RELAY CATALOGUE

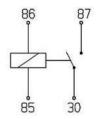
COMFORT ELECTRONIC AA/MKG3



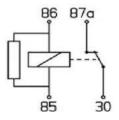
Relay product information

Relay operating modes

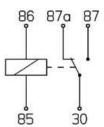
Make contact is a relay contact that is open when a relay is in idle position and closes when the relay moves to the operating position.



Break contact is a relay contact that is closed when a relay is in idle position and opens when the relay moves to the operating position.



Change over contact (transfer contact) is a set of contacts with three electrically isolated connections, consisting of a make contact and a break contact. When the switching position changes, the previously closed contact opens first and the previously open contact then closes.



Parameter explanation

Relay applications

This catalog contains the technical specifications that a design engineer needs to select the appropriate relay to meet his requirements. Bosch d.c. relays were originally designed for automotive applications. For all other applications, particularly those with differing requirements, loads or ambient conditions, we recommend prior technical consultation.

Bosch d.c. relays can withstand extreme conditions. They meet the following requirements:

- ▶ High-power switching
- ► Function over a wide temperature range
- ► Excellent vibration and Impact resistance
- ▶ Long service life and good climatic resistance

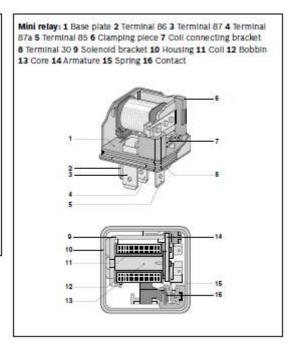
Bosch d.c. relays are used for switching electrical equipment that has a high power or is sensitive to voltage losses. Relays relieve the burden on control switches and provide low voltage drops with economical wire cross-sections. In addition, relays make it easy to set up interlock circuits.

Mini and micro relays are Ideal for use where space Is at a premium.

Multifunction connectors allow easy assembly and extremely low fault rates on pre-tested wiring harnesses – particularly for OEMs. The same applies to servicing. The following mini and micro relay designs are available:

- Relays without mounting bracket, easy to plug into screw-on combination receptacle housings
- Relays with mounting bracket for connection to five-pole receptacle housing

Power relays allow a rated switching current of more than 50 A. They are suitable for switching motors, starters and other devices. Micro relay: 1 Housing 2 Solenoid bracket and terminal 3
3 Coll 4 Bobbin 5 Armature 6 Base plate 7 Damping resistor or diode 8 Connecting wire 9 Core 10 Terminal 1/2 11 Contact
12 Spring 13 Terminal 4 14 Terminal 5





Terms and definitions

Characteristic quantities and terms

Terms (where standardized, based on DIN 41215)

Various characteristic quantities and their values allow an appropriate relay to be selected to perform a specific task. Each relay type must meet specific requirements at the specified characteristic values during its service life.

Response voltage is the minimum excitation voltage that causes a relay to respond, taking into account the ambient temperature and self-heating.

Response time is the time from closure of the feed circuit until the first closure of a make contact or the first opening of a break contact.

Operating voltage is the value of the excitation voltage, at which the relay has the characteristic data required for operation.

Excitation voltage is the electrical voltage that permits the electric current that flows through the excitation winding and causes excitation. Connection is via terminals 1 and 2 and terminals 85 and 86.

Rated value is the value of a variable (e.g. voltage, current, resistance) for which a relay, its parts and its properties are designed or after which they are named.

Correction factor

Characteristic data on the excitation side relate to an ambient temperature of +20°C. If the ambient temperature is different, the winding resistance and the response and release voltages can be converted using a correction factor K:

 $K = [1 + a(t_x - 20^{\circ}C)]$

 t_a = Actual ambient or coll temperature

a = 0.004 K-1 (Average temperature coefficient for copper)

Bounce time is the time from the first to the last closure of a relay contract when the relay is shifting to a different position.

Release voltage is the value of the maximum excitation voltage that causes a relay to release, taking into account the ambient temperature and self-heating.

Release time (release delay) is the time from the opening of the feed circuit until the first opening of a make contact or the first closure of a break contact.

Switching voltage is the voltage that is present between the contacts with an open circuit, when the transient effects have subsided.

Voltage drop is the voltage at the relay connections for a closed relay contact, measured at a defined current.

Total resistance of the feed circuit is the electrical resistance between the connecting terminals 1 and 2 and terminals 85 and 86.



Protection and operating modes

Protection types and operating modes

Switching operations

Response is an operation in which a relay moves from its idle position to its operating position.

Opening is an operation that breaks the electrical contact.

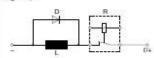
Release is an operation in which a relay moves from its operating position to its idle position.

Operating cycle is one response and release of a relay.

Number of operations is the number of operating cycles.

Closing is an operation that results in contact making.

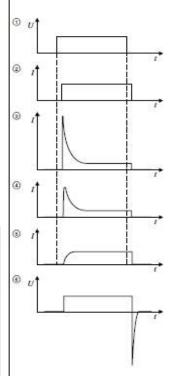
For inductive loads and motors, a protective circuit is often required, which can be implemented with a freewheeling diode parallel to the load (see circuit diagram).



L inductive load D Freewheeling diode U Supply voltage R Relay

Typical load curves

- Excitation voltage for relay coll
 Current curve with resistance load
- Current curve with lamp load
- Current curve with lamp load
 Current curve with motor load
- Current curve with inductive load
- © Voltage curve with Inductive load



Service life

Mechanical service life specifies the number of operating cycles with current-free relay contacts for which the relay remains operational.

Contact service life specifies the number of operating cycles with electrical contact load for which the relay remains operational.

Switching contacts

Make contact is a relay contact that is open when a relay is in idle position and closes when the relay moves to the operating position.

Break contact is a relay contact that is closed when a relay is in idle position and opens when the relay moves to the operating position.

Double changeover contact (transfer contact) is a set of contacts with three electrically isolated connections, consisting of a make contact and a break contact. When the switching position changes, the previously closed contact opens first and the previously open contact then closes.



Products list (1) Quick link to each p/n

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Products list (2) Quick link to each p/n

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PH A7743 Product Family Relays - Overview

Micro Relays

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Battery Relays

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Mini Relays

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Lamp Relays

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Starter Relays

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Power Relays

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Hazard-warningsignal flasher <u>Chapter</u>

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Hot Wire Flashers
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Others

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Quick application guide

Link

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Micro Relays

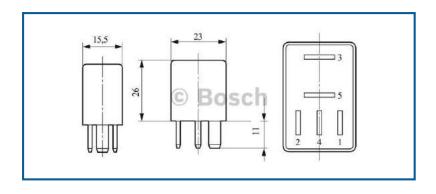
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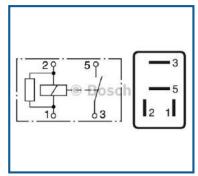


Micro Relays 12 V, 30 A 0 332 011 007

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	200.000	30 A	12 V	4







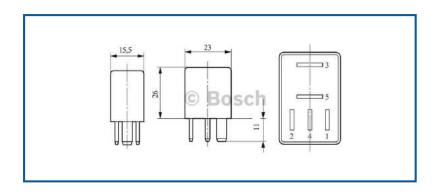
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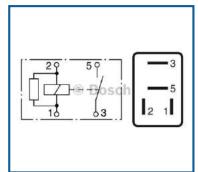


Micro Relays 12 V, 20 A 0 332 017 300

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	250.000	20 A	12 V	4







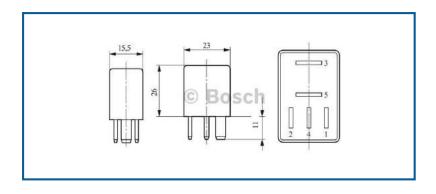
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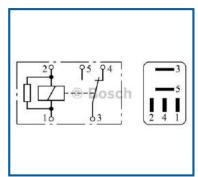


Micro Relays 12 V, 30/10 A 0 332 201 107

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	200.000	30/10 A	12 V	5







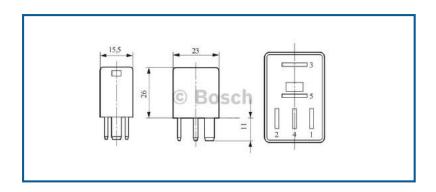
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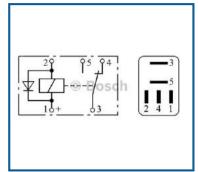


Micro Relays 24 V, 10/5 A 0 332 207 402

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	✓	250.000	10/5 A	24 V	5







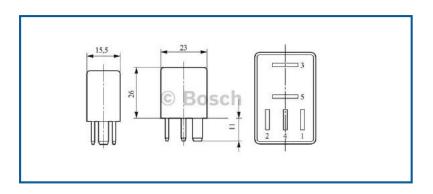
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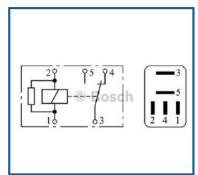


Micro Relays 24 V, 10/5 A 0 332 207 405

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	250.000	10/5 A	24 V	5







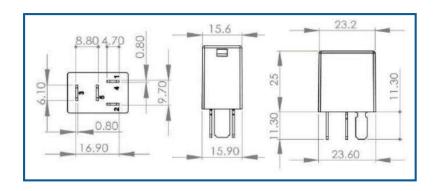
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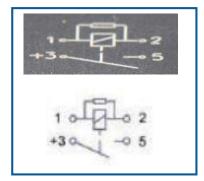


Micro Relays 12 V, 20 A 0 986 AH0 300

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	20 A	12 V	4







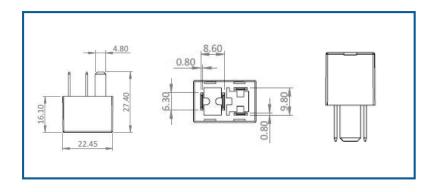
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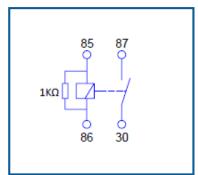


Half Micro Relays 12 V, 20 A 0 986 AH0 090

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	20 A	12 V	4







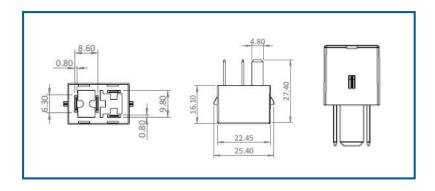
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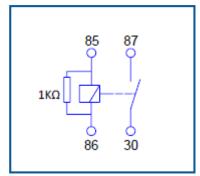


Half Micro Relays 12 V, 20 A 0 986 AH0 091

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	20 A	12 V	4







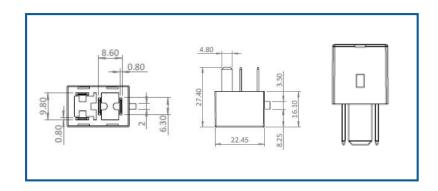
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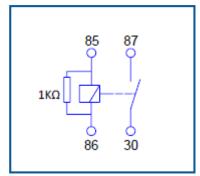


Half Micro Relays 12 V, 20 A 0 986 AH0 092

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	20 A	12 V	4







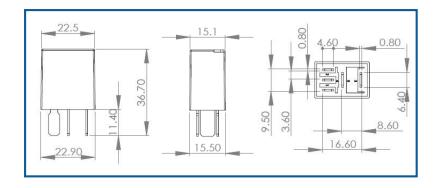
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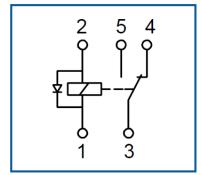


Micro Relays 24 V, 10 A 0 986 AH0 302

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	x	✓	100.000	10 A	24 V	5







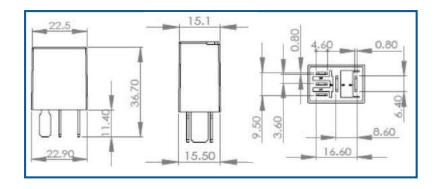
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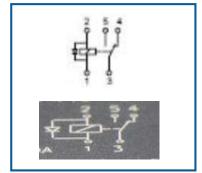


Micro Relays 12 V, 20 A 0 986 AH0 304

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	x	✓	100.000	20 A	12 V	5







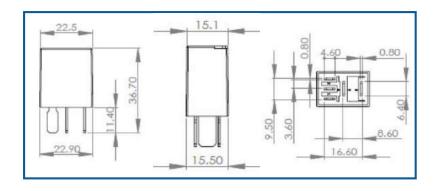
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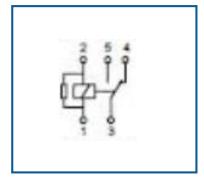


