

# Energy revolution: Dynamic braking energy storage device KCM-S

Kollmorgen is creating more sustainability in drive technology and is lowering operational costs

- ▶ Saving energy thanks to the buffer module with intelligent energy feedback
- ▶ No circuit feedback - only energizes and charges when brake is applied
- ▶ Easy refitting on all Kollmorgen servo controllers, no need for adjustment



## Saving energy with intelligent energy feedback

- High level of energy savings, particularly in applications with short cycle times
- Easy connection to the DC-link
- Easy commissioning - ready for use right away, no need for alignment or control elements
- Nearly unlimited power output range thanks to the expansion modules

Costs are lowered and resources are spared - this isn't a contradiction. With Kollmorgen's dynamic storage module KCM-S, you use the released brake energy and save your budget and the environment. Installation is extremely simple: the KCM-S is simply connected parallel to the intermediate circuit. Ready. No need for alignment or control elements. For higher outputs, the expansion modules KCM-E are available. Your drive is always green with KCM-S.

# Using braking energy efficiently

## KMC-S: Higher efficiency and lower operational costs without circuit feedback

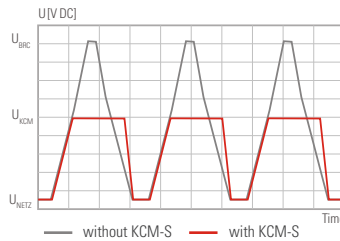
The active dynamic braking energy storage device KCM-S will only be energized and charged when the brake is applied on the drive. As there is no connection to the mains supply on the input side, circuit feedback is ruled out.

KCM-S automatically calculates the value of the use-voltage  $U_{KCM}$ . Energy that would lead to an increase in voltage higher than this threshold value will be stored in the KCM-S buffer module. If the voltage in the intermediate circuit falls below the threshold value, the KCM-S pumps energy back which would be pulled from the network without KCM-S. At this point energy is saved. If the level of energy falls below the dynamic set charging voltage, KCM-S switches itself off and waits for the next instance of braking, when the capacitor is loaded once again. The shorter the cycle time, the more efficiently KCM-S works.

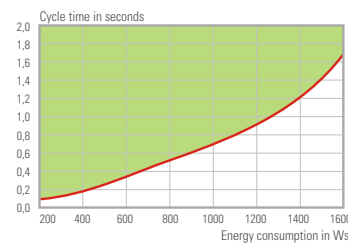
**Saving energy with KCM-S**



**Voltage curve in the DC-link**

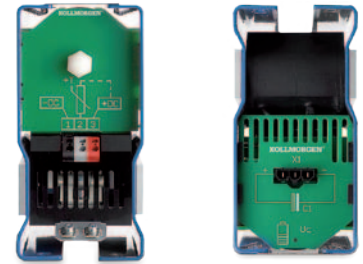


**Energy hub / cycle time diagram**  
at 40 °C ambient temperature



### Expansion modules KCM-E

The expansion module KCM-E increases the capacity by 2000 Ws or 4000 Ws in each case. Several expansion modules can easily be connected to each other via the reverse polarity protected connection cable provided.



KCM-S is simply connected to the DC-link. An internal PTC brake resistor safely absorbs energy peaks.



In order to increase the total capacity, the expansion modules KCM-E are simply connected in parallel. A discharge resistor is integrated.

### Performance data

	KCM-S	KCM-E20	KMC-E40
Electrical storage capacity	1600 Ws	2000 Ws	4000 Ws
Continuous voltage of the DC-link circuit	max. 850 V DC		
Peak voltage of the DC-link circuit	max. 950 V DC (30 s in 6 minutes)		
Maximum output	18 kW	18 kW	18 kW
Protection type	IP20		
Dimensions H x W x D	300 x 100 x 201 (mm)		
Weight	6,9 kg	4,1 kg	6,2 kg

