

## Managing DC Link Energy



Dynamic  
Energy Storage  
Combination

### KEK

for drive controllers  
up to 230V

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The KEK is optimal, when the energy supply for the drives has to be ensured and at the same time the braking energy for the system can be regenerated. DEK is the optimal combination of the Dynamic Energy Storage Unit DES and the Dynamic Power Supply Unit DEV. A part of the installed energy storage - to be defined individually, but at least 50% - is reserved for the UPS case, the remaining part is used for intermediate storage of braking energy. This part helps make the investment in the UPS functionality cheaper due to the possible energy savings.

#### Active supply module for DC links

- > for single axis and multi axes systems
- > buffers braking energy for use in the system
- > no buttons, display indicators, other controls
- > provides support during power failures or interruptions
- > with a digital interface



[www.brakeenergy.com/kek](http://www.brakeenergy.com/kek)



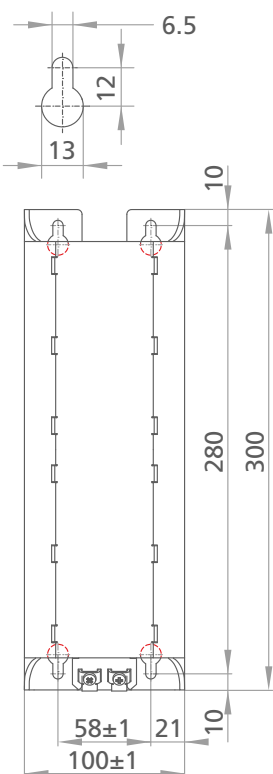
#### Combined optimally: Buffer with UPS-function

KEK can both store braking energy as well as compensate for voltage fluctuations and power failures. This is enabled by the division of the storage into one area for braking energy and one for the short-term UPS energy, where the UPS area is allocated at least half of the energy storage. The exact division of the amount of energy available is thus the result of application engineering.

Starting with an example where it applies that 500 Joules of energy are stored temporarily, the remaining 1,100 Joules are stored for the UPS case.

Connecting the KEK to the machine is very easily done by three strands via "Plug&Play". The device then works without any further actions. Based on its concept the KEK can easily be tested in an existing system as a retrofit solution. To be installed the KEK has to be connected in parallel to the existing braking resistor of the converter of the drive system. After a few cycles the collected data in the processor can be read out and evaluated. Based on the analysis of these data the suitable KEK solution can be chosen - Can it get any easier than this?

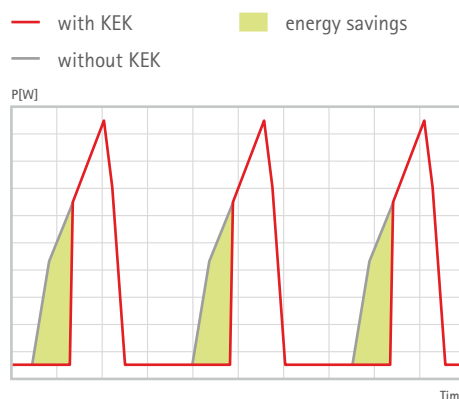
#### Dimensions and mounting holes (mm)



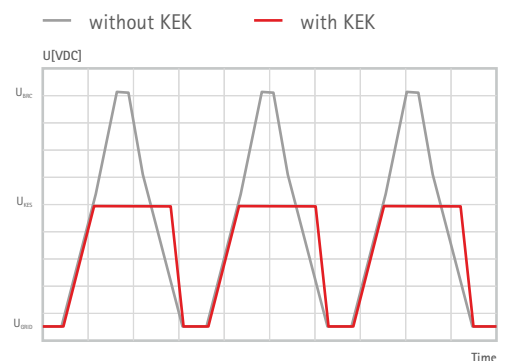
#### Technical Specifications KEK

Parameter	Value
Available storage capacity, up to	1,600 Ws
Continuous voltage DC link	540 VDC
Output power	10.4 kW
Digital interface	24 VDC (for function monitoring)
Built-in PTC braking resistor	+
Dimensions H x W x D	300 x 100 x 201 mm
Weight approx.	6.9 kg
Protection Class	IP 20

#### Energy savings with the KEK



#### Voltage characteristics of the DC link

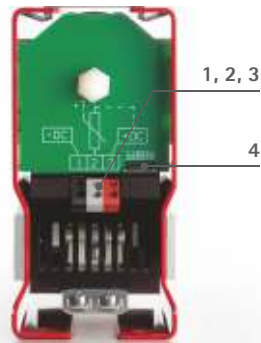


### Simple connections I

(bottom side)

With only three cables, the DEK is extremely easy to connect.