Micro Relays 24 V, 10/5 A 0 986 AH0 305

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	x	100.000	10/5 A	24 V	5







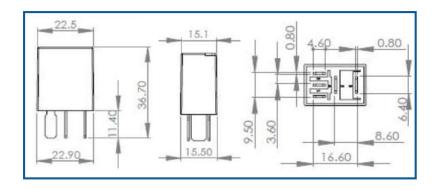
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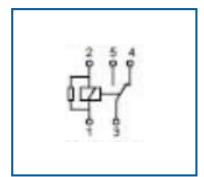


Micro Relays 12 V, 30/10 A 0 986 AH0 307

Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	30 A	12 V	5







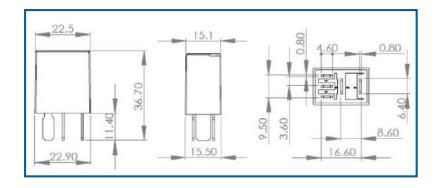
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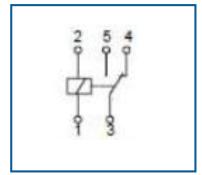


Micro Relays 12 V, 30 A 0 986 AH0 308

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of pins
X	X	X	100.000	30 A	12 V	5







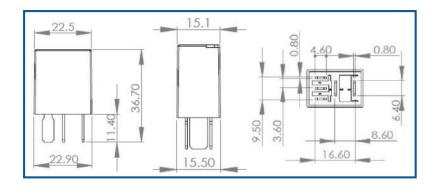
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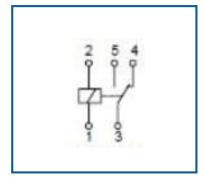


Micro Relays 24 V, 10 A 0 986 AH0 309

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	x	x	100.000	10 A	24 V	5







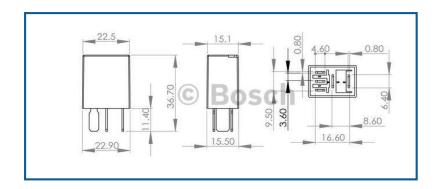
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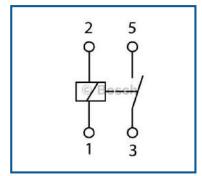


Micro Relays 12 V, 20 A 0 986 AH0 320

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	100.000	20 A	12 V	4







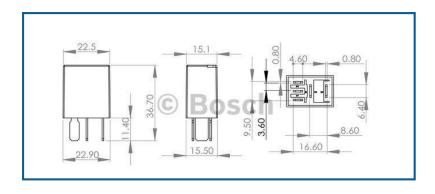
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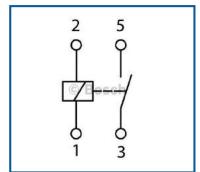


Micro Relays 24 V, 10 A 0 986 AH0 321

Change	Normal	Normal		
over	close	open		
		✓		

Moun bracl	ting ket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X		X	X	100.000	10 A	24 V	4







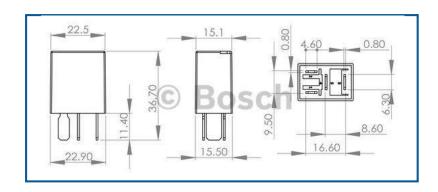
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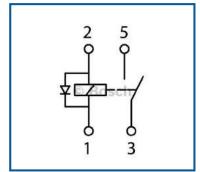


Micro Relays 12 V, 10 A 0 986 AH0 322

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	✓	100.000	10 A	12 V	4







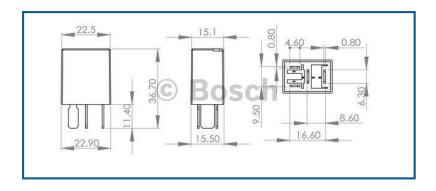
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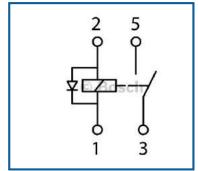


Micro Relays 24 V, 10 A 0 986 AH0 323

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	✓	100.000	10 A	24 V	4







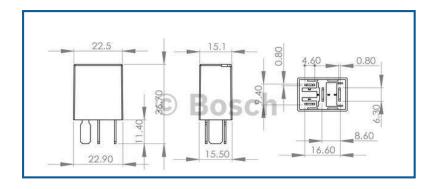
Back to general overview

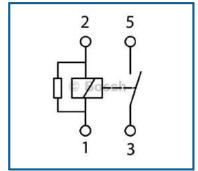


Micro Relays 24 V, 10 A 0 986 AH0 328

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	10 A	24 V	4







Back to general overview



Mini Relays

Slide 30 to 103

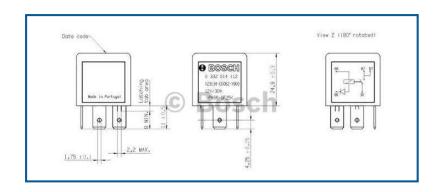


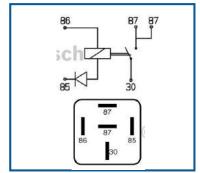
Mini Relays 12 V, 30 A 0 332 014 112



2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	✓	250.000	30 A	12 V	5







Back to general overview

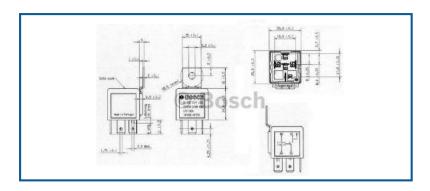


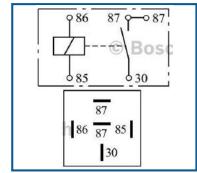
Mini Relays 12 V, 30 A 0 332 014 125

Change	Normal	Normal	
over	close	open	
		✓	

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	x	250.000	30 A	12 V	5







Back to general overview

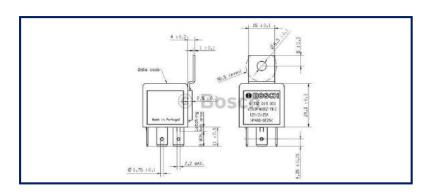


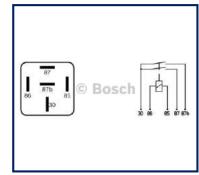
Mini Relays 12 V, 15 A 0 332 015 001

Change	Normal	Normal	
over	close	open	
		✓	

2 x make contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	x	100.000	15 A	12 V	5







Back to general overview

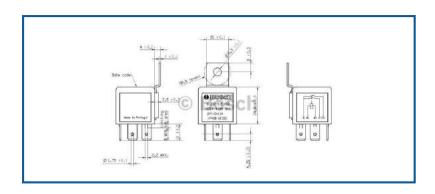


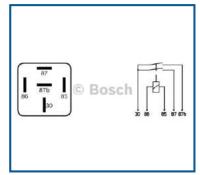
Mini Relays 24 V, 2x15 A 0 332 015 002

Change	Normal	Normal
over	close	open
		✓

2 x make contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	x	100.000	2x15 A	24 V	5







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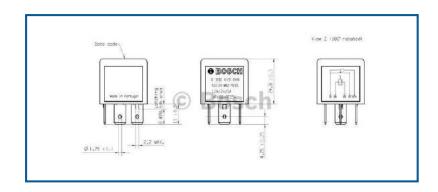


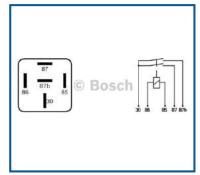
Mini Relays 12 V, 2x15 A 0 332 015 006

Change	Normal	Normal
over	close	open
		✓

2 x make contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	100.000	2x15 A	12 V	5







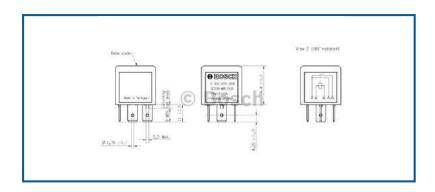
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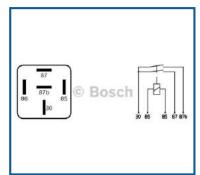


Change	Normal	Normal
over	close	open
		✓

2 x make contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	x	100.000	2x15 A	12 V	5





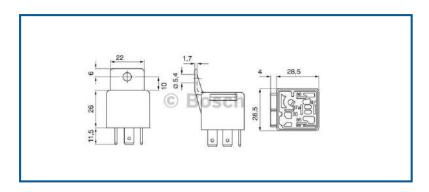


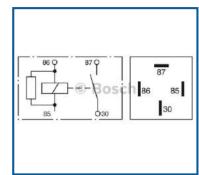
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Change	Normal	Normal
over	close	open
		✓

N	Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
	✓	✓	X	250.000	30 A	12 V	4







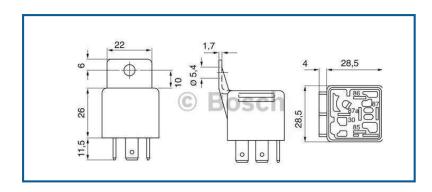
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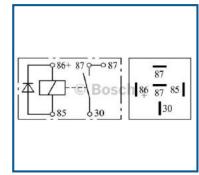


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	✓	50.000	50 A	12 V	5





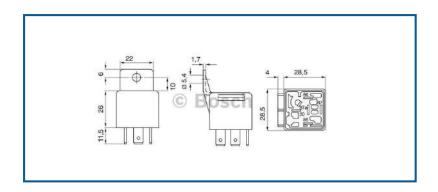


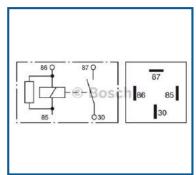
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	X	250.000	30 A	12 V	4







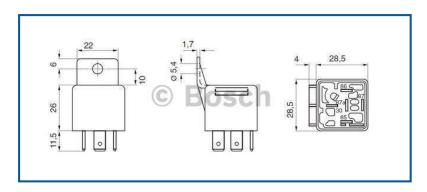
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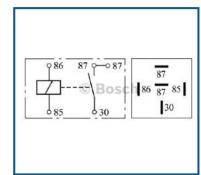


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mou bra	inting cket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
1	/	x	x	250.000	30 A	12 V	5







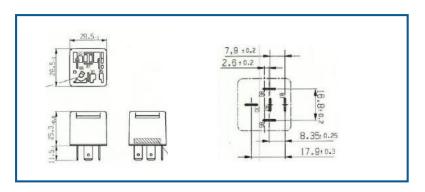
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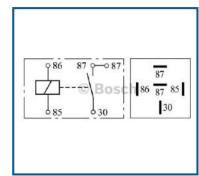


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	x	250.000	30 A	12 V	5







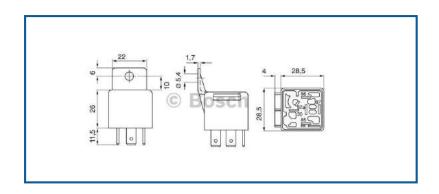
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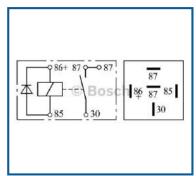


Change	Normal	Normal
over	close	open
		✓

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	✓	100.000	30 A	12 V	5





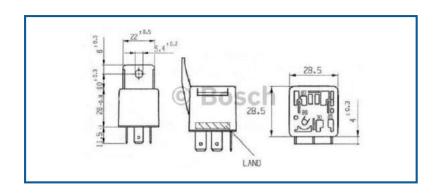


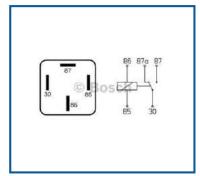
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	x	X	250.000	30 A	12 V	4





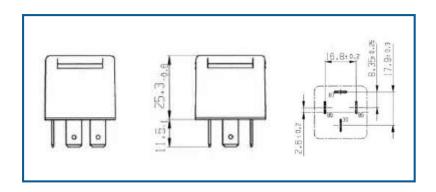


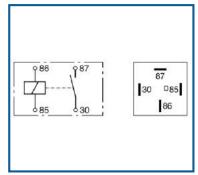
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Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	250.000	30 A	12 V	4







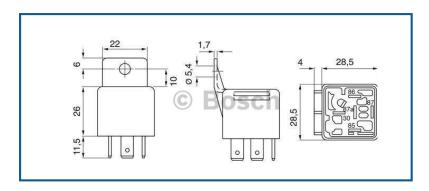
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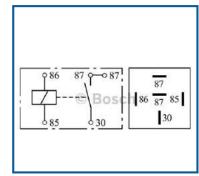


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	x	x	250.000	20 A	24 V	5







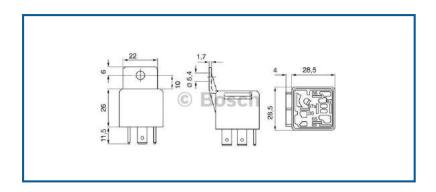
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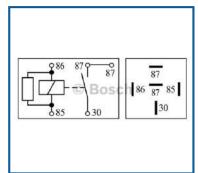


