

Hella Electrics:

Relays, Horns and Switches



Horns have a long tradition at Hella. Hella has been developing and manufacturing acoustic signal units on the highest technical level for almost 100 years.

A distinction is made between signal horns, Supertone horns, electric two-tone fanfares and compressor or pneumatic fanfares.

Signal horns make a relative hard sound which is radiated mainly focused forwards. This achieves good penetration of the traffic noise over a great distance. The sound pattern is best as a set with one high and one low tone.

Supertone horns are particularly suitable for extreme conditions since they have a greater penetration force on account of their size and more powerful electrical drive.

Electric two-tone fanfares have a full, harmonic sound. The broad sound radiation cannot be overheard even at junctions.

Compressor fanfares have an energetic double or triple sound achieved by a maintenance-free compressor.

Pneumatic fanfares are characterized by a penetrating, voluminous sound. This is generated via the vehicle pneumatic brake system.

Quality is extremely important at Hella. Safety products such as horns and fanfares demand top precision and reliability. Hella products not only comply with the strict legal regulations but also with the much more demanding requirements made by vehicle manufacturers and the aftermarket.



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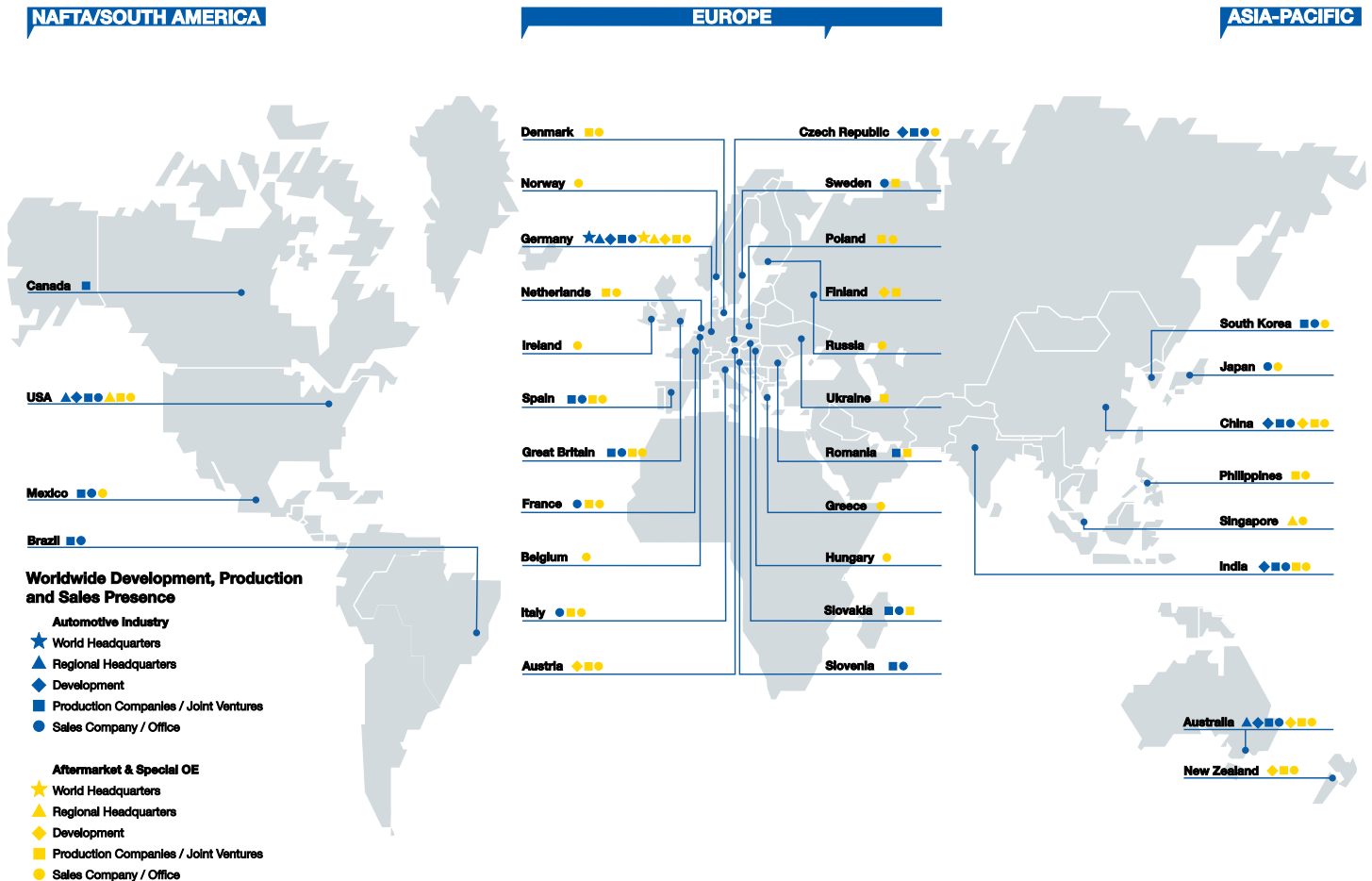
Hella Worldwide

Hella is a globally positioned, independent family-owned company with 23,000 employees at 70 locations in more than 30 countries. The Hella Group develops and manufactures lighting and electronic components and systems for the automotive industry, and still has one of the world's largest trade organizations for automotive parts, accessories, diagnosis and services. Complete vehicle modules, air-conditioning systems and vehicle electrical systems are produced in joint venture companies. With more than 3,200 people working in research and development, Hella is one of the most important innovation drivers in the market. In addition, with sales of 3.3 billion Euros in fiscal year 2008/09, the Hella Group is one of the Top 50 automotive parts suppliers in the world and one of the 100 largest German industrial companies.

Ideas today for the cars of tomorrow

Hella exploits synergies to the advantage of vehicle manufacturers, thanks to Hella's expertise in the fields of lighting and electronics and thanks to intelligent network partnerships with strategic suppliers. This offers customers the benefits of a flexible, medium-sized company and comprehensive technological solutions.

Thanks to an intelligent network strategy with suppliers, Hella is creating added value for vehicle manufacturers. It therefore offers vehicle manufacturers an attractive alternative to mega suppliers in terms of innovative ability and global presence.



Hella Automotive Electronics

Hella Automotive Electronics is Hella's world class relay manufacturing facility located in Xiamen, China. Opened in 2003 and 100% Hella owned since January 2009, Hella Automotive Electronics is Hella's global central resource for the design and production of electromechanical relays including some of our most popular products:



Hella, Inc. is the Hella sales and distribution company serving the USA, Canada, and the Caribbean. We are a world-class supplier to the automotive aftermarket, marine, and heavy-duty accounts. Hella, Inc. is also the primary marketing arm of Hella and Behr Hella Service in the USA and Canada. Marketing activities include print media, online support, trade shows, and motorsports activities. With experience as an original equipment supplier and knowledge in the European aftermarket, Hella's sales force is able to offer a service of excellence in the NAFTA region. For over 25 years Hella, Inc. has been offering German engineering with American pride to the U.S.A.

www.hellausa.com

Actuation time:

Time between switching on the power until the contacts are closed with certainty. This includes the chatter time.

Armature return force:

Force with which the contacts are pulled apart when opening measured at the center of the contact surface.

Contact force:

Force with which the closed contacts are pressed against another measured at the center of the contact surface.

Contact gap:

Air space between open contacts.

Continuous current:

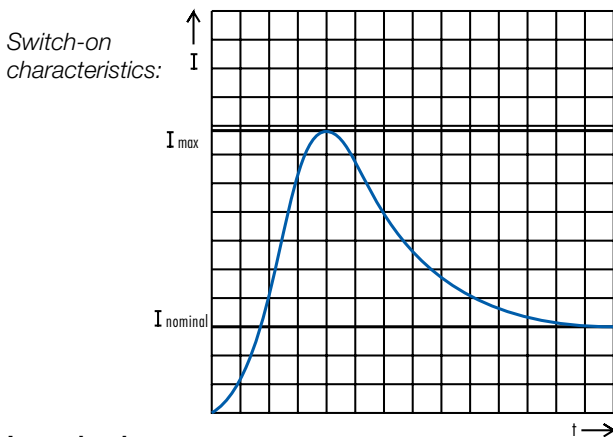
Current load through the relay which can flow continuously without damaging the relay.

Erosion margin:

Excess travel is the distance the armature moves after closing the contacts before making contact with the solenoid core measured at the contacts.

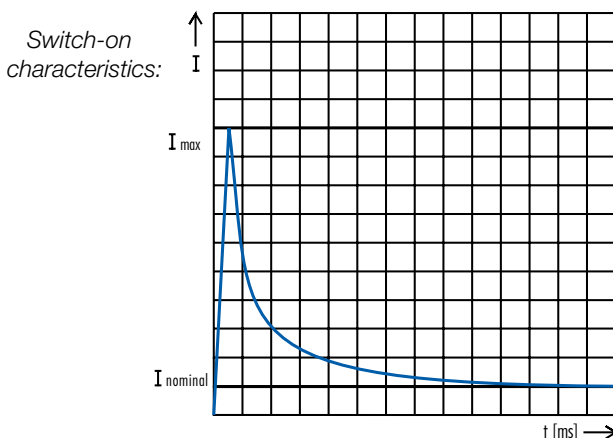
Inductive load (motor):

The switch-on current increases rapidly up to a multiple of the rated current and then flattens out to the rated current (e.g. when fan motor starts running). When switched off a voltage of up to several thousand volts can be induced leading to an arc between the relay contacts as they begin to open.



Lamp load:

The switch-on current can be up to 10 times the rated current when the lamps are cold (e.g. headlamps, glow plugs).



Mechanical service life:

Service life of relay without electrical load on contacts, the coil is actuated with 10 rectangular pulses per second for testing.

Operating voltage:

Voltage range in which the relay operates reliably at the specified temperature.

Permissible ambient temperature:

Temperature range in which the relay fulfills the specified data and operates continuously without damage.

Protective system IP 5K4K:

Hella relays are protected against unintentional contact, are splash-proof and fulfill the requirements for protective system IP 5K4K to DIN 40 050 when installed upright with the flat plugs pointing down.

Pull-in voltage:

Voltage on the coil at which the relay moves from the non-actuated position to the operating position (operating contacts closed – armature pulls in).

Rated voltage:

Voltage of vehicle electrical system, 12V or 24V .

Release time:

Time between switching off the coil current until the contacts open with certainty. This includes the chatter time.

Release voltage:

Voltage on the coil at which the relay returns from the operating position to the non-actuated position (armature is released). See pull-in voltage.

Resistive load:

The current is approximately the same from the time it is switched on until it is switched off (e.g. rear window defroster or mirror defroster).

Storage temperature:

Temperature range in which the relay can be stored without damage.

Switch-on current (inrush):

Load current flowing through the relay contacts immediately after closing.

Test temperature:

Temperature at which the service life and environmental tests are performed.

Test voltage:

Voltage at which the service life and environmental tests are performed.

Voltage drop:

Voltage loss in relay with load current applied and contacts closed measured at a load current of 10A between flat plugs of load circuit.

Winding/contact test voltage:

Voltage maintained between excitation and load circuit and between open flat plugs in load circuit up to electrical separation.

What is a relay?

Briefly: a remote-control switch in which an electro-magnetically produced force operates the contacts through which the main power current flows.

Why use a relay?

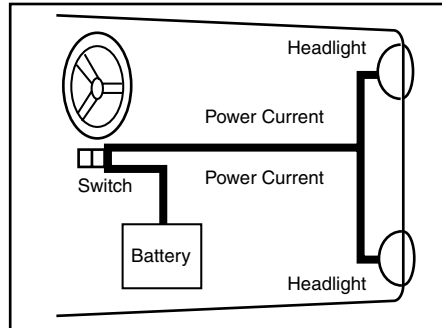
Leads are resistances. Resistances cause voltage drop, which means that consumer performance is reduced.

One of the basic rules of electricity states that the electrical resistance of a lead depends on its length and cross-sectional area. The longer and thinner it is, the greater the resistance will be. Higher resistance means less voltage at the far end of the lead, i.e. where the power user is. If the power user is a bulb, a little less voltage will mean a lot less light, as illustrated in the table below:

Operating voltage*		Luminous intensity
100%	=	100%
95%	=	83%
90%	=	67%
85%	=	53%
* 100% = 6.75 volts or 100% = 13.5 volts or 100% = 27 volts		

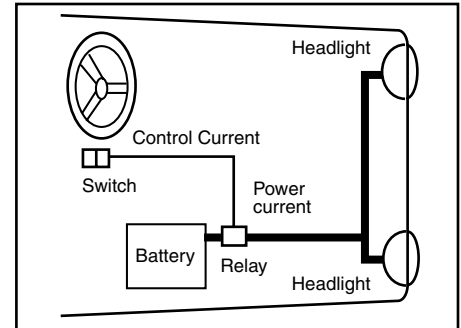
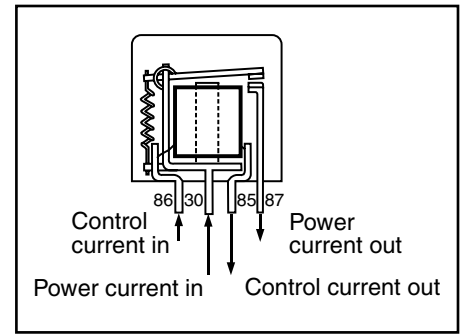
Important:

The importance of optimum operating current and the negative effect voltage drop can have, e.g. on the luminous intensity of a bulb, can be seen from the table above.



Not good:

Power current must travel from battery to headlamps - via the dashboard switch using large gauge cable. Result: voltage drop causing reduction in headlamp performance. Possible overloading of switch.

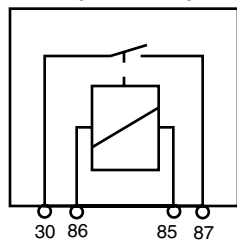


The best solution:

The power current is routed over the shortest distance between battery and headlamp via the relay. A control current lead of only 0.75 sq. mm (current consumption for this lead less than 150 mA!) is required between dashboard switch and relay. Result: practically the whole power current reaches the consumer.

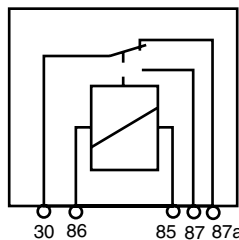
What sorts of relays are there?

1. The normally-open relay: 1 Form A (SPST-NO)



A normally-open relay closes an electrical circuit when current is passed through its coil. Normally-open relays are required for all types of vehicle lighting, horns, fanfares, heating circuits, fan motors and air-conditioning equipment.

2. The change-over relay: 1 Form C (SPDT)



A change-over relay switches current from one user to another. Change-over relays are used for switching from the horn to the fanfare, from forward to backward movement of the sliding roof, from opening to closing electrically operated windows and for two-stage users such as fans and some rear window heating systems.

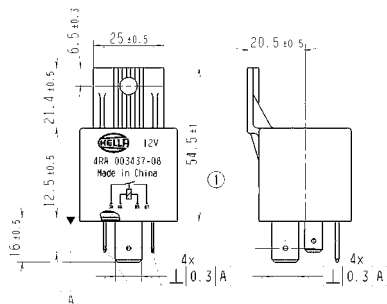
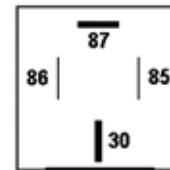
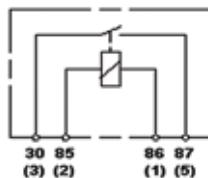
Abbreviations

- SPST** - Single Pole Single Throw
- SPDT** - Single Pole Double Throw
- RES** - Resistor Coil Suppression
- DIO** - Diode Coil Suppression
- WTHR** - Weatherproof Cover
- BKT** - Bracket
- D87** - Double "87" Terminal

Eliminating voltage spikes: Relays with resistor and diode coil suppression across terminal 85 and 86.

Voltage spikes from 300V to 500V can occur momentarily when a relay is switched off. Sensitive electronic equipment can be damaged or malfunctions can occur if these spikes reach the vehicle electrical network without suppression. A relay with a resistor reduces these voltage spikes to less than 100V. A relay with a diode eliminates them completely. The correct polarity of the connections is marked on the diode protected relay.



Part No.**003437081 - Single - Min Order Qty: 1****003437087 - Bulk- Min Order Qty: 120****Dimension Drawing****Description****RELAY 12V 60A SPST BKT****Diagram****Accessories**

- H84703001** RELAY SOCKET 70A 4 TERM, Qty: 1
- H84703007** RELAY SOCKET 70A 4 TERM, Qty: 50
- U84703007** RELAY SOCKET 70A 4 TERM, Qty: 2,100
- H84991151** TERMINAL 9.5 x 1.2 W/ CATCH 4.0-6.0mm², Qty: 50
- 172615007** TERMINAL 9.5 x 1.2 W/ CATCH 4.0-6.0mm², Qty: 2,000 /Spool
- H84991141** TERMINAL 9.5 x 1.2 W/ CATCH 6.0-10.0mm², Qty: 50
- 172616007** TERM 9.5 x 1.2 W/ CATCH 6.0-10.0mm², Qty: 1,800 /Spool
- 701235033** TERMINAL 6.3 x 0.8 W/ CATCH, Qty: 100
- 701235034** TERMINAL 6.3 x 0.8 W/ CATCH, Qty: 1,500

*All measurements are in Millimeters.

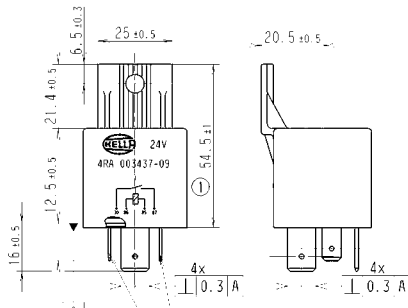
Technical Data

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 20 ms
Rated Continuous Load	N/O 60A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	200 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 60A, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	---
Operating / Drop out Voltage	≤ 7.5 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	---
Max.Coil Voltage	---	Vibration	20 – 200 Hz, 50 m/s ² , 6 h per axis
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	500 m/s ² , 11 ms, period: 1 min, 1000 times
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn 30: ISO 8092 9,5 x 1,2, E-Cu, gal Sn 87: ISO 8092 9,5 x 1,2, E-Cu

Notes**Cross Reference****Tyco**VF7-41F11
V23134-J1052-D642

Part No.

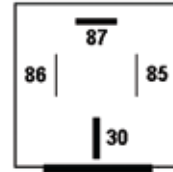
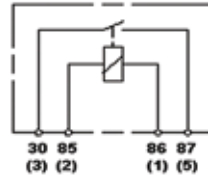
H41437091 - Single - Min Order Qty: 1
003437097 - Bulk- Min Order Qty: 120

**Dimension Drawing****Technical Data**

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 60A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	200 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 60A, 100000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	---
Operating / Drop out Voltage	≤ 17.0 V / ≥ 5.0 V	Lamp Load (capacitive) / Switching Cycles	---
Max.Coil Voltage	---	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	310 Ω ± 10%	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn 30: ISO 8092 9,5 x 1,2, E-Cu, gal Sn 87: ISO 8092 9,5 x 1,2, E-Cu

Notes**Description**

RELAY 24V 60A SPST BKT

Diagram**Accessories**

- H84703001** RELAY SOCKET 70A 4 TERM, Qty: 1
- H84703007** RELAY SOCKET 70A 4 TERM, Qty: 50
- U84703007** RELAY SOCKET 70A 4 TERM, Qty: 2,100
- H84991151** TERMINAL 9.5 x 1.2 W/ CATCH 4.0-6.0mm2, Qty: 50
- 172615007** TERMINAL 9.5 x 1.2 W/ CATCH 4.0-6.0mm2, Qty: 2,000 /Spool
- H84991141** TERMINAL 9.5 x 1.2 W/ CATCH 6.0-10.0mm2, Qty: 50
- 172616007** TERM 9.5 x 1.2 W/ CATCH 6.0-10.0mm2, Qty: 1,800 /Spool
- 701235033** TERMINAL 6.3 x 0.8 W/ CATCH, Qty: 100
- 701235034** TERMINAL 6.3 x 0.8 W/ CATCH, Qty: 1,500

*All measurements are in Millimeters.

Cross Reference**Tyco**

VF7-41H11
V23134-J1053-D642

Part No.

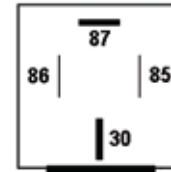
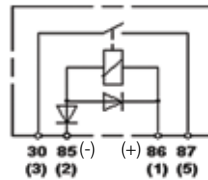
003437101 - Single - Min Order Qty: 1

Description

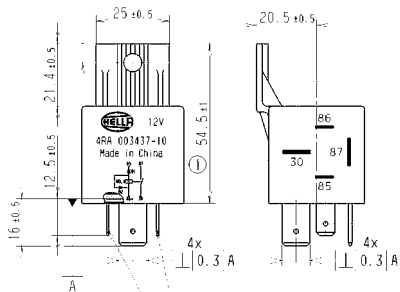
RELAY 12V 60A SPST DIO BKT



Diagram



Dimension Drawing



Accessories

- H84703001** RELAY SOCKET 70A 4 TERM, Qty: 1
- H84703007** RELAY SOCKET 70A 4 TERM, Qty: 50
- U84703007** RELAY SOCKET 70A 4 TERM, Qty: 2,100
- H84991151** TERMINAL 9.5 x 1.2 W/ CATCH 4.0-6.0mm², Qty: 50
- 172615007** TERMINAL 9.5 x 1.2 W/ CATCH 4.0-6.0mm², Qty: 2,000 /Spool
- H84991141** TERMINAL 9.5 x 1.2 W/ CATCH 6.0-10.0mm², Qty: 50
- 172616007** TERM 9.5 x 1.2 W/ CATCH 6.0-10.0mm², Qty: 1,800 /Spool
- 701235033** TERMINAL 6.3 x 0.8 W/ CATCH, Qty: 100
- 701235034** TERMINAL 6.3 x 0.8 W/ CATCH, Qty: 1,500

*All measurements are in Millimeters.

Technical Data

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 20 ms
Rated Continuous Load	N/O 60A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	200 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 60A, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	---
Operating / Drop out Voltage	≤ 7.5 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	---
Max.Coil Voltage	---	Vibration	20 – 200 Hz, 50 m/s ² , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excl. suppression component)	Mechanical Shock	500 m/s ² , 11 ms, period: 1 min, 1000 times
Suppression	Diode 2x	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn 30: ISO 8092 9,5 x 1,2, E-Cu, gal Sn 87: ISO 8092 9,5 x 1,2, E-Cu

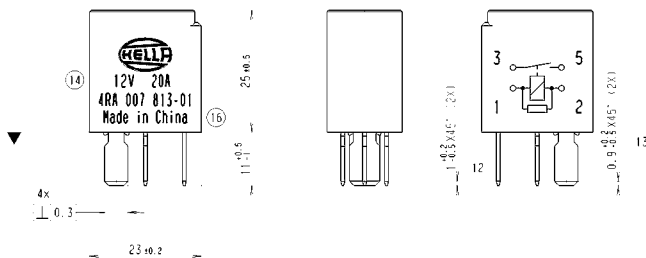
Notes

Part No.

