Technical Information

Electronics – Relays and Horns

HELLA®

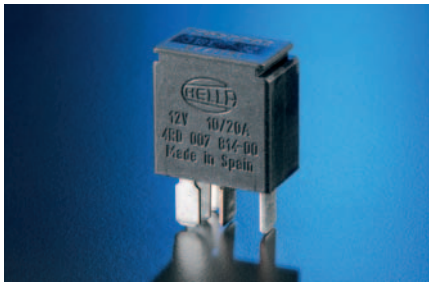
Ideas today for the cars of tomorrow

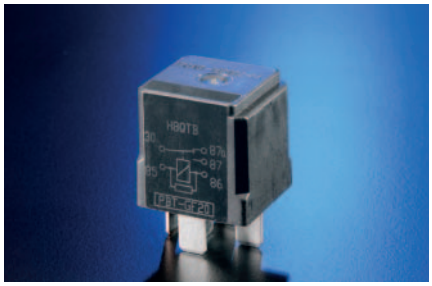
Relays

Reversible switching solutions for connecting and disconnecting various loads.

Electro-Mechanical Relays

For years electro-mechanical plug-in relays have been a primary commodity product at Hella. Development and production is accomplished locally in Germany as well as worldwide (Spain, USA). As a switching device for control of electric loads in standardized, plug-in design (ISO 7588 Mini and Micro) these electronic components can be actuated by control modules.





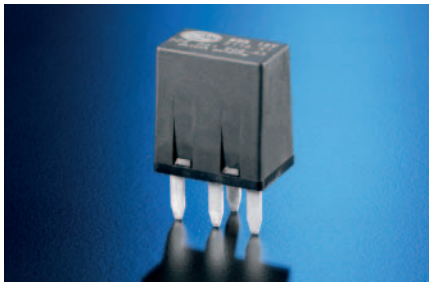
Electro-Mechanical Relays

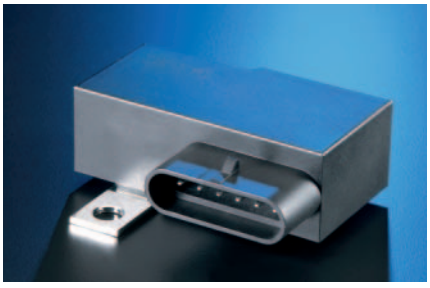
Solid State Relays

Solid state components allow switching operations to be accomplished without moving parts and are connected using standardized plug-in sockets. The increased switching speed allows continuous adjustment using pulse width modulation (PWM). These silent semi-conductor relays are particularly attractive for use in motor vehicle passenger compartments. Moreover the wear-free and chatter-free switching operation is excellent for all applications with high switching rates, such as ABS or A/C compressor clutch coil.

Battery Disconnect Relays

Battery disconnect relays serve for disconnecting the major portion of the vehicle's electrical system from the battery. These bi-stable, high current relays serve for protecting the battery from inadvertent discharge, disconnecting the battery for service or separating the battery lead in the event of a malfunction. The battery disconnect relay functions therefore contribute significantly to increasing the safety in motor vehicles. Moreover battery disconnect relays are available for 12 V as well as 24 V electrical systems.