Change	Normal	Normal
over	close	open
		✓

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	x	250.000	30 A	24 V	5





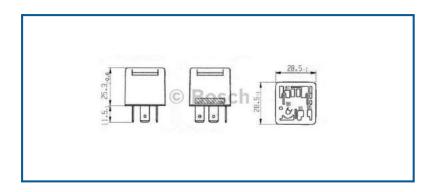


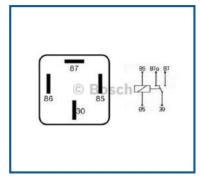
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	250.000	20 A	24 V	4







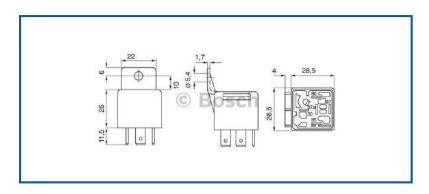
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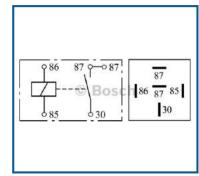


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	250.000	20 A	24 V	5





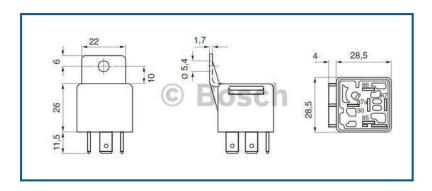


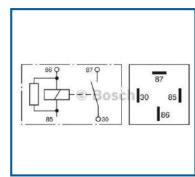
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	X	250.000	20 A	12 V	4





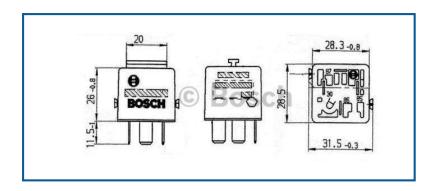


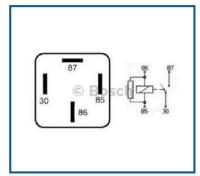
Back to general overview



Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	250.000	30 A	12 V	4







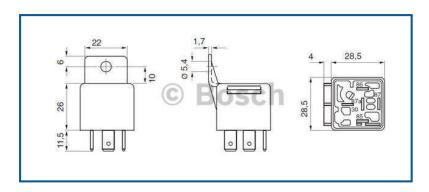
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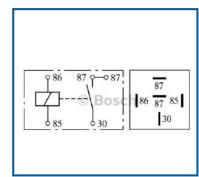


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	250.000	30 A	12 V	5





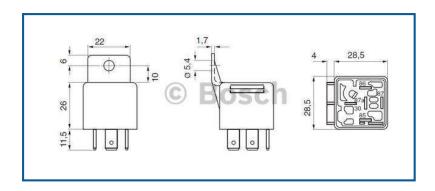


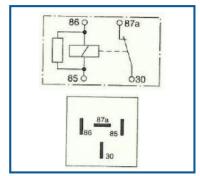
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Change	Normal	Normal		
over	close	open		
	✓			

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	X	50.000	20 A	12 V	4





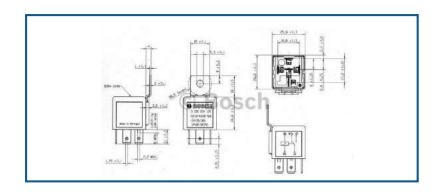


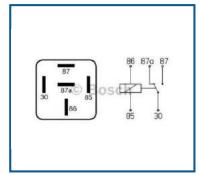
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	250.000	30 A	12 V	5







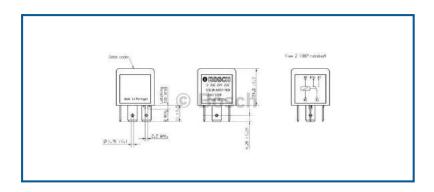
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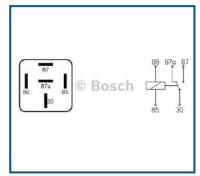


Mini Relays 24 V, 20 A 0 332 204 202

Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	250.000	20 A	24 V	5







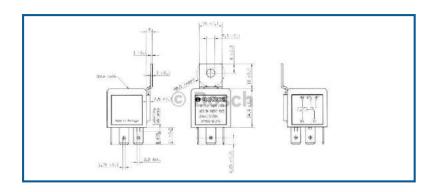
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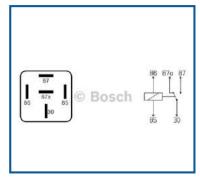


Mini Relays 24 V, 20 A 0 332 204 203

Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	250.000	20 A	24 V	5





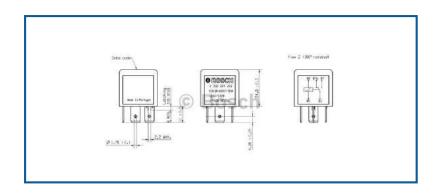


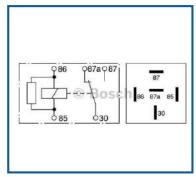
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	250.000	30/20 A	12 V	5





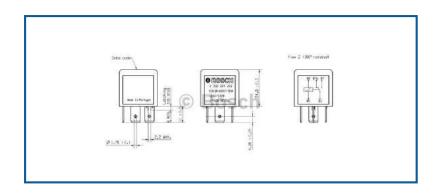


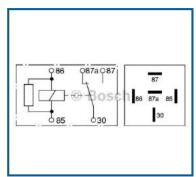
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Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	250.000	30/20 A	12 V	5





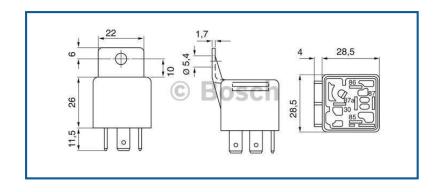


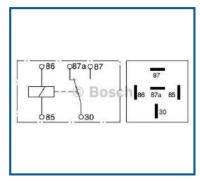
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	250.000	30 A	12 V	5





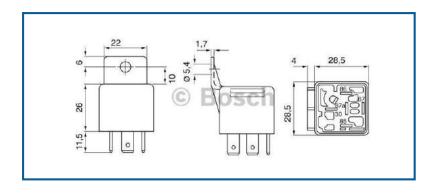


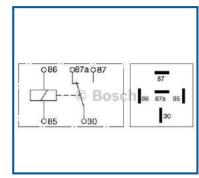
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	250.000	30/20 A	12 V	5





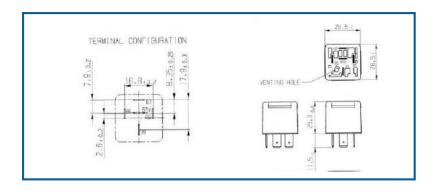


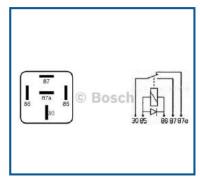
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	x	✓	250.000	30/20 A	12 V	5





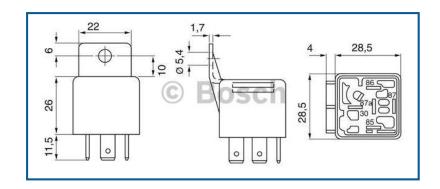


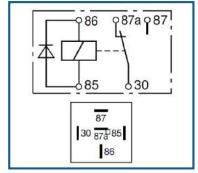
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	x	✓	250.000	30A / 20A	12 V	5





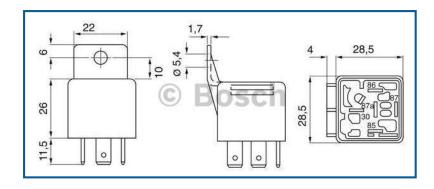


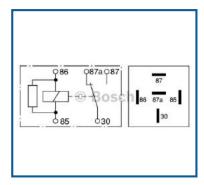
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Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	x	250.000	30A / 20A	12 V	4





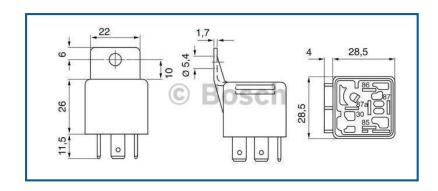


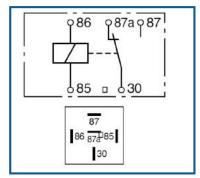
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	250.000	20A / 10A	24 V	5





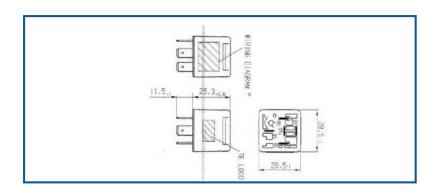


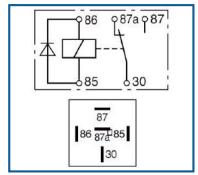
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Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	✓	250.000	20A / 10A	24 V	5





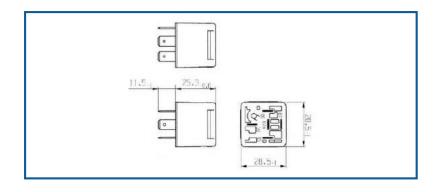


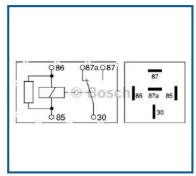
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Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	x	250.000	20A / 10A	24 V	4





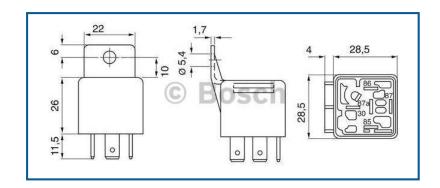


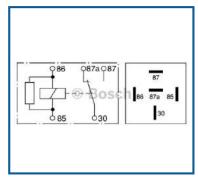
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	X	250.000	20A / 10A	24 V	4





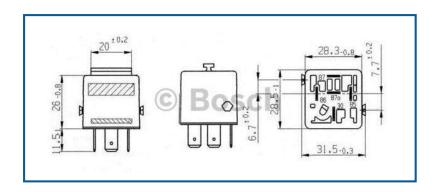


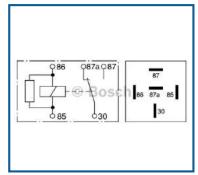
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
T-BAR	✓	X	250.000	20A / 10A	24 V	4





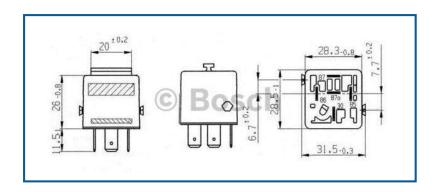


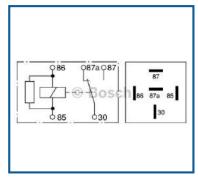
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
T-BAR	✓	X	250.000	20 A	24 V	4







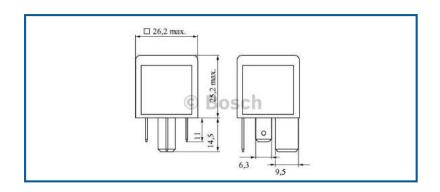
Back to general overview

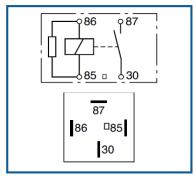


Mini Relays 12 V, 70 A 0 986 332 002

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	70 A	12 V	4







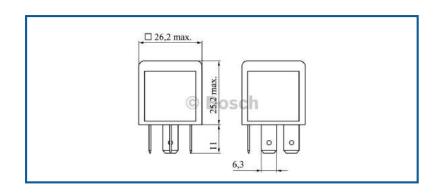
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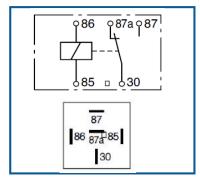


Mini Relays 12 V, 40A / 60A 0 986 332 022

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	100.000	40A / 60A	12 V	5







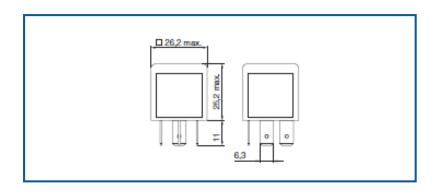
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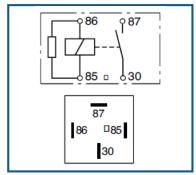


Mini Relays 12 V, 60 A 0 986 332 030

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	60 A	12 V	4







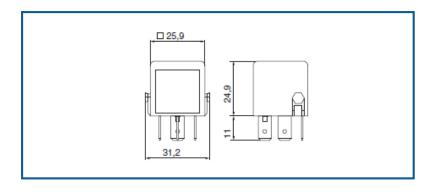
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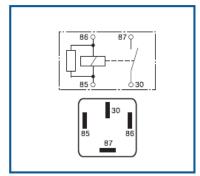


Mini Relays 12 V, 40 A 0 986 332 040

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	40 A	12 V	4







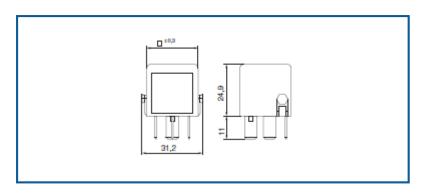
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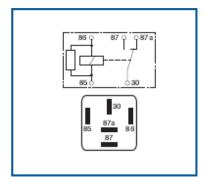