007813011 - Single - Min Order Qty: 1
H41813007 - Bulk- Min Order Qty: 350



Dimension Drawing



Technical Data

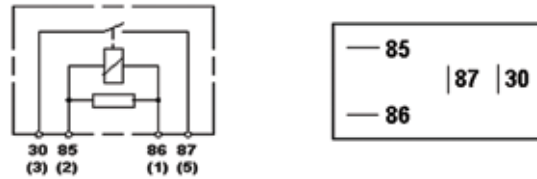
Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	120 A resistive load
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 20A , 150,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	15 A, 150,000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	80 A inrush / 16 A steady, 150,000 cycles
Max.Coil Voltage	18V	Vibration	20 – 200 Hz, 50 m/s _² , 6 h per axis
Coil Resistance	92 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _² , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 470 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 4,8 x 0,8, CuZn, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes

Description

RELAY MICRO 12V 20A SPST RES

Diagram



Accessories

- H84700001** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- U84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 3000
- H84702001** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 1
- H84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 50
- U84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 2,250
- H84988011** RELAY BOX 7 WAY MICRO KIT, Qty: 1
- H84991117** TERMINAL 4.8MM x 0.8MM W/ CATCH, Qty: 100
- 172611007** TERMINAL 4.8MM X 0.8MM W/ CATCH, Qty: 7000 /SPOOL
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Cross Reference

Tyco

VFM-11F41-S01
 V23074-A1001-A402



Part No.

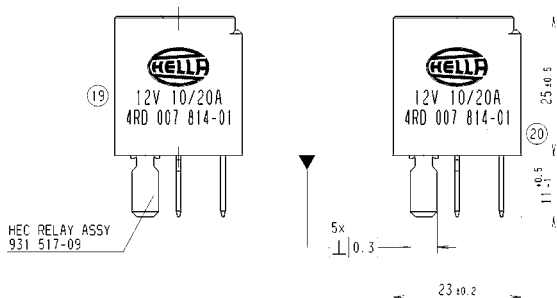
007814017 - Bulk - Min Order Qty: 350

Description

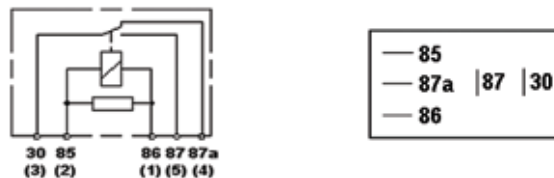
RELAY MICRO 12V 10/20A SPDT RES



Dimension Drawing



Diagram



Accessories

- H84700001** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- U84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 3000
- H84702001** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 1
- H84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 50
- U84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 2,250
- H84988011** RELAY BOX 7 WAY MICRO KIT, Qty: 1
- H84991117** TERMINAL 4.8MM x 0.8MM W/ CATCH, Qty: 100
- 172611007** TERMINAL 4.8MM X 0.8MM W/ CATCH, Qty: 7000 /SPOOL
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

Technical Data

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	120 A resistive load
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 20A N/C 10A , 150,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O 20A N/C 10A , 30,000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	80 A inrush / 20 A steady, 100,000 cycles
Max.Coil Voltage	18V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	92 Ohm ± 10% ((excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 470 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 4,8 x 0,8, CuZn, gal Sn 87A: ISO 8092 4,8 x 0,8, E-Cu gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes

Cross Reference

Tyco

VFM-15F41-S01
V23074-A1001-A403



Part No.

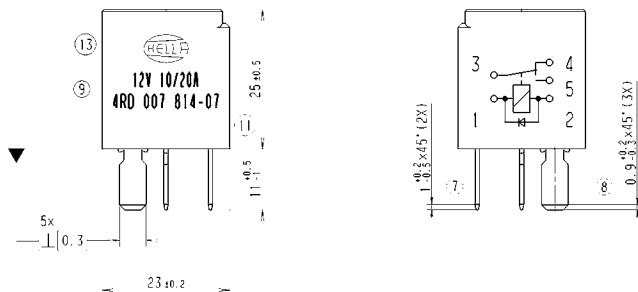
007814077 - Single- Min Order Qty: 1

Description

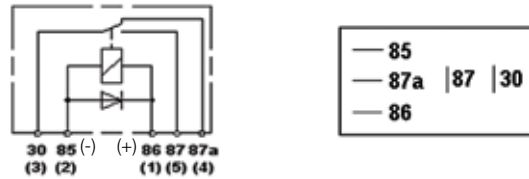
RELAY MICRO 12V 10/20A SPDT DIO



Dimension Drawing



Diagram



Accessories

- H84700001** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- U84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 3000
- H84702001** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 1
- H84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 50
- U84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 2,250
- H84988011** RELAY BOX 7 WAY MICRO KIT, Qty: 1
- H84991117** TERMINAL 4.8MM x 0.8MM W/ CATCH, Qty: 100
- 172611007** TERMINAL 4.8MM X 0.8MM W/ CATCH, Qty: 7000 /SPOOL
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

Technical Data

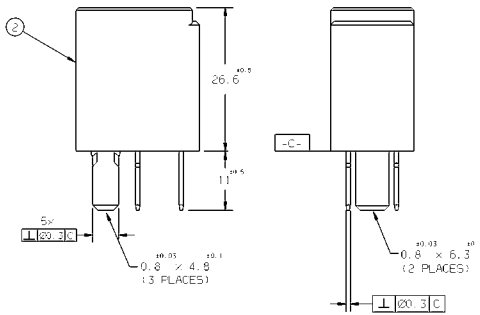
*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	120 A resistive load
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 20A N/C 10A , 150,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O 20A N/C 10A , 30,000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	80 A inrush / 20 A steady, 100,000 cycles
Max.Coil Voltage	18V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	92 Ohm ± 10% ((excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Diode	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 4,8 x 0,8, CuZn, gal Sn 87a: ISO 8092 4,8 x 0,8, E-Cu gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes

Part No.

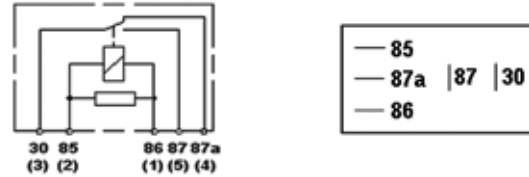
H41524021 - Single - Min Order Qty: 1
931524027 - Bulk - Min Order Qty: 693

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	120 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 20A N/C 10A , 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 20A N/C 10A , 150,000 cycles
Operating / Drop out Voltage	≤ 9.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	80 A inrush / 20 A steady, 100,000 cycles
Max.Coil Voltage	18V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	92 Ohm ± 10% ((excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 4,8 x 0,8, CuZn, gal Sn 87A: ISO 8092 4,8 x 0,8, E-Cu gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Description

RELAY MICRO 12V 10/20A SPDT RES

Diagram**Accessories**

- H84700001** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- U84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 3000
- H84702001** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 1
- H84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 50
- U84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 2,250
- H84988011** RELAY BOX 7 WAY MICRO KIT, Qty: 1
- H84991117** TERMINAL 4.8MM x 0.8MM W/ CATCH, Qty: 100
- 172611007** TERMINAL 4.8MM X 0.8MM W/ CATCH, Qty: 7000 /SPOOL
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Notes**Cross Reference****Tyco**

VFM-15F41-S01
V23074-A1001-A403

Part No.

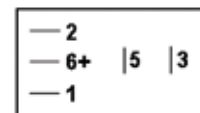
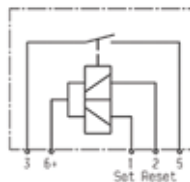
933364027 - Bulk - Min Order Qty: 1

Description

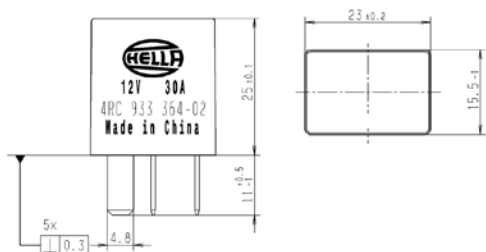
RELAY MICRO 12V 30A LATCHING/
BISTABLE



Diagram



Dimension Drawing



Accessories

- H84700001** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- U84700007** RELAY SOCKET MICRO 5 TERM PRINTED CIRCUIT BOARD, Qty: 3000
- H84702001** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 1
- H84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 50
- U84702007** RELAY SOCKET MICRO 5 TERM W/BRACKET, Qty: 2,250
- H84988011** RELAY BOX 7 WAY MICRO KIT, Qty: 1
- H84991117** TERMINAL 4.8MM x 0.8MM W/ CATCH, Qty: 100
- 172611007** TERMINAL 4.8MM X 0.8MM W/ CATCH, Qty: 7000 /SPOOL
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

Technical Data

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	Minimum on-time SET-/RESET-coil 10 ms Maximum on-time SET-/RESET-coil 1 s Pull-in delay SET-coil < 5 ms Pull-in delay RESET-coil < 5 ms Bouncing time < 1 ms
Rated Continuous Load	N/O 30A at 85°C N/O 20A at 105°C	Dielectric Strength	≥ 800 VDC
Ambient Temperature	-40°C... +85°C	Max. Inrush Load	100 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	20 A , 100,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	70A inrush / 20 A (0,25 mH), 100.000 cycles
Operating / Drop out Voltage	≤ 6 V (Operating Voltage SET) ≤ 6 V (Operating Voltage RESET)	Lamp Load (capacitive) / Switching Cycles	70A inrush / 20 A (300 mF) , 100.000 cycles
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _√ , 6 h per axis
Coil Resistance	2 x 75 Ohm ± 10%	Mechanical Shock	DIN ISO 16750-3 (300m/s ² , 6ms)
Suppression	---	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	Terminals 1, 2, 6 (+): Blade Terminals ISO 8092 4,8 x 0,8 E-Cu, tin plated Terminals 3, 5: Blade Terminals ISO 8092 6,3 x 0,8 E-Cu, tin plated

Notes

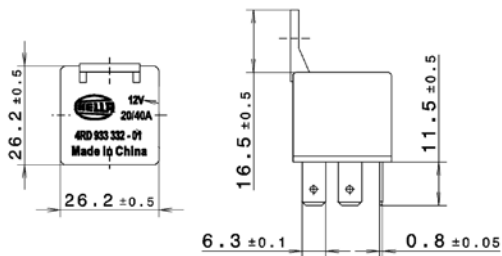


Part No.

933332011 - Single - Min Order Qty: 1
933332017 - Bulk - Min Order Qty: 200



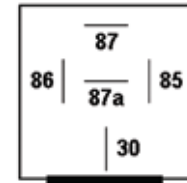
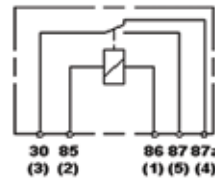
Dimension Drawing



Description

RELAY 12V 20/40A SPDT BKT

Diagram



Accessories

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Technical Data

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 5 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O:30 A, N/C: 20 A steady current, 100000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O: 100000 cycles, 20 A steady current; N/C: 60000 cycles, 6 A steady current
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	100000 cycles, N/O:20 A, N/C: 10 A steady current
Max.Coil Voltage	20V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6.3 x 0,8, E-Cu, tin plated 30, 87, 87a: ISO 8092 6,3x0,8, E-Cu, tin plated

Notes

Cross Reference

Bosch

0 332 209 150

Tyco

VF4-45F11
 VF4-45F21
 V23134-A1052-C643

Part No.

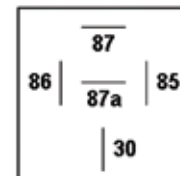
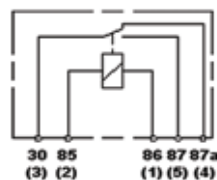
933332051 - Single - Min Order Qty: 1
933332057 - Bulk - Min Order Qty: 200



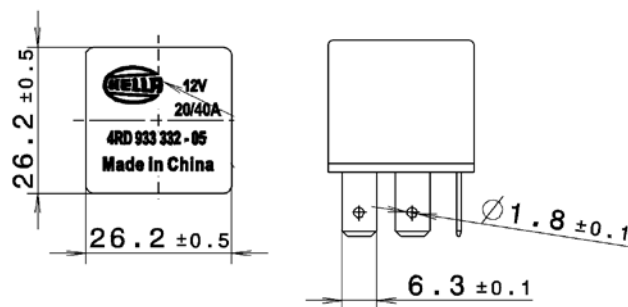
Description

RELAY 12V 20/40A SPDT

Diagram



Dimension Drawing



Accessories

- H84989031 RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037 RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011 RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017 RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017 RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001 RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002 RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001 RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021 RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027 RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033 TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034 TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

Technical Data

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 5 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O: 30 A, N/C: 20 A steady current, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O: 100000 cycles, 20 A steady current; N/C: 60000 cycles, 6 A steady current
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	100000 cycles, N/O: 20 A, N/C: 10 A steady current
Max. Coil Voltage	20V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, tin plated 30, 87, 87a: ISO 8092 6,3 x 0,8, E-Cu, tin plated

Notes

Cross Reference

Bosch

0 332 209 151

Tyco

VF4-15F11
V23134-A0052-C643

Part No.

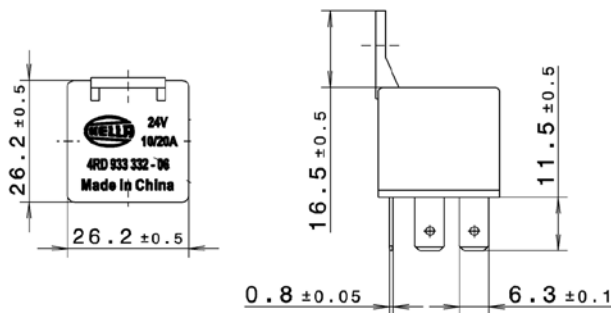
933332061 - Bulk - Min Order Qty: 1

Description

RELAY 24V 10/20A SPDT BKT

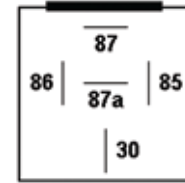
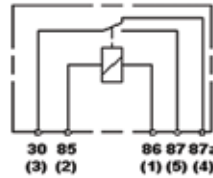


Dimension Drawing



Technical Data

Diagram



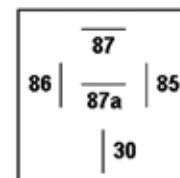
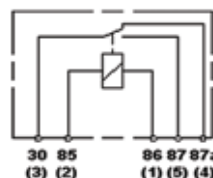
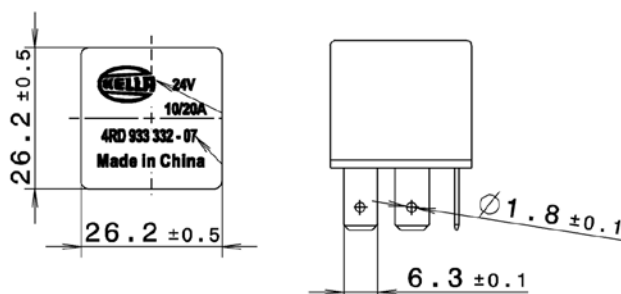
Accessories

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	120 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O: 20 A steady current, 100000 cycles N/C: 10 A steady current, 150000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O: 16 A steady current, 100000 cycles N/C: 8 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 15.6 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O: 15 A steady current, 135000 cycles N/C: 5 A steady current, 135000 cycles
Max.Coil Voltage	40V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	350 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, gal Sn 30, 87, 87a: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes

Part No.**933332071 - Single - Min Order Qty: 1****Description****RELAY 24V 10/20A SPDT****Diagram****Dimension Drawing****Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Technical Data

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	120 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O: 20 A steady current, 100000 cycles N/C: 10 A steady current, 150000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O: 16 A steady current, 100000 cycles N/C: 8 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 15.6 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O: 15 A steady current, 135000 cycles N/C: 5 A steady current, 135000 cycles
Max.Coil Voltage	40V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	350 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, gal Sn 30, 87, 87a: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Cross Reference****Bosch**

0 332 209 211

TycoVF4-15H11
V23134-AO053-C643

Part No.

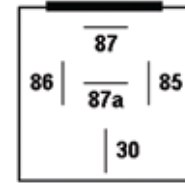
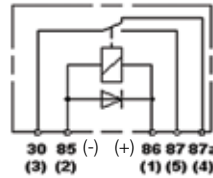
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Description

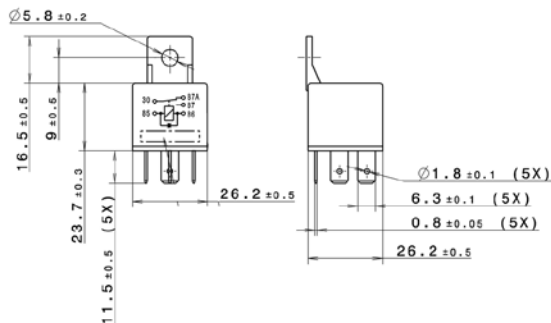
RELAY 24V 10/20A SPDT DIO BKT



Diagram



Dimension Drawing



Technical Data

Accessories

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

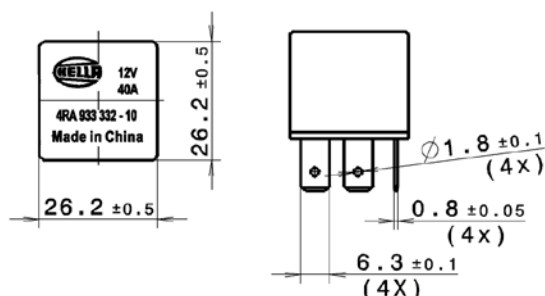
*All measurements are in Millimeters.

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 15 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	120 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O: 20 A steady current, 100000 cycles N/C: 10 A steady current, 150000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O: 16 A steady current, 100000 cycles N/C: 8 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 15.6 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O: 15 A steady current, 135000 cycles N/C: 5 A steady current, 135000 cycles
Max.Coil Voltage	40V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	350 Ohm ± 10% (including suppression component)	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	Diode	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, gal Sn 30, 87, 87a: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes

Part No.

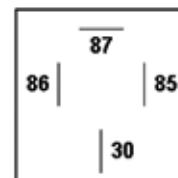
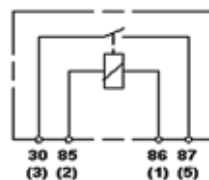
933332101 - Single - Min Order Qty: 1
933332107 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 5 ms
Rated Continuous Load	N/O 40A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 40 A steady current, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 30 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30 A steady current, 100000 cycles
Max.Coil Voltage	20V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Description**

RELAY 12V 40A SPST

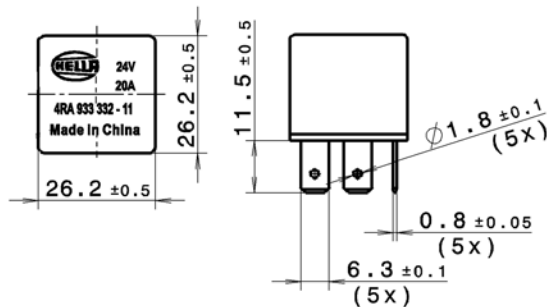
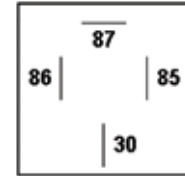
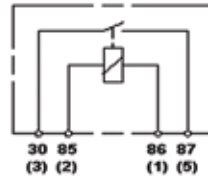
Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Cross Reference**Tyco**

VF4-11F11
V23134-B0052-C642

Part No.**933332111 - Single - Min Order Qty: 1****Description****RELAY 24V 20A SPST****Dimension Drawing****Technical Data****Diagram****Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

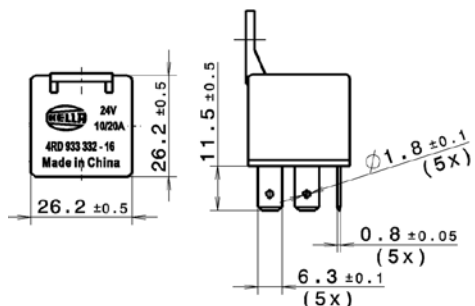
Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	120 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 20 A steady current, 250000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 16 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 15.6 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O 16 A steady current, 250000 cycles
Max.Coil Voltage	40V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	350 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Cross Reference****Tyco**

VF4-11H11
V23134-B0053-C642

Part No.

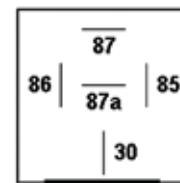
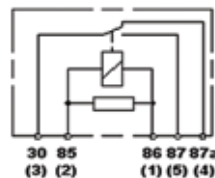
933332161 - Single - Min Order Qty: 1
933332167 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	120 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O: 20 A steady current, 100000 cycles N/C: 10 A steady current, 150000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O: 16 A steady current, 100000 cycles N/C: 8 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 15.6 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O: 15 A steady current, 135000 cycles N/C: 5 A steady current, 135000 cycles
Max.Coil Voltage	40V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	271 Ohm ± 10% (incl. suppression component)	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	Resistor, 1200 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, tin plated 30, 87, 87a: ISO 8092 6,3 x 0,8, E-Cu, tin plated

Description

RELAY 24V 10/20A SPDT RES BKT

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Notes**Cross Reference****Tyco**

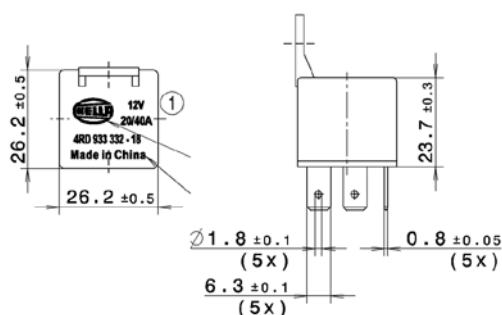
VF4-45H11-S08
VF4-45H21-S08

Part No.

933332181 - Single - Min Order Qty: 1
933332187 - Bulk - Min Order Qty: 200



Dimension Drawing

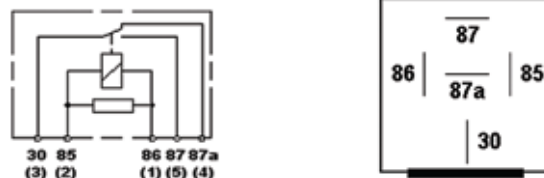


Technical Data

Description

RELAY 12V 20/40A SPDT RES BKT

Diagram



Accessories

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	$\leq 10 \text{ ms} / \leq 10 \text{ ms}$
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	$\geq 1000 \text{ VDC}$
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O:30 A, N/C: 20 A steady current, 100000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O: 100000 cycles, 20 A steady current; N/C: 60000 cycles, 6 A steady current
Operating / Drop out Voltage	$\leq 8.0 \text{ V} / \geq 1.0 \text{ V}$	Lamp Load (capacitive) / Switching Cycles	100000 cycles, N/O:20 A, N/C: 10 A steady current
Max.Coil Voltage	20V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	73,8 Ohm \pm 10% (incl. sup- pression component)	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	Resistor, 560 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, tin plated 30, 87, 87a: ISO 8092 6,3 x 0,8, E-Cu, tin plated

Notes

Cross Reference

Bosch

0 332 209 161

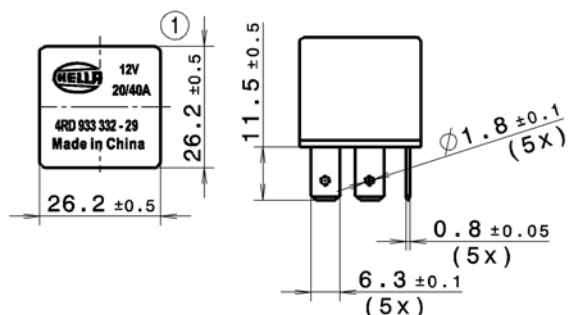
Tyco

VF4-45F11-S01
VF4-45F21-S01



Part No.

