KOCH

# Active Energy Management
# Integrated Systems

Energy management systems

# KTS

# KTS energy management systems

- Protection of drives against voltage fluctuations
- Protection of drives against voltage interruptions
- Reduction or minimization of power grid load peaks
- Power grid-independent use of regenerative energy
- Safe energy buffering in direct current grids

These are just a few examples of the requirements and framework conditions, which could hardly be more different. We use “KTS” to describe the very flexible system in control cabinets with solutions for all cases.

The basis for this is the combination of power electronics (active energy management devices of the type PxTFX or PxTRX) and energy storage devices such as electrolytic capacitors or double-layer capacitor modules as well as necessary and desired peripherals, which are individually put together for the respective application. The modular structure of power electronics and energy storage devices allows for fine gradation in relation to the required power and energy quantity, i.e. the power over time. The decisive factor are the specific application data, which form the basis of a simulation calculation, the result of which in turn determines the selection of the required components.

Connected directly to the DC link of the drive or drive system, the KTS system supplies energy without interruption when required or buffers regenerative energy cyclically. Or the application requires both actions - even then KTS is the right solution. For DC grids, KTS is the perfectly adaptable solution as an energy buffer. In addition, all necessary safety components are integrated, and the wiring of all components is complete. Configured ready for connection and extensively tested, KTS is very easy to commission; it should usually be done with the cable connection for power and communication.

KTS basically works voltage-controlled, i.e. active communication between the drive system or a higher-level control system is not a necessary prerequisite for operation. However, it can be easily implemented using the PxTMX module, which acts as a system interface. This also enables integration into common fieldbus systems.
If maintenance is required, safe discharge units SDU can be integrated on request, which reduce the storage voltage to a safe level in a reasonable amount of time. If you want to go faster, this can be done using our active discharge system DDM, an active electronic unit in combination with powerful, safe dynamic braking resistors. In addition, the system can be supplemented with the 24 volt emergency power supply NEV, which ensures the supply of the entire machine’s 24 volt grids from the storage units. Other peripheral devices can be integrated by arrangement.

This document can only provide a brief overview.
For specific offers to meet your requirements, contact us!



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## Energy management system
# KTS-U - insurance for emergencies

The application is also referred to as a “short-term UPS”: Connected directly to the DC link of the drive or drive system or to a DC grid, the systems with the designation KTS-U deliver the necessary energy without interruption to bridge voltage fluctuations or power failures and thus help the machine or system to get into a safe position.
The design of a “short-term UPS” system is carried out using a simulation calculation based on the application data. The control cabinet size, from small to large, is flexibly adapted to the individual requirements.

## Application example injection molding machine:
# Uninterruptible power supply

An injection molding machine should run through a few cycles and produce good parts in the event of a power failure. In the event of a longer power failure, it should be brought into a stable end situation for a direct restart.

Eight active energy management devices of the PxtRX type generate the necessary power for the short-term UPS.

Safe discharge units SDU:
For maintenance purposes.

Ready-to-connect complete solution KTS shortly before dispatch.

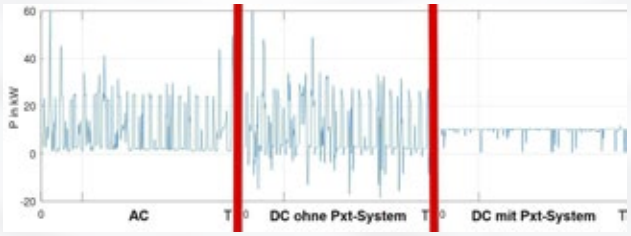
## Energy management system
# KTS-C - for cyclic applications

The KTS-C series is used for applications with the aim of recuperating generativ energy, minimizing power grid load peaks or in combination with UPS functionality. It is prepared for cyclic loads.
The system is designed for cyclic applications using a simulation calculation based on the application data. The control cabinet size, from small to large, is flexibly adapted to individual requirements.

## Application example robot cell:
# Peak power reduction and recuperation of braking energy

Power grid peak power reduction from 60 to ten kilowatts and at the same time recuperating and thus saving braking energy: Built ready for connection in a control cabinet, integration into the DC grid can be implemented quickly and easily.

Four robots for welding applications are active together in the cell and use one KTS.




Impressive: The reduction in power consumption from 60 to 10 kilowatts achieved by KTS is clearly visible.

Shortly before dispatch:
KTS for the robot cell.

# What we offer:

- Tested product quality
- Certified processes
- Individual application support
- Machine specific design and sizing
- Rapid reaction
- Quick delivery times
- On-time delivery
- Reliable partner
- Long-term business relationship
- Direct customer relations

Use our communication channels:

# Your specialist for:

- Active energy management devices and systems
- Safe brake resistors

We look forward to hearing from you!

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