Mini Relays 12 V, 40 A 0 986 332 041

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	40 A	12 V	5







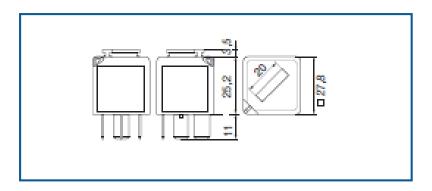
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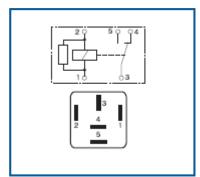


Mini Relays 12 V, 40/60 A 0 986 332 053

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	40 A	12 V	5







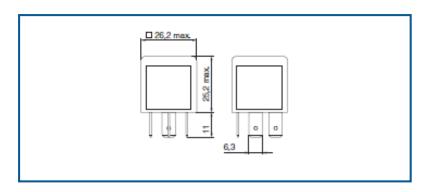
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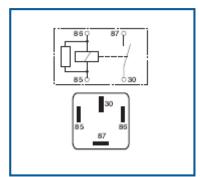


Mini Relays 12 V, 40 A 0 986 332 071

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	40 A	12 V	4







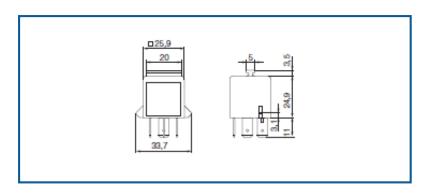
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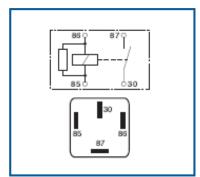


Mini Relays 12 V, 40 A 0 986 332 072

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	40 A	12 V	4







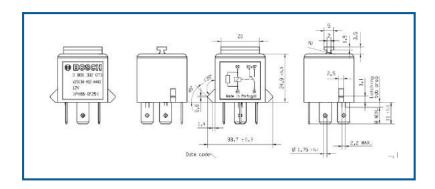
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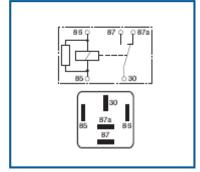


Mini Relays 12 V, 40/60 A 0 986 332 073

Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	40 A	12 V	5







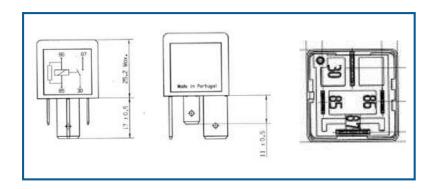
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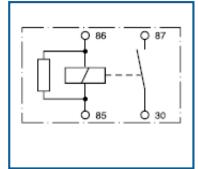


Mini Relays 24 V, 50 A 0 986 332 080

Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	200.000	50 A	24 V	4





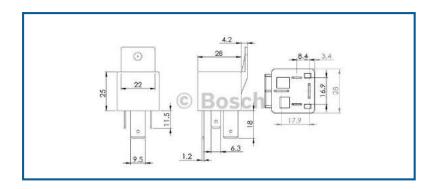


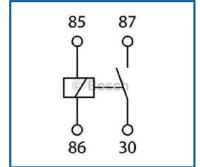
Back to general overview



Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	100.000	70 A	12 V	5





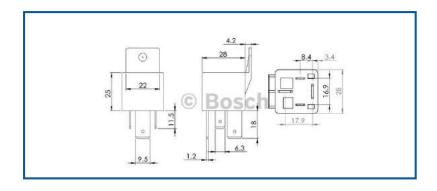


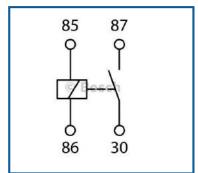
Back to general overview



Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	100.000	30 A	24 V	5





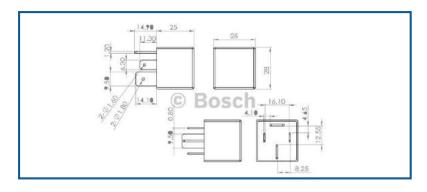


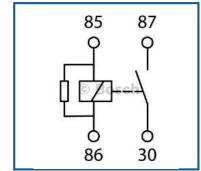
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	70 A	12 V	4





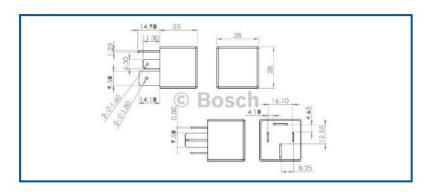


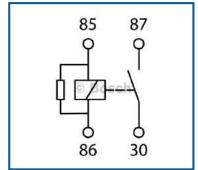
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	30 A	24 V	4





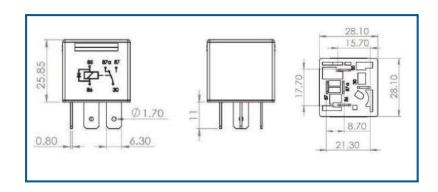


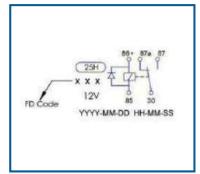
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	✓	50.000	50 A	12 V	5





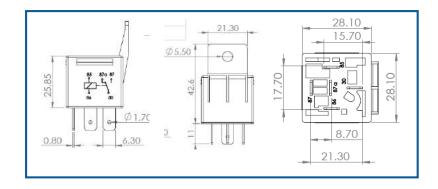


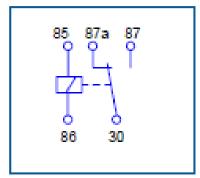
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	x	x	100.000	30 A	12 V	5





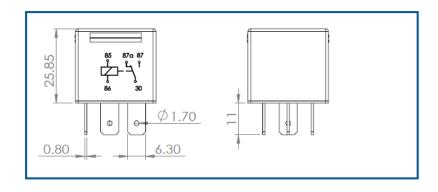


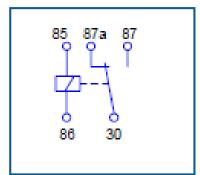
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	100.000	30 A	12 V	5







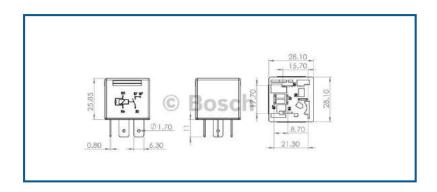
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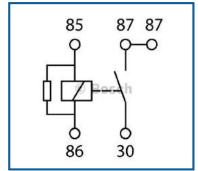


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	x	100.000	20 A	24 V	4





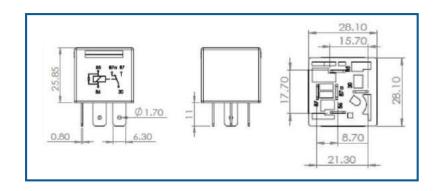


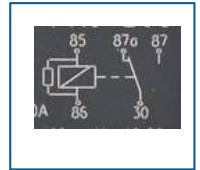
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	20 A	24 V	5





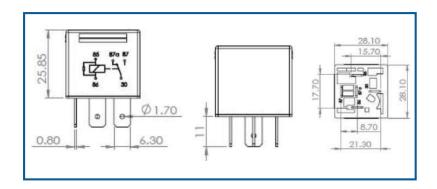


Back to general overview



Change	Normal	Normal
over	close	Open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	75.000	20 A	12 V	5







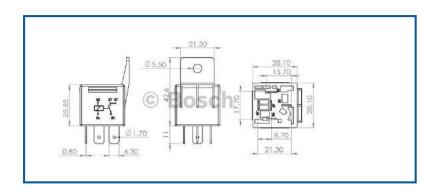
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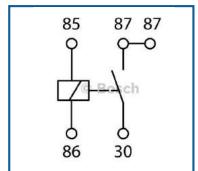


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mo br	unting acket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
	✓	X	X	100.000	30 A	12 V	5







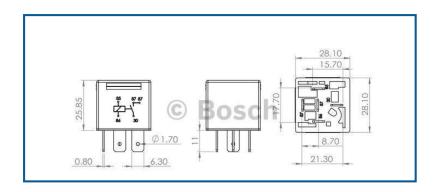
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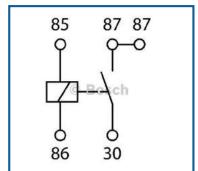


Change	Normal	Normal
over	close	open
		✓

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	x	100.000	30 A	12 V	5







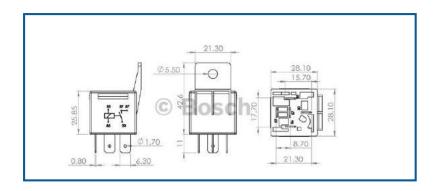
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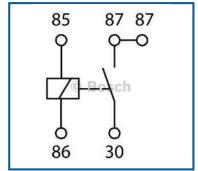


Change	Normal	Normal
over	close	open
		✓

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	x	x	100.000	20 A	24 V	5





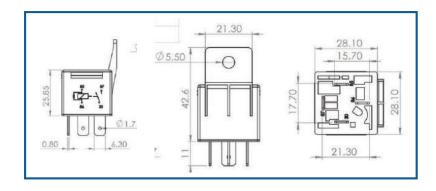


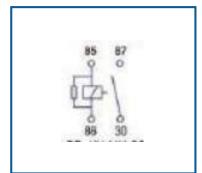
Back to general overview



Change	Normal	Normal		
over	close	open		
		✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	X	100.000	30 A	12 V	4







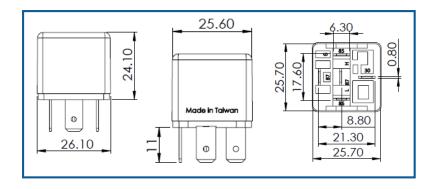
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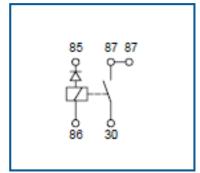


Change	Normal	Normal
over	close	open
		✓

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	x	✓	100.000	30 A	12 V	5







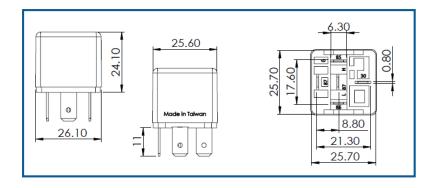
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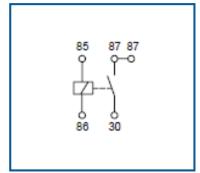


Change	Normal	Normal
over	close	open
		✓

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	x	x	100.000	20 A	24 V	5







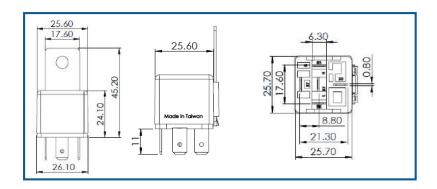
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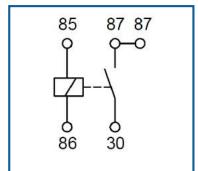


Change	Normal	Normal		
over	close	open		
		✓		

2 x 87 terminal

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	x	100.000	30 A	12 V	5





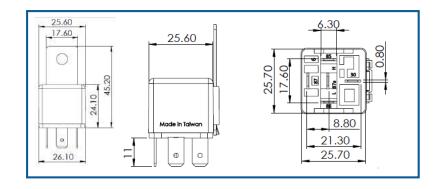


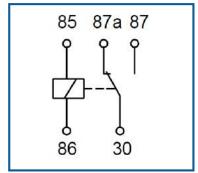
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	100.000	20/30 A	6 V	5





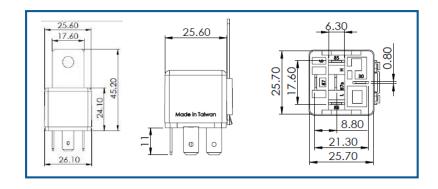


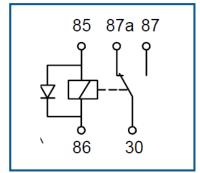
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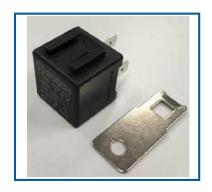


Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	x	✓	100.000	10 A	24 V	5





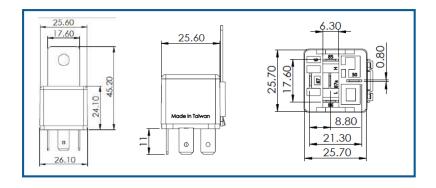


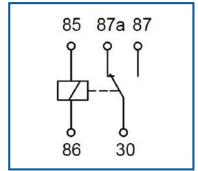
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	100.000	20 A	24 V	5