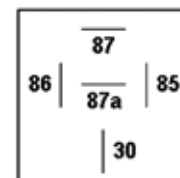
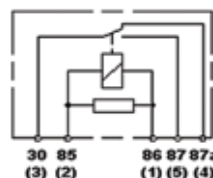
933332291 - Single - Min Order Qty: 1
933332297 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O: 30 A, N/C: 20 A steady current, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O: 100000 cycles, 20 A steady current; N/C: 60000 cycles, 6 A steady current
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	100000 cycles, N/O: 20 A, N/C: 10 A steady current
Max. Coil Voltage	20V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	73,8 Ohm ± 10% (incl. suppression component)	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	Resistor, 560 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, tin plated 30, 87, 87a: ISO 8092 6,3 x 0,8, E-Cu, tin plated

Notes**Description**

RELAY 12V 20/40A SPDT RES

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Cross Reference**Bosch**

0 332 209 159

Tyco

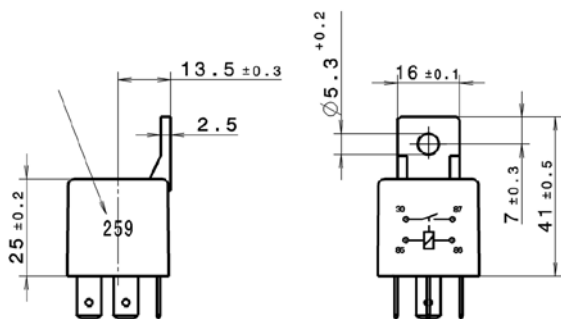
VF4-15F11-S01
VF4-15F21-S01

Part No.

965400001 - Single - Min Order Qty: 1
965400007 - Bulk - Min Order Qty: 200



Dimension Drawing

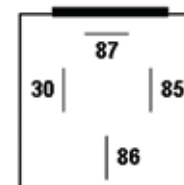
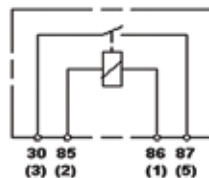


Technical Data

Description

RELAY 12V 30A SPST BKT

Diagram



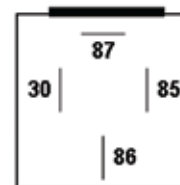
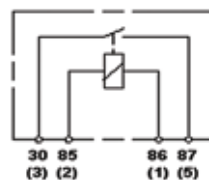
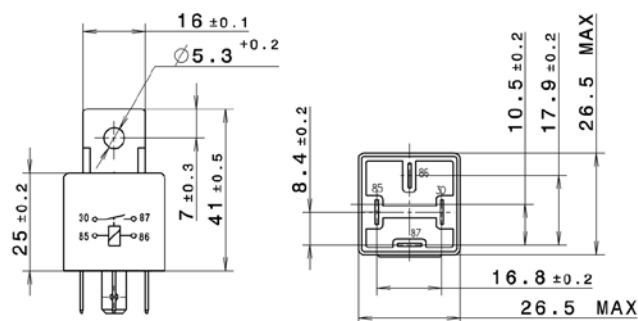
Accessories

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 7 ms
Rated Continuous Load	30A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	30 A steady current, 100000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	30 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 7.2 V / ≥ 1.2 V	Lamp Load (capacitive) / Switching Cycles	16 A steady current, 100000 cycles
Max.Coil Voltage	18V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	90 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	30, 85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 87: ISO 8092 6,3 x 0,8, CuZn

Notes

Part No.**965400031 - Single - Min Order Qty: 1****Description****RELAY 24V 30A SPST BKT****Diagram****Dimension Drawing****Technical Data****Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	30A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	120A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	30 A steady current, 250000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	16 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 16.0 V / ≥ 2.4 V	Lamp Load (capacitive) / Switching Cycles	16 A steady current, 250000 cycles
Max.Coil Voltage	40V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	360 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	30, 85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 87: ISO 8092 6,3 x 0,8, CuZn

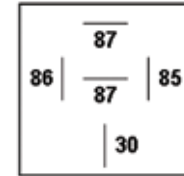
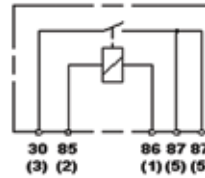
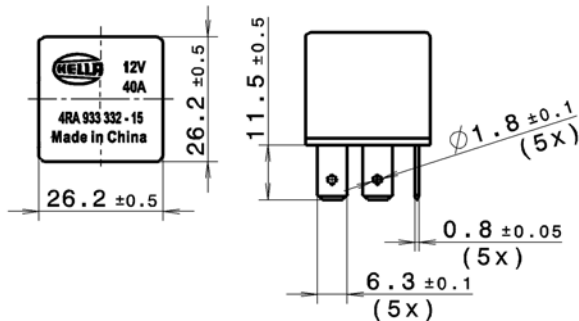
Notes

Part No.

933332151 - Single - Min Order Qty: 1
933332157 - Bulk - Min Order Qty: 200

**Description**

RELAY 12V 40A SPST D87

Diagram**Dimension Drawing****Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Technical Data

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 5 ms
Rated Continuous Load	40A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	40 A steady current, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	30 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	30 A steady current, 100000 cycles
Max.Coil Voltage	18V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	30, 85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 87: ISO 8092 6,3 x 0,8, CuZn

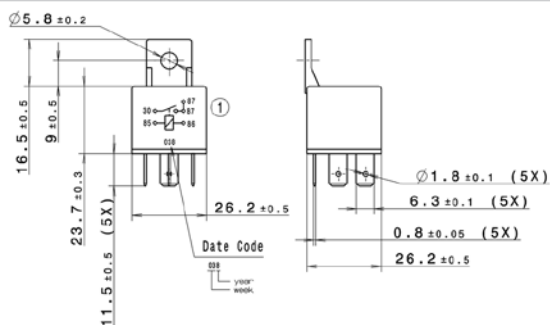
Notes**Cross Reference**

Tyco

V23134-C0052-C642

Part No.

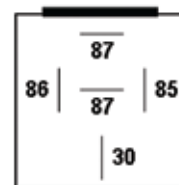
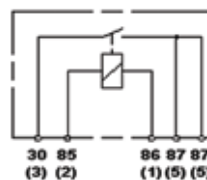
933791061 - Single - Min Order Qty: 1
933791067 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 5 ms
Rated Continuous Load	40A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150A
Contact Form	1 Form X / SPST N/O D87	Resistive Load / Switching Cycles	40 A steady current, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	30 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	30 A steady current, 100000 cycles
Max.Coil Voltage	20V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	30, 85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 87: ISO 8092 6,3 x 0,8, CuZn

Notes**Description**

RELAY 12V 40A SPST D87 BKT

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Cross Reference**Bosch**

0 332 019 150

Tyco

V23134-C1052-C642

Part No.

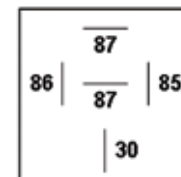
933791081 - Single - Min Order Qty: 1

Description

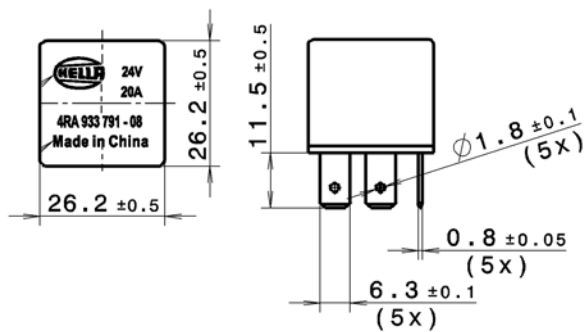
RELAY 24V 20A SPST D87



Diagram



Dimension Drawing



Accessories

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Technical Data

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	30A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	120A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	20 A steady current, 250000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	16 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 15.6 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	16 A steady current, 250000 cycles
Max.Coil Voltage	40V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	350 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	None	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	30, 85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 87: ISO 8092 6,3 x 0,8, CuZn

Notes

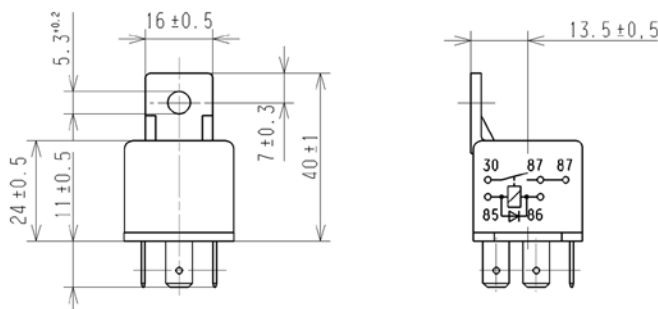
Cross Reference

Bosch

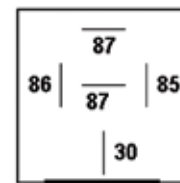
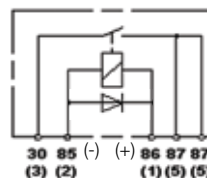
0 332 019 213

Tyco

V23134-C0053-C642

Part No.**H41010001 - Single - Min Order Qty: 1****Description****RELAY 12V 30A SPST D87 DIO BKT****Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 30A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	150A
Contact Form	1 Form X / SPST N/O D87	Resistive Load / Switching Cycles	N/O 30 A steady current, 100000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O 30 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30 A steady current, 100000 cycles
Max.Coil Voltage	20V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	Diode	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Diagram**Accessories**

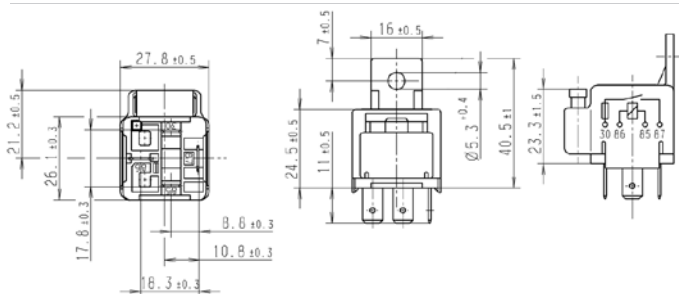
- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Notes

Part No.

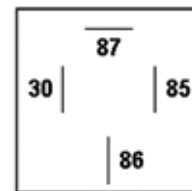
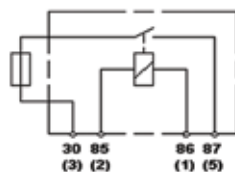
003530001 - Single - Min Order Qty: 1
003530007 - Bulk - Min Order Qty: 112

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 15A at 23°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	---
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 15A , 100000 cycles
Contact Material	AgNi	Inductive load / Switching Cycles	---
Operating / Drop out Voltage	≤ 9.0 V / ≥ 1.3 V	Lamp Load (capacitive) / Switching Cycles	---
Max.Coil Voltage	24V	Vibration	20 – 200 Hz, 50 m/s _² , 6 h per axis
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	500 m/s _² , 11 ms, period: 1 min, 1000 times
Suppression	Fuse	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, St3, gal Sn 30: ISO 8092 6,3 x 0,8, E-Cu, gal Sn 87: ISO 8092 6,3 x 0,8, E-Cu

Notes**Description**

RELAY 12V 15A SPST 15A FUSE BKT

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Part No.

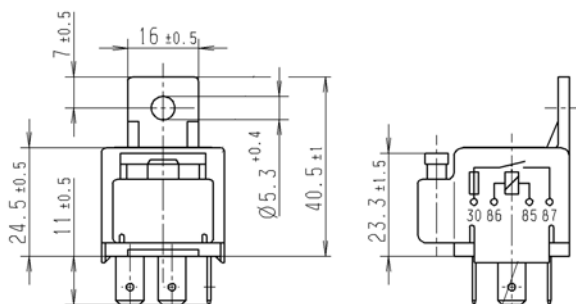
003530041 - Single - Min Order Qty: 1

Description

RELAY 12V 25A SPST 25A FUSE BKT



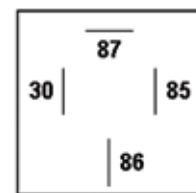
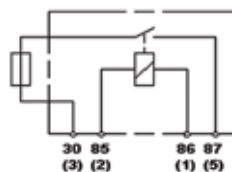
Dimension Drawing



Technical Data

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 25A at 23°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	---
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 25A , 100000 cycles
Contact Material	AgNi	Inductive load / Switching Cycles	---
Operating / Drop out Voltage	≤ 9.0 V / ≥ 1.3 V	Lamp Load (capacitive) / Switching Cycles	---
Max.Coil Voltage	24V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	85 Ohm ± 10%	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Fuse	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, St3, gal Sn 30: ISO 8092 6,3 x 0,8, E-Cu, gal Sn 87: ISO 8092 6,3 x 0,8, E-Cu

Diagram



Accessories

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Notes

Part No.

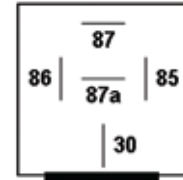
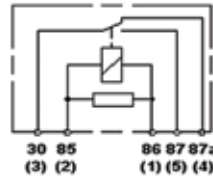
933332201 - Single - Min Order Qty: 1
 933332207 - Bulk - Min Order Qty: 80

Description

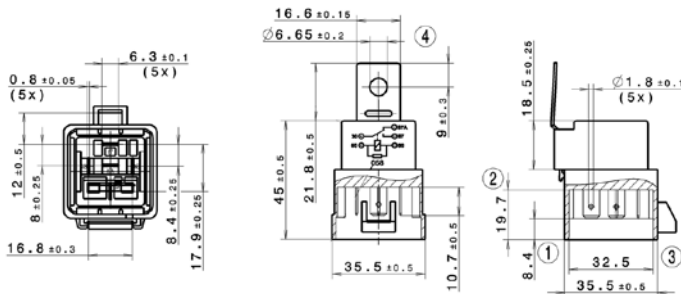
RELAY 24V 10/20A SPDT RES WTHR BKT



Diagram



Dimension Drawing



Accessories

- H84709001** RELAY CONN F/ ISO WEATHERPROOF TYPE W/12" LEADS, Qty: 5
- H84489001** RELAY METAL BRACKET F/ WEATHERPROOF HOUSING, Qty: 10
- 931489001** RELAY METAL BRACKET F/ WEATHERPROOF HOUSING, Qty: 100
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- U84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 3000
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

Technical Data

*All measurements are in Millimeters.

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+85°C	Max. Inrush Load	120 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O: 20 A steady current, 100000 cycles N/C: 10 A steady current, 150000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O: 16 A steady current, 100000 cycles N/C: 8 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 15.6 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O: 15 A steady current, 135000 cycles N/C: 5 A steady current, 135000 cycles
Max.Coil Voltage	40V	Vibration	20 – 200 Hz, 5 g; no contact openings > 10 μs
Coil Resistance	277 Ohm ± 10% (incl. suppression component)	Mechanical Shock	Min. 10 g, 11 ms; no contact openings > 10 μs
Suppression	Resistor, 1200 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, E-Cu, tin plated 30, 87, 87a: ISO 8092 6,3x0,8, E-Cu, tin plated

Notes

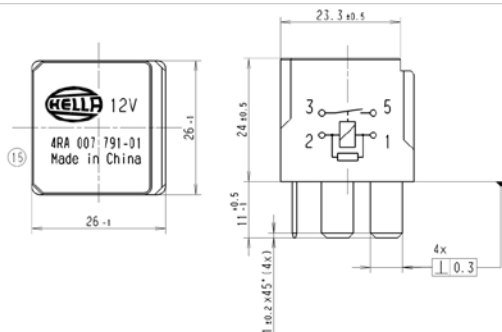
Cross Reference

Tyco

VF4-65H11-S08
 VF4-65H21-S08

Part No.

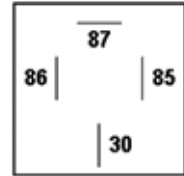
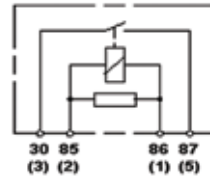
007791011 - Single - Min Order Qty: 1
007791017 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	40 A, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	35 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	30 A steady current , 100000 cycles
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _r , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _r , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Description

RELAY 12V 40A SPST RES

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Notes**Cross Reference****Bosch**

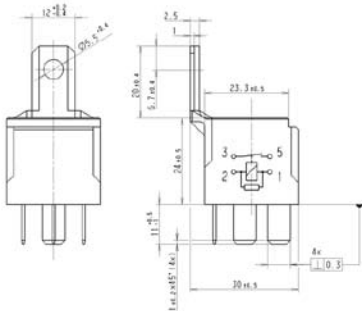
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Tyco

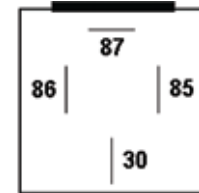
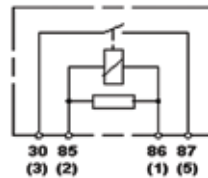
VF4-11F11-S01
 VF4-11F21-S01
 V23134-B0052-C642

Part No.

007791021 - Single - Min Order Qty: 5
007791027 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data****Description**

RELAY 12V 40A SPST RES BKT

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	40 A, 100000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	35 A steady current, 100000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	30 A steady current , 100000 cycles
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

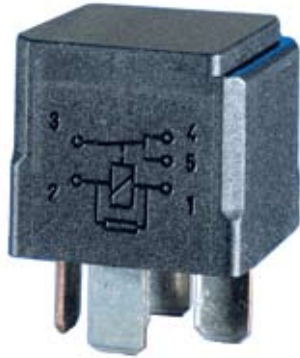
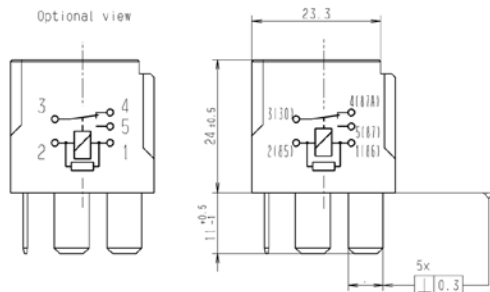
Notes**Cross Reference**

Bosch

0 332 019 110

Part No.

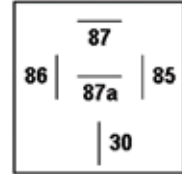
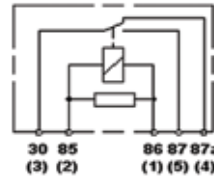
007794021 - Single - Min Order Qty: 1
007794027 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Description

RELAY 12V 20/40A SPDT RES

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Notes**Cross Reference****Bosch**

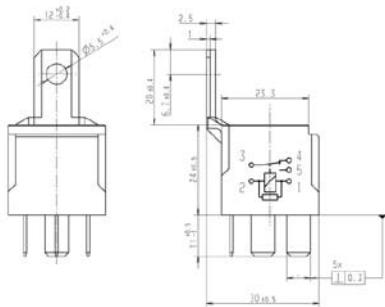
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Tyco

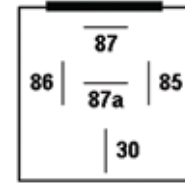
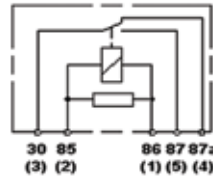
VF4-15F11-S01
 VF4-15F21-S01
 V23134-A0052-C643
 V23134-J1052-D642

Part No.

007794031 - Single - Min Order Qty: 1
007794037 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data****Description**

RELAY 12V 20/40A SPDT RES BKT

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

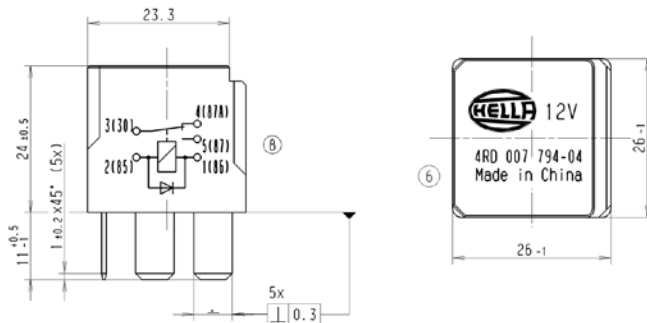
Notes**Cross Reference**

Bosch

0 332 209 138

Part No.

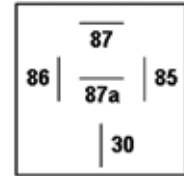
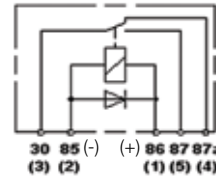
007794041 - Single - Min Order Qty: 1
007794047 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Diode	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Description

RELAY 12V 20/40A SPDT DIO

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

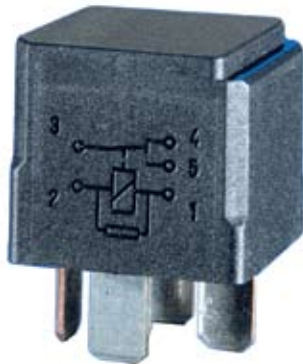
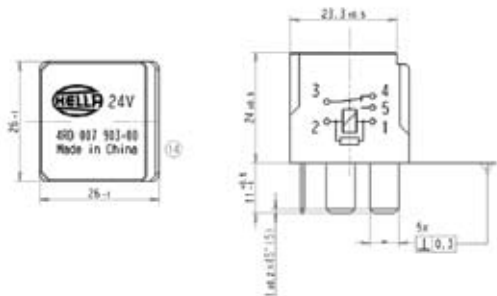
*All measurements are in Millimeters.

Notes**Cross Reference****Tyco**

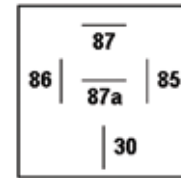
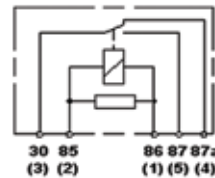
VF4-15F11-S05
 VF4-15F21-S05

Part No.

007903001 - Single - Min Order Qty: 1
007903007 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data****Description**

RELAY 24V 10/20A SPDT RES

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

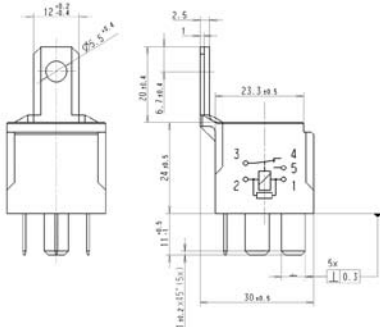
Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 20A / N/C 10A, 150,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O 16A, 100,000 cycles
Operating / Drop out Voltage	≤ 17.0 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O 15A, 135,000 cycles
Max.Coil Voltage	30V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	350 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 1200 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Cross Reference****Tyco**

VF4-15H11-S08
 VF4-15H21-S08

Part No.

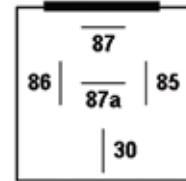
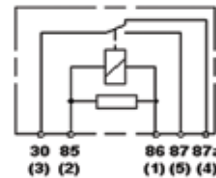
007903011 - Single - Min Order Qty: 1
007903017 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 20A / N/C 10A, 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 16A, 100,000 cycles
Operating / Drop out Voltage	≤ 17.0 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O 15A, 135,000 cycles
Max.Coil Voltage	30V	Vibration	20 – 200 Hz, 50 m/s _r , 6 h per axis
Coil Resistance	350 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _r , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 1200 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Description

RELAY 24V 10/20A SPDT RES BKT

Diagram**Accessories**

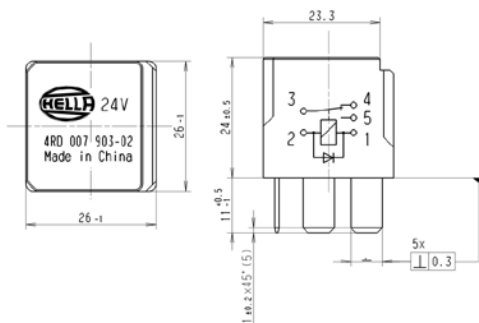
- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

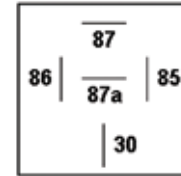
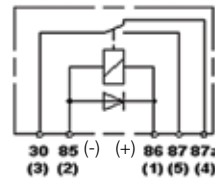
Notes

Part No.

