

## High-voltage contactors

# TDK presents next-generation HVC series

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TDK Corporation (TSE:6762) presents HVC27 (B88269X\*), its new generation of high-voltage contactors that can safely and reliably switch off continuous DC currents of 300 A to 500 A and operating DC voltages of up to 1000 V in lithium-ion batteries in 20 ms or less, depending on the type. This is made possible by the gas-filled ceramic arc chamber which is also used in the other HVC types from TDK. Completely new is the optional Hall-effect sensor for the auxiliary contact. It is used to detect the switching state of the main contacts. The bidirectional design allows only one HVC27 to charge and discharge batteries as well as to power motor drive systems and do regenerative braking (recuperation).

There are three mechanical versions of the UL-certified HVC27 series: an upright version (C1) with dimensions of 95 x 44 x 90 mm (L x W x H) and a horizontal version (C5) with 90 x 90 x 46 mm, as well as a third version as a replacement type (NIL) for the HVC25 (HVC200, 300 and 500). The high current contactors are available with single or double coil, with working voltages of 12 V or 24 V. The single-coil version requires 6 W in continuous operation, the dual-coil version only 4 W. The service life for resistive opening (450 V/300 A) is specified with 1500 operations for the single coil version and 2000 operations for the dual-coil version. At 750 V/300 A, these values are 150 and 1000 opening cycles, respectively.

High-voltage contactors with high continuous current carrying capacity are used, for example, in electric vehicles for fast disconnection of the lithium-ion battery as well as in DC charging stations and in stationary battery storage systems such as storage for photovoltaic or UPS systems.

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### Main applications

- Switching off high DC currents of lithium-ion batteries in electric vehicles
- DC charging stations for electric vehicles
- Lithium-ion batteries in energy storage and UPS systems

### Main features and benefits

- Bipolar design (suitable for charging and discharging)
- Switching voltages up to 1000 V and continuous DC currents up to 500 A
- Gas-filled ceramic arc chamber for fast breaking of high currents
- New Hall-effect based auxiliary contact (optional)

### About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately “Attracting Tomorrow.” It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK’s comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2023, TDK posted total sales of USD 16.1 billion and employed about 103,000 people worldwide.

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