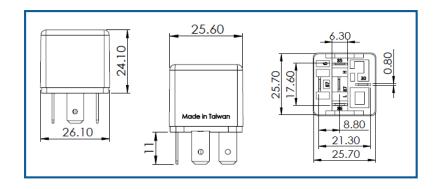


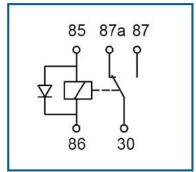
Back to general overview



Change	Normal	Normal		
over	close	open		
✓				

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	✓	100.000	20/10 A	24 V	5





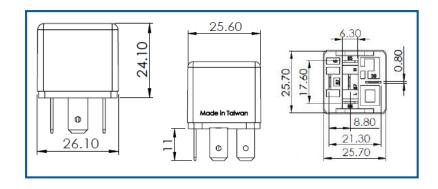


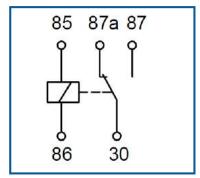
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	x	x	100.000	20 A	24 V	5





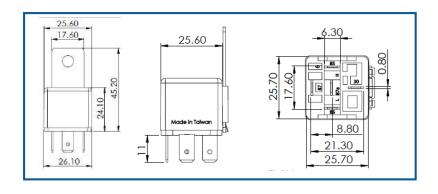


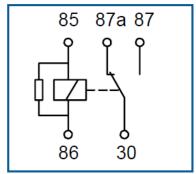
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	X	100.000	20/10 A	24 V	5





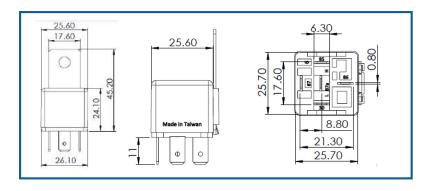


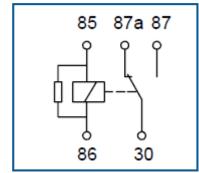
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	✓	x	100.000	30 A	24 V	5





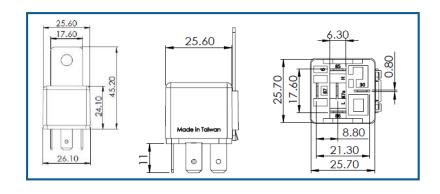


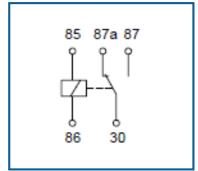
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	100.000	30 A	12 V	5





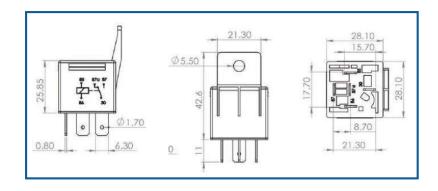


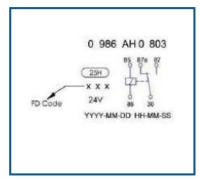
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
✓	X	X	100.000	20 A	24 V	5





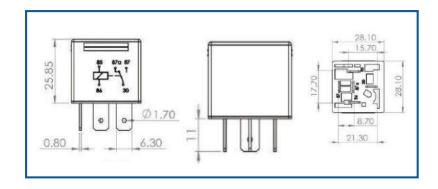


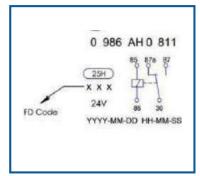
Back to general overview



Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	100.000	20 A	24 V	5







Back to general overview



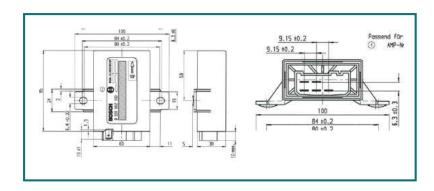
Starter Relays

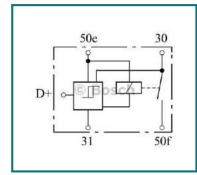
Slide 105 to 106



Starter Relays 12 V, 30 A 0 331 802 100

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	x	-	30 A	12 V





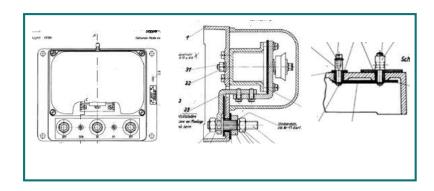


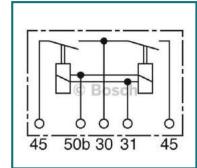
Back to general overview

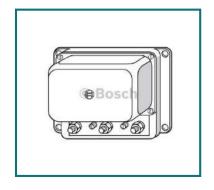


Double-Starting Relay 24 V 0 333 500 001

Mounting bracket	Resistor	Diode	Life durability	Dimensions	Voltage
X	X	X	-	232 x 180 x 45	24 V







Back to general overview



Battery Relays

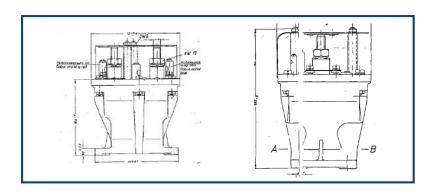
Slide 108 to 112

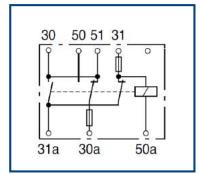


Battery Relays 12V, 75 A 0 333 300 003

Change	Normal	Normal
over	close	open
✓		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	20.000	75 A	12 V







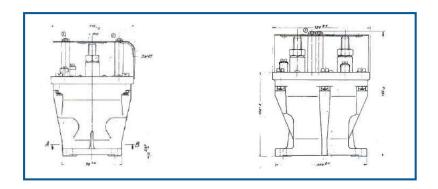
Back to general overview

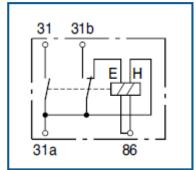


Battery Relays 12V, 60 A 0 333 301 007

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	20.000	60 A	12 V







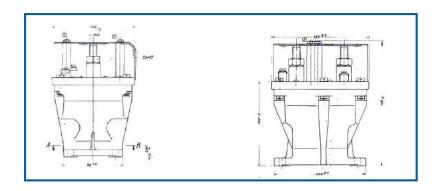
Back to general overview

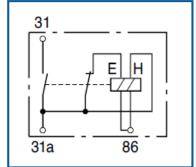


Battery Relays 24V, 200 A 0 333 301 009

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	20.000	200 A	24 V







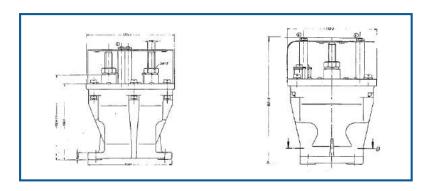
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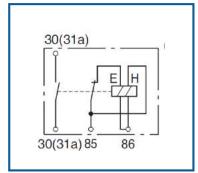


Battery Relays 24V, 300 A 0 333 301 010

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	20.000	300 A	24 V







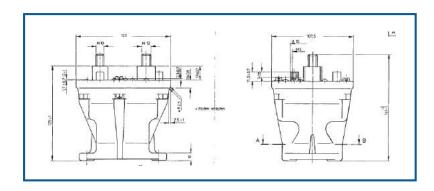
Back to general overview

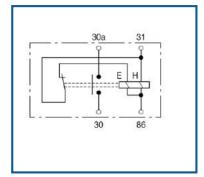


Battery Relays 24V, 200 A 0 333 301 015

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	20.000	200 A	24 V







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Lamp Relays

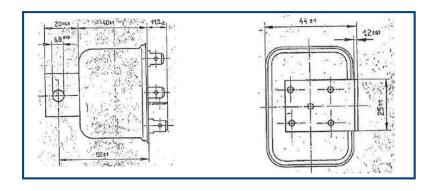
Slide 114 to 116

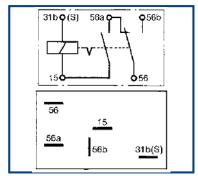


Headlamp Relays 12V 0 332 515 009

Change	Normal	Normal
over	close	open
✓		✓

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	X	X	-	150 W	12 V







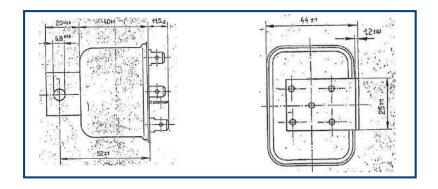
Back to general overview

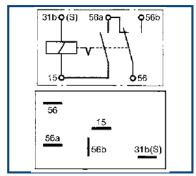


Headlamp Relays 24V 0 332 515 012

Change	Normal	Normal
over	close	open
✓		✓

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	X	x	-	150 W	24 V







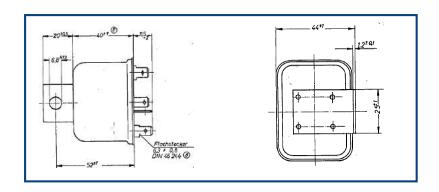
Back to general overview

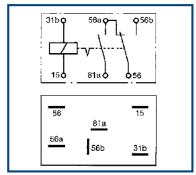


Headlamp Relays 12V 0 332 515 022

Change	Normal	Normal
over	close	open
✓		✓

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	X	X	-	150 W	12 V







Back to general overview



Power Relays

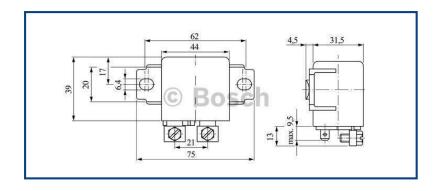
Slide 118 to 139

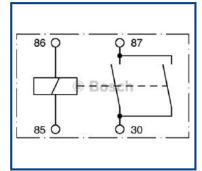


Change	Normal	Normal
over	close	open
		✓

Pre contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	X	125.000	75 A	12 V







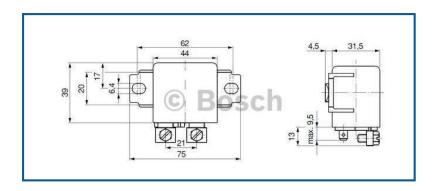
Back to general overview

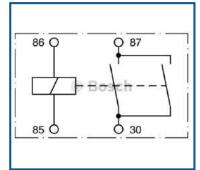


Change	Normal	Normal
over	close	open
		✓

Pre contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	100.000	75 A	12 V





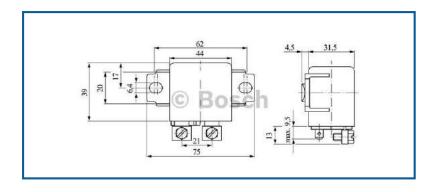


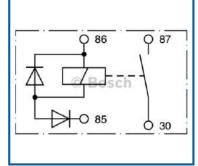
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	✓	100.000	75 A	12 V







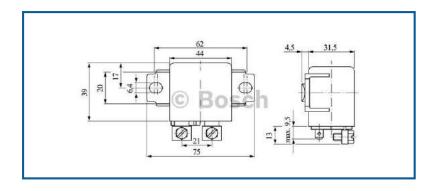
Back to general overview

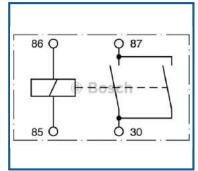


Change	Normal	Normal
over	close	open
		✓

Pre contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	X	100.000	75 A	12 V





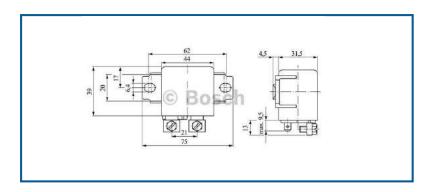


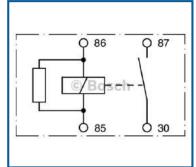
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	✓	X	125.000	75 A	12 V





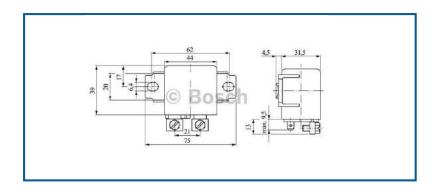


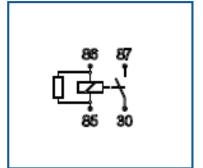
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	✓	X	75.000	75 A	12 V







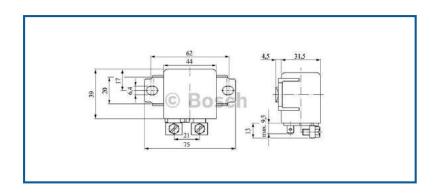
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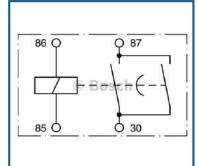


Change	Normal	Normal
over	close	open
		✓

Pre contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	X	100.000	50 A	24 V







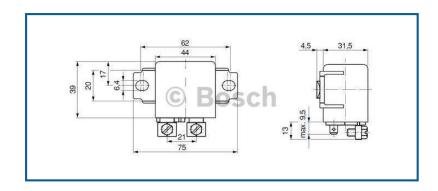
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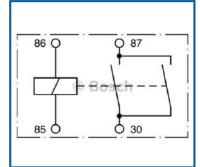