007903021 - Single - Min Order Qty: 1
007903027 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data****Description**

RELAY 24V 10/20A SPDT DIO

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A N/C 10A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 20A / N/C 10A, 150,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O 16A, 100,000 cycles
Operating / Drop out Voltage	≤ 17.0 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O 15A, 135,000 cycles
Max.Coil Voltage	30V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	350 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Diode	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Cross Reference****Bosch**

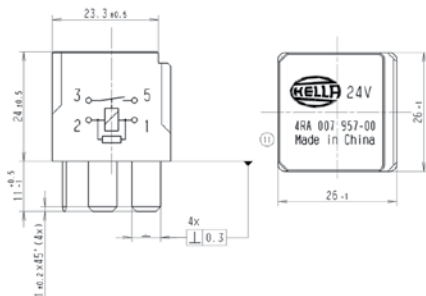
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Tyco

VF4-15H11-S05
VF4-15H21-S05

Part No.

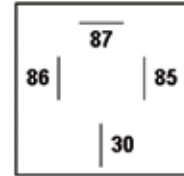
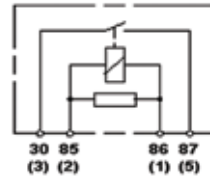
007957001 - Single - Min Order Qty: 1
007957007 - Bulk - Min Order Qty: 200

**Dimension Drawing****Technical Data**

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 20A, 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 16A, 100,000 cycles
Operating / Drop out Voltage	≤ 17.0 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O 15A, 135,000 cycles
Max.Coil Voltage	30V	Vibration	20 – 200 Hz, 50 m/s _² , 6 h per axis
Coil Resistance	350 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _² , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 1200 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Description

RELAY 24V 20A SPST RES

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Notes**Cross Reference****Tyco**

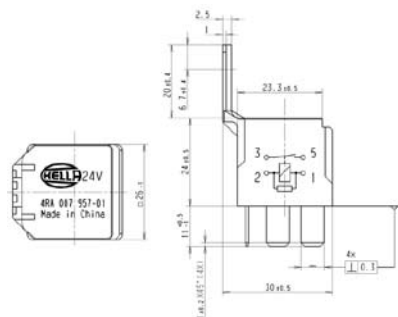
VF4-11H11-S08
 VF4-11H21-S08

Part No.

007957011 - Single - Min Order Qty: 1
007957017 - Bulk - Min Order Qty: 200



Dimension Drawing

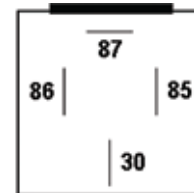
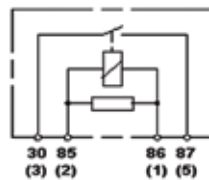


Technical Data

Description

RELAY 24V 20A SPST RES BKT

Diagram



Accessories

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	24V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 20A, 150,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O 16A, 100,000 cycles
Operating / Drop out Voltage	≤ 17.0 V / ≥ 3.5 V	Lamp Load (capacitive) / Switching Cycles	N/O 15A, 135,000 cycles
Max.Coil Voltage	30V	Vibration	20 – 200 Hz, 50 m/s _² , 6 h per axis
Coil Resistance	350 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _² , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 1200 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

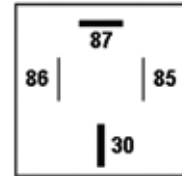
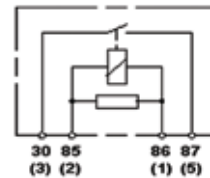
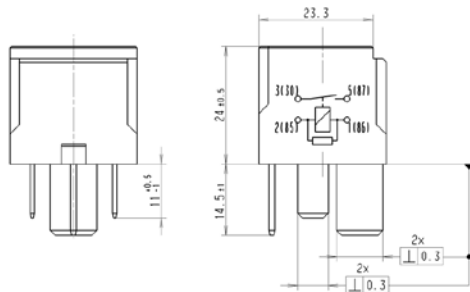
Notes

Part No.

007793031 - Single - Min Order Qty: 1
007793037 - Bulk - Min Order Qty: 360

Description

RELAY 12V 70A SPST RES

**Diagram****Dimension Drawing****Accessories**

- H84703001** RELAY SOCKET 70A 4 TERM, Qty: 1
- H84703007** RELAY SOCKET 70A 4 TERM, Qty: 50
- U84703007** RELAY SOCKET 70A 4 TERM, Qty: 2,100
- H84991151** TERMINAL 9.5MM x 1.2MM W/ CATCH 4.0-6.0mm², Qty: 50
- 172615007** TERMINAL 9.5MM x 1.2MM W/ CATCH 4.0-6.0mm², Qty: 2,000 /Spool
- H84991141** TERMINAL 9.5MM x 1.2MM W/ CATCH 6.0-10.0mm², Qty: 50
- 172616007** TERMINAL 9.5MM x 1.2MM W/ CATCH 6.0-10.0mm², Qty: 1,800 /Spool
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

Technical Data

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 70A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	200 A lamp load / 150 A motor load
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 50 A, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	150 A inrush / 50 A steady, 150000cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.3 V	Lamp Load (capacitive) / Switching Cycles	200 A inrush / 40 A steady, 150000 cycles
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s ² , 6 h per axis
Coil Resistance	100 Ohm ± 10% (excluding suppressive component)	Mechanical Shock	500 m/s ² , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87: ISO 8092 9,5 x 1,2, E-Cu, gal Sn

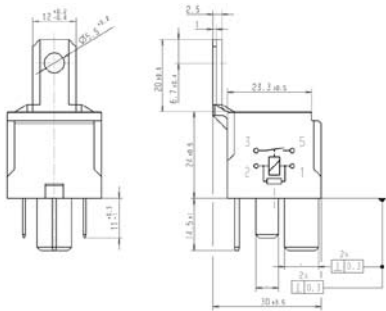
Notes**Cross Reference**

Tyco

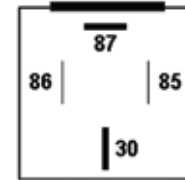
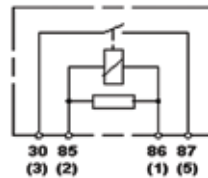
VF7-11F11-S01

Part No.

007793041 - Single - Min Order Qty: NA
007793047 - Bulk - Min Order Qty: 360

**Dimension Drawing****Technical Data****Description**

RELAY 12V 70A SPST RES BKT

Diagram**Accessories**

- H84703001** RELAY SOCKET 70A 4 TERM, Qty: 1
- H84703007** RELAY SOCKET 70A 4 TERM, Qty: 50
- U84703007** RELAY SOCKET 70A 4 TERM, Qty: 2,100
- H84991151** TERMINAL 9.5MM x 1.2MM W/ CATCH 4.0-6.0mm², Qty: 50
- 172615007** TERMINAL 9.5MM x 1.2MM W/ CATCH 4.0-6.0mm², Qty: 2,000 /Spool
- H84991141** TERMINAL 9.5MM x 1.2MM W/ CATCH 6.0-10.0mm², Qty: 50
- 172616007** TERMINAL 9.5MM x 1.2MM W/ CATCH 6.0-10.0mm², Qty: 1,800 /Spool
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 70A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	200 A lamp load / 150 A motor load
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	N/O 50 A, 100000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	150 A inrush / 50 A steady, 150000cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.3 V	Lamp Load (capacitive) / Switching Cycles	200 A inrush / 40 A steady, 150000 cycles
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	100 Ohm ± 10% (excluding suppressive component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87: ISO 8092 9,5 x 1,2, E-Cu, gal Sn

Notes**Cross Reference****Bosch**

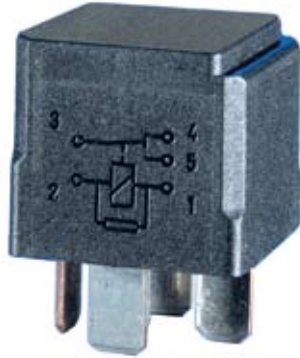
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Tyco

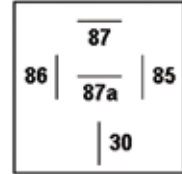
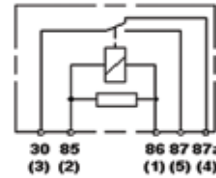
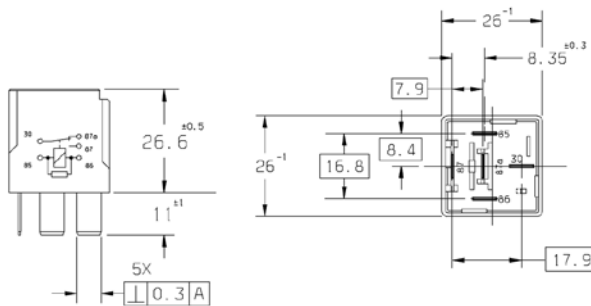
VF7-41F11-S01

Part No.

931680011 - Single - Min Order Qty: 1
931680017 - Bulk - Min Order Qty: 360

**Description**

RELAY 12V 20/40A SPDT RES SLD

Diagram**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	Relay is sealed
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

*All measurements are in Millimeters.

Accessories

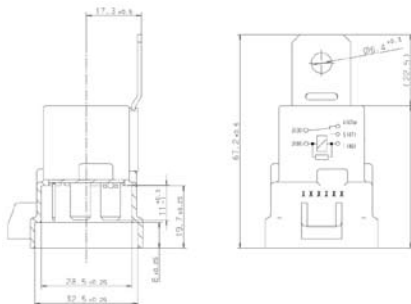
- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

Notes**Cross Reference****Tyco**

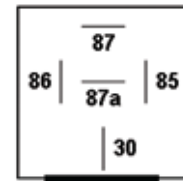
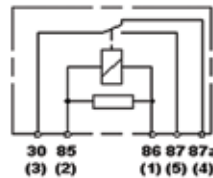
VF4-15F11-C01
 VF4-15F21-C01
 V23134-A0052-C643

Part No.

007794301 - Single - Min Order Qty: 1
007794307 - Bulk - Min Order Qty: 150

**Dimension Drawing****Description**

RELAY 12V 20/40A SPDT RES WTHR BKT

Diagram**Accessories**

- H84709001** RELAY CONN F/ ISO WEATHERPROOF TYPE W/12" LEADS, Qty: 5
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- U84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 3000

Technical Data

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Cross Reference****Bosch**

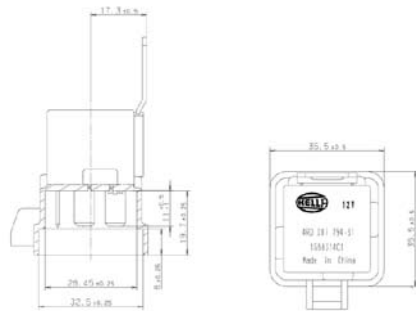
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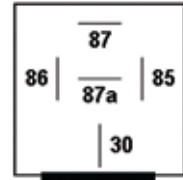
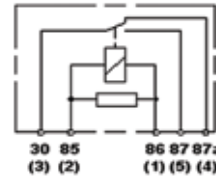
VF4-65F11-S01
VF4-65F21-S01

Part No.

007794311 - Single - Min Order Qty: 1
007794317 - Bulk - Min Order Qty: 150

**Dimension Drawing****Technical Data****Description**

RELAY 12V 20/40A SPDT RES WTHR BKT

Diagram**Accessories**

- H84709001** RELAY CONN F/ ISO WEATHERPROOF TYPE W/12" LEADS, Qty: 5
H84989021 RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
H84989027 RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
U84989027 RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 3000

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 150,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _r , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s _r , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Cross Reference****Bosch**

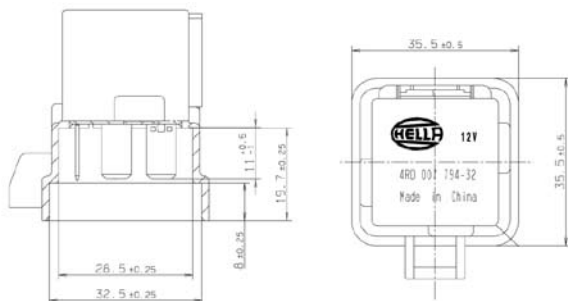
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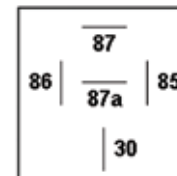
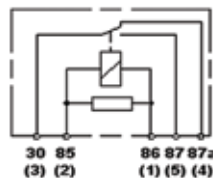
VF4-65F11-S01
 VF4-65F21-S01
 V23134-J1052-D642

Part No.

007794321 - Single - Min Order Qty: 1
007794327 - Bulk - Min Order Qty: 150

**Dimension Drawing****Technical Data****Description**

RELAY 12V 20/40A SPDT RES WTHR

Diagram**Accessories**

- H84709001** RELAY CONN F/ ISO WEATHERPROOF TYPE W/12" LEADS, Qty: 5
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- U84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 3000

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 1000 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 150,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 30A N/C 20A , 100,000 cycle
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _² , 6 h per axis
Coil Resistance	85 Ohm ± 10% (excluding sup- pression component)	Mechanical Shock	500 m/s _² , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87, 87A: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Cross Reference****Bosch**

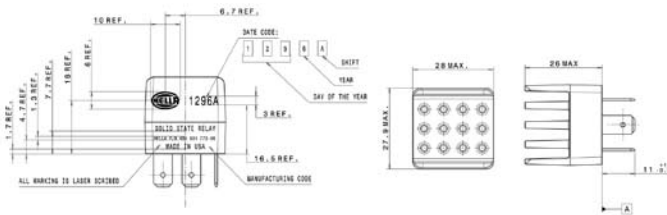
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Tyco

VF4-35F11-S01
VF4-35F21-S01

Part No.

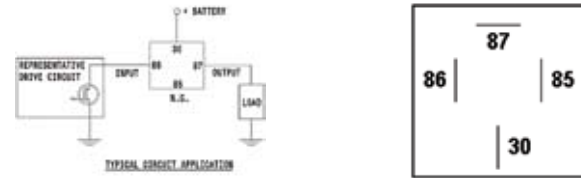
H41773001 - Single - Min Order Qty: 1
931773987 - Bulk - Min Order Qty: 324

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	100 μ s / 75 μ s (typical)
Rated Continuous Load	N/O 20A at 85°C	Dielectric Strength	
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	Overload protected at 80 A
Contact Form	1 Form A / SPST N/O	Resistive Load / Switching Cycles	30A at 25°C
Contact Material	Solid State	Inductive load / Switching Cycles	
Operating / Drop out Voltage	on voltage < 9.0V off voltage > 11.5V	Lamp Load (capacitive) / Switching Cycles	
Max.Coil Voltage	16V	Vibration	10 Hz to 2 kHz, 0.06 inch, 6 G, 7 inch / second, 4 hours
Switching Frequency	0 Hz...1000 Hz	Mechanical Shock	30 G peak half - sine wave, 11 mSec, 8 (4 shocks per axis, + and - directions)
Duty Cycles	10%...90% On	IP Rating	IP 67 DIN 40050
Mechanical Cycles	10,000,000	Terminals	85, 86: ISO 8092 6,3 x 0,8, CuZn, gal Sn 30, 87: ISO 8092 6,3 x 0,8, E-Cu, gal Sn

Notes**Description**

RELAY 12V MINI ISO SOLID STATE

Diagram**Accessories**

- H84989031** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 1
- H84989037** RELAY SOCKET MINI 5 TERM PRINTED CIRCUIT BOARD, Qty: 50
- H84989011** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1
- H84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 50
- U84989017** RELAY SOCKET MINI 5 TERM W/BRACKET, Qty: 1,000
- H84526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1
- 003526002** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 50
- 003526001** RELAY SOCKET MINI 5/9 TERM W/BRACKET, Qty: 1,000
- H84989021** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 1
- H84989027** RELAY SOCKET MINI 5 TERM F/HARNESS, Qty: 50
- 701235033** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 100
- 701235034** TERMINAL 6.3MM x 0.8MM W/CATCH, Qty: 1,500

*All measurements are in Millimeters.

Part No.

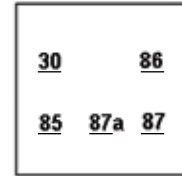
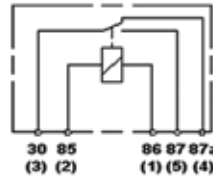
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931410087 - Bulk - Min Order Qty: 240

Description

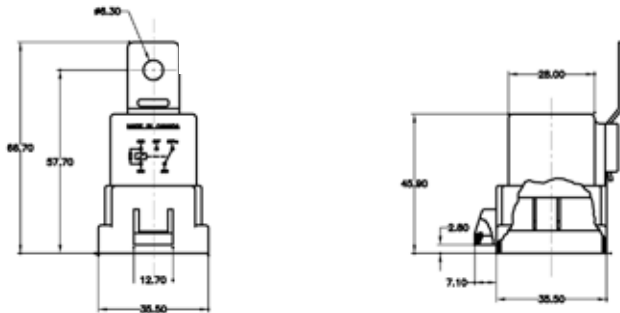
RELAY 12V 20/40A SPDT RES WTHR BKT



Diagram



Dimension Drawing



Accessories

- H84708001** RELAY CONN F/ 280 WEATHERPROOF TYPE W/12" LEADS, Qty: 1
- H84489001** RELAY METAL BRACKET F/ WEATHERPROOF HOUSING, Qty: 10
- 931489001** RELAY METAL BRACKET F/ WEATHERPROOF HOUSING, Qty: 100
- H84991101** TERMINAL 2.8MM x 0.8MM W/CATCH, Qty: 50
- 172609007** TERMINAL 2.8MM x 0.8MM W/CATCH, Qty: 5000

Technical Data

*All measurements are in Millimeters.

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 900 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 100,000 cycles
Contact Material	AgSnO2	Inductive load / Switching Cycles	N/O 70 A inrush / 16 A steady , 250,000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 150 A inrush / 30 A steady , 300,000 cycles
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s _{rms} , 6 h per axis
Coil Resistance	88 Ohm ± 10% (excluding sup-pression component)	Mechanical Shock	500 m/s _{rms} , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: 2.8 x 0.82, CuZn 30, 87, 87A: 2.8 x 0.82, E-Cu / CuZN

Notes

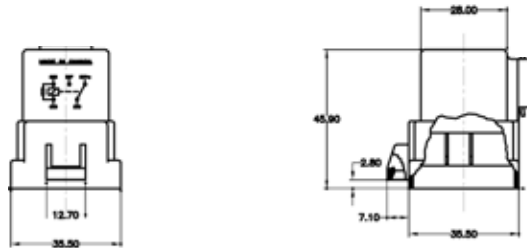
Cross Reference

Tyco

- VF4-61F11-S01
- VF4-61F21-S01

Part No.

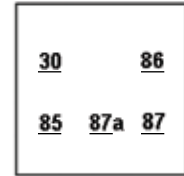
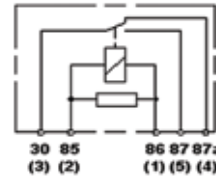
H41410051 - Single - Min Order Qty: 1
931410057 - Bulk - Min Order Qty: 240

**Dimension Drawing****Technical Data**

Nominal Voltage	12V	Operating / Releasing Time	≤ 10 ms / ≤ 10 ms
Rated Continuous Load	N/O 40A N/C 20A at 85°C	Dielectric Strength	≥ 900 VDC
Ambient Temperature	-40°C...+125°C	Max. Inrush Load	150 A
Contact Form	1 Form C / SPDT	Resistive Load / Switching Cycles	N/O 40A N/C 20A , 100,000 cycles
Contact Material	AgSnO ₂	Inductive load / Switching Cycles	N/O 70 A inrush / 16 A steady , 250,000 cycles
Operating / Drop out Voltage	≤ 8.0 V / ≥ 1.0 V	Lamp Load (capacitive) / Switching Cycles	N/O 150 A inrush / 30 A steady , 300,000 cycles
Max.Coil Voltage	16V	Vibration	20 – 200 Hz, 50 m/s ₂ , 6 h per axis
Coil Resistance	88 Ohm ± 10% (excluding suppression component)	Mechanical Shock	500 m/s ₂ , 11 ms, period: 1 min, 1000 times
Suppression	Resistor, 680 Ohm	IP Rating	IP54 DIN IEC 60 529
Mechanical Cycles	10,000,000	Terminals	85, 86: 2.8 x 0.82, CuZn 30, 87, 87A: 2.8 x 0.82, E-Cu / CuZn

Description

RELAY 12V 20/40A SPDT RES WTHR

Diagram**Accessories**

- H84708001** RELAY CONN F/ 280 WEATHERPROOF TYPE W/12" LEADS, Qty: 1
- H84489001** RELAY METAL BRACKET F/ WEATHERPROOF HOUSING, Qty: 10
- 931489001** RELAY METAL BRACKET F/ WEATHERPROOF HOUSING, Qty: 100
- H84991101** TERMINAL 2.8MM x 0.8MM W/CATCH, Qty: 50
- 172609007** TERMINAL 2.8MM x 0.8MM W/CATCH, Qty: 5000

*All measurements are in Millimeters.

Notes**Cross Reference**

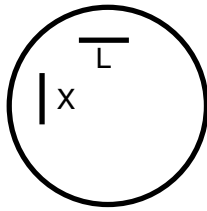
Tyco

VF28-65F14-S01

Common Pin Designations

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

Part No.



961553151	2 Pin Flasher Unit - 12V (Single)
961553157	2 Pin Flasher Unit - 12V (Bulk 50 Pieces)

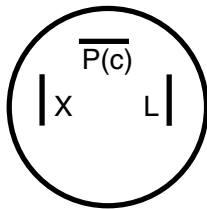
High capacity flasher with 6 bulb maximum.
Suitable for hazard warning applications.

Max Load: 12 lamps / 25 Amps (Hazard)

961553161	3 Pin Flasher Unit - 12V (Single)
961553167	3 Pin Flasher Unit - 12V (Bulk 50 Pieces)

High capacity flasher with 6 bulb maximum.
Suitable for hazard warning applications.

Max Load: 12 lamps / 25 Amps (Hazard)



961553171	3 Pin Flasher Unit - 24V (Single)
961553177	3 Pin Flasher Unit - 24V (Bulk 50 Pieces)

High capacity flasher with 5 bulb maximum.
Suitable for hazard warning applications.

Max Load: 10 lamps SAE # 1683 (Hazard)

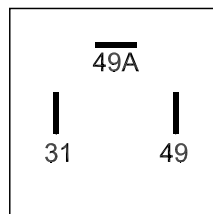
Part No.

H42675031

3 Pin Flasher Unit - 12V (Single)

High capacity flasher with 8 bulb maximum.
Suitable for hazard warning applications.

Max Load: 16 Bulbs (Hazard)

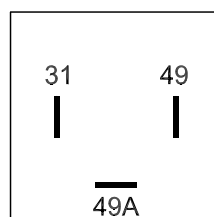


H42562061

3 Pin Flasher Unit - Sealed - 12V (Single)

Sealed flasher that operates 2 bulbs on either side of vehicle.

Max Load: 2 x 2.1 Amp Bulbs (Flasher)
4 x 2.1 Amp Bulbs (Hazard)

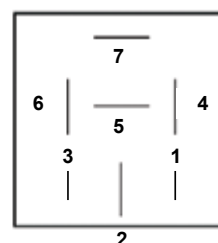
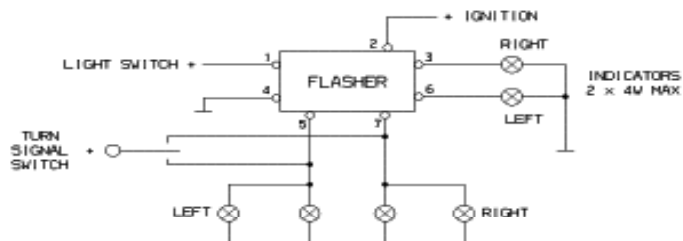


933825007

7 Pin Flasher Unit - Sealed - 12V (Bulk 387 Pieces)

Flasher unit that operates 2 bulbs on either side of vehicle
Separate outputs for left and right side along with left and right indicator outputs

Max Load: 4 Bulbs (Hazard)



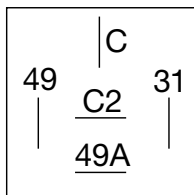
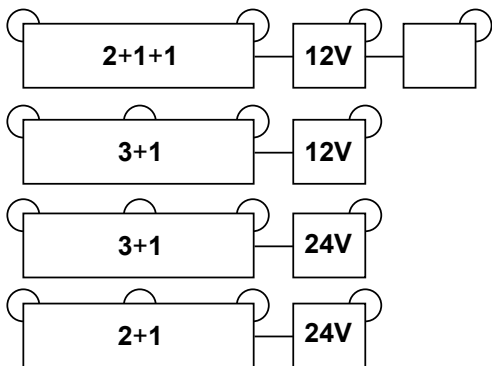


Part No.

