

OMRON adds compact, high performance DC relays for automotive and mobility applications

Hoofddorp, Netherlands, Tuesday, 6 September 2022 – Three new PCB relays from OMRON Electronic Components Europe target automotive and mobility applications where space is tight and high-performance is crucial.

The new OMRON G8K, G8G and G8PM relays support high-performance DC motor control with a floor size and volume that is up to 95% smaller than similar relays on the market. The devices are all smaller than standard DA relays and deliver high contact pressure with maximum coil size combined with AC500V insulation capacity. Each device targets the specific needs of different motor control applications in a tiny format that favours high-density mounting, cutting overall PCB costs.

The G8K series ultra-miniature devices for short-term switching in applications such as automotive comfort electronics (e.g. seat controllers, door lock motors and sunroof motors) are 95% of the volume and footprint of comparable devices. An optional twin version (two joined together) further increases mounting density. Featuring 37A short-term and 5A continuous current carrying capacity, and a durability of 100,000 operations at rated load, G8K devices can deliver high-wattage switching despite the compact format as a result of the contacts and heat-release design.

As a direct replacement for micro-ISO plug-in type relays, the G8G series relays are suitable for use in engine bays thanks to their high heat resistance, while their small size facilitates high-density mounting, helping to shrink the size of end products. The G8G is available in a 24V type – making it unique in this market as a replacement from P-in to PCB relay – and at 25% smaller than alternatives, it is suitable for commercial vehicle applications (e.g. seat heater, door lock, seat controls, defroster).

Last but not least is the G8PM series, which features a patented contact structure that holds the carrying path for high contact reliability. Designed as a replacement for traditional mini ISO relays, but at around half the size and with a capacity for up to 1 million operations, these devices are suitable for heavier-duty automotive applications such as motor radiator fans, power steering, fuel pumps and starter motors. These high-power DC switching PCB relays offer DC14V/45A switching (resistive), with high carry current (40A) at high ambient temperature 125°C.

Yoshiaki Anai, Technical Product Manager, Application Engineering at OMRON said: "As direct replacements for micro ISO relays, these new devices further support the automotive sector in its ambitions to design more-compact PCBs so that end-product sizes can be reduced. But high-density mounting has to be accompanied by very robust heat management. The G8PM in particular – with its patented low contact heating temperature – has a twin contact design that maintains its reliability and low contact heating even if one of the contacts fails."



Three new miniature, high-performance DC relays from OMRON target the automotive sector.

About OMRON Electronic Components Europe

On 1 April 2022, OMRON Corporation announced that its' Electromechanical Components (EMC) division was renamed as OMRON Device and Module Solutions (DMS) in line with the global long-term vision „[Shaping the Future 2030.](#)”

OMRON Electronic Components Europe is the European subsidiary of the Device and Module Solutions division. The revised division name reflects a new focus on delivering solutions to customers globally and in Europe. Society is facing new social and environmental changes, and OMRON recognises and is responding to that. The company aims to offer its' customers solutions that help them address these universal challenges. In accordance with the long-term strategy, OMRON intends to contribute further to the roll-out of new energy sources and of high-speed communications by enabling the creation of sturdier, advanced and more efficient devices. These devices will make people's lives easier and better, in particular by achieving carbon neutrality, realizing a digital society and extending healthy life expectancy.

OMRON Electronic Components Europe strongly supports its customers in Western and Eastern Europe through 8 regional offices, a network of local offices and partnerships with specialist, local, regional and global distributors.

About OMRON Corporation

OMRON Corporation is a global leader in the field of automation based on its core technology of "Sensing & Control + Think." OMRON's business fields cover a broad spectrum, ranging from industrial automation and electronic components to social infrastructure systems, healthcare, and environmental solutions. Established in 1933, OMRON has about 30,000 employees worldwide, working to provide products and services in around 120 countries and regions. For more information, please visit <https://www.omron.com/global/en/>

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