Change	Normal	Normal
over	close	open
		✓

Pre contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	X	100.000	50 A	24 V





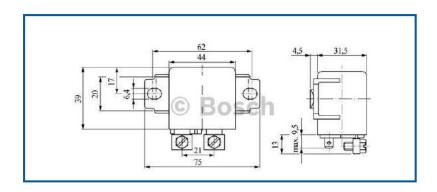


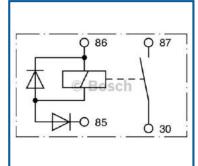
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	✓	50.000	50 A	24 V





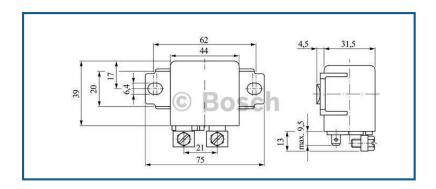


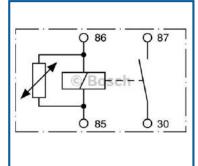
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	✓	X	50.000	50 A	24 V





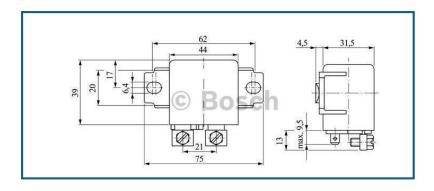


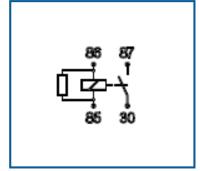
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	✓	X	50.000	50 A	24 V







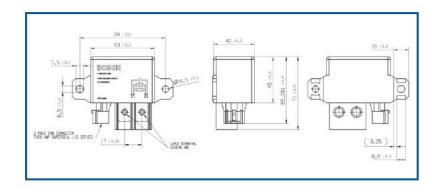
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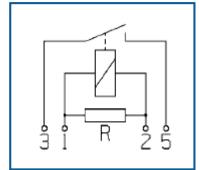


Power Relays 12 V, 150 A 0 986 332 086

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	✓	X	100.000	150 A	12 V







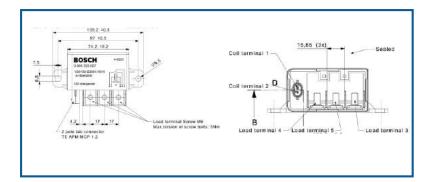
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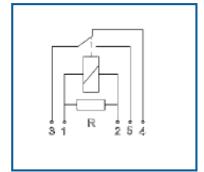


Power Relays 12 V, 150 A 0 986 332 087

Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	✓	X	100.000	150 A	12 V







Back to general overview

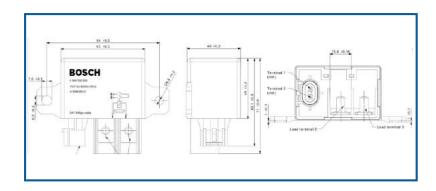


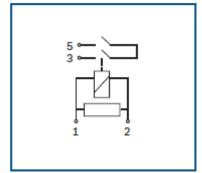
Power Relays 24 V, 150 A 0 986 332 091

Change	Normal	Normal
over	close	open
		✓

2 x make contact

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	✓	X	100.000	150 A	24 V







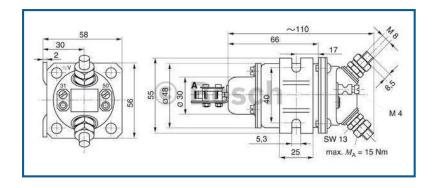
Back to general overview

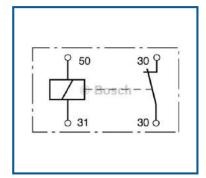


Power Relay 12 V, 80 A 0 333 006 004

Change	Normal	Normal
over	close	open
	✓	

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	12 V	80 A







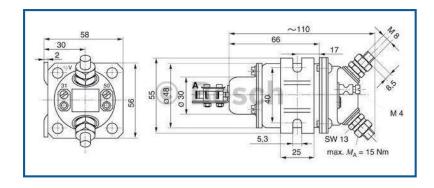
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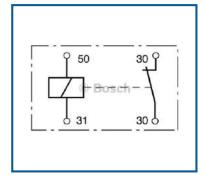


Power Relay 24 V, 80 A 0 333 006 006

Change	Normal	Normal
over	close	open
	✓	

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	24 V	80 A







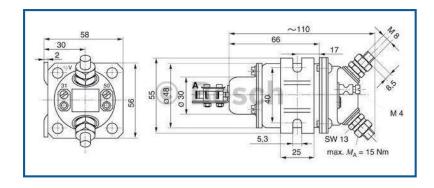
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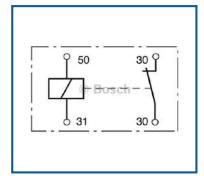


Power Relay 24 V, 100 A 0 333 006 008

Change	Normal	Normal
over	close	open
	✓	

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	24 V	100 A





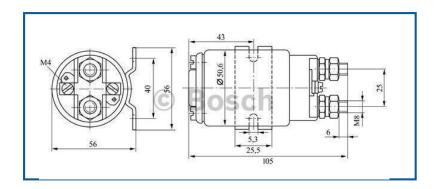


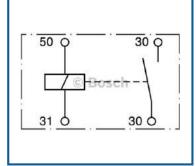
Back to general overview



Change	Normal	Normal
over	close	open
		✓

M ₀	ounting oracket	Resistor	Diode	Life durability	Current	Voltage
	✓	-	-	100.000	24 V	150 A







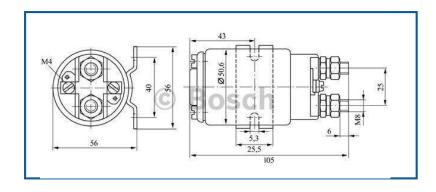
Back to general overview

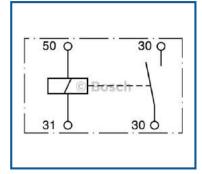


Power Relay 12 V, 150 A 0 333 009 004

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	12 V	150 A





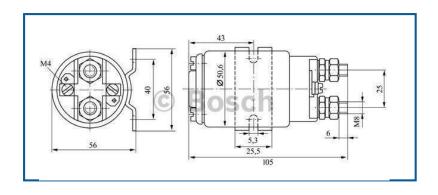


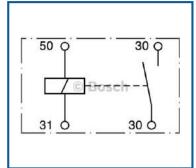
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	24 V	150 A





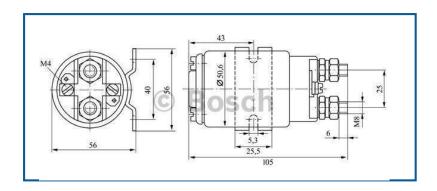


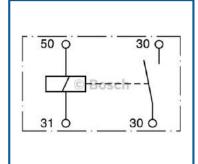
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	24 V	150 A







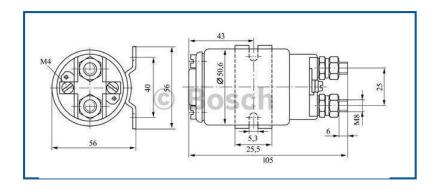
Back to general overview

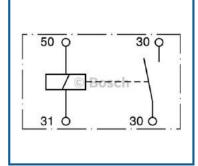


Power Relay 12 V, 150 A 0 333 009 010

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	12 V	150 A





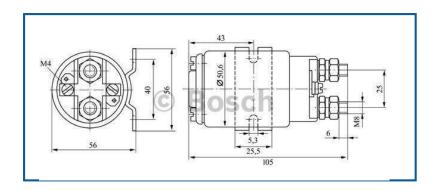


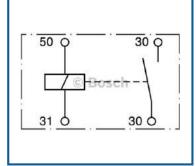
Back to general overview



Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	24 V	150 A







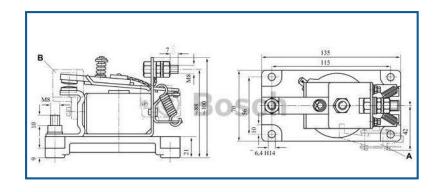
Back to general overview

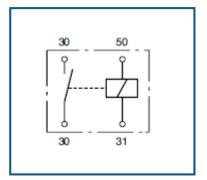


Power Relay 80 V, 230 A 0 333 200 013

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	100.000	230 A	80 V







Back to general overview

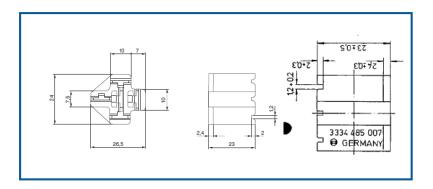


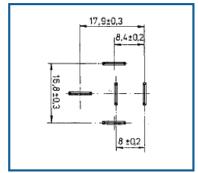
Sockets

Slide 141 to 147



Mount brack	ing et	Resistor	Diode	Life durability	Current	Voltage
X		X	X	-	-	12 V/24 V



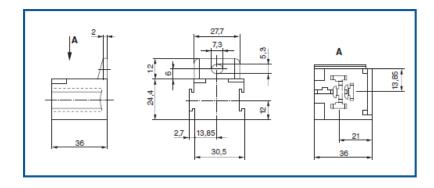


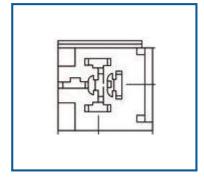


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Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	X	-	-	12V/24V



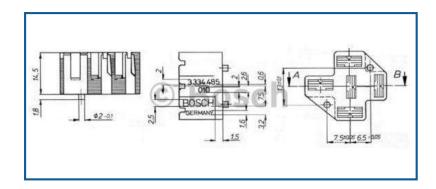


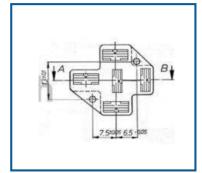


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Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	-	-	12/24 V



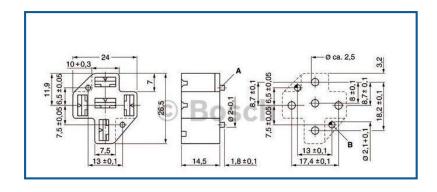


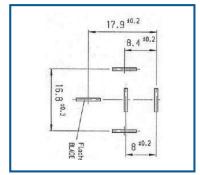


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N	lounting bracket	Resistor	Diode	Life durability	Current	Voltage
	X	X	X	-	-	12/24 V



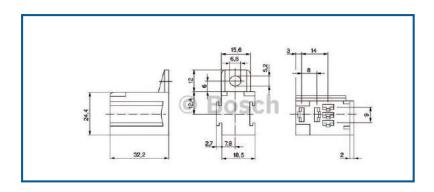


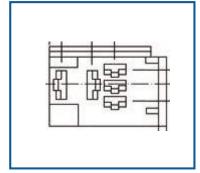


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Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	X	X	-	-	12/24 V



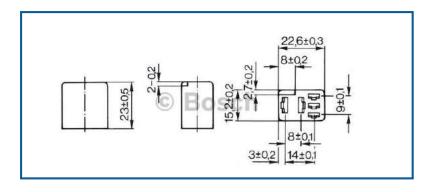


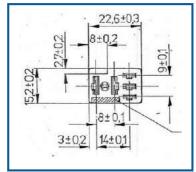


Back to general overview



Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	-	-	12/24 V



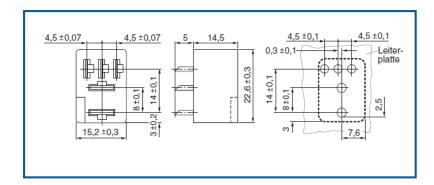


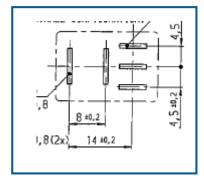


Back to general overview



Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	X	X	-	-	12/24 V







Back to general overview



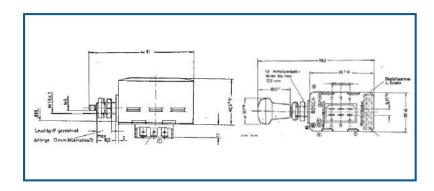
Hazard-warningsignal flasher

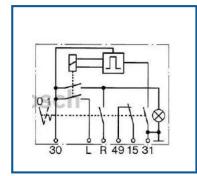
Slide 149 to 151



Hazard-warning-signal flasher 24V 0 336 900 000

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	X	X	-	8x 21 W	24 V





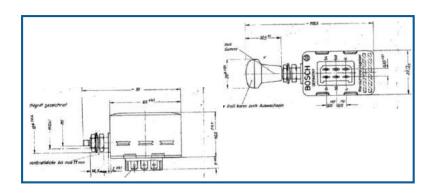


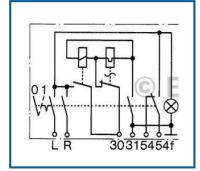
Back to general overview



Hazard-warning-signal flasher 12V 0 336 851 008

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	X	X	-	8x 21 W	12 V





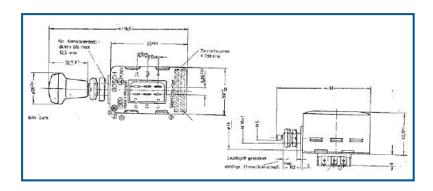


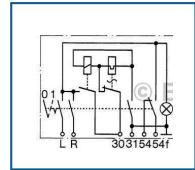
Back to general overview



Hazard-warning-signal flasher 12V 0 336 851 004

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	X	X	-	8x 21 W	12 V







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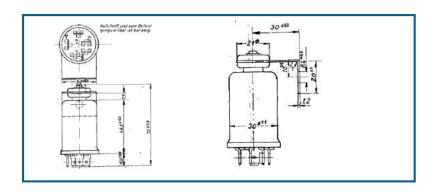
Hot-wire Flashers