009492101	LED Flasher Unit, 2+1+1 - 12V
009492111	LED Flasher Unit, 3+1 - 12V
009492001	LED Flasher Unit, 2+1 - 24V
009492011	LED Flasher Unit, 3+1 - 24V

Flasher units suitable for use with either bulb lamps or LED direction indicator lamps. The flasher units have two modes of warning while the indicators are operating.

- 1) Prime mover
 - Lamps will flash rapidly to indicate a failure.
- 2) Prime mover plus trailer
 - Separate pilot lamp will not illuminate to indicate a failure.



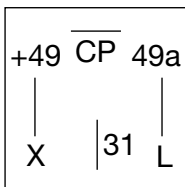
(Single)



003787021 4 Pin High Capacity Flasher Unit - 24V (Single)

Heavy duty flasher unit designed for loads totaling 200W.

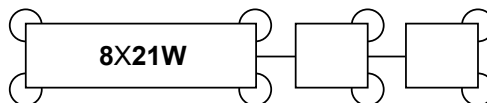
Max Load: 200W combined load



996173017 6 Pin Flasher Unit, 2+1+1 - 12V (Bulk 250 Pieces)

Flasher unit operates 2 bulbs on either side of towing vehicle plus an additional bulb on either side of two trailers.

Max Load: 2 + 1 + 1(8) x 21W

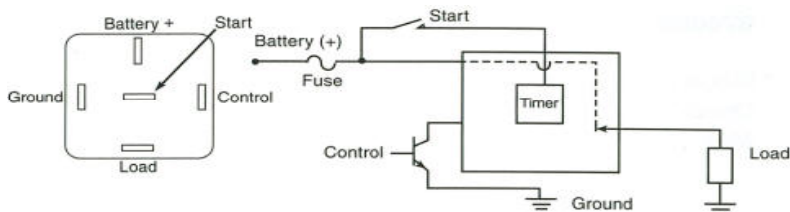


Part No.

H43453011

4 Pin Time Delay Unit - 2 Second Delay on Release - 12V (Single)

Fixed delay of 2 seconds
SPST relay output



H43430011

4 Pin Time Delay Unit - 5 Second Delay on Release - 12V (Single)

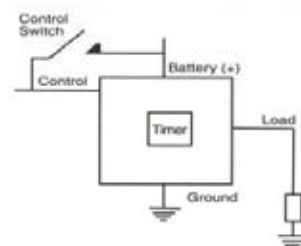
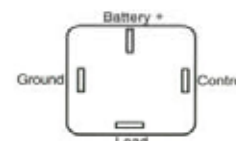
Fixed Timing
Meets All Applicable U.S. Safety Standards
Stable Electronic Timing
Fits into ISO Socket
Output SPST Relay
Wide Operating Voltage and Temperature Range
Snap-On Metal Bracket Optional

Max Load: 20A at 100,000 operations
Operating Voltage Range: 9 - 16V DC
Operating Temp. Range: -40°C to 85°C
Storage Temperature: -40°C to 125°C

Timing Mode

Mode: Delay on Release

Operation Description: Input voltage must be applied continuously. The output is energized (relay is transferred) when control switch is closed. Timing starts when the control switch is opened. At the end of timing, relay will de-energize. The time may be reset to zero during timing by closing the control switch.



996152131

Adjustable Control Time Delay Unit - Delay on Release - 12V

996152141

Adjustable Control Time Delay Unit - Delay on Release - 24V

996152151

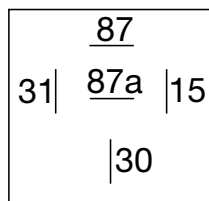
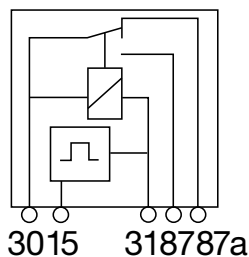
Adjustable Control Time Delay Unit - Delay on Operate - 12V

996152161

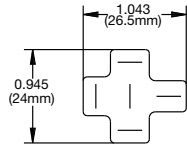
Adjustable Control Time Delay Unit - Delay on Operate - 24V

Designed for a wide range of applications requiring a time delayed switch on or off.
Time Delay Range: 0 to 900 seconds

(Single)



S1	S2	T(s)
off	off	110...900
on	on	14...110
on	off	2.5...14
off	on	0...2.5

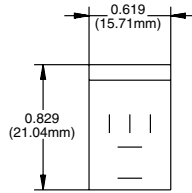


Part No.

Pack Qty.

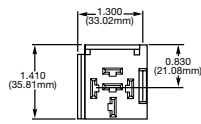
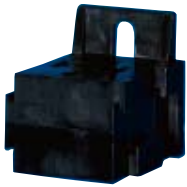
Mini 5-Terminal Printed Circuit Board Socket

H84989031.....	1
H84989037.....	50
U84989037.....	2500



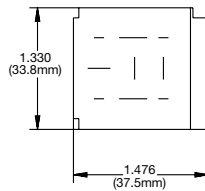
Micro 5-Terminal Printed Circuit Board Socket

H84700001.....	1
H84700007.....	50
U84700007.....	3000



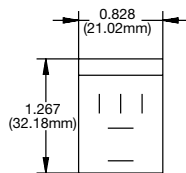
Mini 5-Terminal Bracket Mount Connector Block

H84989011.....	1
H84989017.....	50
U84989017.....	1000



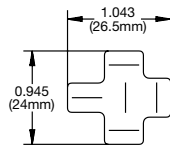
Mini 5- or 9-Terminal Bracket Mount Connector Block

H84526001.....	1
003526002.....	50
003526001.....	1000



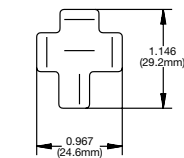
Micro 5-Terminal Bracket Mount Connector Block

H84702001.....	1
H84702007.....	50
U84702007.....	2250



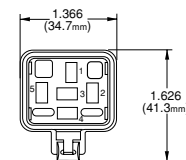
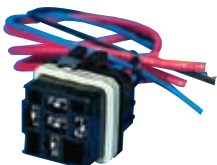
Mini 5-Terminal Wire Harness Connector

H84989021.....	1
H84989027.....	50
U84989027.....	3000



High Current 70 Amp 4-Terminal Wire Harness Connector

H84703001.....	1
H84703007.....	50
U84703007.....	2100



ISO Mini Weatherproof Relay Connector with 12" Leads

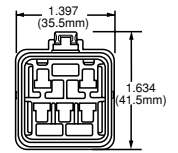
H84709001.....	5
----------------	---

Part No.

Pack Qty.

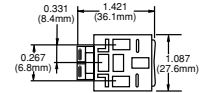
280 Mini Weatherproof Relay Connector with 12" Leads

H84708001..... 1



Mini 5-Terminal Wire Harness Connector

H84704001..... 1
 H84704007..... 50
 U84704007..... 1500



Retaining Spring for Mounting Diode Blocks, Flashers, Buzzers, & Timers

H84235001..... 1
 H84235007..... 100



Universal Mounting Bracket Made of Steel

H84677001..... 1
 961677001..... 100



Universal Mounting Bracket for Relays

H84489001..... 10
 931489001..... 100



Flat Plug Sleeves with Catch - Blade Size 9.5mm

H84991151 (10 - 12 AWG wire)..... 50
 172615007 (10 - 12 AWG wire)..... 2000
 H84991141 (6 - 10 AWG wire)..... 50
 172616007 (6 - 10 AWG wire)..... 1800

Flat Plug Sleeves with Catch - Blade Size 6.3mm

701235033..... 100
 701235034..... 1500



Flat Plug Sleeves with Catch - Blade Size 4.75mm

H84991117..... 100
 172611007..... 7000

Flat Plug Sleeves with Catch - Blade Size 2.8mm

H84991101..... 50
 172609007..... 5000

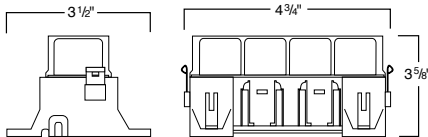


Part No.

H84988001

4-Gang Mini ISO Relay Box (Single)

- Splashproof Relay Box
- Snap-Fit Clear Plastic Cover
- O-ring Sealed
- Holds Four Plug-in Type Relays
- Removable Mounting Feet
- Multiple Boxes Can Be Snapped Together



H84988011

7-Gang Micro ISO Relay Box (Single)

- Splashproof Relay Box
- Snap-Fit Clear Plastic Cover
- O-ring Sealed
- Holds Seven Plug-in Type Relays
- Removable Mounting Feet
- Multiple Boxes Can Be Snapped Together

H84960061

4-Gang Fuse Box - Bottom Tab Connections

H84960081

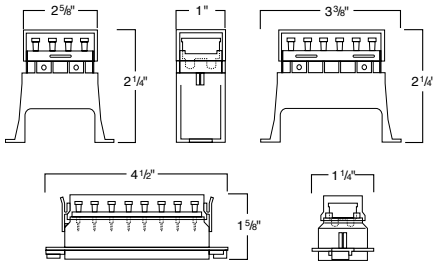
6-Gang Fuse Box - Bottom Tab Connections

H84960101

8-Gang Fuse Box - Bottom Tab Connections

- Splashproof Fuse Box
- Snap-Fit Clear Plastic Cover
- O-ring Sealed

(Single)



H84960071

4-Gang Fuse Box - Side Connections

H84960091

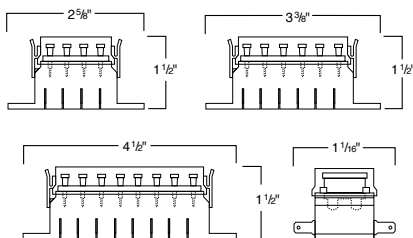
6-Gang Fuse Box - Side Connections

H84960111

8-Gang Fuse Box - Side Connections

- Splashproof Fuse Box
- Snap-Fit Clear Plastic Cover
- O-ring Sealed

(Single)

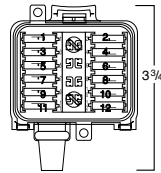
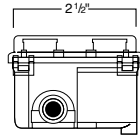
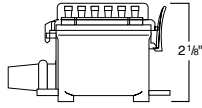


Part No.

005993131

12 Gang Fuse Box - Waterproof (Single)

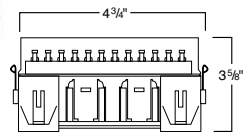
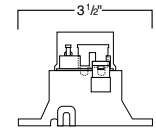
Clear Cover Holds Four Spares
Terminal Connections Included



H84960051

16 Gang Fuse Box - Bottom Tab Connections (Single)

Splashproof Fuse Box
Snap-Fit Clear Plastic Cover
O-ring Sealed
Removable Mounting Feet
Boxes Can Be Snapped Together for 32,48 Fuses etc.



002289001

Fuse Box with Screw Contacts - 2 Fuses (Bulk 10 Pieces)

H84294021

Fuse Box with Screw Contacts - 4 Fuses (Single)

002290001

Fuse Box with Screw Contacts - 8 Fuses (Bulk 5 Pieces)

With 8A fuses according to DIN 72 582 for cables up to 6 mm²
with screw terminals



004258031

Junction Box - 16 Connections (Single)

Splash and Dustproof Housing
Nickel-plated Brass Contacts
Duroplast Housing
Resistant to High Temperature (max. 212°F)
For Circuits and Central Electrical Systems



704073003

Ceramic-Type Fuse: 5A Yellow

025889003

Ceramic-Type Fuse: 8A White

089015003

Ceramic-Type Fuse: 16A Red

091603003

Ceramic-Type Fuse: 25A Blue

713144003

Ceramic-Type Fuse: 40A Grey

(Bulk 100 Pieces)



003481803

Ceramic-Type Fuse Assortment (Single*)

For European Vehicles
Number of Fuses:

*(One of 2.5A, 5A, 25A, Four of 8A, Three of 16A)

Part No.



711683011	Blade-Type Fuse: 1A Black
711683021	Blade-Type Fuse: 2A Grey
711683002	Blade-Type Fuse: 3A Lilac
711683052	Blade-Type Fuse: 4A Pink
711684002	Blade-Type Fuse: 5A Beige
711685002	Blade-Type Fuse: 7.5A Brown
711686002	Blade-Type Fuse: 10A Red
711687002	Blade-Type Fuse: 15A Blue
711688002	Blade-Type Fuse: 20A Yellow
711689002	Blade-Type Fuse: 25A White
711690002	Blade-Type Fuse: 30A Green
711683042	Blade-Type Fuse: 35A Dark Blue
711683031	Blade-Type Fuse: 40A Orange

(Bulk Pieces)

711683903 Blade-Type Fuse Assortment (Single)

For Latest Domestic Vehicles
 Number of Fuses:
 One of 2.5A, 5A, 7A ,15A, 25A, 30A, Two of 10A & 20A

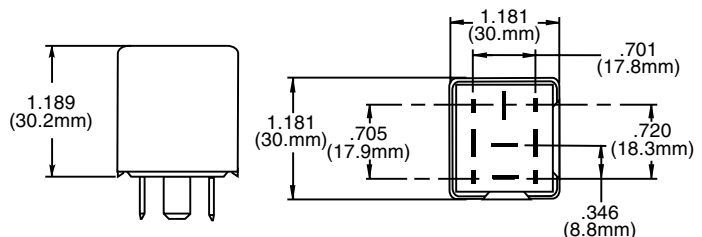
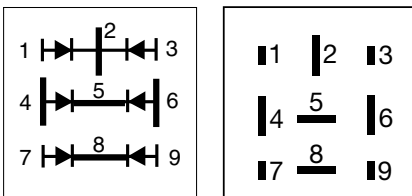
004418004 Connector for Blade-Type Fuses (Bulk 10 Pieces)



Suitable For All Blade-Type Fuses From 2-30A
 High Impact Resistant Housing

H44452001 Custom Diode Module - 6 Diode Array (Single)

1N4005 Diodes
 Forward Current: 1 Amp



Part No.

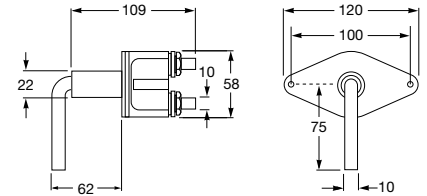
001559001	Battery Master Switch - 100 Amp Continuous Load
H62559001	Battery Master Switch - Twin Terminals (100 Amp)
008458011	Battery Master Switch - 250 Amp Continuous Load
042991001	Replacement Key

For battery main lead
 Connection to either positive or negative lead
 Switch key removable in "off" position only
 Current supply interrupted when key removed
 M10 screw contacts
 2 switch positions: 0 = off, 1 = on

Max Load: 2500A at 24V (10 sec.)

IP Rating: Key side IPX4
 Connection side IP53

(Single)

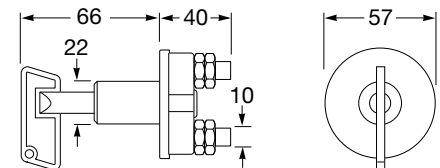
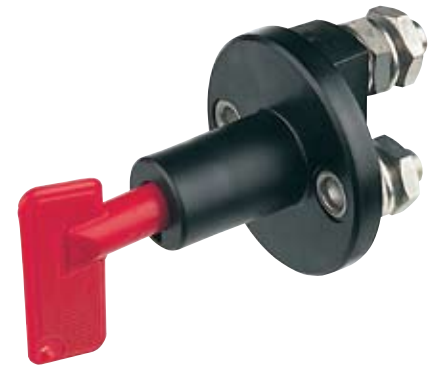


002843001	Battery Master Switch - 50 Amp Continuous Load (Single)
002843011	Battery Master Switch - 100 Amp Continuous Load (Single)
706729011	Replacement Key (Bulk 10 Pieces)

For battery main lead
 Connection to either positive or negative lead
 Switch key removable in "off" position only
 Current supply interrupted when key removed
 M10 screw contacts
 2 switch positions: 0 = off, 1 = on

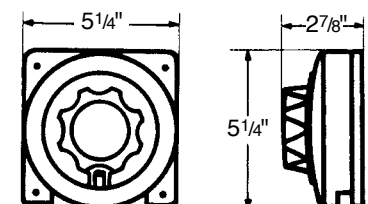
Max Load:
 1000A at 12V (10 sec.), 500A at 24V (10 sec.)

IP Rating: DIN 40 050 - IPX 2



005519001	Battery Master Switch (Single)
------------------	---------------------------------------

Rotary Switch for 6, 12, 24, and 32V Applications
 Enables Switching from Batter 1 to 2 or Both
 Seawater-Resistant
 Noncorroding Black Housing
 Max Load: 175A at 12V (10 Sec.)
 Max. Continuous Rating: 150A at 12V



Module switch generation 004 100

For particularly energy-efficient & maintenance-free interior applications in commercial vehicles, passenger cars, agricultural and construction machines, as well as special vehicles.

Energy efficiency:

The increase in control electronics components makes particular demands on a vehicle's energy system.

Since the power supply causes high costs, the trend is toward very low control currents that must be switched in a reliable manner.

The Hella solution:

frictional snap-in system as well as selected contact combinations.

The AgNi standard version makes reliable switching functions possible even in the mA range.

Likewise, particularly efficient power LED light sources help to reduce the power requirements as compared to previous switch ranges by up to 70% per switch.



Maintenance-free:

The user expects reliable and maintenance-free function over the entire vehicle life. In particular, the service life (cycles) of the contact system, as well as the service life of the light source are the influencing parameters.

Hella offers its customers the particularly wear-resistant "microswitch system". Thanks to the frictional snap-in system, wear and contamination of the contact surfaces are minimized with every switching operation.

The average service life of an LED is up to 100.000 hours.

An additional feature is the use of 4 light sources.

In this way, all switching conditions can be confirmed in the best possible way (2 location and 2 function lights).

Mounting frame:

A modular system with a new design makes all installation configurations possible.

Indicator lamps:

For safety-relevant or special applications, a reliable indicator lamp can be delivered that provides information about the switching condition in a non-local manner.

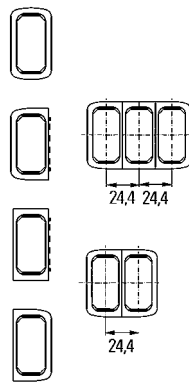
Cover plug



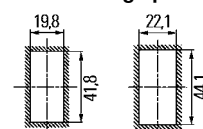
Socket housing



Junior Power Timer



Mounting aperture



without frame

with frame

Technical details:

Rocker material:	PC transparent, painted
Base material:	PA white, housing PA black
Connection contacts:	3.0 mm Junior Power Timer
Switch-contact coating:	AgNi
Flat receptacle:	2.8 mm Junior Power Timer, with AgNi coating
Light source:	Max. 4 LEDs: 2 x location lighting, green 2 x function lighting, red Laser-applied in accordance with catalog or customer-specifically in dxf format
Symbol type:	
Service life:	5 mA/450.000 cycles 5A/24V inductive/270.000 cycles 4A/24V bulb (75W)/90.000 cycles 10A/24V ohmic/80.000 cycles
Tightness:	IP 30
Operating temperature:	-40 °C bis + 85 °C
Storage temperature:	-40 °C bis +100 °C
Dash board thickness:	If the switch is installed directly: 2 mm
Accessories:	Single and series mounting frame, connector skirt available

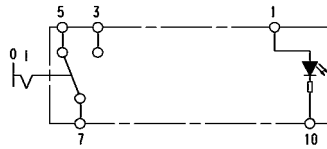
You can find further information, including ordering notes, at

www.hella.com/switchshop/index.jsp

Function 00

Change-over, locking, 1-pole, 1-stage.

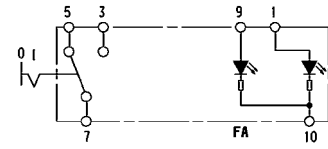
Symbol illumination:
1 x function indication



Function 08

Change-over, locking, 1-pole, 1-stage.

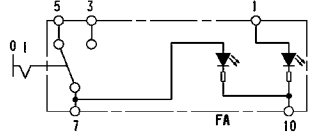
Symbol illumination:
1 x function indication
(1 x external)



Function 01

Change-over, locking, 1-pole, 1-stage.

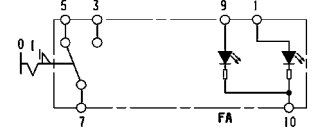
Symbol illumination:
1 x function indication
(1 x internal)



Function 09

Change-over, locking, locking function, 1-pole, 1-stage.

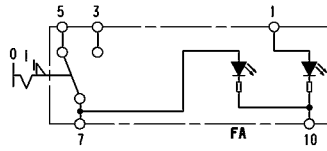
Symbol illumination:
1 x function indication
(1 x external)



Function 02

Change-over, locking, locking function, 1-pole, 1-stage.

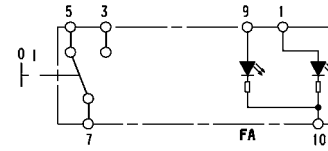
Symbol illumination:
1 x function indication
(1 x internal)



Function 10

Change-over, key, 1-pole, 1-stage.

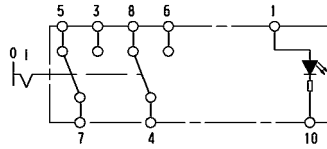
Symbol illumination:
1 x function indication
(1 x external)



Function 03

Change-over, locking, 2-pole, 1-stage.

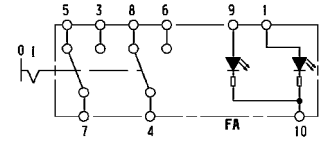
Symbol illumination:
1 x function indication



Function 11

Change-over, locking, 2-pole, 1-stage.

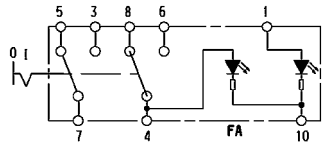
Symbol illumination:
1 x function indication
(1 x external)



Function 04

Change-over, locking, 2-pole, 1-stage.

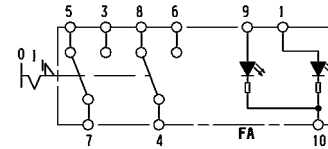
Symbol illumination:
1 x function indication
(1 x internal)



Function 12

Change-over, locking, locking function, 2-pole, 1-stage.

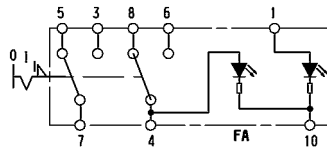
Symbol illumination:
1 x function indication
(1 x external)



Function 05

Change-over, locking, locking function, 2-pole, 1-stage.

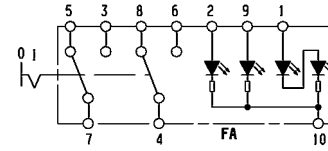
Symbol illumination:
1 x function indication
(1 x internal)



Function 13

Change-over, locking, 2-pole, 1-stage.

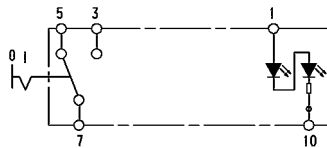
Symbol illumination:
2 x function indication
(2 x external)



Function 06

Change-over, locking, 1-pole, 1-stage.

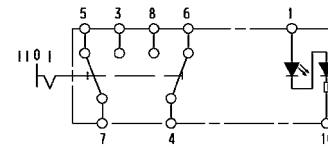
Symbol illumination:
2 x function indication



Function 14

Change-over, locking, 2 x 1-pole, 2-stage.

