digital Assets (Images)
	OPTI CAT	EPICORE	WHI	DCI	SDC	
	Code	Code	Code	Code	Code - Under HELLA, Inc.	
HELLA Light Bulbs	HELLA BULBS	HES	HLA	Only bulbs and wiper blades	HELLA	
HELLA Lighting for Specific Vehicles	HELLA ALL NO BULBS	HES	HLA		HELLA	
HELLA Fuel Pumps	HELLA ALL NO BULBS	HEV	HLA		HELLA	
HELLA Windshield Wipers	HELLA ALL NO BULBS	HEM	HLA		HELLA	
HELLA Electronics	HELLA ALL NO BULBS	HEP	HLA		HELLA	
Pierburg	HELLA PIERBURG	PGP	PIG		Pierburg	
Behr Thermot-tronik	HELLA BTT	BTT	BEH		BTT	
Optilux	HELLA OPTILUX	OPL	HLA	Optilux Lighting	Optilux	

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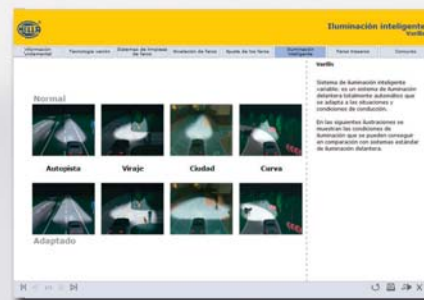
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