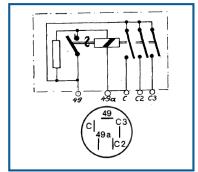
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Turn-Signal Flasher 12 V 0 336 208 001

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2+1+ 1x21 W	12 V





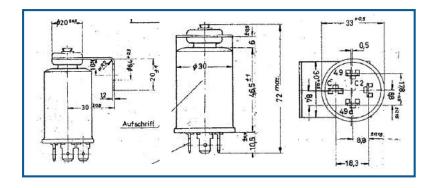


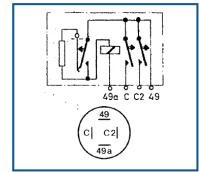
Back to general overview



Turn-Signal Flasher 12 V 0 336 207 006

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2+ 1x21 W	12 V





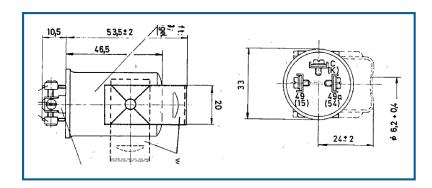


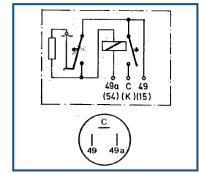
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Turn-Signal Flasher 6 V 0 336 206 004

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2x 21 W	12 V





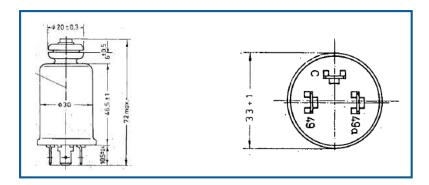


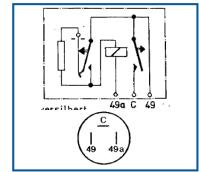
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Turn-Signal Flasher 6 V 0 336 206 003

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2 x 21W	6 V





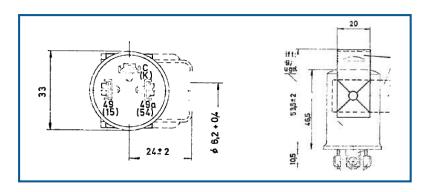


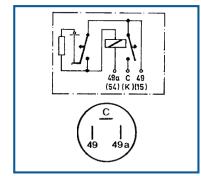
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Turn-Signal Flasher 6 V 0 336 203 006

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	✓	X	-	2 x 18W	6 V





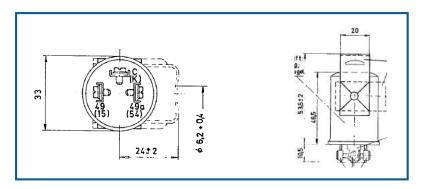


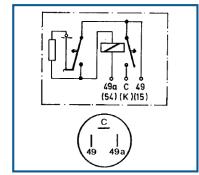
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Turn-Signal Flasher 12 V 0 336 203 005

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2x 18W	12 V





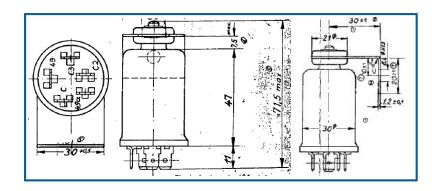


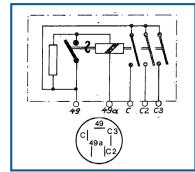
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Turn-Signal Flasher 12 V 0 336 202 001

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2+1+ 1x 18W	12 V





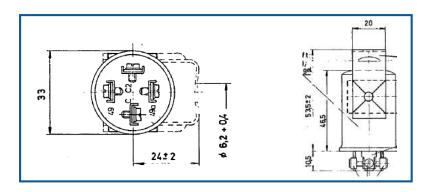


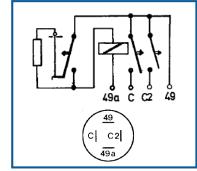
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Turn-Signal Flasher 24 V 0 336 200 051

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2+ 1x 18W	24 V





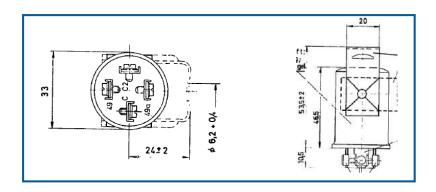


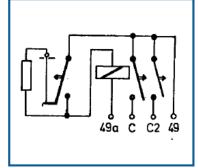
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Turn-Signal Flasher 12 V 0 336 200 049

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2+ 1x 18 W	12 V





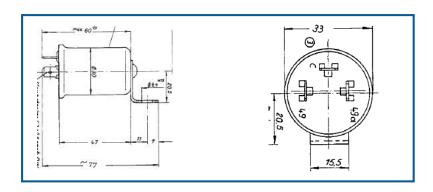


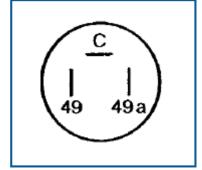
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Turn-Signal Flasher 24 V 0 336 200 047

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	X	X	-	3x 18 W	24 V





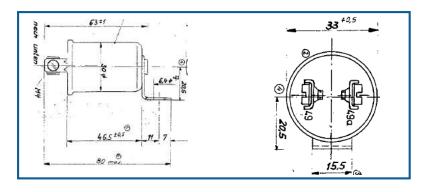


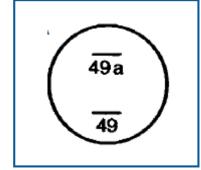
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Turn-Signal Flasher 6 V 0 336 101 004

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	X	X	-	1x 15W/18W	6 V







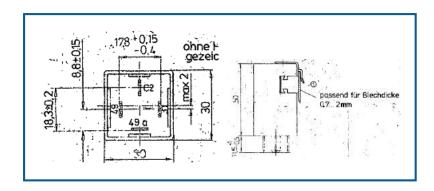
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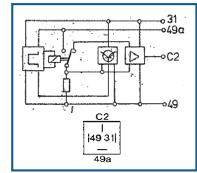


Electronic hazard-warning and turn-signal flashers 12 V

0 335 200 041

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	✓	-	2+ 1(6) x 21 W	12 V







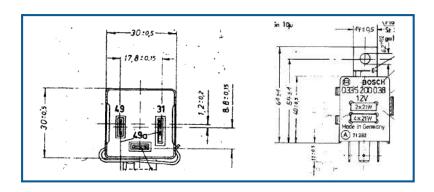
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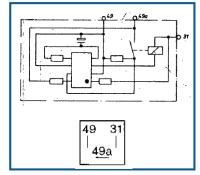


Electronic hazard-warning and turn-signal flashers 12 V

0 335 200 038

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	✓	X	-	2 (4)x 21 W + 0-4 W	12 V







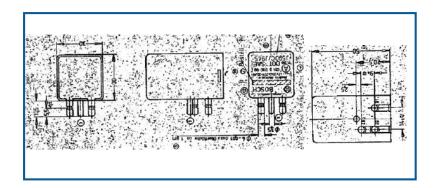
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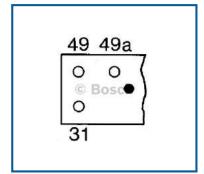


Electronic hazard-warning and turn-signal flashers 12 V

0 335 200 007

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	w/w	w/w	-	2(4) x 21W + 2W	12 V







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Others

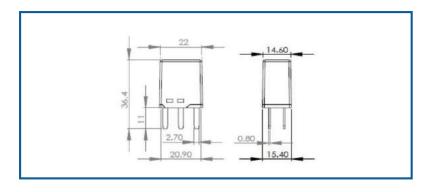
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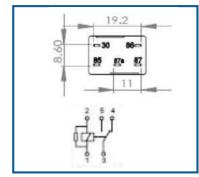


Micro Relay (GM Footprint) 12 V,30/10 A 0 986 AH0 113

Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	30/10 A	12 V	5







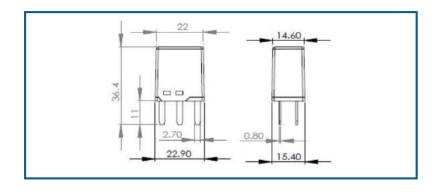
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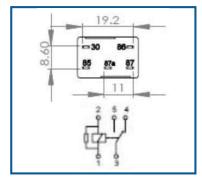


Micro Relay (GM Footprint) 24 V, 10/5 A 0 986 AH0 114

Change	Normal	Normal
over	close	open
✓		

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	10/5 A	24 V	5







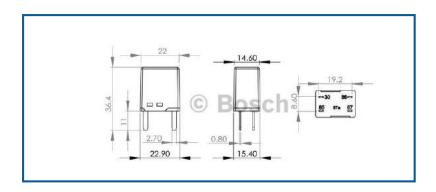
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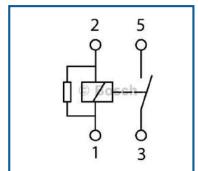


Micro Relay (GM Footprint) 12 V, 30 A 0 986 AH0 115

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	30 A	12 V	4







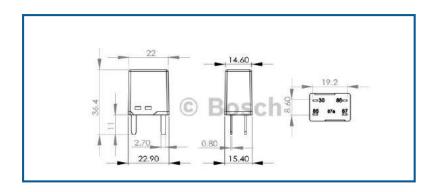
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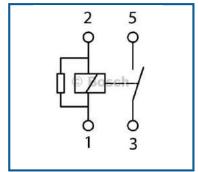


Micro Relay (GM Footprint) 24 V, 10 A 0 986 AH0 116

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	✓	X	100.000	10 A	24 V	4





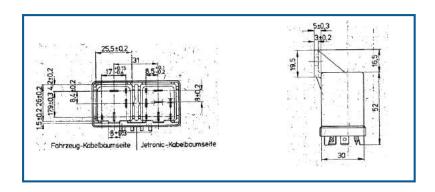


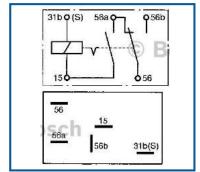
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Fuel pump Relays 12V, 15 A 0 332 514 121

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	-	15 A	12 V





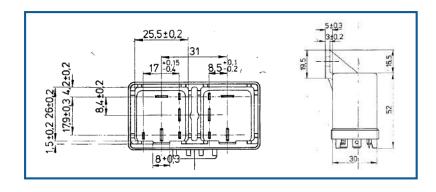


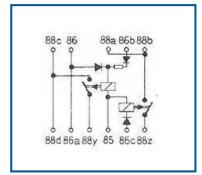
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Fuel pump Relays 12V, 15 A 0 332 514 120

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
✓	-	-	-	15 A	12 V







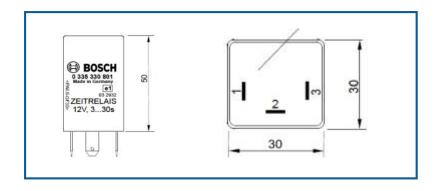
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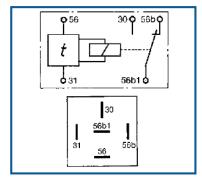


Time-lag Relay 12 V, 10A / 15A 0 335 330 801



Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	-	-	-	10 A / 15 A	12 V







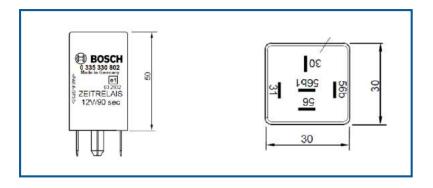
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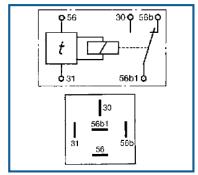


Time-lag Relay 12 V, 20 A / 25 A 0 335 330 802



Mounting bracket	Resistor	Diode	Life durability	Current	Voltage
X	-	-	-	20 A / 25 A	12 V





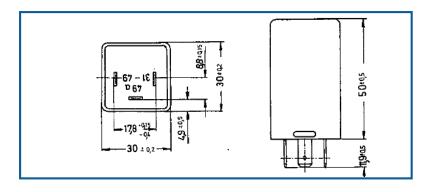


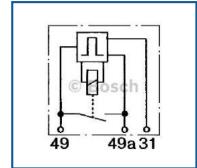
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Pulse Generator 24 V 0 335 323 003