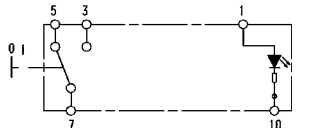
Symbol illumination:
2 x function indication



Function 07

Change-over, key, 1-pole, 1-stage.

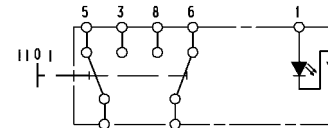
Symbol illumination:
1 x function indication



Function 15

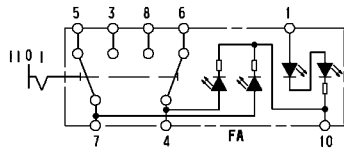
Change-over, key, 2 x 1-pole, 2-stage.

Symbol illumination:
2 x function indication



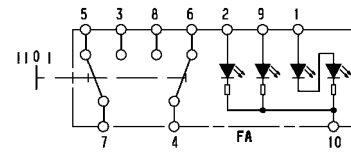
Function 16

**Change-over, locking,
2 x 1-pole, 2-stage.**
Symbol illumination:
2 x function indication
(2 x internal)



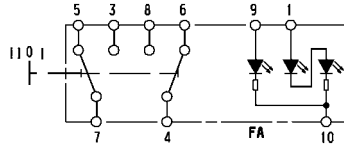
Function 22

**Change-over, key,
2 x 1-pole, 2-stage.**
Symbol illumination:
2 x function indication
(2 x external)



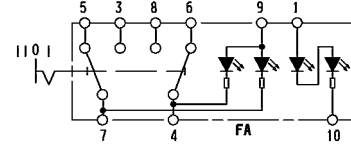
Function 17

**Change-over, key,
2 x 1-pole, 2-stage.**
Symbol illumination:
2 x function indication
(1 x external)



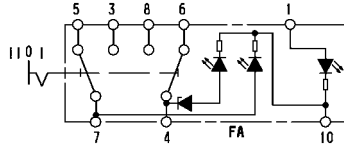
Function 23

**Change-over, locking,
2 x 1-pole, 2-stage.**
Symbol illumination:
2 x function indication
(2 x external)



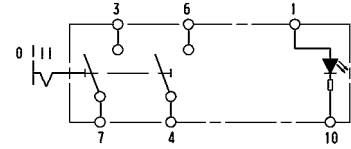
Function 18

**Change-over, locking,
2 x 1-pole, 2-stage.**
Symbol illumination:
1 x function indication
(2 x internal)
1 x preductive diode



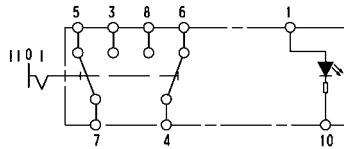
Function 24

**Normally open, locking,
2 x 1-pole, 2-stage.**
Symbol illumination:
1 x function indication



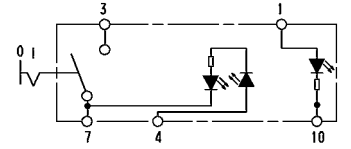
Function 19

**Change-over, locking,
2 x 1-pole, 2-stage.**
Symbol illumination:
1 x function indication



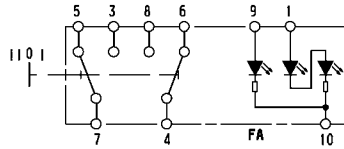
Function 25

**Hazard warning switch,
Normally open, locking,
1-pole, 1-stage.**
Symbol illumination:
1 x function indication
(1 x internal)



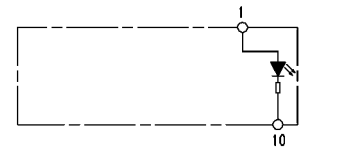
Function 20

**Change-over, key,
2 x 1-pole, 2-stage.**
Symbol illumination:
2 x function indication
(1 x external)



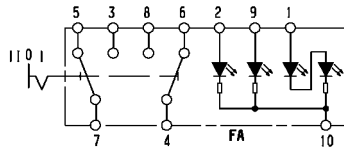
Function 78

**Indicator light for
illumination of symbol field 1**



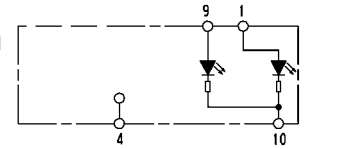
Function 21

**Change-over, locking,
2 x 1-pole, 2-stage.**
Symbol illumination:
2 x function indication
(2 x external)



Function 79

**Indicator light for
illumination of symbol fields 1
and 2**





Part no.	Pack Qty.	Accessories for switches in model range 004 100 (Special Order)
Modular mounting-panel system		
Black. 2 end pieces and 1 middle piece are needed to make a mounting panel. By adding middle pieces, this panel can be extended as required.		
168396002 168396007	10 200	Single frame
169208002 169208007	10 200	Middle piece
169209002 169209007	10 200	End piece, left
169210002 169210007	10 200	End piece, right
Cover plug		
Black. For closing empty switch apertures in mounting panel.		
172229002 172229007	10 52	Cover plug
Socket housing		
White.		
010076002 010076007	10 440	Socket housing, 10-pin
Terminal		
Cable section: 0.5 - 1.0 sq. mm. Size of blade terminal: 2.8 x 0.8 sq. mm.		
863934003	50	Blade receptacle CuSn/Sn
<hr/>		
Cable section: 1.0 - 2.5 mm ² . Size of blade terminal: 2.8 x 0.8 sq. mm.		
863934023 863934024	50 1000	Blade receptacle CuSn/Sn

Online Switch Configuration

Configure your switch online at www.hella.com/rockerswitch

Configurator

Switch Indicator lights Accessories Notes list Enquiry

Configure your switch or your indicator light

Switching functions: Function 13

Change-over, maintained contact, 2-pole, 1-step, symbol illumination, 2x function indicator, 2x external

Operating voltage: 12 V 24 V

Symbols:

Symbol 1 (lower symbol): Light 001 Light

Symbol 2 (upper symbol): Light 005 Fog light

Quantity:

Add to notes list

Configurator

Switch Indicator lights Accessories Notes list Enquiry

Socket

Designation	Illustration	Quantity
Socket BJD 010.079-002 (VP 10 pieces)		<input type="text"/>
Socket BJD 010.079-007 (VP 440 pieces)		<input type="text"/>

Junior Power Timer

Designation	Illustration	Quantity
Flat plug socket CuSn/Sn 863.934-003 (VP 50 pieces) Intersection mm* 0,5 - 1,0 Dimensions mm 2,8 x 0,8		<input type="text"/>
Flat plug socket CuSn/Sn 863.934-023 (VP 50 pieces) Intersection mm* 1,0 - 2,5 Dimensions mm 2,8 x 0,8		<input type="text"/>
Flat plug socket CuSn/Sn 863.934-024 (VP 1000 pieces) Intersection mm* 1,0 - 2,5 Dimensions mm 2,8 x 0,8		<input type="text"/>

Mounting frame

Designation	Illustration	Quantity
Single frame SAR 168.395-002 (VP 10 pieces)		<input type="text"/>
Single frame SAR 168.395-007 (VP 200 pieces)		<input type="text"/>

Configurator

Switch Indicator lights Accessories Notes list Enquiry

Switch

Quantity	Switching function	Symbol 1	Symbol 2		
<input type="text" value="1"/>	Function 13 Operating voltage 12 V			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Enquire now

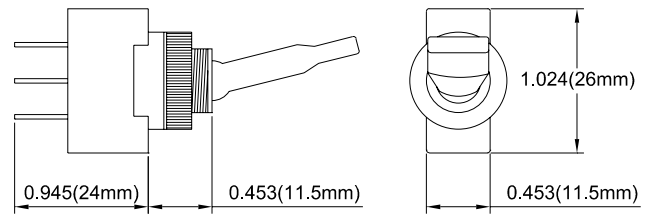
Part No.

H61903001	On/Off SPST Toggle Switch - Red
H61904001	On/Off SPST Toggle Switch - Amber
H61905001	On/Off SPST Toggle Switch - Green
H61906001	On/Off SPST Toggle Switch - Blue



Rectangular Switch with Round Aperture
 Toggle Illuminated in "On" Position
 Max Load: 10A at 12V
 Three 1/4" Blade Terminals

(Single)

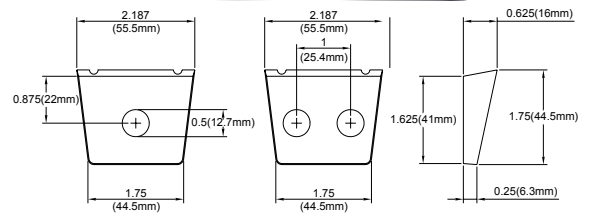


H84980011	Matching Mounting Panels - 1 Opening
H84980021	Matching Mounting Panels - 2 Opening



For Switches & Control Lamps (80146 - 80513)
 For Mounting Under Dashboard

(Single)

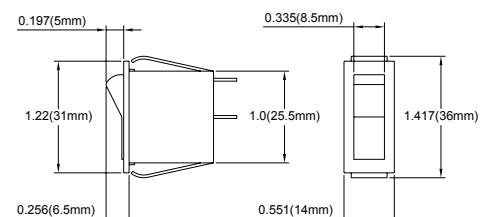


004406001	On/Off SPST Rocker Switch (Single)
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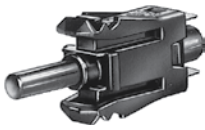


Black Button & Bezel

Max Load: 10A at 12V
 Two 1/4" Blade Terminals



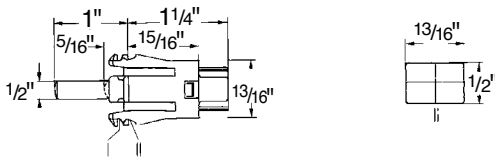
Part No.



004229011

Universal Contact Switch (Mercedes Benz) (Single)

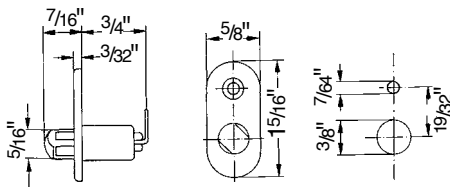
Pin Protrudes in "On" Position
Two Flat Plug Contacts
Max Load: 1.5A at 12V



004365001

Universal Contact Switch (BMW) (Bulk 10 Pieces)

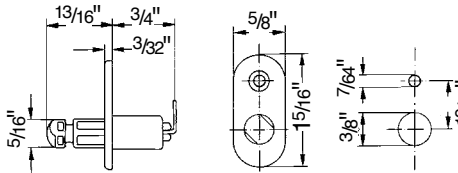
Pin Protrudes in "On" Position
One Flat Plug Contact
Max Load: 3.5A at 12V



004365011

Universal Contact Switch (BMW) (Bulk 10 Pieces)

Pin Protrudes in "On" Position
One Flat Plug Contact
Max Load: 3.5A at 12V



H61778001

On/Off SPST Push/Pull Switch with Control Lamp - Red

H61778011

On/Off SPST Push/Pull Switch with Control Lamp - Amber

H61778021

On/Off SPST Push/Pull Switch with Control Lamp - Green

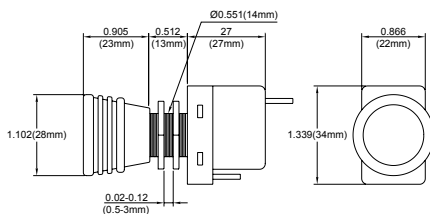
Illuminated in "On" Position
For Dashboards up to 1/8" Thick
Max Load: 10A at 12V
Three 1/4" Blade Terminals
Complete with 12V 1.2W Bulb
(Single)

004778001

On/Off SPST Push/Pull Switch with Control Lamp - Green (Single)

This Part Number Has Two Interchangeable Lenses (Red & Orange)

Replacement 12V 1.2W Bulb: **H83225001**

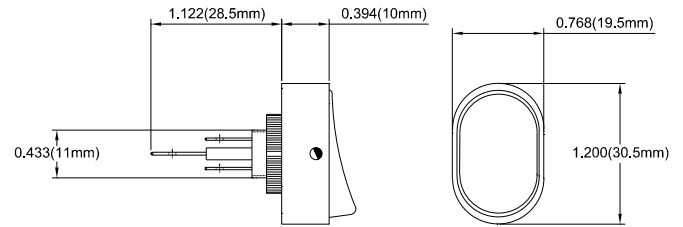


Part No.

H61919001	On/Off SPST Rocker Switch - Blue
H61920001	On/Off SPST Rocker Switch - Green
H61921001	On/Off SPST Rocker Switch - Red

Oval Switch with Round Aperture
 Illuminated in "On" Position
 Max Load: 20A at 12V
 Three 1/4" Blade Terminals

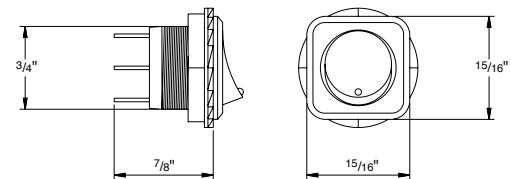
(Single)



H61922001	On/Off Flush Mount Rocker Switch - Amber LED
H61923001	On/Off Flush Mount Rocker Switch - Green LED
H61924001	On/Off Flush Mount Rocker Switch - Red LED

Round Mounting Hole
 Illuminated in "On" Position
 Max Load: 20A at 12V
 Three Terminal Connections Included

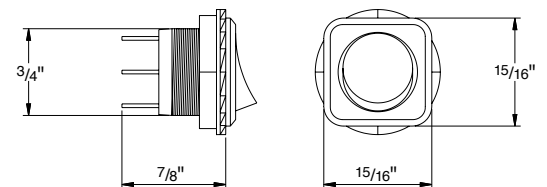
(Single)



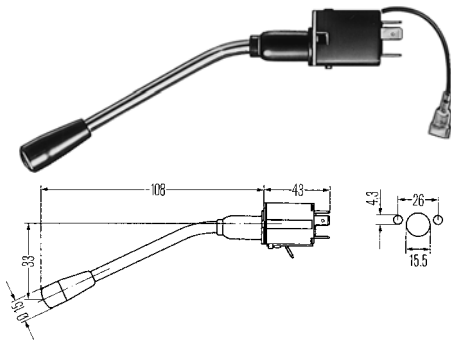
H61925001	On/Off Flush Mount Rocker Switch - Amber Incandescent
H61926001	On/Off Flush Mount Rocker Switch - Blue Incandescent
H61927001	On/Off Flush Mount Rocker Switch - Green Incandescent
H61928001	On/Off Flush Mount Rocker Switch - Red Incandescent

Round Mounting Hole
 Illuminated in "On" Position
 Max Load: 20A at 12V
 Three 3/16" Blade Terminals
 Three Terminal Connections Included

(Single)



Part No.

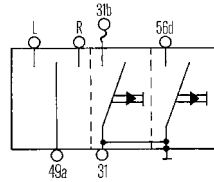


001539001

Steering Column Combination Switch (Single)

108 mm lever
 Lever contoured 26°
 60mm long lead with 6.3mm blade terminal contact for terminal 31b
 Functionality includes left, right, horn, and headlamp flasher

Max load at 12V: Turn Signal 8A
 Horn 10A
 Headlamp Flasher 2A

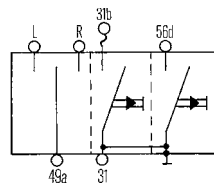


001539047

Steering Column Combination Switch (Single)

115 mm lever
 Straight lever
 Knob with symbols
 Part connected to a lead set
 Functionality includes left, right, horn, and headlamp flasher

Max load at 12V: Turn Signal 8A
 Horn 10A
 Headlamp Flasher 2A

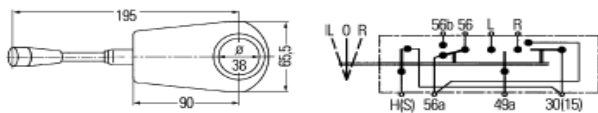


008520047

Steering Column Combination Switch (Single)

195mm length
 Mounting strap for 38mm diameter steering column
 Black body and handle
 Functionality includes left, right, horn, and headlamp flasher

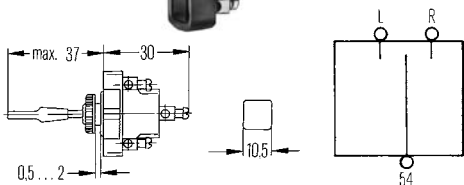
Max load at 12V: Turn Signal 7A
 Horn 15A
 Headlamp Flasher 12.5A



001545001

Turn Signal Toggle Switch (Bulk 10 Pieces)

Max load: 5A at 12V
 2A at 24V



Part No.

001579011

Hazard Flasher Switch (Bulk 5 Pieces)

001579071

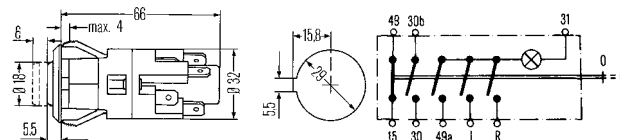
Hazard Flasher Switch w/ Pre-fitted 24V Bulb (Bulk 10 Pieces)

Push button switch
Includes eight 6.3mm blade terminal contacts

Max load: at 12V
Terminals 49 - 15, 49a - L, 49a - R: 7A
30b - 30: 14A

Accessories

12V 2W Bulb: **002066121**
24V 3W Bulb: **002066241**
Socket housing: **001926001**



003916011

Hazard Flasher Switch with 12V Bulb (Single)

003916107

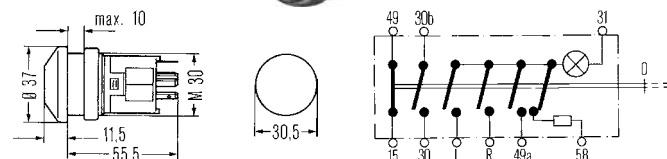
Hazard Flasher Switch with 24V Bulb (Bulk 50 Pieces)

Push button switch with red warning light
Splashproof (IP 66 A)

Max load: 14A at 12V

Accessories

12V version w/o contact 30b: **003916031**
12V 1.2W (5W/1.2) bulb: **002095121**
24V 1.2W (W5/1.2) bulb: **002095241**
Socket housing: **711375001**

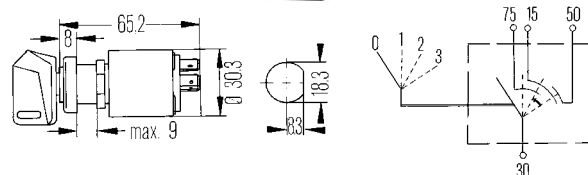


007232001

Starter Switch with Pre-Heat (Single)

Includes 2 keys
4 switch positions include: 0 = off, 1 = special loads on
2 = ignition, 3 = start

Max load:
Terminal 30 with 75: 20A
Terminal 30 with 15: 20A
Terminal 30 with 50: 50A / 12A

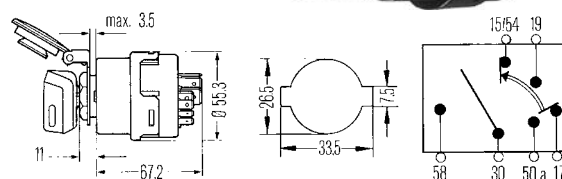


003959001

Starter Switch with Pre-Heat (Single)

Includes 2 keys (740558007)
5 switch positions Include: P = side light, 0 = off, 1 = driving position
2 = pre-heat, 3 = start, special loads off

Max load:
Terminal 30 with 58: 8A 4A
Terminal 30 with 15/54: 35A 17.5A
Terminal 30 with 19: 60A 35A
Terminal 30 with 17: 60A 35A
Terminal 30 with 50a: 70A / 18A 40A / 5A

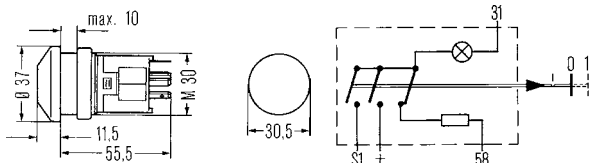


Accessories

4 pin socket housing: **735460001**
6 pin socket housing: **735461001**



Part No.



003916061

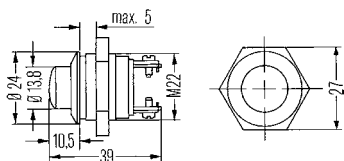
Push Button - On / Off Switch (Single)

Includes green warning light and pre-fitted 12V bulb
 Splashproof (IP 66 A)

Max load: 14A at 12V

Accessories

12V 1.2W (5W/1.2) bulb: **002095121**
 Socket housing: **711375001**



001571001

Push Button Switch - Two Screw Contacts

001571071

Push Button Switch - Two Screw Contacts & Damp Proof Cover

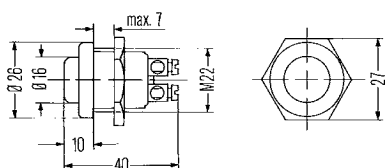
001571041

Push Button Switch - 6.3mm Blade Contacts & Damp Proof Cover

For mounting surfaces up to 5 mm thick

Intermittent Load: 20A at 12V
 15A at 24V

(Bulk 5 Pieces)

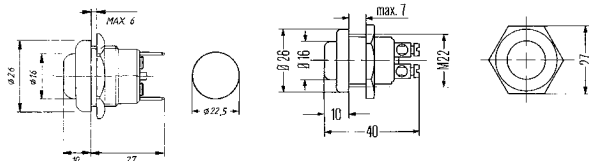


001571101

Push Button Switch - Two Screw Contacts (Bulk 10 Pieces)

For mounting surfaces up to 7mm thick

Intermittent Load: 12.5A at 12V
 6.25A at 24V



001571131

Push Button Switch - 6.3mm Blade Contacts

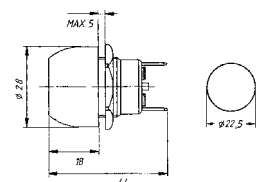
001571141

Push Button Switch - With Metal Ring & Two Screw Contacts

For mounting surfaces up to 6 mm thick

Intermittent Load: 16A at 12V
 8A at 24V

(Bulk 10 Pieces)



001571151

Push Button Switch - Two Screw Contacts & Damp Proof Cover

001571161

Push Button Switch - 6.3mm Blade Contacts & Damp Proof Cover

For mounting surfaces up to 5 mm thick

Intermittent Load: 16A at 12V
 8A at 24V

(Bulk 10 Pieces)

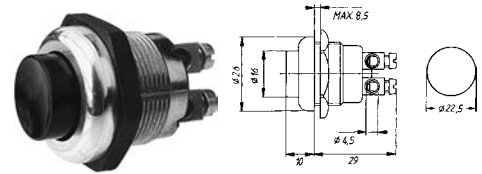
Part No.

