

# IGBT-trigger modules

## VEW A5E-029 TOP, VEW A5E-031 BOTTOM

## Redesign

The original trigger modules for each 3 IGBT's in converters by Siemens are replaceable by a fully plug and play compatible redesign.

The originally built-in ceramic hybrid circuit has been newly developed by a double-sided fitted redesign in SMD-technology.

Even this original hybrid circuit A5E-02035497 is replaceable by this redesign, in exchange for the original module, fully pin- and function-compatible.

The VEW-A5E is mounted directly on the IGBT's with M4-screws and is put at high voltage potential this way.

One phase module will be triggered by a module A5E „top“ as well as by a module A5E „bottom“. The modules' function is identical, the mechanical structure is mirrored.

The modules' power supply happens electrically isolated by a ferrite transformer. The transformer is designed for a testing voltage of 5kV.

The modules' control and feedback signals are transmitted by fibre optic cable (LWL1000).

With too wide control pulses (via fibre optic cable) as well as with a surge in the IGBT (measuring input terminal X1), the IGBT will be shut down.

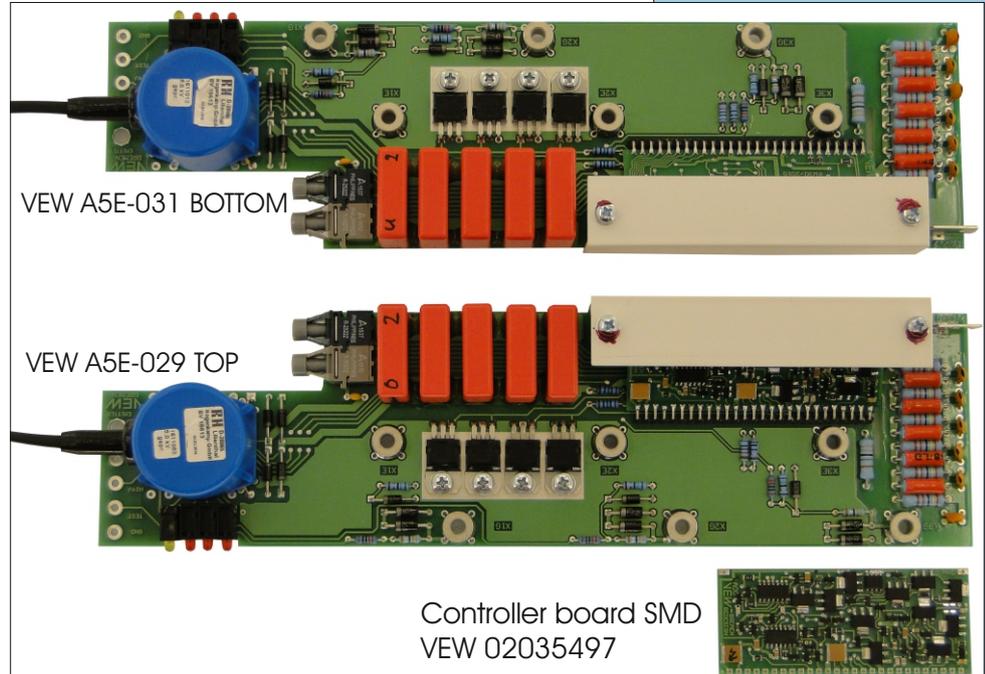
Furthermore, the circuit of the A5E commands a over- and undervoltage detection of the internal A5E operating voltage.

Constructively, the A5E consist of a power element and a control element.

The control element is implemented on the SMD-module which replaces the original ceramic-hybrid-module A5E 02035497.

The A5E is put in by pairs „up and down“ in traction inverters.

Samples available ex stock



### Technical data:

Supply	: $\pm 8,5\text{Vs} \dots \pm 11,0\text{Vs}$ 100kHz rectangle
Undervoltage detection	: $\leq \pm 8,2\text{Vs}$ supply resp. $\leq \pm 18\text{V}$ P24/N24V on A5E
Current consumption	: ca. $\pm 150\text{mA}$ Ruhe, ca. $\pm 350\text{mA}$ Last 3 IGBTs
Over voltage detection	: $> +1400\text{V} \dots +1600\text{V}$ $U_{\text{CE}}$ IGBT
Displays	: LED gn P24V <u>and</u> N24V LED ge Signal LWL-IN (R) LED rf IGBTs connected <u>and</u> $t_{\text{puls}}$ 3,2 $\mu\text{s}$ ...11 $\mu\text{s}$ <u>and</u> $t_{\text{puls}} > 1\text{kHz} \dots 10\text{kHz}$ <u>and</u> $U_{\text{CE}} < +1400\text{V}$



DIE ENTWICKLER

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