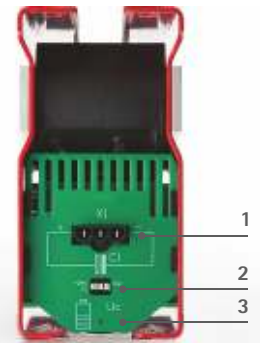
1. Negative terminal of the DC link
2. Braking transistor (braking chopper)
3. Positive terminal of the DC link
4. Connection of the RS422 interface (optional)



### Simple connection II

(Top side)

1. Interface secured against polarity reversal for connecting extension modules and NEV
2. Digital interface for function monitoring
3. Safety-relevant LED: Flashes, as long as the storage unit is charged

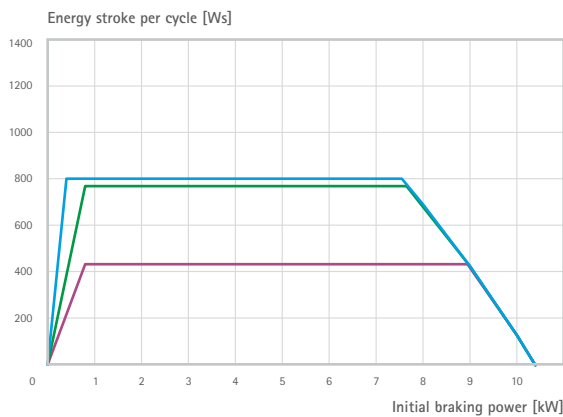


### KEK Maximum Energy Stroke/Initial Braking Power

KEK 2.0F,  $U_{BRmax} = 540$  VDC

#### Braking block

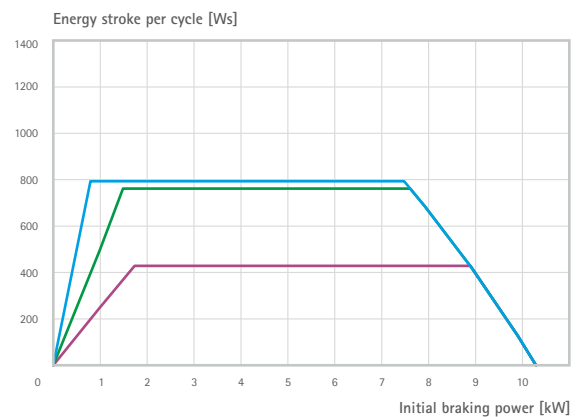
— 1s-cycle — 2s-cycle — 4s-cycle



KEK 2.0F,  $U_{BRmax} = 540$  VDC

#### Braking ramp

— 1s-cycle — 2s-cycle — 4s-cycle



### Ideal addition to the KEK: the NEV

The NEV in combination with the KEK is used to supply the 24 V DC circuit with mains independent electrical voltage.

With at most 6 Amperes (150 VA), the self-learning device is strong enough to support control units and other peripheral devices of the drive.

Simply plugged into a basic device and connected via plugs, the NEV keeps the 24 Volt appliance active in case of voltage fluctuations or power failure.



### Control cabinet solutions

If (e.g. in case of retrofitting) the control cabinet of the machine does not provide enough space, we can also supply equipped, standardised control cabinets ready for mounting and connection.

Individual solutions are possible.



## Managing DC Link Energy

Energy storage solutions and safe brake resistors in wire-wound and PTC technology

We offer:

- **Tested product quality**
- **Certified processes**
  - we undergo regular inspections by third parties
- **Individual application support**
  - owing to our modular system we can offer more than 60.000 solutions
- **Machine-specific implementation**
  - we match our products with your machines
- **High reaction rate**
  - we provide you with a suitable offer in the shortest possible time
- **Short delivery times**
  - all components are in stock
- **On-time deliveries every time**
  - we deliver on schedule in optimal lot sizes
- **Reliable partner**
  - we strive for long-term business relationships
- **Direct customer relationships**

[www.brakeenergy.com](http://www.brakeenergy.com)

We look forward to hearing from you!



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