001571171

Push Button Switch - Two Screw Contacts (Bulk 10 Pieces)

For mounting surfaces up to 8.5 mm thick

Intermittent Load: 16A at 12V
8A at 24V

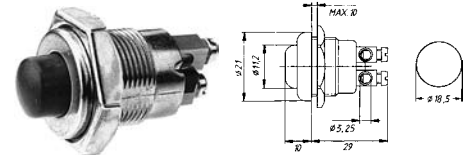


001571181

Push Button Switch - Two Screw Contacts (Bulk 10 Pieces)

For mounting surfaces up to 10 mm thick

Intermittent Load: 12A at 12V
5A at 24V

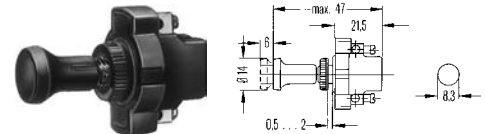


001563021

Push / Pull (On / Off) Switch - Two Screw Contacts (Bulk 10 Pieces)

For mounting surfaces up to 2mm thick

Max Load: 10A at 12V



001563001

Push / Pull (On / Off) Switch - Two Screw Contacts (Bulk 10 Pieces)

For mounting surfaces up to 12mm thick

Max Load: 10A at 12V

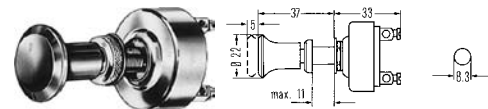


001564001

Push / Pull (On / Off) Switch - Two Screw Contacts (Bulk 10 Pieces)

For mounting surfaces up to 11mm thick

Max Load: 10A at 12V
5A at 24V



001565001

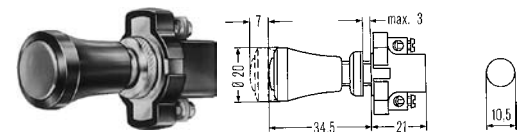
Push / Pull (On / Off) Switch - Two Screw Contacts (Bulk 10 Pieces)

For mounting surfaces up to 3 mm thick
Includes red warning light

Max Load: 5A at 12V

Accessories

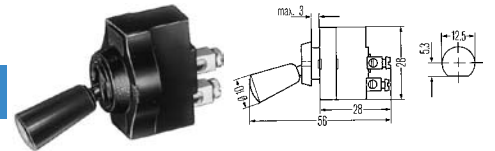
12V 2W (J) bulb: **002066121**



001567011

Toggle (On / Off) Switch - Two Screw Contacts (Single)

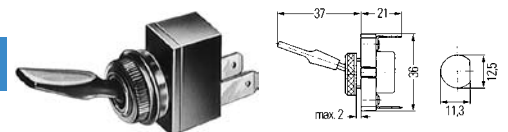
Max Load: 6A at 12V
3A at 24V



001567041

Toggle (On / Off) Switch - 6.3mm Blade Contacts (Single)

Max Load: 5A at 12V



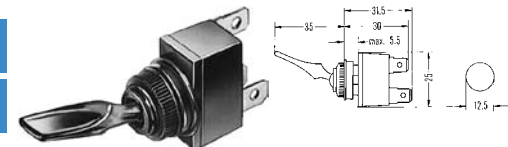
001567112

Toggle (On / Off) Switch - 6.3mm Blade Contacts (Green Warning Light)

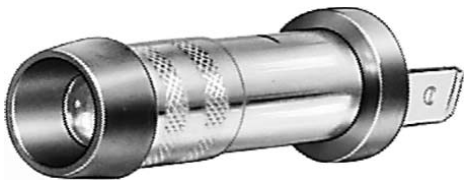
001567122

Toggle (On / Off) Switch - 6.3mm Blade Contacts (Amber Warning Light)

Max Load: 10A at 12V
(Single)



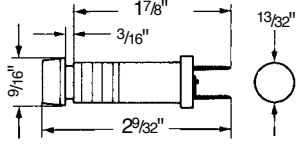
Part No.



003257041

Control Lamp (Single)

Four Interchangeable Lenses (Red, Amber Green, Blue)
 For Dashboards up to 1/4" Thick
 Two 1/4" Blade Terminals
 Complete with 12V 2W Bulb



H22982001

Control Lamp - Red

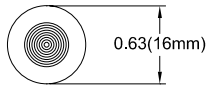
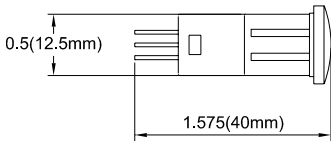
H22984001

Control Lamp - Amber

H22985001

Control Lamp - Green

Complete with 12V 2W Bulb
 Two 1/4" Blade Terminals



(Single)



001200041

Control Lamp - Blue

001200151

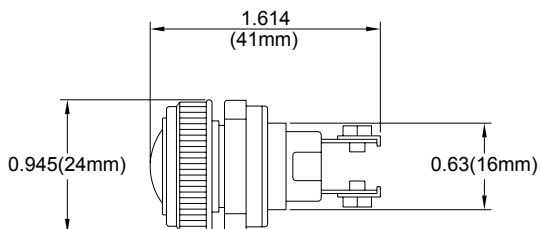
Control Lamp - Amber

001200131

Control Lamp - Red

For Dashboards up to 1/4" Thick
 Two Blade Terminals

(Bulk 5 pieces)



Part No.

H81953011	Electric Vacuum Pump with Connector Interface (Single)
H81953021	Electric Vacuum Pump with Quick Connect Terminals (Single)

Applications:

Designed to supplement diesel engines in controlling heating and cooling functions, door locks, cruise controls, trunk release or any other functions controlled by vacuum.

Features:

- 12V DC
- Sealed motor (inlet port, outlet and pump end)
- Environmentally tested; humidity, salt, fog dust, air and water leakage
- Meets on (1) meter (3.28 feet) drop test
- Electrical Terminals: meet axial force (push/pull) of 40-45 pounds
- Vibration tested: eight (8) hours per plane; amplitude (peak to peak) 1.27 mm (0.05 in.)
- Electrical Stress Tested; Load Dump, Reverse Voltage, Short to Power Ground, non-disruptive transients and stall
- Meets standard corrosion test ASTM-B 117
- Temperature Range: -25°C to +96°C
- Weight: 13 grams (11 oz.)
- Chemical Resistant:
 - 50/50 water, ethylene glycol antifreeze
 - Dexcon II transmission fluid
 - Leaded or unleaded regular gasoline
 - Diesel fuel
 - Dot 3 hydraulic brake fluid
 - Ethanol, 25% methanol +5% liquid soap in water

Performance Specifications:

- Evacuate a 40 cubic inch (minimum) reservoir from atmosphere pressure to 15 inches of mercury vacuum in maximum of 20 seconds.
- Internam switch turns motor off when the vacuum reaches a maximum of 15 inches of mercury. When vacuum is reduced to a minimum of 11 +2 or -0 inches of mercury switch will reactivate motor to increase vacuum.
- Motor draws no more than .65 average amperages with 13.5V applied to pump terminals.

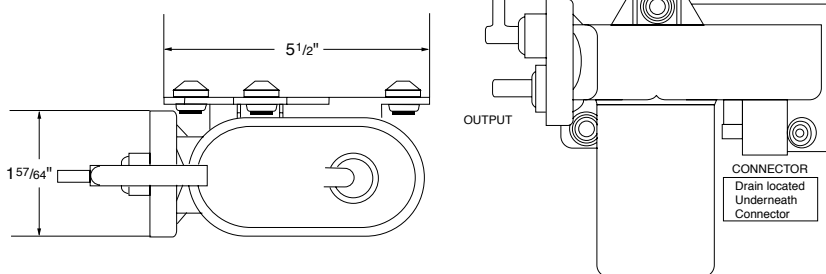
Type 1: Connector Interface

Electrical connector supplied through Packard.

Connector	12052641
Female Terminal 18-20 gauge	12048074
Cable Seals	12048086

Type 2: Quick Connect Terminals

6.3 mm (.250") female quick connect terminal
Hella part number H84991101 or 172609007 (order 2 per vacuum pump)



Part No.

009428081	UP28 Electric Vacuum Pump (Single)
------------------	---

Applications:

Designed to supplement diesel engines in controlling heating and cooling functions, door locks, cruise controls, trunk release or any other functions controlled by vacuum.

Technical Data:

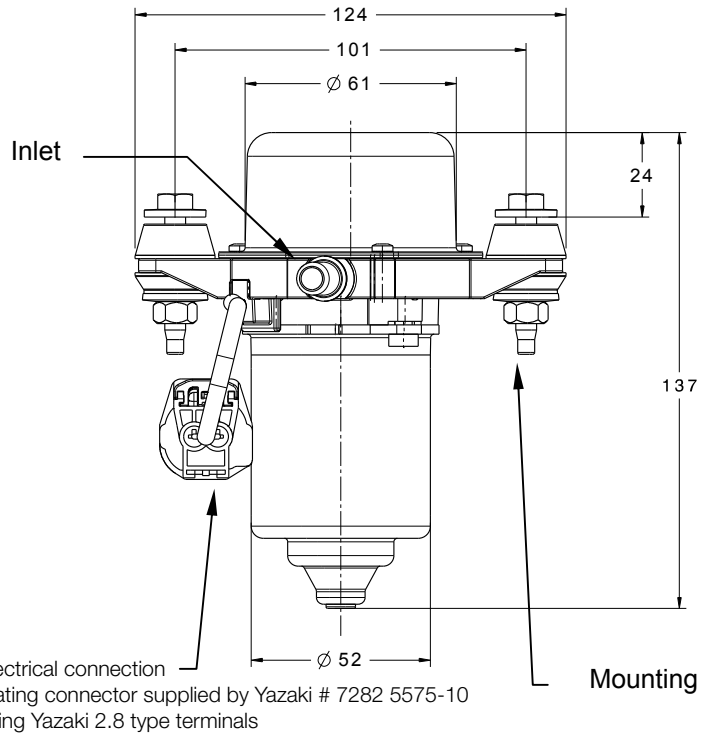
Operating Voltage: 9 V to 16 V
 Current Consumption: < 10 A at 13 V
 Operating Temperature: -40°C to +120°C
 Operating Altitude: 0 to 3000+ meters
 Maximum Vacuum Level: > 86%
 Vacuum Generation Rate: 500 mbar vac in ≤ 5 sec
 700 mbar vac in ≤ 10.5 sec
 Pneumatic Volume: 3.2 liter
 Operating Life: > 200 hours
 Operating Cycles: > 150,000
 Environmental Compatability:
 water, ethylene-glycol solutions, transmission fluid,
 gasoline, diesel fuel, motor oil, DOT 3/4 brake
 fluid, solvents.
 Acoustic Noises: ≤ 75 dB(A)

Mode of Operation:

The Hella UP28 vacuum pump requires external control for operation. A pneumatic inlet is provided, while the outlet is integrated into the pump. An electrical connector is used to receive power and ground.

Advantages:

Utilizing multiple mounting options, both on-engine and offengine, the UP28 vacuum pump from Hella is a flexible solution for providing high pneumatic-volume supplemental vacuum. The UP28 vacuum pump provides maintenance-free, high durability, and demand oriented operation.



Part No.

009286001

UP30 Electric Vacuum Pump (Single)

Applications:

Designed to supplement diesel engines in controlling heating and cooling functions, door locks, cruise controls, trunk release or any other functions controlled by vacuum.

Technical Data:

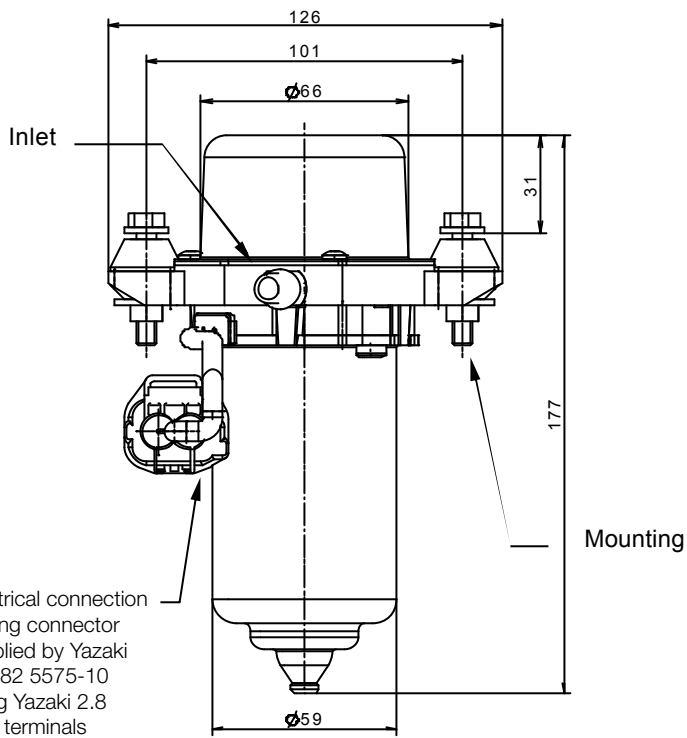
Operating Voltage: 9 V to 16 V
 Current Consumption: < 15 A at 13 V
 Operating Temperature: -40°C to +120°C
 Operating Altitude: 0 to 3000+ meters
 Maximum Vacuum Level: > 86%
 Vacuum Generation Rate: 500 mbar vac in 4 sec at 13V
 Pneumatic Volume: 5 liter
 Operating Life: > 1200 hours
 Operating Cycles: > 1,000,000
 Environmental Compatability:
 water, ethylene - glycol solutions, transmission fluid,
 gasoline, diesel fuel, motor oil, DOT 3/4 brake fluid,
 solvents.

Mode of Operation:

The Hella UP30 vacuum pump requires external control for operation. A pneumatic inlet is provided, while the outlet is integrated into the pump. An electrical connector is used to receive power and ground.

Advantages:

Utilizing multiple mounting options, both on-engine and offengine, the UP30 vacuum pump from Hella is a flexible solution for providing a high pneumatic-volume primary vacuum source. The UP30 vacuum pump provides maintenance-free, high durability, and demand oriented operation.





Part No.

008021001	Universal Lighter - Illuminated - 12V
008022001	Universal Lighter - Not Illuminated - 12V
008022011	Universal Lighter - Not Illuminated - 24V

Compact flush-fit
 Rated for at least 10,000 activations
 Terminals: 6.3mm blade
 Dashboard thickness: up to 2.5mm
 Mounting aperture: 28mm diameter (008021001)
 23.5mm diameter (008022001)

Max Load: 10A at 12V
 5A at 24V

(Single)



008023011	Power Socket - Illuminated - 12V (Single)
------------------	--

12V 1.2W Bulb: 007997011
 24V 1.0W Bulb: 007997021

008023001	Power Socket - Not Illuminated - 24V (Single)
------------------	--

Compact flush-fit version for operation of auxiliary equipment in cars, trucks, campers and boats.
 Terminals: 6.3mm blade
 Dashboard thickness: up to 2.5mm
 Mounting aperture: 28mm diameter

Max Load: 15A at 24V



001946021	ISO 4165 Standard Socket - 1 Screw Contact
------------------	---

001946011	ISO 4165 Standard Socket - 1 Blade 6.3mm Terminal
------------------	--

001946051	ISO 4165 Standard Socket - 2 Blade 6.3mm Terminals w/ Ground
------------------	---

Compact light alloy flush-fit socket.
 Grounded via housing
 Dashboard thickness: up to 7mm
 Mounting aperture: 18.5mm diameter

Max Load: 8A at 24V

(Bulk 10 Pieces)

Part No.

H84777011	ISO 4165 Standard Socket - 2 Blade 6.3mm Terminals
------------------	---

H84777001	ISO 4165 Standard Socket - 2 Screw Contacts
------------------	--

Compact plastic flush-fit socket.
 Dashboard thickness: up to 7mm
 Mounting aperture: 18.5mm diameter

Max Load: 8A at 24V

(Single)



002286031	ISO 4165 Standard Socket - 2 Blade 6.3mm Terminals (Bulk 10 Pieces)
------------------	--

Compact plastic flush-fit socket.
 Dashboard thickness: up to 2mm
 Mounting aperture: 23mm diameter

Max Load: 8A at 24V



H84123011	ISO 4165 Standard Socket - Plastic Surface Mount / Waterproof (Single)
------------------	---

Max Load: 8A at 24V



007589021	ISO 4165 Universal Plug (Bulk 10 Pieces)
------------------	---

Universal plug with screwed strain relief / without fuse
 2 screw contacts to 2.5 sq. mm.

Max Load: 16A at 24V



002252102	ISO 4165 Economy Universal Plug (5 x 3 mm Cable Opening) (Single)
------------------	--

001921102	ISO 4165 Economy Universal Plug (8 mm Diameter Cable Opening) (Bulk 12 Pieces)
------------------	---

Without Fuse
 2 screw contacts up to 2.5 sq. mm.

Max Load: 8A at 24V



Part No.



H84987001

ISO 4165 Standard Plug (Single)

001915001

ISO 4165 Standard Plug with Strain Relief (Bulk 10 Pieces)

2 screw contacts CuZn up to 2.5 sq. mm.
9.2 mm Diameter Cable Opening

Max Load: 18A at 24V



008032001

ISO 4165 Adapter Cable (Single)

For adapting from standard (ISO 4165) or cigarette lighter sockets to two standard sockets (ISO 4165).
Length: 0.12 m.
Cable: 2 x 0.75mm²
With integrated 8A fuse.

Max Load: 8A at 24V



862757011

2 - Pole Socket with 2 Blade 6.3mm Terminal Contacts (Single)

Max Load: 8A at 12V



001933011

3 - Pole Socket (Bulk 10 Pieces)

For agricultural machines and tractors
Socket, made of black plastic (DIN 9680)
Mounting aperture: 26 mm diameter
4 x 6.3 mm / 1 x 4.8 mm blade terminal contacts CuSn.

Max Load:

16A at 24V (lead size 1.5mm²)

25A at 24V (lead size 2.5mm²)



001941002

7 - Pole Socket with 7 CuZn Screw Contacts (ISO 1724) (Bulk 25 Pieces)

Socket with lid, solid metal.
Removable contact set.

Max Load:

16A at 12V (lead size 1.5mm²)

25A at 12V (lead size 2.5mm²)

Part No.

001943011

7 - Pole Socket with 7 CuZn Screw Contacts (ISO 1724) (Bulk 10 Pieces)

With disconnecting contact for rear fog light on motor vehicle.



001943002

7 - Pole Socket with 7 CuZn Screw Contacts (ISO 1724) (Single)

Socket with lid, made of black plastic
Removable contact set.

Max Load:

16A at 12V (lead size 1.5mm²),

25A at 12V (lead size 2.5mm²).

H84989041

7 - Pole Plastic Socket (Single)

Black plastic socket with removable contact set

Max Load:

16A at 12V (lead size 1.5mm²)

25A at 12V (lead size 2.5mm²)



001918002

7 - Pole Plug with 7 CuZn Screw Contacts (ISO 1724) - Solid Metal

001930003

7 - Pole Plug with 7 CuZn Screw Contacts (ISO 1724) - Black Plastic

With strain relief and grommet.

Max Load:

16A at 12V (lead size 1.5mm²)

25A at 12V (lead size 2.5mm²)

(Bulk 25 Pieces)



H84645011

ABS/EBS 5/7-Pole Socket (ISO 7638-1)

Socket made of plastic with lid.
With rubber gaskets and nickel-plated contact pins.
Fiber-glass reinforced polyamide housing.
PG gland for cable exit.
Mounting aperture 54 mm diameter
For cable diameter 9 - 16 mm.
Contact pins: 5 each of 1.5 sq. mm + 2 each of
4 sq. mm + 2 each of 6 sq. mm and 2 dummy plugs.
Class of protection IP54 in plugged condition.

Max Load:

16A at 24V (lead size 1.5mm²)

25A at 24V (lead size 2.5mm²)









30A at 24V (lead size 4.0 - 6.0mm²)



Horn Applications

Selecting the right horn is now even easier using the simple and quick selection guide included in the new 2011 Hella Electrics Catalog. The selection guide provides the proper horn recommendations for applications ranging from small motorcycles to large buses. The guide spans Hella's wide array of horn products ranging from the compact M28 disc horn to the powerful compressed air triple horn.



	M28	S90	M26	M100	B36	DL50	B133	TE16	Twin Air	Triple Air
				●	●	●	●			
				●	●	●	●			
		●	●	●	●	●	●	●	●	
			●	●	●		●	●	●	●
		●	●	●			●	●	●	●
	●	●	●	●			●	●	●	●
	●	●						●		
	●									

Horn Retail Program

Hella's Horn Retail Program features our most popular acoustic products available in attractive display kits.

Retail Clamshell Kit

- Suitable for hanging or free standing displays
- Customer can see and feel the actual product
- Dimensions of parts are visible
- Eye catching graphics



Twin Supertone Horn

Features:

- Sound Level: 118 Db (A)
- Black Coated Metal with Red Protective Grille
- Frequency: 500 Hz High-tone/300 Hz Low-tone
- Current: 2 x 5.5 Amp

Kit includes:

One high-tone unit, one low-tone unit, relay, mounting brackets, and mounting instructions

Part No:

Supertone Kit High tone/Low tone, retail clamshell 003399803
 Supertone Kit High tone/Low tone, display box 003399801



Twin Trumpet Horn

Features:

- Sound Level: 110 Db (A)
- Frequency: 500 Hz High-tone/400 Hz Low-tone
- Current: 2 x 6 Amp

Kit includes:

One high-tone trumpet unit, one low-tone trumpet unit, relay, mounting brackets, and mounting instructions

Part No:

Twin Trumpet Horn Kit, retail clamshell..... 007424804
 Twin Trumpet Horn Kit, display box..... 007424801



Universal Disc Horn

Features:

- OE replacement for various applications
- Black Diaphragm and Galvanized Metal
- Sound Level: 115 Db (A)
- Frequency: 335 Hz Low-tone/400 Hz High-tone
- Current: 5.5 Amp

Kit includes:

One disc horn with bracket

Part No:

Universal Disc Low-Tone, retail clamshell 006958611
 Universal Disc High-Tone, retail clamshell..... 002952013



Retail Display Box

- Compact Size: 5 x 5.5 x 5 inch
- Free standing design
- Pictures and graphics illustrate the contents



Triple-Tone Air Horn

Features:

- Sound Level: 118 Db (A)
- Frequency: 810 Hz High-tone/765 Hz Middle-tone/600 Hz Low-tone
- Melodic Horn features change-over switch on compressor for selecting melodic or triple-tone sound

Kit includes:

One triple-horn unit with high performance compressor, relay, mounting brackets, and mounting instructions

Part No:

Triple-Tone Air Horn Kit with Compressor, retail clamshell 003001621
 Triple-Tone Air Horn Kit with Compressor and Melodic Sound, retail clamshell..... 003001981

Twin-Tone Air Horn

Features:

- Sound Level: 118 Db (A)
- Frequency: 840 Hz High-tone/795 Hz Low-tone

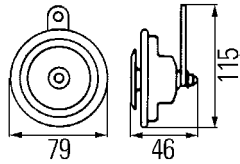
Kit includes:

One high-tone unit and one low-tone unit with high performance compressor, relay, mounting brackets, and mounting instructions

Part No:

Twin-Tone Air Horn Kit with Compressor, retail clamshell..... 003001601





Part No.

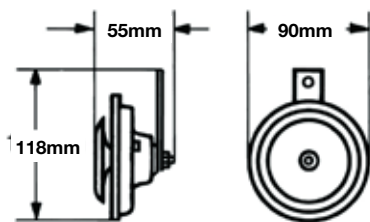
M28 Series - Disc Horn

79 mm diameter design
Includes metal bracket for M10 mounting screw
Blade type terminal contacts
Protection from moisture
Special black housing

007425427

Low - Tone Horn ^(Bulk 40 Pieces)

Voltage	12V
Frequency	335 Hz
Sound Level at 2 meters	110 dB
Power Consumption	72W



S90 Series - Disc Horn

90 mm diameter design
Includes metal bracket for M8 mounting screw
Blade type terminal contacts

922200617

High - Tone Horn ^{(1) (Bulk 10 Pieces)}

922000951

Low - Tone Horn ^{(2) (Single)}

922000961

High - Tone Horn ^{(2) (Single)}

922000971

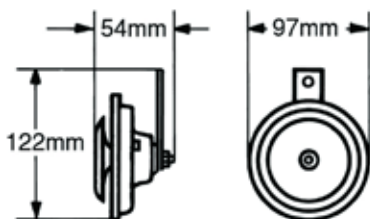
Two Horn Display Set ^{(3) (Single)}

Voltage	12V
Low Tone Frequency	350 Hz
High Tone Frequency	415 Hz
Sound Level at 2 meters	113 dB
Power Consumption	42W

⁽¹⁾ Special all black housing

⁽²⁾ Black housing with special red membrane

⁽³⁾ Set includes part numbers 922000951 (Low Tone) and 922000961 (High Tone)



M26 Series - Disc Horn

97 mm diameter design
Includes metal bracket for M8 mounting screw
Blade type terminal contacts
Teflon seal protects against moisture
Special order options include alternate 6V, 12V and 24V designs and twin horn sets.