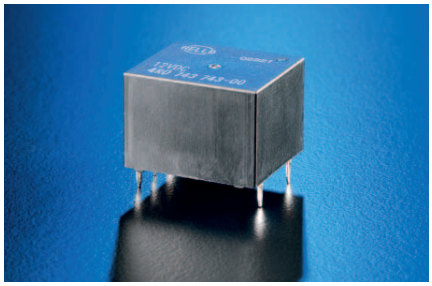


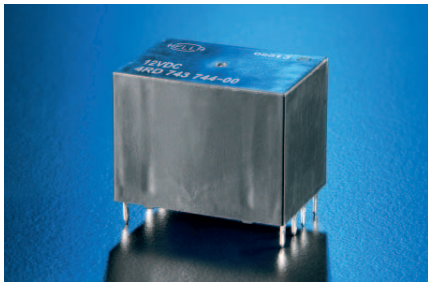
Solid State Relays

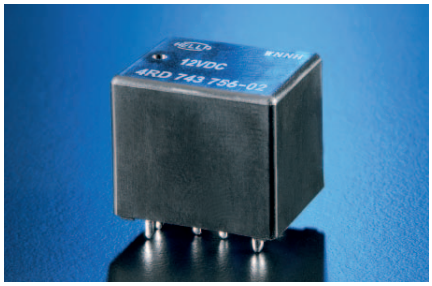
Battery Disconnect Relays

PCB Relays

Inclusion of different versions of printed circuit board relays (PCBR's) in the Hella product range has completed the line of relays offered. PCB relays are developed and produced in cooperation with TAIKO Device (Japan). The product range includes relays with power ratings up to 30A and temperature ratings up to +125° C. PCB relays are preferred for applications such as flasher functions, headlamp control and switching inductive loads such as central locking, keyless entry, sliding roofs and power windows.







PCB Relays

Hella relays are distinguished by their high integration capability. They are compatible with Hella's own systems and modules as well as those produced by other companies. Adaptive application solutions are proof of our customer-oriented attitude.

We have recognized the problems associated with existing switching requirements and simultaneous reduction of the available space resulting from proliferation of electronic systems in motor vehicles. Our reaction was to offer our customers alternative miniaturized solutions in addition to our standard line.

To meet the increasing requirements for reliability and higher loads, we have optimized the switching quality – as shown by the examples below:

- By eliminating moving parts, solid state relays ensure rapid, wear-free and silent switching
- The use of advanced assembly technologies, such as laser welding instead of resistance welding, has reduced the failure rate to less than 5 ppm for electro-mechanical plug-in relays.

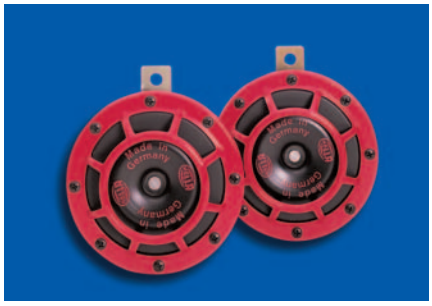
As part of a globally thinking and acting company, our development and production has an international basis.
Trans-continental, team-oriented cooperation right up to optimum know-how transfer in the form of cooperative partnerships with companies such as TAIKO Device (Japan) ensure that our products are available worldwide.

Horns and Fanfares

Acoustic signaling devices – electro-mechanical drives with different frequency signals.

Signal Horns

Signal horns are distinguished by their metallic sound with very high acoustic pressure level. These horns are excellently suited for applications where it is necessary to satisfy legal regulations with only one signaling device. Other applications include environments with high ambient noise levels. The best sound is achieved with a set consisting of a high as well as a low frequency horn.



Super-Tone Horns

These horns are particularly suited for extreme conditions, because their greater size and heavy duty electric drive give them even farther-reaching penetrating power.

Electric Dual-Tone Trumpet Horns

Hella offers two versions of these trumpet horns as a solution to the continuously decreasing space for installation:

Version 1: Vertical attachment

Additional reflection surfaces ensure maximum acoustic pressure level toward the front. Water penetrating into the trumpet bell can drain out through a specially developed, patented drain channel.

Version 2: Horizontal attachment

This positioning allows optimum escape of the sound from encapsulated spaces.

The Hella product line has included acoustic signaling devices for 100 years. The high shares on the original equipment market as well as the aftermarket confirm this long tradition.
Hella offers a complete spectrum of acoustic signaling devices, which are subject to continuous advancement and fulfill all legal requirements applicable worldwide. While development is controlled from headquarters in Spain, production is accomplished in highly automated form at a number of international locations (Spain, Mexico, India). With minimum overall size (diameter 80 mm) and low weight (approx. 230 g) Hella horns and fanfares ensure optimum acoustic values. Moreover they satisfy all requirements for use in anti-theft alarm systems. Radiated and conducted electro-magnetic interference is minimized.

■ Manufacturing Production Unit
▲ Joint Venture
■ Strategic Alliance

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