

## Managing DC Link Energy



Dynamic  
Energy Supply

### KEV

for drive controllers  
up to 230V

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for drive controllers up to 230V

Companies place special value on two factors when it comes to electrical energy: guarantee of supply and low prices. Both are called into question with the implementation of the withdrawal of atomic energy. Broken down on electrical drives power failures present a special challenge even today in developed nations. With the Dynamic Energy Supply KEV for converters and drive controllers short-term power failures can be bridged and their consequences minimised.

## Active support module for DC links

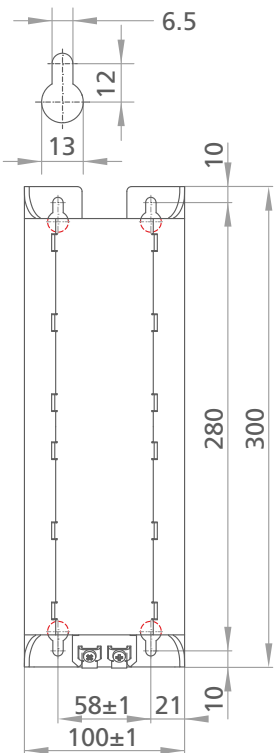
- > for single and multiple systems
- > no keys, displays, other control elements
- > supports in case of power failure or interruptions



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



## Installation dimensions and mounting-holes (mm)



## Simple connection I (Bottom side)

The KEV is extremely easy to connect with two cables. And it works.

1. Negative terminal of the DC link
2. Discharge resistor
3. Positive terminal of the DC link
4. Connection of the RS422 interface (optional)

## Short-term UPS for drives

The Dynamic Energy Supply KEV acts as a short-term uninterruptable power supply for drives and servo controllers. The active capacity extension for the DC link of the inverter stores an amount of energy that is defined according to the technical design. It serves to keep the voltage level of the DC link at a level which bridges over the downtime without trouble and/or brings the machine to the defined stop state in case of power failure. In each case, the objective is that the drive and all systems supplied by it either do not perceive the power failure at all or are brought into a defined state from which a restart is possible without any effort.

## Gentle on the power grid and drives

The energy supply is charged after switching on the inverter for each charging routine, which acts very carefully not to overload the charging circuit and not to generate any negative circuit feedback either.

The KEV is fully ready for use after only eight seconds. It then supports the DC link every time its voltage falls below 270 VDC.

## With digital interface

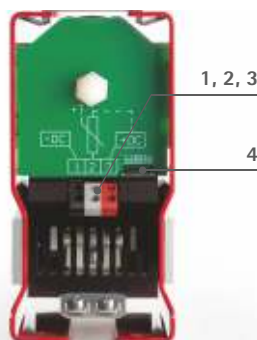
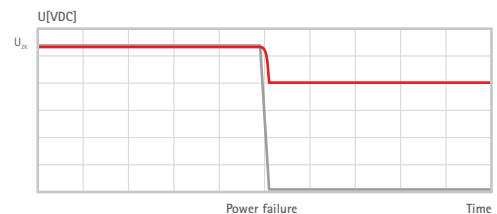
The Dynamic Energy Supply KEV is equipped with a digital interface with 24 Volt input to monitor its function. The control of the machine takes over the evaluation of the signal as well as the initiation of the established measures.

## Technical specifications KEV

Parameter	Value
Useful energy approx.	1,600 Ws
Continuous voltage of the DC link	540 VDC max.
Cycle time of use	30 minutes
Working voltage	270 VDC (other possible)
Output	10.4 kW max.
Digital interface	24 VDC (for function monitoring)
Built-in PTC discharge resistor	+
Dimensions H x W x D	300 x 100 x 201 mm
Weight approx.	6.9 kg
Protection class	IP 20

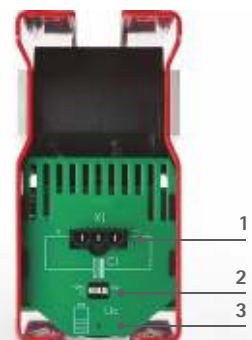
## Voltage curve of the DC link with KEV

— without KEV      — with KEV



## 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



## Extension module KEV + KEM

When the storage capacity of the Dynamic Energy Supply KEV is insufficient extension modules can then be used. They can easily be connected via the accompanying cables with reverse-polarity protected plugs with the KEV. Done!

The storage is safely discharged via the discharge resistor built into the extension modules before the connection. The number of connected extension modules and thus the level of the stored energy is adapted to the requirements of the application.



### Storage extension for the KEV

- > Multiplying the stored energy
- > simple connection using plugs
- > neither configuration nor commissioning effort
- > Discharge resistor on board

### Technical specifications

Parameter	KEM 2.0B16	KEM 2.0B1616
Usable storage capacity approx.	1,600 Ws	3,200 Ws
Built-in PTC discharge resistor	+	+
Dimensions H x W x D	300 x 100 x 201	300 x 100 x 201
Weight approx.	4.1 kg	6.2 kg
Protection Class	IP 20	IP 20

### Accompanying energies can very easily be implemented by the combinatorics with the extension modules

If the power of a KEV of max. 10.4 kW is not sufficient by itself, Dynamic Energy Storages can also be connected in parallel. The power is multiplied according to the number of devices connected in parallel.

### KEV + extension module

Required energy [kWs]	Module			Space requirement/ total width [mm]	Required energy [kWs]	Module			Space requirement/ total width [mm]
	KEV 2.0	KEM2.0 B16	KEM2.0 B1616			KEV 2.0	KEM2.0 B16	KEM2.0 B1616	
1.6	1	0	0	100	9.6	1	1	2	400
3.2	1	1	0	200	11.2	1	0	3	400
4.8	1	0	1	200	12.8	1	1	3	500
6.4	1	1	1	300	14.4	1	0	4	500
8	1	0	2	300					

### The ideal addition to the KEV: NEV

The 24 Volt emergency power supply (NEV) ensures stable supply of a 24 V DC network to be secured as an option in combination with the KEV.

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 even with voltage fluctuations or power failure.



### Control cabinet solutions

The Dynamic Energy Supplies required for the application are also offered as equipped ready-to-assemble and prewired, standardised control cabinets with the type designation KTS, which can take on up to ten devices.



## 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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