006958617

Low - Tone Horn ^{(4) (Single)}

006958611

Low - Tone Clamshell Display Pack ^{(4) (Single)}

002952811

High - Tone Horn ^{(5) (Single)}

002952013

High - Tone Clamshell Display Pack ^{(5) (Single)}

Voltage	12V
Low Tone Frequency	335 Hz
High Tone Frequency	400 Hz
Sound Level at 2 meters	115 dB
Power Consumption	66W

⁽⁴⁾ Special black housing

⁽⁵⁾ Galvanized metal body with black diaphragm

Part No.

M100 Series - Disc Horn

100 mm diameter design
 Special black housing
 Includes metal bracket for M8 mounting screw
 Blade type terminal contacts

H31986001 Low - Tone Horn (Single)

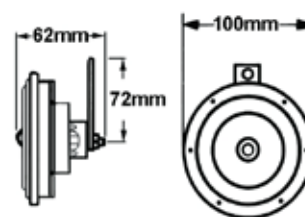
Voltage 12V
 Frequency 350 Hz
 Sound Level at 2 meters 113 dB
 Power Consumption 72W
 Terminal Position Measured from bracket 240°
 Center Line (Clockwise)

H31990081 Low - Tone Horn (Single)

Voltage 12V
 Frequency 350 Hz
 Sound Level at 2 meters 113 dB
 Power Consumption 72W
 Terminal Position Measured from bracket 90°
 Center Line (Clockwise)

H31986011 Low - Tone Horn (Single)

Voltage 24V
 Frequency 350 Hz
 Sound Level at 2 meters 113 dB
 Power Consumption 78W
 Terminal Position Measured from bracket 240°
 Center Line (Clockwise)



B36 Series - Disc Horn

112 mm diameter design. Galvanized metal body with black diaphragm
 Includes metal bracket for M8 mounting screw
 Blade type terminal contacts. Teflon seal protects against moisture
 Special order options include 40V and 80V units, moisture resistant designs, and twin horn sets

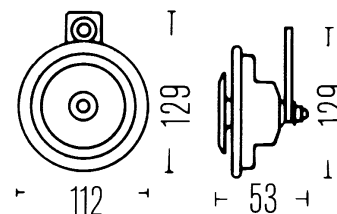
002768082 Low - Tone Horn - 12V (Single)

002768551 High - Tone Horn - 12V (Single)

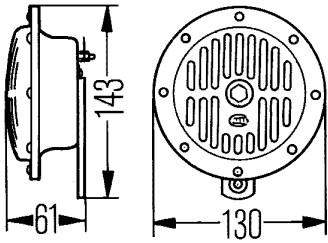
002768382 Low - Tone Horn - 24V (Single)

002768431 High - Tone Horn - 24V (Single)

Voltage 12V / 24V
 Low Tone Frequency 335 Hz
 High Tone Frequency 400 Hz
 Sound Level at 2 meters 116 dB
 Power Consumption 72W



Part No.

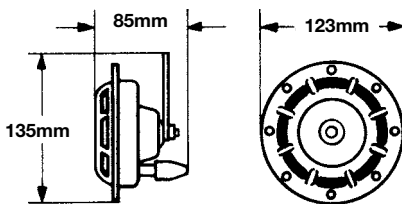


DL50 Series - Supertone Horn

130 mm diameter design
 Black metal housing with protective grill
 Includes metal bracket for M8 mounting screw
 Blade type terminal contacts
 A twin horn set are available as a special order option

004811001	Low - Supertone Horn - 12V (Single)
004811011	High - Supertone Horn - 12V (Single)
004811021	Low - Supertone Horn - 24V (Single)
004811031	High - Supertone Horn - 24V (Single)

Voltage	12V / 24V
Low Tone Frequency	310 Hz
High Tone Frequency	380 Hz
Sound Level at 2 meters	114 dB
Power Consumption	72W



B133 Series - Supertone Horn

123 mm diameter design
 Black metal housing with red protective grill
 Includes metal bracket for M8 mounting screw
 Blade type terminal contacts
 Teflon seal protects against moisture
 Special order options include 12V, 24V, and two horn sets in all black housing.

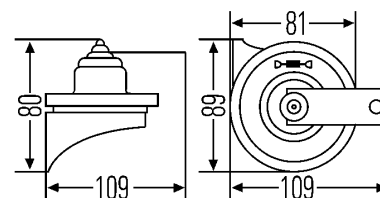
005631001	Low - Supertone Horn (Single)
005631007	Low - Supertone Horn (Bulk 32 pieces)
005631041	High - Supertone Horn (Single)
005631047	High - Supertone Horn (Bulk 32 pieces)
003399803	Clamshell Display Pack (Single)
003399801	Retail Display Box (Single)

Voltage	12V
Low Tone Frequency	300 Hz
High Tone Frequency	500 Hz
Sound Level at 2 meters	118 dB
Power Consumption	66W

Part No.

TE16 Series - Electric Twin Tone Trumpets

81 mm diameter design
 Galvanized metal body featuring red trumpets
 Includes metal bracket for M8 mounting screw and 270° of rotation
 Blade type terminal contacts

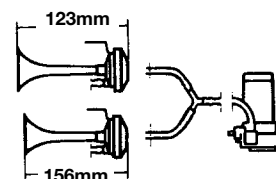


007424001	Low - Electric Twin Tone Trumpets (Single)
007424007	Low - Electric Twin Tone Trumpets (Bulk 8 pieces)
007424011	High - Electric Twin Tone Trumpets (Single)
007424017	High - Electric Twin Tone Trumpets (Bulk 8 pieces)
007424804	Clamshell Display Pack (Single)
007424801	Retail Display Box (Single)

Voltage	12V
Low Tone Frequency	400 Hz
High Tone Frequency	500 Hz
Sound Level at 2 meters	110 dB
Power Consumption	72W

Twin Tone Air Horns

For vehicles without compressed air brake systems
 Kits include: 2 red trumpet horns, compressor, tubing, relay, mounting brackets, and instructions

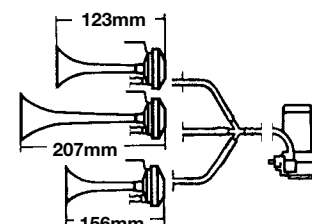


003001601	Twin Tone Air Horn - Clamshell Display Kit - 12V (Single)
003001611	Twin Tone Air Horn - Clamshell Display Kit - 24V (Single)

Voltage	12V / 24V
Frequency	795 Hz
	840 Hz
Sound Level at 2 meters	118 dB
Power Consumption	240W

Triple Tone Air Horns

For vehicles without compressed air brake systems
 Kits include: 3 red trumpet horns, compressor, tubing, relay, mounting brackets, and instructions



003001621	Triple Tone Air Horn - Clamshell Display Kit (Single)
003001981	Triple Tone Air Horn / Melodic Sound - Clamshell Display Kit (Single)

Voltage	12V
Frequency	630Hz
	795 Hz
	840 Hz
Sound Level at 2 meters	118 dB
Power Consumption	240W



Part No.

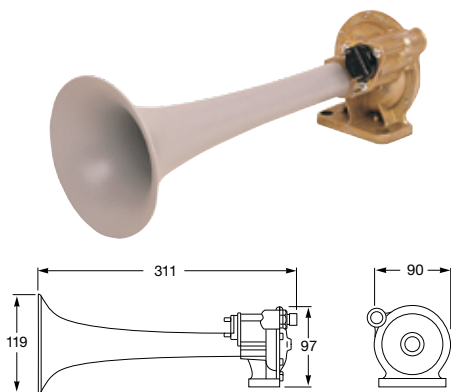
Compressed Air Horns

004206011

Compressed Air Horn (Single)

For vehicles with compressed air brake systems
Includes compressed air electrovalve
Suitable for 10mm diameter compressed air pipe
Tough die-cast housing with black plastic trumpet
2 holes for M10 fixing screws

Voltage	24V
Frequency	400 Hz
Sound Level at 2 meters	118 dB
Power Consumption	50W
Required Air Pressure	87 - 120 PSI

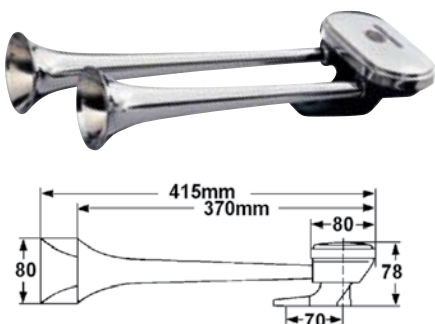


005411001

Twin Compressed Air Horn (Single)

For vehicles with compressed air brake systems
Rustproof chrome housing

Frequency	300 Hz
	320 Hz
Required Air Pressure	87 - 120 PSI
Rustproof chrome housing	



Twin Compressed Air Horn Accessories

715989001

Hand Operated Valve (Single)



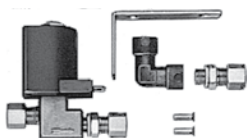
715990001

Floor Operated Valve (Single)



715991001

Electro Valve (24V, 20W) (Single)



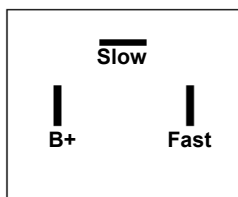
Buzzers

H35394001

3 Pin Buzzer Unit - 12V (Single)

Dual rate buzzer with slow and fast modes
Connection: Apply voltage to power terminal (B+) and apply ground to either slow terminal or fast terminal depending on desired buzzer rate.

Sound Level:	90 dB at 1 foot
Sound Frequency:	4000 Hz +/- 20%
Slow Rate:	60 CPM +/- 20%
Fast Rate:	120 CPM +/- 20%



Tyco Part Number	Hella Part Number
VF28-65F14-S01	H41410051
	931410057
	H41410081
	931410087
VF4-11F11	933332101
	933332107
VF4-11F11-S01	007791011
	007791017
VF4-11F21-S01	007791011
	007791017
VF4-11H11	933332111
VF4-11H11-S08	007957001
	007957007
VF4-11H21-S08	007957001
	007957007
VF4-15F11	933332051
	933332057
VF4-15F11-C01	931680011
	931680017
VF4-15F11-S01	933332291
	933332297
	007794021
	007794027
VF4-15F11-S05	007794041
	007794047
VF4-15F21-C01	931680011
	931680017
VF4-15F21-S01	933332291
	933332297
	007794021
	007794027
VF4-15F21-S05	007794041
	007794047
VF4-15H11	933332071
VF4-15H11-S05	007903021
	007903027
VF4-15H11-S08	007903001
	007903007
VF4-15H21-S05	007903021
	007903027
VF4-15H21-S08	007903001
	007903007
VF4-35F11-S01	007794321
	007794327
VF4-35F21-S01	007794321
	007794327
VF4-45F11	933332011
	933332017
VF4-45F11-S01	933332181
	933332187

Tyco Part Number	Hella Part Number
VF4-45F21	933332011
	933332017
VF4-45F21-S01	933332181
	933332187
VF4-45H11-S08	933332161
	933332167
VF4-45H21-S08	933332161
	933332167
VF4-65F11-S01	007794301
	007794307
	007794311
	007794317
VF4-65F21-S01	007794301
	007794307
	007794311
	007794317
VF4-65H11-S08	933332201
	933332207
VF4-65H21-S08	933332201
	933332207
VF7-11F11-S01	007793031
	007793037
VF7-41F11	003437081
	003437087
VF7-41F11-S01	007793041
	007793047
VF7-41H11	H41437091
	003437097
VFM-11F41-S01	007813011
	H41813007
VFM-15F41-S01	007814011
	007814017
	H41524021
	931524027
V23074-A1001-A402	007813011
	H41813007
V23074-A1001-A403	007814011
	007814017
	H41524021
	931524027
V23134-A0052-C643	933332051
	933332057
	007794021
	007794027
	931680011
	931680017
V23134-A0053-C643	933332071
V23134-A1052-C643	933332011
	933332017

Tyco Part Number	Hella Part Number
V23134-B0052-C642	933332101
	933332107
	007791011
	007791017
V23134-B0053-C642	933332111
V23134-C0052-C642	933332151
	933332157
V23134-C0053-C642	933791081
V23134-C1052-C642	933791061
	933791067
V23134-J1052-D642	003437081
	003437087
V23134-J1053-D642	H41437091
	003437097
Bosch Part Number	Hella Part Number
0 332 019 103	007791011
	007791017
0 332 019 110	007791021
	007791027
	007793041
	007793047
0 332 019 150	933791061
	933791067
0 332 019 213	933791081
0 332 204 184	007794301
	007794307
	007794311
	007794317
0 332 204 185	007794321
	007794327
0 332 209 137	007794021
	007794027
0 332 209 138	007794031
	007794037
0 332 209 150	933332011
	933332017
0 332 209 151	933332051
	933332057
0 332 209 159	933332291
	933332297
0 332 209 161	933332181
	933332187
0 332 209 204	007903021
	007903027
0 332 209 211	933332071
	933332077



Old 5 Digit Hella Part Number	9 Digit Hella Part Number
66126	007791011
66126B	007791017
66134	007791011
66134B	007791017
66138	933332101
66200U	933332017
87102	931680011
87102B	931680017
87104	007794041
87104B	007794047
87105	003530001
87106	965400001
87106B	965400007
87108	003530001
87108B	003530007
87111	965400031
87114	933791081
87115	007903001
87115B	007903007
87118	933791061
87118B	933791067
87204B	003530041
87401	933332051
87401B	933332057
87402	933332101
87402B	933332107
87404	933332291
87404B	933332297
87405	007794321
87405B	007794327
87408B	007794327
87408	007794321
87410B	007794047
87410	007794041
87411	007794301
87411B	007794307
87412	007794311
87412B	007794317
87413	007794321
87413B	007794327
87414	007794301
87419	007794031
87419B	007794037
87420	933332181
87420B	933332187
87421	933332201
87421B	933332207
87423	933332291
87423B	933332297
87424	007794041

Old 5 Digit Hella Part Number	9 Digit Hella Part Number
87424B	007794047
87425B	931680017
87426	933332161
87426B	933332167
87427	007903021
87427B	007903027
87429	931680011
87430	007793041
87430B	007793047
87432	007793031
87432B	007793037
87433	007957001
87433B	007957007
87434	007791021
87435	007957011
87435B	007957017
87436	933332071
87436B	933332077
87440B	007793047
87453B	H41010001
87453	H41010001
87476B	007794307
87483	933332151
87483B	933332157
87499	933332011
87499B	933332017
87530	007794021
87530B	007794027
96798	933332011

Old Hella Part Number	New Hella Part Number
003510421	007791011
H41210291	007791011
H41510021	007791011
003510427	007791017
931210297	007791017
H41510151	007793031
003510707	007793037
003510511	007793041
H41510141	007793041
003510517	007793047
H41680041	007794021
931680047	007794027
H41794001	007794031
H41388251	007794041
H41520191	007794041
003520257	007794047
960388257	007794047
H41388151	007794301
960388157	007794307
H41388311	007794301
960388317	7794307
H41388131	007794321
H41388321	007794321
960388137	007794327
960388327	007794327
960388817	007794337
H41388501	007903001
960388507	007903007
003520151	007903021
H41520241	007903021
003520157	007903027
H41957001	007957001
H41957011	007957011
H41388121	931680011
H41680011	931680011
960388127	931680017
960388167	931680017
H41388461	933332011
P41999021	933332011
960388077	933332017
960388467	933332017
H41388081	933332051
960388087	933332057
003520091	933332061
H41520211	933332071
003520077	933332077
003510111	933332101
H41210011	933332101
931210017	933332107
003510151	933332111

Old Hella Part Number	New Hella Part Number
H41510171	933332151
003510137	933332157
H41388491	933332161
960388497	933332167
H41388481	933332181
960388487	933332187
H41388541	933332201
960388547	933332207
H41388021	933332291
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960388107	933332297
960388477	933332297
H41510121	933791061
003510267	933791067
003510141	933791081
003510082	965400001
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003510087	965400007
003510091	965400031
003510361	003530001
003510362	003530001
003510367	003530007
003510641	003530041
940010677	H41010001
960388067	007794327
960388177	007794307
960388647	007794047
H41010001	H41010001
H41388061	007794321
H41388221	007794301
H41388641	007794041

Terminal Compatibility Chart

Order From	Part No.	AWG	Blade Size	Socket No.
Hella	H84991101	16-20	.110" (2.8mm)	H84526001
Hella	H84991117	18	.187" (4.75mm)	H84702001
Hella	701235033	14-16	.250" (6.3mm)	H84989011, H84526001, H84702001, H84989021, H84703001
Hella	H84991151	10 - 12	.375" (9.5mm)	H84703001
Hella	H84991141	6-10	.375" (9.5mm)	H84703001
Grote & Hartmann	23613213011	18	.187" (4.75mm)	H84702001
Interlock Terminal Corporation	JW 1230-2	12-14	.250" (6.3mm)	H84989011, H84526001, H84702001, H84989021, H84703001
Interlock Terminal Corporation	JW 1630-2	16-18	.250" (6.3mm)	H84989011, H84526001, H84702001, H84989021, H84703001
AMP	42100	14-18	.250" (6.3mm)	H84989011, H84526001, H84702001, H84989021, H84703001
AMP	42281	14-18	.250" (6.3mm)	H84989011, H84526001, H84702001, H84989021, H84703001
AMP	42904	12-16	.250" (6.3mm)	H84989011, H84526001, H84702001, H84989021, H84703001
AMP	60249	12-16	.250" (6.3mm)	H84989011, H84526001, H84702001, H84989021, H84703001

Terminal Designations DIN 72552

Component	Terminal	Significance
Ignition and current supply	1	Coil, distributor - low voltage
	1a	To contact breaker I (distributor with 2 separate circuits)
	1b	To contact breaker II (distributor with 2 separate circuits)
	2	Shorting circuit - magneto ignition
	4	Coil, distributor - high voltage
	4a	From coil I (distributor with 2 separate circuits)
	4b	From coil II (distributor with 2 separate circuits)
	7	Ballast resistor terminal to/from distributor
	15	Switched + downstream of battery (output of ignition/driving switch)
	15a	Output at ballast resistor to coil and starter
	17	Glow plug and starter switch - Start
	19	Glow plug and starter switch - Preheat
	30	Input from battery +, direct 12/24 V series-parallel battery switch
	30a	Input from + terminal of battery II
	31	Battery negative terminal, or ground, direct
	31a	Return line to battery II, negative (12/24 V series-parallel battery switch)
	31b	Return line to battery negative terminal, or ground via switch or relay (switched negative)
	31c	Return line to battery I, negative (12/24 V series-parallel battery switch)
	X	Battery power switched through the load reduction relay
	Motors	32
33		Main terminal connection
33a		Self-parking switch-off
33b		Shunt field
33f		For 2nd low-speed range
33g		For 3rd low-speed range
33h		For 4th low-speed range
33L		Anticlockwise
33R		Clockwise
Starters		45
	45a	Output, starter I, Input, starters I and II
	45b	Output, starter II
	48	Terminal on starter & on repeating relay for monitoring starting procedure
Turn-signal flashers (pulse generators)	49	Input
	49a	Output
	49b	Output, 2nd circuit
	49c	Output, 3rd circuit

Component	Terminal	Significance
Starter control	50	Starter control (direct)
	50a	Series-parallel battery switch - Output for starter control with parallel operation of two starters with sequential control
	50b	Starting relay for sequential control of the engagement current during parallel operation of two starters
	50c	Input at starting relay for starter I
	50d	Input at starting relay for starter II
	50e	Start-locking relay Input
	50f	Start-locking relay Output
	50g	Start-repeating relay Input
	50h	Start-repeating relay Output
Alternator	51	DC voltage at rectifier
	51e	DC voltage at rectifier with choke coil for daytime driving
Trailer signals	52	Additional signals from trailer to vehicle
Wiper motors	53	Wiper motor, input (+)
	53a	Wiper (+), self-parking switch-off
	53b	Wiper (shunt winding)
	53c	Electric windshield-washer pump
	53e	Wiper (brake winding)
	53l	Wiper motor with permanent magnet and 3rd brush (for higher speed)
Trailer signals (see also 52)	54	Trailer plug connections and lighting combinations, brake light
	54g	Pneumatic valve for continuous brake in trailer, solenoid-operated
Lighting	55	Fog lamp
	56	Headlamp
	56a	High beam, high-beam indicator lamp
	56b	Low beam
	56d	Headlamp-flasher
	57a	Parking lamp
	57L	Parking lamp, left
	57R	Parking lamp, right
	58	Side-marker, tail, numberplate and instrument panel lamps
	58b	Taillight changeover for two-wheeled tractors
	58c	Trailer plug and receptacle assembly for single-conductor taillight with fuse in trailer
	58d	Variable intensity instrument panel light, tail light and side marker.
	58L	Numberplate lamp, left
	58R	Numberplate lamp, right

Component	Terminal	Significance
Alternators and voltage regulators	59	A/c voltage output, rectifier input
	59a	Charging armature, output
	59b	Tail light armature, output
	59c	Brake light armature, output
	61	Alternator charge-indicator lamp
	B+	Battery +
	B-	Battery -
	D+	Dynamo +
	D-	Dynamo -
	DF	Dynamo field
	DF1	Dynamo field 1
	DF2	Dynamo field 2
	U,V,W	Three-phase alternator terminals
Multi-tone horn and emergency lights	71	Input
	71a	Output to horns 1 & 2 low
	71b	Output to horns 1 & 2 high
	72	Alarm switch - revolving emergency light
Radio, cigarette lighter	75	Radio, cigar lighter
	76	Speakers
	77	Door valve control
Normally closed and changeover switches	81	Input
	81a	Output 1, NC side
	81b	Output 2, NC side
Normally open switches	82	Input
	82a	Output 1
	82b	Output 2
	82z	Input 1
	82y	Input 2
Multi-position switches	83	Input
	83a	Output, position 1
	83b	Output, position 2
	83L	Output, left-hand position
	83R	Output, right-hand position
Current relays	84	Input, actuator and relay contact
	84a	Output, actuator
	84a	Output, relay contact

Component	Terminal	Significance
Switching relays	85	Output, actuator (end of winding to ground or negative)
	86	Input, actuator (start of winding)
	86a	Start of winding or 1st winding
	86b	Winding tap or 2nd winding
Relays - N/C and changeover	87	Input
	87a	Output 1(NC side)
	87b	Output 2
	87c	Output 3
	87z	Input 1
	87y	Input 2
	87x	Input 3
Relays - N/O and changeover	88	Input
	88a	Output 1
	88b	Output 2
	88c	Output 3
	88z	Input 1
	88y	Input 2
	88x	Input 3
Directional signals	C	Indicator lamp 1
	C2	Indicator lamp 2
	C0	Main connection for separate indicator circuits worked by turn signal switch
	C3	Indicator lamp 3 (e.g., when towing two trailers)
	L	Turn-signal lamps, left
	R	Turn-signal lamps, right

The ultimate in the art of Relays

As a global partner for the automotive industry in the area of relays, Hella provides system knowledge, experience of large-volume production and process know-how enabling innovative concepts to be turned into economical and reliable series products in no time.

The first - still mechanical - flasher units were produced from 1950 onwards. In 1965 Hella introduced the first electronic flasher unit to the market. The way was paved for electric and electronic components for safety and convenience functions in motor vehicles. Basic parts of these functions are relays and relay devices.

Thanks to ongoing development and a wide product spectrum, Hella is the "relay specialist" for the aftermarket industry. Because of constant expansion and optimization of the relay range, we are the ultimate in the art of Relays.





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