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	-	-	-	50 W	24 V





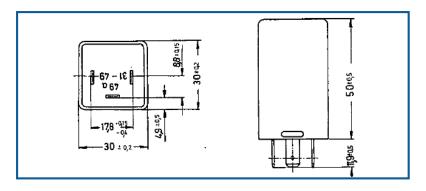


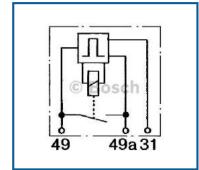
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Pulse Generator 24 V 0 335 323 001

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	-	-	-	50 W	24 V







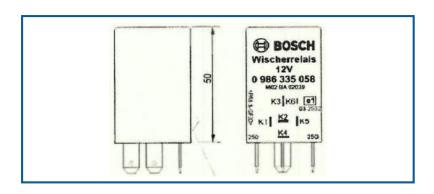
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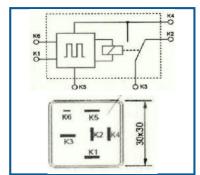


Pulse Generator 12 V, 20 A 0 986 335 058

Change	Normal	Normal
over	close	open
		✓

Mounting bracket	Resistor	Diode	Life durability	Current	Voltage	Number of Pins
X	X	X	75.000	20 A	12 V	6





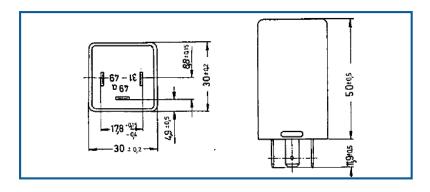


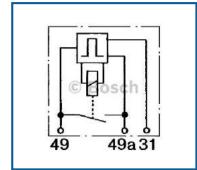
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Pulse Generator 12 V 0 335 322 001

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	-	-	-	50 W	12 V



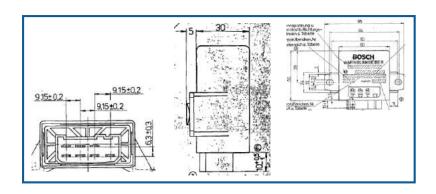


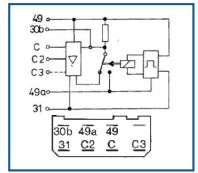


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+1+1(8)x 21 W	24 V



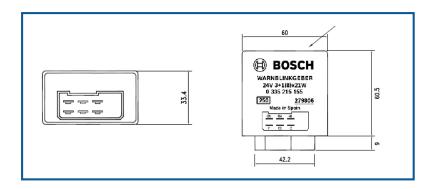


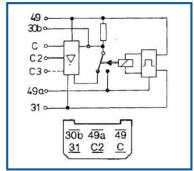


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
X	-	-	-	3+1(8)x 21 W + 2-4W	24 V



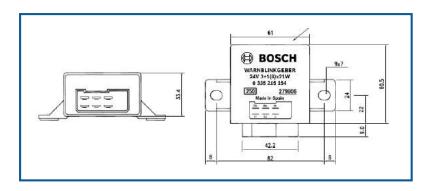


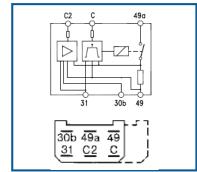


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	3 + 1(8)x 21 W	24 V



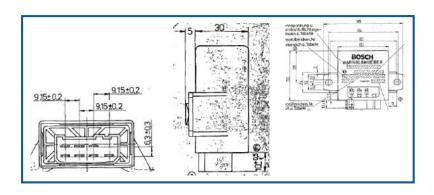


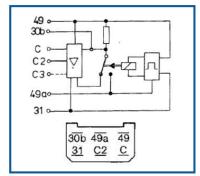


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+1(6)x 21 W + 1,2-2W	24 V



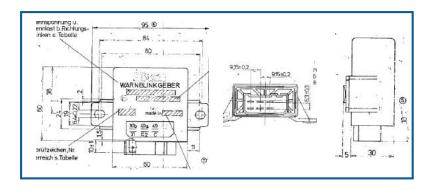


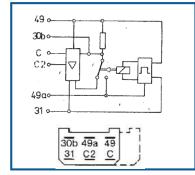


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+1(6)x 21 W + 5 W (10W)	24 V



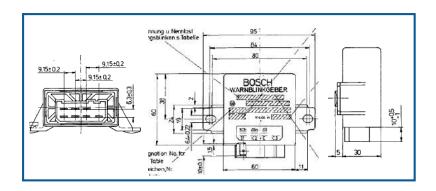


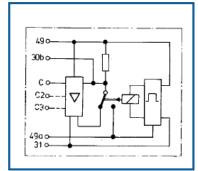


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+1(6)x 21 W	24 V



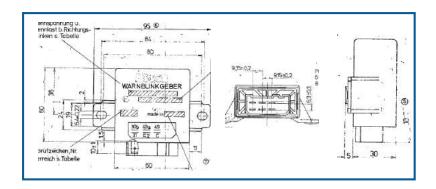


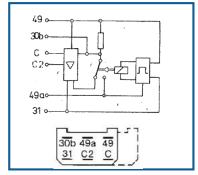


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	4(8)x 21 W + 2-4 W	24 V



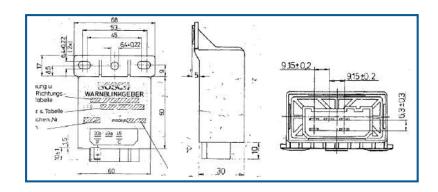


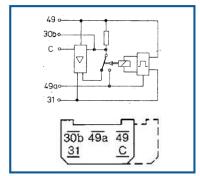


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	3(6)x 21 W + 2-4W	24 V



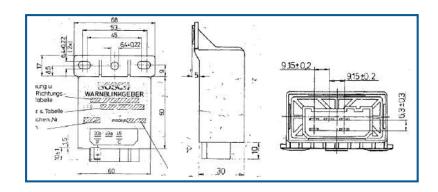


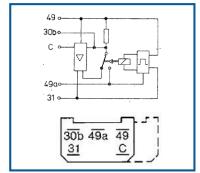


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2(4)x 21 W + 2-4W	24 V



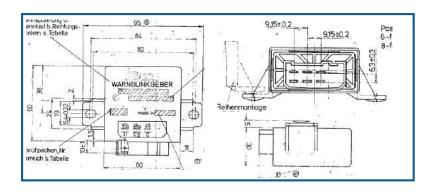


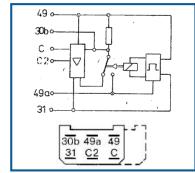


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2 + 1(6)x 18 W	24 V



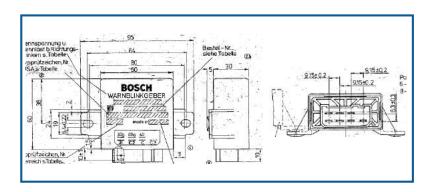


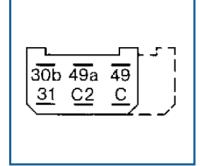


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+1+1(8)x 21 W	12 V



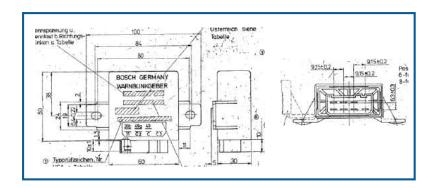


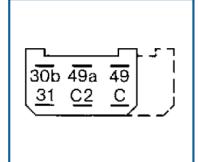


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	3+ 1(8)x 21 W	12 V



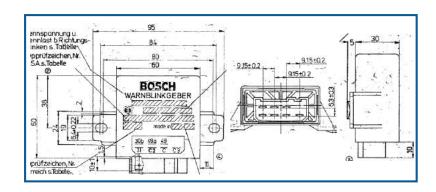


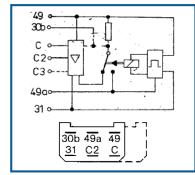


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Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+ 1(6)x 21 W	12 V







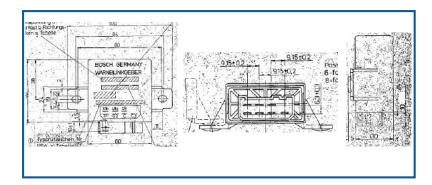
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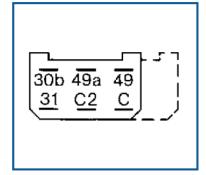


Electronic hazard-warning and turn-signal flashers 12 V

0 335 210 143

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+ 1(6)x 21W	12 V







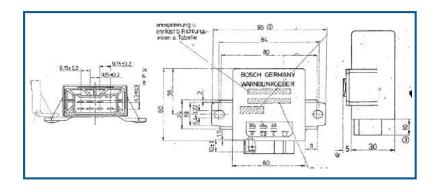
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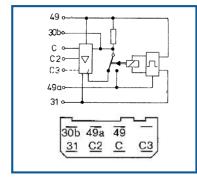


Electronic hazard-warning and turn-signal flashers 12 V

0 335 210 063

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+1+1 (8)x18 W	12 V







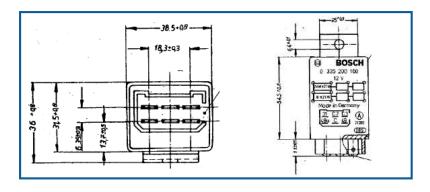
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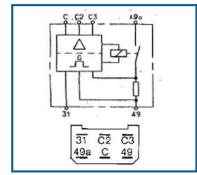


Electronic hazard-warning and turn-signal flashers 12 V

0 335 200 160

Mounting bracket	Resistor	Diode	Life durability	Load	Voltage
✓	-	-	-	2+1 + 1(8)x 21W+ 1,2 - 2W	12 V







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Bosch Relays: Quick Application Guide



Invented for life



Product Number	Voltage V	Current	Brackets ¹⁾	Type 4 S/W/O	Component A R/D/o/V	Circuit Diagram/ Coemection Diagram
0 332 011 007	12	30	0	S	R	8 / 23
0 332 201 107	12	30	0	W	R	10 / 24
0 332 207 402	24	10	0	W	D	9 / 24
0 332 207 405	24	10	0	W	R	10 / 24
0 332 019 150	12	50	L	S, 2x87	0	1 / 19
0 332 019 110	12	50	L	S	R	3 / 20
0 332 019 151	12	50	0	S. 2x87		1 / 19
0 332 019 157	12	40	L	S	0	2 / 20
0 332 019 203	24	40	L	S, 2x87	0	1 / 19
0 332 019 205	24	40	0	S	0	2 / 20
0 332 109 011	12	20	0	٥	R	7 / 22
0 332 209 150	12	50	L	W	0	4 / 21
8 0 332 209 151	12	50	0	W	0	4 / 21
0 332 209 152	12	50	0	W	D	6 / 21
8 0 332 209 203	24	40	L	W	0	4 / 21
0 332 209 204	24	40	0	W	D	6 / 21
0 332 209 206	24	40	0	W	R	5 / 21
0 332 209 211	24	40	0	W	0	4 / 21
0 332 204 202	24	20	0	W, kl. B.	0	4 / 21
0 332 204 203	24	20	L	W. kl. B.	0	4 / 21
0 332 204 204	24	20	0	W, kl. B.	D	6 / 21
0 332 002 192	12	50	L	S	R	3 / 20
8 0 332 002 270	24	70	L	S	V	11 / 20
0 332 002 150	12	75	L	S	V	11 / 25
0 332 002 156	12	75	L	S	D	12 / 25
0 332 002 250	24	50	L	S	V	11 / 25
0 332 002 256	24	50	L	S	D	12 / 25

3 334 485 007	12/24	0	13
3 334 485 008	12/24	L	14
3 334 485 041	12/24	for soldering	15
Socket For Micr	o Relays		
3 334 485 045	12/24	L	16
3 334 485 046	12/24	0	17
3 334 485 049	12/24	for enlating	1.9

\$\tilde{g}\$ L = with mounting to scheap, 0 = without mounting that details
\$\text{3}\$ L = with any and \text{2}\$ \text{3}\$ \text{2}\$ \text{3}\$ \text{4}\$ \text{3}\$ \text{3}\$ \text{3}\$ \text{3}\$ \text{3}\$ \text{3}\$ \text{3}\$ \text{3}\$ \text{4}\$ \text{3}\$ \text{3}\$ \text{4}\$ \text{3}\$ \text{4}\$ \text{3}\$ \text{5}\$ \text{6}\$ \text{5}\$ \text{7}\$ \text{6}\$ \text{6}\$ \text{7}\$ \text{6}\$ \text{7}\$ \te

Cor	nection (diagram
0	-	* FI * FI
9	4	®
•	\$	(F)
(9)	8	@ (2)
0	0	®F
•	-	®

